Department of Veterans Affairs Salt Lake City Health Care System

Final

700 South 1600 East PCE Plume
AOU-1: East Side Springs
Remedial Investigation Report

Appendix H-3 and H-4

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H-3
2016 Soil Data Validation Report

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FINAL

Salt Lake City VA Medical Center
CERCLA Environmental Assessment and Clean-Up

700 South 1600 East PCE Plume AOU-1: East Side Springs 2016 Soil Data Validation Report

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Acronyms and Abbreviations

AOU-1	Accelerated Operable Unit 1
Chemtech	Chemtech Consulting Group
CLP	Contract Laboratory Program
CRQL	Contract required quantitation limit
DQO	Data quality objective
EA	EA Engineering, Science, and Technology, Inc., PBC
EPA	U.S. Environmental Protection Agency
FE	First Environment, Inc.
ICP	Inductively-coupled plasma
ICPMS	Inductively-coupled plasma mass spectrometry
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MDL	Method detection limit
MS	Matrix spike
MSD	Matrix spike duplicate
PCE	Tetrachloroethene
QA	Quality assurance
QAPP	Quality Assurance Project Plan
QC	Quality control
RI	Remedial investigation
RPD	Relative percent difference
SDG	Sample delivery group
SOW	Statement of Work
SVOC	Semivolatile organic compound
TAL	Target Analyte List
VOC	Volatile organic compound

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1.0 Analytical Data Quality Summary

This Data Validation Report documents the sample collection and data validation results for the soil samples collected in May 2016 in support of the ongoing Remedial Investigation (RI) for Accelerated Operable Unit 1 (AOU-1) at 700 South 1600 East PCE Plume Site, Salt Lake City, Utah, for the Department of Veterans Affairs. Sampling procedures and overall quality assurance (QA) and quality control (QC) protocols associated with the sampling and analysis are presented in the RI Work Plan (First Environment, Inc. [FE] 2015) and Quality Assurance Project Plan (QAPP) Update Revision 1 (EA Engineering, Science, and Technology, Inc., PBC [EA] 2016).

1.1 Sample Collection and Analytical Protocol

Three surface soil samples were collected 3 and 4 May 2016 from the 0 to 0.5-foot interval at locations adjacent to seeps or springs where surface water samples were also collected. Two of the soil samples, A-SS-09 (adjacent to SW-09) and A-SS-26 (adjacent to SW-26), were collected at locations where shallow groundwater samples exhibited the highest tetrachloroethene (PCE) concentrations along Sunnyside Avenue. The third soil sample, A-SS-01 (adjacent to SW-01), was collected at a location where PCE was not detected in the shallow groundwater sample. A summary of the soil sampling locations and analytical requirements is presented in Table 1-1.

Surface soil samples were collected using dedicated stainless steel spoons. The soil aliquots were homogenized in dedicated stainless steel bowls for semivolatile organic compound (SVOC) and metals analyses while the aliquot for volatile organic compound (VOC) analysis was not homogenized in order to prevent volatilization. VOC samples were collected using 5-gram core samplers.

Soil samples were collected in certified clean containers in accordance with U.S. Environmental Protection Agency (EPA) specifications and preserved on ice. Soil samples were shipped overnight to the EPA-designated Contract Laboratory Program (CLP) laboratory, Chemtech Consulting Group (Chemtech), Mountainside, New Jersey. Sample chain-of-custody was recorded using the EPA SCRIBE® system for sample management and tracking. Samples were analyzed in accordance with the CLP Statement of Work (SOW) for organic and inorganic methods (EPA 2015a, 2014a). Samples were assigned to the CLP sample delivery groups (SDGs) H4002, H4082 and MH4002, and analyzed for the following list of analytical parameters:

- *VOCs*—EPA CLP SOM02.3 (EPA 2015a)
- *SVOCs*—EPA CLP SOM02.3 (EPA 2015a)
- *Target Analyte List (TAL) Metals (excluding cations)*—EPA CLP ISM02.2 (EPA 2014a)

1.2 Data Validation Protocol

A Tier 2B data validation was performed on 100 percent and Tier 4 data validation was performed on 10 percent of the analytical data. Validation was performed by a third-party subcontractor, Environmental Data Services, Newport News, Virginia, in accordance with the guidelines and control criteria specified in the following documents. Validated soil sample data are presented in Table 1-2.

- RI Work Plan/ Sampling and Analysis Plan (FE 2015)
- QAPP Update Revision 1 (EA 2016)
- EPA National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2014b)
- EPA National Functional Guidelines for Inorganic Superfund Data Review (EPA 2014c).

The validation included review of the following data quality indicator criteria:

- Chain of custody documentation
- Sample extraction and analysis holding time compliance
- Collection of required field QC samples
- Review of QC summaries and case narrative regarding sample analysis and control criteria
- Review of method blank and field QC blank samples
- Review of instrument calibration performance and other method-specific criteria as defined in QAPP Update Revision 1
- Laboratory control spike (LCS) and LCS duplicate (LCSD) samples and other method-specific analytical spike data (applicable to metals only)
- Surrogate spike recoveries for organic analyses
- Matrix spike (MS) and matrix spike duplicate (MSD) sample recoveries
- Field duplicate sample relative percent difference (RPD)
- For Tier 4 validation, system performance and analyte quantitation
- Review of laboratory detection limits to verify conformance with project data objectives and screening criteria
- Review of the data and deliverables for completeness.

Analytical data were reviewed to evaluate precision, accuracy, representativeness, comparability, completeness, and sensitivity as defined below. Acceptance criteria for evaluation of precision and accuracy are compared with the acceptance criteria defined in QAPP Update Revision 1 and EPA validation guidelines.

- *Accuracy* is demonstrated by recovery of target analytes from fortified blank and sample matrices, LCS/LCSD, and MS/MSD, respectively. For organic methods, bias is also demonstrated through recovery of surrogates from each field and QC sample. A comparison was made from the recovery of target analytes from fortified samples to the acceptance criteria defined in QAPP Update Revision 1. When these criteria are not met, the data are qualified accordingly.

- *Precision* is expressed as the RPD between the results of replicate sample analyses: sample duplicates, LCSDs, and MSDs. When analyte RPDs exceed the acceptance criteria, the data are qualified accordingly.

- *Representativeness* of the samples submitted for analysis is ensured by adherence to standard sampling techniques and standard analytical method protocols.

- *Comparability* of sample results is ensured through the use of approved sampling and analysis methods and protocols, and reporting of standard units of measure.

- *Completeness* is expressed as a percentage of the ratio of the number of usable data results to the total number of analytical data results. Only rejected data (R-qualified) are considered not usable to achieve project objectives.

- *Sensitivity* is determined by the ability to achieve the established method-specific reporting limits in accordance with QAPP Update Revision 1. For this project the laboratory will report positive results to the method detection limit (MDL) and results between the MDL and the contract required quantitation limit (CRQL) will be flagged with a J-qualifier and reported as estimated data.

Data flags were assigned according to the QC acceptance limits defined in QAPP Update Revision 1. The data validation flags for each SDG are summarized in each individual data validation report (Attachment 1). These flags, and the reason for each flag, are maintained in the project database. Multiple flags may be applied to a specific sample method/matrix/analyte; however, the final flag presented with the data values is based on the most conservative of the validation flags.

The data flags are defined in QAPP Update Revision 1 as follows:

J = Analyte was present but the reported value is estimated-.

UJ = Analyte was not detected above the MDL. However, the reported detection limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R = Result has been rejected and data do not meet the project objectives.

U = Analyte was analyzed for but not detected above the MDL.

1.3 Accuracy, Precision and Representativeness of Data

Data validation results are presented in the data validation summary reports in Attachment 1 and summarized below. The soil sample analytical data reports are included in Attachment 2.

1.3.1 Chain-of-Custody and Sample Receipt

Three soil samples and associated field QC samples were received at Chemtech on 5 May 2016. The samples were received in appropriate containers, properly preserved, and sample cooler temperatures were within the EPA guideline of less than or equal to 6 degrees Celsius. Appropriate signatures were included on the chain-of-custody documentation. One discrepancy was noted by the laboratory, in which a sample was not designated on the chain of custody for MS/MSD analysis. This was resolved with the EPA Region 8 sample coordinator; however, there was insufficient sample volume to run the MS/MSD for VOCs. This was documented in the sample data package.

1.3.2 Sample Extraction and Analysis Holding Times

Sample holding times were evaluated by comparing the sample collection dates to the sample extraction and analysis dates. Extraction and analysis holding times were reviewed for the soil samples to determine compliance with EPA recommended holding times. Holding time requirements were met for method-specific extraction and analysis for all project samples.

1.3.3 Blank Data Results

Blank sample data were evaluated in accordance with the criteria established in QAPP Update Revision 1 and National Functional Guidelines (EPA 2014b,c). Detections of target analytes greater than one-half

the CRQL and greater than the CRQL for common lab contaminants (i.e., methylene chloride, toluene, acetone) resulted in data qualification depending on the analyte concentration in the associated samples.

Low-level detections of the laboratory contaminant methylene chloride in method blank samples and the storage blank resulted in non-detect (U-qualification) in samples A-SS-01-D and reanalysis of A-SS-01 and A-SS-09 for this compound. Low-level detections of metals in method blanks did not result in data qualification due to the significantly higher reported concentrations in the associated samples.

An aqueous trip blank sample was collected to accompany the soil samples to the analytical laboratory. No VOCs were reported in the trip blank sample.

1.3.4 Surrogate and Internal Standard Recoveries

Surrogate and internal standards are organic compounds added to field and laboratory QC samples for organic analysis to evaluate matrix effect and method performance on an individual sample basis.

- The SVOC surrogate recovery for 1,4-dioxane-d8 was below the control limit for samples A-SS-01-D, A-SS-01 and A-SS-26. Associated compounds were UJ-qualified.
- The internal standard recovery for 1,4-dichlorobenenze-d4 was below the control limit for sample SS-01 and SS-01 reanalysis. Associated compounds were UJ-qualified.

All other sample internal standard and surrogate recoveries were within the method control criteria.

1.3.5 Laboratory Control Sample Recoveries and Precision Results

The LCS is an aliquot of analyte-free matrix, spiked with target analytes that is prepared with each analytical batch for the inorganic analytical methods. The recovery of target analytes from the LCS analysis is a measurement of sample preparation and method performance in an interference-free sample matrix. LCS and LCSD sample recoveries and precision were within the method control criteria for the ISM02.2 metals analysis.

1.3.6 Matrix Spike Sample Recoveries and Precision Results

The MS and MSD samples are a portion of a field sample spiked with target analytes and prepared with each analytical method for soil and water methods. The MS and MSD results are used to evaluate potential bias introduced to the method due to matrix interference and to measure bias and precision for each analytical batch.

One MS/MSD soil sample pair was analyzed with the project samples per the QAPP Update Revision 1 requirement (MS/MSD per 20 field samples) with the exception of the VOCs for which the lab noted insufficient sample volume was provided. MS/MSD spike recoveries were below the control limit for 7 SVOC analytes. The analytes were UJ-qualified in sample A-SS-01. MS/MSD recoveries were within control limits for metals.

1.3.7 Field Duplicate Samples

One soil field duplicate sample was collected and analyzed with the project samples per the QAPP Update Revision 1 requirement (1 per 10 field samples). Field duplicate results were within the acceptable 50% RPD soil criterion for all analytes.

1.3.8 Instrument Calibration Performance

Instrument calibration and continuing calibration performance are reviewed to ensure that the calibration of target analytes meets the method-specific and project-established percent recovery and relative standard deviation criteria. Instrument calibration performance was met for all soil analytical methods.

1.3.9 Inductively-Coupled Plasma Serial Dilution

Inductively-coupled plasma (ICP) serial dilution criteria for metals analysis were met for all analytes with exception of antimony, resulting in J-qualification of antimony in samples A-SS-01, A-SS01-D, A-SS-09 and A-SS-26.

1.3.10 System Performance and Analyte Quantitation

The system performance and analyte quantitation were reviewed for the Tier 4 validation. Instrument sensitivity, performance, instrument output and response data were reviewed and deemed acceptable for all methods. In addition, target compound identification and sample quantitation were reviewed for all methods and determined to be accurate.

1.4 Data Comparability

Comparability of data is achieved through the use of industry standard analytical method protocols and conformance to project-required reporting limits to achieve data quality objectives. Data verification indicates that project-specific methods and reporting limits were used for analysis of the AOU-1 project samples in accordance with QAPP Update Revision 1 with exception of the CLP SOW organics method. The more current version of this CLP method was used for the VOC and SVOC analysis with no impact to data usability.

1.5 Data Sensitivity

Appropriate EPA CLP analytical methods were used for the sample analyses to achieve the required reporting limits and project-specific screening criteria per QAPP Update Revision 1 as the lowest of 1) regional screening levels for residential exposure to soil corresponding to an Excess Lifetime Cancer Risk of 1×10^{-6} or Hazard Quotient of 0.1 for non-carcinogenic compounds, and 2) Soil Screening Levels for groundwater protection using a dilution attenuation factor of 20, and Soil Saturation level (EPA 2015b). The CLP laboratory quantitation limits were higher than the CRQLs listed in the QAPP Update Revision 1 for some method analytes and lower for other analytes, as CRQLs are updated periodically; however, most CRQLs achieved project screening levels with exceptions as previously noted in the QAPP Update Revision 1 – Tables 4,5, and 6 – Project Laboratory – Target Analytes and Quantitation Limits for VOCs, SVOCs, and metals, respectively.

1.6 Data Completeness

Project deliverables were reviewed for accuracy and completeness and compared to the QAPP Update Revision 1 requirements. The laboratory data deliverables were verified to ensure the required elements were included the data package. The following discrepancies were noted between the project plans, the samples submitted to the CLP laboratory and the data reporting.

- TAL metals - the complete list of TAL metals was not analyzed for the 3 soil samples. The cations – calcium, potassium, magnesium, sodium and iron were omitted from the requested ICP mass spectrometry (ICPMS) analysis due to the high concentration of these metals in soil and therefore, the laboratory did not include them in their TAL metals list. The ICPMS analysis was used to achieve the lowest reporting limits.
- VOCs – the MS/MSD analysis was not included for VOCs as the laboratory noted insufficient sample volume to perform the analysis. Analytical accuracy and precision was assessed using field duplicate sample data.
- The CLP laboratory ran the most current CLP SOW method SOM02.3 for the organic analyses (VOCs and SVOCs) rather than the ISM02.2 stated in QAPP Update Revision 1. This had no impact to data usability.
- The data validation was conducted using the 2014 National Functional Guidelines (EPA 2014b,c rather than the 2013 guidelines as indicted in QAPP Update Revision 1. The third party validation subcontractor used the most current version to validate the data since the more current CLP SOW methods were used for analysis. This had no impact to assessing data quality indicator criteria and documenting the data usability.

Aside from these noted discrepancies, no data were qualified as rejected or unusable to achieve project data quality objectives (DQOs). The data completeness exceeds the 90 percent for the soil sample data.

1.7 Conclusions

The analytical data reported for this project have been reviewed for accuracy, precision, representativeness, comparability, sensitivity and completeness. QC criteria exceedances for the AOU-1 project analytical data resulting in data qualification include 1) low-level detections of methylene chloride in the method blank samples, 2) SVOC surrogate spike and internal standard recoveries outside of limits, 3) exceedance of MS/MSD control limits for seven SVOC analytes, and 4) exceedance of the ICP serial dilution criterion for antimony.

The affected sample data were J- and UJ-qualified as estimated detect or non-detect concentrations, and U-qualified as non-detect concentrations. Estimated data are still usable to achieve project DQOs. The analytical data generated in support of the AOU-1 RI meet project DQOs and are usable for the intended purpose.

TABLE 1-1
Soil Sample Summary
2016 Soil Data Validation Report, 700 South 1600 East PCE Plume, AOU-1: East Side Springs

Location ID	Date Sampled	Time Sampled	Sample ID	CLP Sample ID	Analyses			Quality Control	
					CLP Lab			Duplicate	MS/MSD
					VOCs	SVOCs	Total Metals		
SS-01	05/04/16	1340	A-SS-01	H4086	X	X			
				MH4030			X		
			A-SS-01-D	H4082	X	X		X	
				MH4029			X	X	
SS-09	05/03/16	0855	A-SS-09	H4061	X	X			
				MH4025			X		
			A-SS-09-MS	H4061MS	X	X			X
				MH4025S			X		X
			A-SS-09-MSD	H4061MSD	X	X			X
				MH4025D			X		X
SS-26	05/03/16	1345	A-SS-26	H4076	X	X			
				MH4028			X		

NOTES:
CLP = U.S. Environmental Protection Agency Contract Laboratory Program.
ID = Identification.
MS/MSD = Matrix spike/matrix spike duplicate.
SVOC = Semi-volatile organic compound.
VOC = Volatile organic compound.

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TABLE 1-2
Soil Sample Analytical Results
2016 Soil Data Validation Report, 700 South 1600 East PCE Plume, AOU-1: East Side Springs

	Location ID		SW-01			SW-01			SW-09			SW-26		
	Field Sample ID		A-SS-01			A-SS-01-D			A-SS-09			A-SS-26		
	Sample Date		5/4/2016			5/4/2016			5/3/2016			5/3/2016		
	Parent Sample					A-SS-01								
Analyte	**Project Screening Level[1]**	**Units**	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL
Total Metals (CLP Method ISM02.2)[2]														
Antimony	3.1	mg/kg	1.6	J	1.9	1.4	J	1.6	2.7	J	1.1	1.2	J	1.1
Arsenic	0.026	mg/kg	6.1		0.95	6.0		0.78	24.2		0.56	7.9		0.56
Barium	1500	mg/kg	130		9.5	118		7.8	224		5.6	122		5.6
Beryllium	16	mg/kg	0.31	J	0.95	0.36	J	0.78	0.4	J	0.56	0.34	J	0.56
Cadmium	7.6	mg/kg	1.3		0.95	1.1		0.78	1.8		0.56	1.1		0.56
Chromium	0.011	mg/kg	13.6		1.9	10.3		1.6	14.0		1.1	9.7		1.1
Cobalt	2.3	mg/kg	4.5		0.95	4.0		0.78	5.2		0.56	5.1		0.56
Copper	310	mg/kg	67.8		1.9	50.1		1.6	52.0		1.1	36.5		1.1
Lead	280	mg/kg	132		0.95	109		0.78	301		0.56	130		0.56
Manganese	180	mg/kg	288		0.95	300		0.78	583		0.56	386		0.56
Mercury	0.66	mg/kg	0.14	J	0.23	0.13	J	0.19	0.21		0.14	0.087	J	0.14
Nickel	150	mg/kg	11.4		0.95	9.6		0.78	11.1		0.56	10.2		0.56
Selenium	5.2	mg/kg	1.8	J	4.8	1.6	J	3.9	1.1	J	2.8	1.6	J	2.8
Silver	12	mg/kg	0.31	J	0.95	0.26	J	0.78	0.71		0.56	0.39	J	0.56
Thallium	0.078	mg/kg	0.18	J	0.95	0.15	J	0.78	0.28	J	0.56	0.22	J	0.56
Vanadium	39	mg/kg	14.8		4.8	11.7		3.9	14.8		2.8	14.3		2.8
Zinc	2300	mg/kg	227		1.9	178		1.6	348		1.1	153		1.1
Volatile Organic Compounds (CLP Method SOM02.3)[2]														
1,1,1-trichloroethane	1.4	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,1,2,2-tetrachloroethane	0.0052	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,1,2-Trichloro-1,2,2-trifluoroethane	910	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,1,2-trichloroethane	0.0015	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,1-dichloroethane	0.014	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,1-dichloroethene	0.05	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,2,3-trichlorobenzene	0.3	mg/kg	< 0.011	UJ	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,2,4-trichlorobenzene	0.058	mg/kg	< 0.011	UJ	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,2-Dibromo-3-chloropropane	2.8×10^{-6}	mg/kg	< 0.011	UJ	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,2-dibromoethane	3.6×10^{-5}	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,2-dichlorobenzene	5.4	mg/kg	< 0.011	UJ	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,2-dichloroethane	0.00084	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,2-dichloropropane	0.0026	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,3-dichlorobenzene	5.4	mg/kg	< 0.011	UJ	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
1,4-dichlorobenzene	0.008	mg/kg	< 0.011	UJ	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
2-butanone	20	mg/kg	< 0.022	U	0.022	< 0.055	U	0.055	< 0.021	U	0.021	< 0.02	U	0.02
2-hexanone	0.16	mg/kg	< 0.022	U	0.022	< 0.055	U	0.055	< 0.021	U	0.021	< 0.02	U	0.02
4-methyl-2-pentanone	4.6	mg/kg	< 0.022	U	0.022	< 0.055	U	0.055	< 0.021	U	0.021	< 0.02	U	0.02
Acetone	48	mg/kg	0.13		0.022	0.18		0.055	0.051		0.021	< 0.02	U	0.02
Benzene	0.004	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01

TABLE 1-2
Soil Sample Analytical Results
2016 Soil Data Validation Report, 700 South 1600 East PCE Plume, AOU-1: East Side Springs

	Location ID		SW-01			SW-01			SW-09			SW-26		
	Field Sample ID		A-SS-01			A-SS-01-D			A-SS-09			A-SS-26		
	Sample Date		5/4/2016			5/4/2016			5/3/2016			5/3/2016		
	Parent Sample					A-SS-01								
Analyte	**Project Screening Level[1]**	**Units**	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL
Bromochloromethane	0.42	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Bromodichloromethane	0.00064	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Bromoform	0.042	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Bromomethane	0.036	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Carbon disulfide	4.2	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Carbon tetrachloride	0.003	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Chlorobenzene	0.98	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Chloroethane	120	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Chloroform	0.0011	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Chloromethane	0.98	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
cis-1,2-dichloroethene	0.16	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
cis-1,3-dichloropropene	0.003	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Cyclohexane	120	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Dibromochloromethane	0.00078	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Dichlorodifluoromethane	6	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Ethylbenzene	0.03	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Isopropylbenzene	13	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
m,p-Xylene	3.6	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Methyl acetate	64	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Methyl tert-butyl ether	0.056	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Methylcyclohexane	NS	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Methylene Chloride	0.026	mg/kg	0.0031	J	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
o-Xylene	3.8	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Styrene	2.2	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Tetrachloroethene	0.046	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	0.022		0.01
Toluene	12	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
trans-1,2-dichloroethene	0.5	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
trans-1,3-dichloropropene	0.003	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Trichloroethene	0.0032	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Trichlorofluoromethane	14	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Vinyl chloride	0.00011	mg/kg	< 0.011	U	0.011	< 0.027	U	0.027	< 0.01	U	0.01	< 0.01	U	0.01
Semivolatile Organic Compounds (CLP Method SOM02.3)[2]														
1,1-biphenyl	0.17	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
1,4-dioxane	0.0028	mg/kg	< 0.14	UJ	0.14	< 0.2	UJ	0.2	< 0.1	U	0.1	< 0.12	UJ	0.12
1,2,4,5-tetrachlorobenzene	0.12	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2,2-oxybis(1-chloropropane)	NS	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
2,3,4,6-tetrachlorophenol	22	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2,4,5-trichlorophenol	66	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2,4,6-trichlorophenol	0.26	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3

TABLE 1-2
Soil Sample Analytical Results
2016 Soil Data Validation Report, 700 South 1600 East PCE Plume, AOU-1: East Side Springs

Location ID			SW-01			SW-01			SW-09			SW-26		
Field Sample ID			A-SS-01			A-SS-01-D			A-SS-09			A-SS-26		
Sample Date			5/4/2016			5/4/2016			5/3/2016			5/3/2016		
Parent Sample						A-SS-01								
Analyte	**Project Screening Level[1]**	**Units**	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL
2,4-dichlorophenol	0.82	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2,4-dimethylphenol	6.4	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2,4-dinitrophenol	0.68	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
2,4-dinitrotoluene	0.0056	mg/kg	< 0.35	UJ	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2,6-dinitrotoluene	0.0012	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2-chloronaphthalene	58	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2-chlorophenol	1.1	mg/kg	< 0.35	UJ	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2-Methyl-4,6-dinitrophenol	0.04	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
2-methylnaphthalene	2.8	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2-methylphenol	12	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
2-nitroaniline	1.2	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
2-nitrophenol	0.68	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
3,3-dichlorobenzidine	0.014	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
3-nitroaniline	NS	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
4-bromophenyl phenyl ether	12	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
4-chloro-3-methylphenol	26	mg/kg	< 0.35	UJ	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
4-chloroaniline	2.7	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
4-chlorophenyl phenyl ether	0.0022	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
4-methylphenol	22	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
4-nitroaniline	0.028	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
4-nitrophenol	0.68	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Acenaphthene	82	mg/kg	< 0.35	UJ	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Acenaphthylene	82	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Acetophenone	9	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Anthracene	840	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Atrazine	0.0034	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Benzaldehyde	6.6	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Benzo[a]anthracene	0.15	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Benzo[a]pyrene	0.015	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	0.085	J	0.3
Benzo[b]fluoranthene	0.15	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	0.21	J	0.3
Benzo[g,h,i]perylene	170	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	0.064	J	0.3
Benzo[k]fluoranthene	1.5	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Benzyl butyl phthalate	4	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Bis(2-chloroethoxy) methane	0.22	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Bis(2-chloroethyl) ether	6.2×10^{-5}	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Bis(2-ethylhexyl) phthalate	22	mg/kg	< 0.35	U	0.35	0.26	J	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Caprolactam	38	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Carbazole	NS	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Chrysene	15	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	0.12	J	0.3

TABLE 1-2
Soil Sample Analytical Results
2016 Soil Data Validation Report, 700 South 1600 East PCE Plume, AOU-1: East Side Springs

	Location ID		SW-01			SW-01			SW-09			SW-26		
	Field Sample ID		A-SS-01			A-SS-01-D			A-SS-09			A-SS-26		
	Sample Date		5/4/2016			5/4/2016			5/3/2016			5/3/2016		
	Parent Sample					A-SS-01								
Analyte	**Project Screening Level[1]**	**Units**	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL	Result	Val Qual	Lab QL
Dibenz[a,h]anthracene	0.015	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Dibenzofuran	2.2	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Diethyl phthalate	94	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Dimethyl phthalate	94	mg/kg	0.39		0.35	0.28	J	0.51	0.37		0.27	0.4		0.3
Di-n-butyl phthalate	34	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Di-n-octyl phthalate	61	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Fluoranthene	230	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	0.078	J	0.3
Fluorene	80	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Hexachloro-1,3-butadiene	0.01	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Hexachlorobenzene	0.011	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Hexachlorocyclopentadiene	1.4	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Hexachloroethane	0.0096	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Indeno[1,2,3-c,d]pyrene	0.15	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	0.062	J	0.3
Isophorone	0.44	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Naphthalene	0.0094	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Nitrobenzene	0.0016	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
N-nitrosodi-n-propylamine	0.00014	mg/kg	< 0.35	UJ	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
N-nitrosodiphenylamine	1.1	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Pentachlorophenol	0.0072	mg/kg	< 0.69	U	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Phenanthrene	840	mg/kg	< 0.35	U	0.35	< 0.51	U	0.51	< 0.27	U	0.27	< 0.3	U	0.3
Phenol	52	mg/kg	< 0.69	UJ	0.69	< 0.99	U	0.99	< 0.52	U	0.52	< 0.58	U	0.58
Pyrene	170	mg/kg	< 0.35	UJ	0.35	< 0.51	U	0.51	< 0.27	U	0.27	0.093	J	0.3

NOTES:

Level. RSLs corresponding to an Excess Lifetime Cancer Risk (ELCR) of 1 x 10^{-6} and a Hazard Quotient (HQ) of 0.1 were used. (U.S. Environmental Protection Agency Regional Screening Levels, November 2015).

Screening Levels taken from tables 4, 5 and 6 of the Quality Assurance Project Plan Update Revision 1, 700 South 1600 East PCE Plume AOU-1: East Side Springs Salt Lake City, Utah (February 2016).

Values exceeding the Project Screening Level are shaded.

(2) Laboratory data reported by Chemtech Consulting Group, Mountainside, New Jersey

CLP = Contract Laboratory Program.

ID = Identification.

J = Estimated value below the CRQL or based on data validation.

mg/kg = Milligram per kilogram.

NS = No screening criteria.

QL = Laboratory-specific method quantitation limit.

U = Nondetect value.

UJ = Estimated nondetect value.

2.0 References

EA Engineering Science, and Technology, Inc., PBC. 2016. *Final Quality Assurance Project Plan Update Revision 1, 700 South 1600 East PCE Plume, AOU-1: East Side Springs, Salt Lake City, Utah*. February.

First Environment, Inc. 2015. *Final Remedial Investigation Work Plan, AOU-1: East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah.* July.

U.S. Environmental Protection Agency (EPA). 2015a. *EPA Contract Laboratory Program Statement of Work for Organic Superfund Methods, Multi-Media, Multi-Concentration (SOM02.3).* September.

EPA. 2015b. *Regional Screening Levels Master Table.* Available online at <www.epa.gov/...table/...Tables/.../master_sl_table_run. November.

EPA. 2014a. *EPA Contract Laboratory Program Statement of Work for Inorganic Superfund Methods, Multi-Media, Multi-Concentration (ISM02.2).* August.

EPA. 2014b. *National Functional Guidelines for Superfund Organic Methods Data Review.* Office of Superfund Remediation and Technology Innovation, EPA-540-R-014-002. August.

EPA. 2014c. *National Functional Guidelines for Inorganic Superfund Data Review.* Office of Superfund Remediation and Technology Innovation, EPA-540-R-013-001. August.

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Attachment 1
Data Validation Reports

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ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
700 SOUTH 1600 EAST PCE PLUME, AOU-1: EAST SIDE SPRINGS, SALT LAKE CITY, UTAH

Client: EA Engineering, Science & Technology, Inc., Greenwood Village, Colorado
SDG: MH4002
Laboratory: Chemtech Consulting Group, Mountainside, New Jersey
Site: 700 South 1600 East PCE Plume, AOU-1: East Side Springs, Salt Lake City, Utah
Date: July 31, 2016

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	A-GW-MTO	H2837-01	Water
2MS	A-GW-MTOMS	H2837-02MS	Water
3DUP	A-GW-MTODUP	H2837-03DUP	Water
4	A-SS-09	H2837-04	Soil
5MS	A-SS-09MS	H2837-05MS	Soil
6DUP	A-SS-09DUP	H2837-06DUP	Soil
7	A-SS-26	H2837-07	Soil
8	A-SS-01-D	H2837-08	Soil
9	A-SS-01	H2837-09	Soil
10	A-SW-023	H2837-10	Water
10MS	A-SW-023MS	H2837-10MS	Water
10DUP	A-SW-023DUP	H2837-10DUP	Water
11	A-SW-026	H2837-11	Water
12	A-SW-012	H2837-12	Water
13	A-SW-021	H2837-13	Water
14	A-SW-027	H2837-14	Water
15	A-SW-028	H2837-15	Water

A Stage 2B/4 validation was performed on the analytical data for seven water samples and four soil samples collected on May 2-4, 2016 by EA Engineering at the Veterans Administration site in Salt Lake City, Utah. The samples were analyzed under the Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) Multi-Media Multi-Concentration Inorganic Analysis ISM02.3.

Specific method references are as follows:

Analysis	*Method References*
Metals/Hg	USEPA CLP ISM02.3

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the Quality Assurance Project Plan (QAPP) 700 South 1600 East PCE Plume AOU-1: East Side Springs, Salt Lake City, Rev. 1, February 2016 and the USEPA National Functional Guidelines for Inorganic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Inorganic Superfund Data Review," August 2014;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Inorganics

- Holding times and sample preservation
- Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) Tuning
- Initial and continuing calibration verifications
- Method blank and field QC blank contamination
- Inductively Coupled Plasma (ICP) Interference Check Sample
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike Analysis
- Duplicate Sample Analysis
- ICP Serial Dilution
- Compound Quantitation
- Field Duplicate sample precision
- System Performance
- Regional Quality Assurance and Quality Control
- Overall Assessment of Data

Data Usability Assessment

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Metals (ICP-MS) & Mercury (CVAA)

Holding Times

- All samples were prepared and analyzed within 28 days for mercury and 180 days for all other metals.

ICP/MS Tuning

- All criteria were met.

Initial Calibration Verification

- All initial calibration criteria were met.

Continuing Calibration Verification

- All continuing calibration criteria were met.

Method Blank

- The method and calibration blanks exhibited the following contamination.

ICP-MS Metals				
Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
PBW007	Chromium	0.18	U	1, 10, 11, 12, 13, 14, 15
	Sodium	10.9	None	All Water Samples >10X
CCB081	Aluminum	1.7	U	1, 14, 15
	Antimony	0.32	U	1, 10, 11, 12, 13, 14, 15
	Beryllium	0.07	None	All Water Samples ND or >10X
	Potassium	9.1	None	All Water Samples >10X
	Sodium	21.7	None	
	Thallium	0.06	U	1

ICP-MS Metals				
Blank ID	Compound	Conc. mg/kg	Qualifier	Affected Samples
PBS008	Antimony	0.044	None	All Soil Samples >10X
	Chromium	0.092	None	

Field QC Blank

- Field QC samples were not collected.

ICP Interference Check Sample

- The ICP interference check sample exhibited acceptable %R values.

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Matrix Spike/Duplicate Analysis

- The MS/DUP samples exhibited acceptable %R and RPD values.

ICP Serial Dilution

- ICP serial dilution percent differences (%D) were within acceptance limits except for the following.

ICP-MS Metals				
ICP Sample ID	Compound	%D	Qualifier	Affected Samples
1	Copper	12%	J	1, 10, 11, 12, 13, 14, 15
4	Antimony	11%	J	4, 7, 8, 9
10	Zinc	20%	J	1, 10, 11, 12, 13, 14, 15

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

ICP-MS Metals				
Compound	A-SS-01-D mg/kg	A-SS-01 mg/kg	RPD	Qualifier
Antimony	1.4	1.6	13%	None
Arsenic	6.0	6.1	2%	
Barium	118	130	10%	
Beryllium	0.36	0.31	15%	
Cadmium	1.1	1.3	17%	
Chromium	10.3	13.6	28%	
Cobalt	4.0	4.5	12%	
Copper	50.1	67.8	30%	
Lead	109	132	19%	
Manganese	300	288	4%	
Nickel	9.6	11.4	17%	
Selenium	1.6	1.8	12%	
Silver	0.26	0.31	18%	
Thallium	0.15	0.18	18%	
Vanadium	11.7	14.8	23%	
Zinc	178	227	24%	

Mercury				
Compound	A-SS-01-D mg/kg	A-SS-01 mg/kg	RPD	Qualifier
Mercury	0.13	0.14	7%	None

System Performance

- Instrument sensitivity and performance were acceptable. Degradation of the system performance was not found. Instrument output and response data were reviewed and found to be acceptable.

Regional Quality Assurance and Quality Control

- All criteria were met. PE samples were not included with this project.

Overall Assessment of Data

- Compound identification and quantitation criteria were met. Calculations and transcription data were verified. No action was required.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 8/8/16

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

Reason Code	Definition
HT	Holding Time
MB	Method Blank
SURR	Surrogate
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
CB/CCB	Calibration Blank or Continuing Calibration Blank
CCV	Calibration Verification
SD	ICP Serial Dilution
TB	Trip Blank
EB	Equipment Blank
FB	Field Blank
FD	Field Duplicate

EPA SAMPLE NO.

MH4002

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-01

% Solids: Date Received: 05/03/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte		Concentration	Q	Date Analyzed	Time Analyzed	
7429-90-5	Aluminum	20.0	~~4.0~~ U	~~J~~	05/06/2016	1503	MB
7440-36-0	Antimony	2.0	~~0.68~~ U	~~J~~	05/06/2016	1503	MB
7440-38-2	Arsenic		0.59	J	05/06/2016	1503	
7440-39-3	Barium		69.0		05/06/2016	1503	
7440-41-7	Beryllium		1.0	U	05/06/2016	1503	
7440-43-9	Cadmium		1.0	U	05/06/2016	1503	
7440-70-2	Calcium		132000		05/06/2016	1503	
7440-47-3	Chromium	2.0	~~1.1~~ U	~~J~~	05/06/2016	1503	MB
7440-48-4	Cobalt		1.0	U	05/06/2016	1503	
7440-50-8	Copper		7.4 J	~~J~~	05/06/2016	1503	SD
7439-89-6	Iron		410		05/06/2016	1503	
7439-92-1	Lead		0.70	J	05/06/2016	1503	
7439-95-4	Magnesium		46400		05/06/2016	1503	
7439-96-5	Manganese		9.4		05/06/2016	1503	
7440-02-0	Nickel		0.25	J	05/06/2016	1503	
7440-09-7	Potassium		2310		05/06/2016	1503	
7782-49-2	Selenium		5.0	U	05/06/2016	1503	
7440-22-4	Silver		0.20	J	05/06/2016	1503	
7440-23-5	Sodium		122000		05/06/2016	1503	
7440-28-0	Thallium	1.0	~~0.15~~ U	~~J~~	05/06/2016	1503	MB
7440-62-2	Vanadium		1.6	J	05/06/2016	1503	
7440-66-6	Zinc		146 J	~~J~~	05/06/2016	1503	SD

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4025

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

4

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-04

% Solids: 63.6 Date Received: 05/04/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	2.7 J	*	05/06/2016	1544
7440-38-2	Arsenic	24.2		05/06/2016	1544
7440-39-3	Barium	224		05/06/2016	1544
7440-41-7	Beryllium	0.40	J	05/06/2016	1544
7440-43-9	Cadmium	1.8		05/06/2016	1544
7440-47-3	Chromium	14.0		05/06/2016	1544
7440-48-4	Cobalt	5.2		05/06/2016	1544
7440-50-8	Copper	52.0		05/06/2016	1544
7439-92-1	Lead	301		05/06/2016	1544
7439-96-5	Manganese	583		05/06/2016	1544
7440-02-0	Nickel	11.1		05/06/2016	1544
7782-49-2	Selenium	1.1	J	05/06/2016	1544
7440-22-4	Silver	0.71		05/06/2016	1544
7440-28-0	Thallium	0.28	J	05/06/2016	1544
7440-62-2	Vanadium	14.8		05/06/2016	1544
7440-66-6	Zinc	348		05/06/2016	1544

SD

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4028

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

7

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-07

% Solids: 63.5 Date Received: 05/04/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.2 J		05/06/2016	1608
7440-38-2	Arsenic	7.9		05/06/2016	1608
7440-39-3	Barium	122		05/06/2016	1608
7440-41-7	Beryllium	0.34	J	05/06/2016	1608
7440-43-9	Cadmium	1.1		05/06/2016	1608
7440-47-3	Chromium	9.7		05/06/2016	1608
7440-48-4	Cobalt	5.1		05/06/2016	1608
7440-50-8	Copper	36.5		05/06/2016	1608
7439-92-1	Lead	130		05/06/2016	1608
7439-96-5	Manganese	386		05/06/2016	1608
7440-02-0	Nickel	10.2		05/06/2016	1608
7782-49-2	Selenium	1.6	J	05/06/2016	1608
7440-22-4	Silver	0.39	J	05/06/2016	1608
7440-28-0	Thallium	0.22	J	05/06/2016	1608
7440-62-2	Vanadium	14.3		05/06/2016	1608
7440-66-6	Zinc	153		05/06/2016	1608

SD

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4029

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

8

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-08

% Solids: 44.7 Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.4 J	J	05/06/2016	1614
7440-38-2	Arsenic	6.0		05/06/2016	1614
7440-39-3	Barium	118		05/06/2016	1614
7440-41-7	Beryllium	0.36	J	05/06/2016	1614
7440-43-9	Cadmium	1.1		05/06/2016	1614
7440-47-3	Chromium	10.3		05/06/2016	1614
7440-48-4	Cobalt	4.0		05/06/2016	1614
7440-50-8	Copper	50.1		05/06/2016	1614
7439-92-1	Lead	109		05/06/2016	1614
7439-96-5	Manganese	300		05/06/2016	1614
7440-02-0	Nickel	9.6		05/06/2016	1614
7782-49-2	Selenium	1.6	J	05/06/2016	1614
7440-22-4	Silver	0.26	J	05/06/2016	1614
7440-28-0	Thallium	0.15	J	05/06/2016	1614
7440-62-2	Vanadium	11.7		05/06/2016	1614
7440-66-6	Zinc	178		05/06/2016	1614

SD

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4030

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

9

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-09

% Solids: 39 Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.6 J	~~J~~	05/06/2016	1620
7440-38-2	Arsenic	6.1		05/06/2016	1620
7440-39-3	Barium	130		05/06/2016	1620
7440-41-7	Beryllium	0.31	J	05/06/2016	1620
7440-43-9	Cadmium	1.3		05/06/2016	1620
7440-47-3	Chromium	13.6		05/06/2016	1620
7440-48-4	Cobalt	4.5		05/06/2016	1620
7440-50-8	Copper	67.8		05/06/2016	1620
7439-92-1	Lead	132		05/06/2016	1620
7439-96-5	Manganese	288		05/06/2016	1620
7440-02-0	Nickel	11.4		05/06/2016	1620
7782-49-2	Selenium	1.8	J	05/06/2016	1620
7440-22-4	Silver	0.31	J	05/06/2016	1620
7440-28-0	Thallium	0.18	J	05/06/2016	1620
7440-62-2	Vanadium	14.8		05/06/2016	1620
7440-66-6	Zinc	227		05/06/2016	1620

SD

NOTE: Hardness (total) is reported in mg/L

Comments:

NW 7/31/16

EPA SAMPLE NO.

MH4113

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

10

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-10

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed	
7429-90-5	Aluminum	33.2		05/06/2016	1515	
7440-36-0	Antimony 2.0	~~0.50~~ u	~~J~~	05/06/2016	1515	MB
7440-38-2	Arsenic	1.8		05/06/2016	1515	
7440-39-3	Barium	73.3		05/06/2016	1515	
7440-41-7	Beryllium	1.0	U	05/06/2016	1515	
7440-43-9	Cadmium	0.080	J	05/06/2016	1515	
7440-70-2	Calcium	148000		05/06/2016	1515	
7440-47-3	Chromium 2.0	~~0.64~~ u	~~J~~	05/06/2016	1515	MB
7440-48-4	Cobalt	0.10	J	05/06/2016	1515	
7440-50-8	Copper	1.6 J	~~J+~~	05/06/2016	1515	SD
7439-89-6	Iron	70.6	J	05/06/2016	1515	
7439-92-1	Lead	0.31	J	05/06/2016	1515	
7439-95-4	Magnesium	60900		05/06/2016	1515	
7439-96-5	Manganese	11.5		05/06/2016	1515	
7440-02-0	Nickel	0.68	J	05/06/2016	1515	
7440-09-7	Potassium	2630		05/06/2016	1515	
7782-49-2	Selenium	1.8	J	05/06/2016	1515	
7440-22-4	Silver	0.14	J	05/06/2016	1515	
7440-23-5	Sodium	67700		05/06/2016	1515	
7440-28-0	Thallium	1.0	U	05/06/2016	1515	
7440-62-2	Vanadium	5.1		05/06/2016	1515	
7440-66-6	Zinc	8.8 J	~~J~~	05/06/2016	1515	SD

NOTE: Hardness (total) is reported in mg/L

Comments:

rev 7/31/16

EPA SAMPLE NO.

MH4116

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

11

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-11

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed	
7429-90-5	Aluminum	164		05/06/2016	1527	
7440-36-0	Antimony 2.0	~~0.78~~ u	~~J~~	05/06/2016	1527	MB
7440-38-2	Arsenic	1.2		05/06/2016	1527	
7440-39-3	Barium	106		05/06/2016	1527	
7440-41-7	Beryllium	1.0	U	05/06/2016	1527	
7440-43-9	Cadmium	0.13	J	05/06/2016	1527	
7440-70-2	Calcium	159000		05/06/2016	1527	
7440-47-3	Chromium 2.0	~~0.82~~ u	~~J~~	05/06/2016	1527	MB
7440-48-4	Cobalt	0.20	J	05/06/2016	1527	
7440-50-8	Copper	3.2 J	~~J~~	05/06/2016	1527	SD
7439-89-6	Iron	314		05/06/2016	1527	
7439-92-1	Lead	7.4		05/06/2016	1527	
7439-95-4	Magnesium	61100		05/06/2016	1527	
7439-96-5	Manganese	9.4		05/06/2016	1527	
7440-02-0	Nickel	0.72	J	05/06/2016	1527	
7440-09-7	Potassium	2120		05/06/2016	1527	
7782-49-2	Selenium	2.2	J	05/06/2016	1527	
7440-22-4	Silver	0.13	J	05/06/2016	1527	
7440-23-5	Sodium	71200		05/06/2016	1527	
7440-28-0	Thallium	1.0	U	05/06/2016	1527	
7440-62-2	Vanadium	5.6		05/06/2016	1527	
7440-66-6	Zinc	15.1 J	~~J~~	05/06/2016	1527	SD

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4202

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

12

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-12

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed	
7429-90-5	Aluminum	30.8		05/06/2016	1530	
7440-36-0	Antimony 2.0	~~0.84~~ U	~~J~~	05/06/2016	1530	MB
7440-38-2	Arsenic	1.4		05/06/2016	1530	
7440-39-3	Barium	72.6		05/06/2016	1530	
7440-41-7	Beryllium	1.0	U	05/06/2016	1530	
7440-43-9	Cadmium	0.060	J	05/06/2016	1530	
7440-70-2	Calcium	148000		05/06/2016	1530	
7440-47-3	Chromium 2.0	~~0.39~~ U	~~J~~	05/06/2016	1530	MB
7440-48-4	Cobalt	0.060	J	05/06/2016	1530	
7440-50-8	Copper	1.5 J	~~J+~~	05/06/2016	1530	SD
7439-89-6	Iron	75.0	J	05/06/2016	1530	
7439-92-1	Lead	0.40	J	05/06/2016	1530	
7439-95-4	Magnesium	57600		05/06/2016	1530	
7439-96-5	Manganese	1.7		05/06/2016	1530	
7440-02-0	Nickel	0.57	J	05/06/2016	1530	
7440-09-7	Potassium	2110		05/06/2016	1530	
7782-49-2	Selenium	4.2	J	05/06/2016	1530	
7440-22-4	Silver	0.090	J	05/06/2016	1530	
7440-23-5	Sodium	64200		05/06/2016	1530	
7440-28-0	Thallium	1.0	U	05/06/2016	1530	
7440-62-2	Vanadium	5.9		05/06/2016	1530	
7440-66-6	Zinc	6.0 J	~~J~~	05/06/2016	1530	SD

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 713114

EPA SAMPLE NO.

MH4211

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

13

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-13

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed	
7429-90-5	Aluminum	64.2		05/06/2016	1533	
7440-36-0	Antimony 2.0	~~0.90~~ u	~~U~~	05/06/2016	1533	MB
7440-38-2	Arsenic	3.5		05/06/2016	1533	
7440-39-3	Barium	59.3		05/06/2016	1533	
7440-41-7	Beryllium	1.0	U	05/06/2016	1533	
7440-43-9	Cadmium	1.0	U	05/06/2016	1533	
7440-70-2	Calcium	139000		05/06/2016	1533	
7440-47-3	Chromium 2.0	~~0.69~~ u	~~J~~	05/06/2016	1533	MB
7440-48-4	Cobalt	0.070	J	05/06/2016	1533	
7440-50-8	Copper	1.6 J	~~J+~~	05/06/2016	1533	SD
7439-89-6	Iron	140	J	05/06/2016	1533	
7439-92-1	Lead	1.3		05/06/2016	1533	
7439-95-4	Magnesium	49900		05/06/2016	1533	
7439-96-5	Manganese	16.6		05/06/2016	1533	
7440-02-0	Nickel	0.35	J	05/06/2016	1533	
7440-09-7	Potassium	1750		05/06/2016	1533	
7782-49-2	Selenium	1.9	J	05/06/2016	1533	
7440-22-4	Silver	0.090	J	05/06/2016	1533	
7440-23-5	Sodium	51000		05/06/2016	1533	
7440-28-0	Thallium	1.0	U	05/06/2016	1533	
7440-62-2	Vanadium	2.2	J	05/06/2016	1533	
7440-66-6	Zinc	8.0 J	~~J~~	05/06/2016	1533	SD

NOTE: Hardness (total) is reported in mg/L

Comments:

NW 7/31/16

EPA SAMPLE NO.

MH4217

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

14

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-14

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed	
7429-90-5	Aluminum 20.0	~~2.2~~ U	~~J~~	05/06/2016	1536	MB
7440-36-0	Antimony 2.0	~~0.81~~ U	~~J~~	05/06/2016	1536	MB
7440-38-2	Arsenic	2.0		05/06/2016	1536	
7440-39-3	Barium	71.8		05/06/2016	1536	
7440-41-7	Beryllium	1.0	U	05/06/2016	1536	
7440-43-9	Cadmium	1.0	U	05/06/2016	1536	
7440-70-2	Calcium	145000		05/06/2016	1536	
7440-47-3	Chromium 2.0	~~0.48~~ U	~~J~~	05/06/2016	1536	MB
7440-48-4	Cobalt	1.0	U	05/06/2016	1536	
7440-50-8	Copper	1.2 J	~~J+~~	05/06/2016	1536	SD
7439-89-6	Iron	38.7	J	05/06/2016	1536	
7439-92-1	Lead	1.0	U	05/06/2016	1536	
7439-95-4	Magnesium	58300		05/06/2016	1536	
7439-96-5	Manganese	6.4		05/06/2016	1536	
7440-02-0	Nickel	0.44	J	05/06/2016	1536	
7440-09-7	Potassium	2320		05/06/2016	1536	
7782-49-2	Selenium	2.6	J	05/06/2016	1536	
7440-22-4	Silver	0.080	J	05/06/2016	1536	
7440-23-5	Sodium	63800		05/06/2016	1536	
7440-28-0	Thallium	1.0	U	05/06/2016	1536	
7440-62-2	Vanadium	5.1		05/06/2016	1536	
7440-66-6	Zinc	4.3 J	~~J~~	05/06/2016	1536	SD

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4218

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

15

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-15

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte		Concentration	Q	Date Analyzed	Time Analyzed	
7429-90-5	Aluminum	20.0	~~5.5~~ U	~~J~~	05/06/2016	1539	MB
7440-36-0	Antimony	2.0	~~0.94~~ U	~~J~~	05/06/2016	1539	MB
7440-38-2	Arsenic		2.5		05/06/2016	1539	
7440-39-3	Barium		70.7		05/06/2016	1539	
7440-41-7	Beryllium		1.0	U	05/06/2016	1539	
7440-43-9	Cadmium		1.0	U	05/06/2016	1539	
7440-70-2	Calcium		151000		05/06/2016	1539	
7440-47-3	Chromium	2.0	~~0.54~~ U	~~J~~	05/06/2016	1539	MB
7440-48-4	Cobalt		0.060	J	05/06/2016	1539	
7440-50-8	Copper		1.4 J	~~J~~	05/06/2016	1539	SD
7439-89-6	Iron		40.0	J	05/06/2016	1539	
7439-92-1	Lead		0.11	J	05/06/2016	1539	
7439-95-4	Magnesium		58400		05/06/2016	1539	
7439-96-5	Manganese		6.0		05/06/2016	1539	
7440-02-0	Nickel		0.49	J	05/06/2016	1539	
7440-09-7	Potassium		2290		05/06/2016	1539	
7782-49-2	Selenium		3.0	J	05/06/2016	1539	
7440-22-4	Silver		0.080	J	05/06/2016	1539	
7440-23-5	Sodium		64600		05/06/2016	1539	
7440-28-0	Thallium		1.0	U	05/06/2016	1539	
7440-62-2	Vanadium		5.2		05/06/2016	1539	
7440-66-6	Zinc		5.6 J	~~J~~	05/06/2016	1539	SD

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4002

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

1

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-01

% Solids: Date Received: 05/03/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1605

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4025

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

4

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-04

% Solids: 63.6 Date Received: 05/04/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.21		05/11/2016	1258

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4028

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

7

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-07

% Solids: 63.5 Date Received: 05/04/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.087	J	05/11/2016	1304

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4029

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

8

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-08

% Solids: 44.7 Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.13	J	05/11/2016	1306

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4030

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

9

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-09

% Solids: 39 Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.14	J	05/11/2016	1308

NOTE: Hardness (total) is reported in mg/L

Comments:

NW 7/31/16

EPA SAMPLE NO.

MH4113

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

10

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-10

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1622

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4116

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

11

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-11

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1611

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4202

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

12

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-12

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1613

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4211

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

13

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-13

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1615

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4217

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

14

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-14

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1617

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 7/31/16

EPA SAMPLE NO.

MH4218

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

15

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-15

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1619

NOTE: Hardness (total) is reported in mg/L

Comments:

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
700 SOUTH 1600 EAST PCE PLUME, AOU-1: EAST SIDE SPRINGS, SALT LAKE CITY, UTAH

Client: EA Engineering, Science & Technology, Inc., Greenwood Village, Colorado
SDG: H4002
Laboratory: Chemtech Consulting Group, Mountainside, New Jersey
Site: 700 South 1600 East PCE Plume, AOU-1: East Side Springs, Salt Lake City, Utah
Date: August 2, 2016

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	A-GW-MTO	H2834-01	Water
1DL*	A-GW-MTODL	H2834-01DL	Water
2MS	A-GW-MTOMS	H2834-02MS	Water
3MSD	A-GW-MTOMSD	H2834-03MSD	Water
4*	A-TB-005	H2834-04	Water
5*	A-SW-004	H2834-05	Water
5DL*	A-SW-004DL	H2834-05DL	Water
6*	A-SW-031	H2834-06	Water
6DL*	A-SW-031DL	H2834-06DL	Water
7*	A-SW-033	H2834-07	Water
7DL*	A-SW-033DL	H2834-07DL	Water
8*	A-SW-034	H2834-08	Water
8RE*	A-SW-034RE	H2834-08RE	Water
9*	A-SW-042	H2834-09	Water
10*	A-SW-043	H2834-10	Water
12*	A-GW-MTO	H2834-12	Water
13	A-SS-09	H1584-13	Soil
14MS	A-SS-09MS	H2834-14MS	Soil
15MSD	A-SS-09MSD	H2834-15MSD	Soil
16	A-SS-26	H2834-16	Soil
18	A-SW-012	H2834-18	Water
18DL*	A-SW-012DL	H2834-18DL	Water
19	A-SW-026	H2834-19	Water
19DL*	A-SW-026DL	H2834-19DL	Water
20	A-SW-027	H2834-20	Water
21	A-SW-028	H2834-21	Water

* - VOC only

A Stage 2B/4 validation was performed on the analytical data for twelve water samples, two soil samples, and one aqueous trip blank sample collected May 2-3, 2016 by EA Engineering at the Veterans Administration site in Salt Lake City, Utah. The samples were analyzed under the Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) Multi-Media Multi-Concentration Organic Analysis SOM02.3.

Specific method references are as follows:

Analysis	*Method References*
Trace VOCs/ Low Level VOCs	USEPA CLP SOM02.3
SVOCs	USEPA CLP SOM02.3

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the Quality Assurance Project Plan (QAPP) 700 South 1600 East PCE Plume AOU-1: East Side Springs, Salt Lake City, Rev. 1, February 2016 and the USEPA National Functional Guidelines for Organic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Superfund Organic Methods Data Review," August 2014;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Tentatively Identified Compounds (TICs)
- Field Duplicate sample precision
- System Performance
- Regional Quality Assurance and Quality Control
- Overall Assessment of Data

Data Usability Assessment

There were minor rejections of data. This data cannot be used in the decision-making process for this project.

- Five SVOC compounds were rejected in four samples due to severely low surrogate recoveries.

Overall the remaining data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Volatile Organic Compounds (VOC)

Holding Times

- All samples were analyzed within 14 days for preserved water samples and soil samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All percent relative standard deviation (%RSD) and mean relative response factor (RRF) criteria were met.

Continuing Calibration

- All percent difference (%D) and RRF criteria were met.

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ug/kg	Qualifier	Affected Samples
VBLK98	Methylene chloride	1.6	U	13
VBLK79	Methylene chloride	1.1	None	All Associated ND

Field QC Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
A-TB-005	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values except for the following.

Sample ID	Surrogate	%R	Qualifier
5DL	Chloroethane-d5	49%	None - 5X Dilution
6DL	Chloroethane-d5	40%	None - 2X Dilution
7DL	Chloroethane-d5	44%	None - 5X Dilution

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable %R and RPD values.

Laboratory Control Samples

- LCS samples were not analyzed.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- EDS Sample ID #s 1, 5, 6, 7, 18, and 19 exhibited high concentrations of tetrachloroethene and were flagged (E) by the laboratory. The samples were reanalyzed at a 5X dilution and the dilution results for tetrachloroethene should be used for reporting purposes.
- EDS Sample ID #8 was reanalyzed due to carryover and the reanalysis results should be used for reporting purposes.

Tentatively Identified Compounds (TICs)

- All TICs were qualified estimated (J) for unknown compounds and (NJ) for tentatively identified compounds.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

System Performance

- Instrument sensitivity and chromatographic performance were acceptable. Degradation of the system performance was not found. Instrument output and response data were reviewed and found to be acceptable.

Regional Quality Assurance and Quality Control

- All criteria were met. PE samples were not included with this project.

Overall Assessment of Data

- Compound identification and quantitation criteria were met. Calculations and transcription data were verified. No action was required.

Semivolatile Organic Compounds (SVOC)

Holding Times

- All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within 40 days for all samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and mean RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met except for the following.

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
05/14/16 (1309)	Hexachlorocyclopentadiene	67.5%	UJ	1, 18, 19, 20, 21

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values except for the following.

Sample ID	Surrogate	%R	Qualifier
1	1,4-Dioxane-d8	19%	UJ - Associated Compounds
16	1,4-Dioxane-d8	37%	UJ - Associated Compounds
18	1,4-Dioxane-d8	18%	UJ - Associated Compounds
	4-Nitrophenol-d4	9%	R - Associated Compounds
19	1,4-Dioxane-d8	15%	UJ - Associated Compounds
	4-Nitrophenol-d4	7%	R - Associated Compounds
20	1,4-Dioxane-d8	17%	UJ - Associated Compounds

Sample ID	Surrogate	%R	Qualifier
20 (cont.)	4-Nitrophenol-d4	8%	R - Associated Compounds
21	1,4-Dioxane-d8	20%	UJ - Associated Compounds
	4-Nitrophenol-d4	9%	R - Associated Compounds

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable %R and RPD values.

Laboratory Control Samples

- LCS samples were not analyzed.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- All TICs were qualified estimated (J) for unknown compounds and (NJ) for tentatively identified compounds.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

System Performance

- Instrument sensitivity and chromatographic performance were acceptable. Degradation of the system performance was not found. Instrument output and response data were reviewed and found to be acceptable.

Regional Quality Assurance and Quality Control

- All criteria were met. PE samples were not included with this project.

Overall Assessment of Data

- Compound identification and quantitation criteria were met. Calculations and transcription data were verified. No action was required.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 8/8/16

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

Reason Code	Definition
HT	Holding Time
MB	Method Blank
SURR	Surrogate
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
CB/CCB	Calibration Blank or Continuing Calibration Blank
CCV	Calibration Verification
SD	ICP Serial Dilution
TB	Trip Blank
EB	Equipment Blank
FB	Field Blank
FD	Field Duplicate

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049234.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.070	J
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.26	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	2.0	
71-55-6	1,1,1-Trichloroethane	0.66	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.56	

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049234.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.24	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	~~46~~ 40	~~B~~
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

NW 8/12/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049234.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1DL
H4002DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049252.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Use orig. NAC results
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1DL
H4002DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049252.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Use original results
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	40	B
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

NW 8/12/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1DL

H4002DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030

Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002

Analytical Method : Trace VOA
Level :

Matrix : Water
Lab Sample ID : H2834-01DL

Sample wt/vol : 25.0 (g/mL) : mL
Lab File ID : VI049252.D

% Solids :
Date Received : 05/03/2016

GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :

GC Column : ID : (mm)
Date Analyzed : 05/05/2016

Extract Concentrated : (Y / N)
Extract Volume : (µL)

Soil Aliquot (VOA) : (µL)
Extraction Type : PT

Heated Purge : (Y / N) N
Injection Volume : (µL)

Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0

Cleanup Types :
Cleanup Factor :

Concentration Units (µg/L,mg/L,µg/kg) : µg/L

use original results

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 4
H4006

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-04
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049233.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 4
H4006

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-04
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049233.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

mw 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 4

H4006

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-04
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049233.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4006

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-04
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049233.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000109-99-9	Furan, tetrahydro-	6.23	0.39	~~JN~~ NJ
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 5
H4094

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049237.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.19	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	2.2	
71-55-6	1,1,1-Trichloroethane	0.34	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.34	J

MW 8/21/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 5
H4094

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049237.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.24	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	~~20~~ 27	~~B~~
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 5

H4094

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049237.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

New 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 5DL
H4094DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049258.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Use original results
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 5DL
H4094DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049258.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Use original results
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	27	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 5DL

H4094DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030

Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002

Analytical Method : Trace VOA
Level :

Matrix : Water
Lab Sample ID : H2834-05DL

Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049258.D

% Solids :
Date Received : 05/03/2016

GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :

GC Column : ID : (mm)
Date Analyzed : 05/05/2016

Use orig. MDL results

Extract Concentrated : (Y / N)
Extract Volume : (µL)

Soil Aliquot (VOA) : (µL)
Extraction Type : PT

Heated Purge : (Y / N) N
Injection Volume : (µL)

Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0

Cleanup Types :
Cleanup Factor :

Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 6
H4121

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06
Sample wt/vol : 25.0 (g/mL) : mL
Lab File ID : VI049238.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.27	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.97	
71-55-6	1,1,1-Trichloroethane	0.31	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.20	J
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.48	J

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 6
H4121

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049238.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.34	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	~~21~~ 20	~~E~~
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.080	J
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.12	J
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

NC 8/21/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. b
H4121

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049238.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

lew 8/2/16

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 6

H4121

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049238.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000067-63-0	Isopropyl Alcohol	3.21	0.35	~~JN~~ NJ
2	E966796	Total Alkanes	N/A	0.28	NJ

EPA-designated Registry Number.

rev 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 60L
H4121DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049257.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Use original results
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 2.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1.0	U
79-20-9	Methyl Acetate	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	0.34	J
110-82-7	Cyclohexane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	0.48	J

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 60L
H4121DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049257.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 2.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

use original results

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	20	D
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
95-47-6	o-Xylene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-trichlorobenzene	1.0	U

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 6DL
H4121DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049257.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 2.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L, mg/L, µg/kg): µg/L

use original results

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	1.0	U

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 7

H4123

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049239.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.15	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	2.1	
71-55-6	1,1,1-Trichloroethane	0.61	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.78	

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 7
H4123

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049239.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L, mg/L, µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.11	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	~~42~~ 35	~~E~~
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

lw 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 7

H4123

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049239.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

MW 9/12/16

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 7

H4123

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049239.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000066-25-1	Hexanal	10.6	0.85	~~JN~~ NJ
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 70L
H4123DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049259.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016 use original results
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L, mg/L, µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	0.55	J
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	0.75	J

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 7DL
H4123DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049259.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
use original results
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	35	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

New 8/2016

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 7DL

H4123DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030

Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002

Analytical Method : Trace VOA
Level :

Matrix : Water
Lab Sample ID : H2834-07DL

Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049259.D

% Solids :
Date Received : 05/03/2016

GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :

GC Column : ID : (mm)
Date Analyzed : 05/05/2016

Extract Concentrated : (Y / N)
Extract Volume : (µL)

Soil Aliquot (VOA) : (µL)
Extraction Type : PT

Heated Purge : (Y / N) N
Injection Volume : (µL)

Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0

Cleanup Types :
Cleanup Factor :

Concentration Units (µg/L,mg/L,µg/kg): µg/L

use original results

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

8/2/16

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 7DL

H4123DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049259.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Use original results
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 5.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	1.55	8.7	J J
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 8
H4124

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049240.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

Use reanalysis results

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.13	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.9	
71-55-6	1,1,1-Trichloroethane	0.20	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.26	J

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 8
H4124

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049240.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

Use reanalysis results

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.22	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	13	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 8
H4124

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049240.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

Use reanalysis results

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 8RE
H4124RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08RE
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049251.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.9	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.13	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.9	
71-55-6	1,1,1-Trichloroethane	0.20	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.27	J

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 8RE
H4124RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08RE
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049251.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.22	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	13	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

MW 8/12/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 8RE
H4124RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08RE
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049251.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

NW 8/2/16

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 8RE

H4124RE

Lab Name : Chemtech Consulting Group
Lab Code: CHM Case No.: 46114
Analytical Method : Trace VOA
Matrix : Water
Sample wt/vol : 25.0 (g/mL): mL
% Solids :
GC Column : RXI-624 ID : 0.25 (mm)
Extract Concentrated : (Y / N)
Soil Aliquot (VOA) : (µL)
Heated Purge : (Y / N) N
Purge Volume : 25 (mL)
Cleanup Types :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

Contract : EPW14030
MA No. : SDG No.: H4002
Level :
Lab Sample ID : H2834-08RE
Lab File ID : VI049251.D
Date Received : 05/03/2016
Date Extracted :
Date Analyzed : 05/05/2016
Extract Volume : (µL)
Extraction Type : PT
Injection Volume : (µL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	14.04	0.30	J
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

New 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 9
H4132

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-09
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049241.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.0	
71-55-6	1,1,1-Trichloroethane	0.19	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.19	J

New 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 9
H4132

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-09
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049241.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.10	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	16	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 9
H4132

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-09
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049241.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 9

H4132

Lab Name : Chemtech Consulting Group
Lab Code: CHM Case No.: 46114
Analytical Method : Trace VOA
Matrix : Water
Sample wt/vol : 25.0 (g/mL): mL
% Solids :
GC Column : RXI-624 ID : 0.25 (mm)
Extract Concentrated : (Y / N)
Soil Aliquot (VOA) : (µL)
Heated Purge : (Y / N) N
Purge Volume : 25 (mL)
Cleanup Types :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

Contract : EPW14030
MA No. : SDG No.: H4002
Level :
Lab Sample ID : H2834-09
Lab File ID : VI049241.D
Date Received : 05/03/2016
Date Extracted :
Date Analyzed : 05/04/2016
Extract Volume : (µL)
Extraction Type : PT
Injection Volume : (µL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	9.37	1.7	8 J
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 10
H4133

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-10
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049242.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.89	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.10	J

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 10
H4133

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-10
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049242.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.10	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	4.1	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 10
H4133

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-10
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049242.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 10
H4133

Lab Name : Chemtech Consulting Group
Lab Code: CHM Case No.: 46114
Analytical Method : Trace VOA
Matrix : Water
Sample wt/vol : 25.0 (g/mL) : mL
% Solids :
GC Column : RXI-624 ID : 0.25 (mm)
Extract Concentrated : (Y / N)
Soil Aliquot (VOA) : (µL)
Heated Purge : (Y / N) N
Purge Volume : 25 (mL)
Cleanup Types :
Concentration Units (µg/L,mg/L,µg/kg) : µg/L

Contract : EPW14030
MA No. : SDG No.: H4002
Level :
Lab Sample ID : H2834-10
Lab File ID : VI049242.D
Date Received : 05/03/2016
Date Extracted :
Date Analyzed : 05/04/2016
Extract Volume : (µL)
Extraction Type : PT
Injection Volume : (µL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	9.36	1.8	~~J~~ J
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 12
H4004

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-12
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049249.D
% Solids :
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 12
H4004

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-12
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049249.D
% Solids :
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 12

H4004

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-12
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049249.D
% Solids :
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

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FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 12

H4004

Lab Name : Chemtech Consulting Group
Lab Code: CHM Case No.: 46114
Analytical Method : Trace VOA
Matrix : Water
Sample wt/vol : 25.0 (g/mL): mL
% Solids :
GC Column : RXI-624 ID : 0.25 (mm)
Extract Concentrated : (Y / N)
Soil Aliquot (VOA) : (µL)
Heated Purge : (Y / N) N
Purge Volume : 25 (mL)
Cleanup Types :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

Contract : EPW14030
MA No. : SDG No.: H4002
Level :
Lab Sample ID : H2834-12
Lab File ID : VI049249.D
Date Received : 05/04/2016
Date Extracted :
Date Analyzed : 05/05/2016
Extract Volume : (µL)
Extraction Type : PT
Injection Volume : (µL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000109-99-9	Furan, tetrahydro-	6.24	0.41	~~JN~~ NJ
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 13
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 3.75 (g/mL): g
Lab File ID : VT013913.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	51	
75-15-0	Carbon disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene chloride	10	B U MB
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	21	U
74-97-5	Bromochloromethane	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 13

H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 3.75 (g/mL): g
Lab File ID : VT013913.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-pentanone	21	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	21	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
95-47-6	o-xylene	10	U
179601-23-1	m,p-Xylene	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-trichlorobenzene	10	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 13

H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 3.75 (g/mL): g
Lab File ID : VT013913.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	10	U

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FORM 1A-OR
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EPA SAMPLE NO. 16
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 4.45 (g/mL): g
Lab File ID : VT013989.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L, mg/L, µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	20	U
75-15-0	Carbon disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	20	U
74-97-5	Bromochloromethane	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U

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TARGET ANALYTE LIST

EPA SAMPLE NO. 16
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 4.45 (g/mL): g
Lab File ID : VT013989.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-pentanone	20	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	22	
591-78-6	2-Hexanone	20	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
95-47-6	o-xylene	10	U
179601-23-1	m,p-Xylene	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-trichlorobenzene	10	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 16

H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 4.45 (g/mL): g
Lab File ID : VT013989.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L, mg/L, µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	10	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19

H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049270.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.12	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.5	
71-55-6	1,1,1-Trichloroethane	0.40	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.39	J

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 18

H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049270.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	~~28~~ 23	~~B~~
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 18

H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049270.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1A-OR
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TARGET ANALYTE LIST

EPA SAMPLE NO. 18DL

H4102DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049281.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
use original results
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L, mg/L, µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 18DL

H4102DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049281.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

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CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	23	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 18DL

H4102DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030

Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002

Analytical Method : Trace VOA
Level :

Matrix : Water
Lab Sample ID : H2834-18DL

Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049281.D

% Solids :
Date Received : 05/05/2016

GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :

GC Column : ID : (mm)
Date Analyzed : 05/06/2016

Extract Concentrated : (Y / N)
Extract Volume : (µL)

Soil Aliquot (VOA) : (µL)
Extraction Type : PT

Heated Purge : (Y / N) N
Injection Volume : (µL)

Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0

Cleanup Types :
Cleanup Factor :

Concentration Units (µg/L,mg/L,µg/kg): µg/L

use original results

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19

H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049271.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	2.8	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.6	
71-55-6	1,1,1-Trichloroethane	0.57	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.30	J

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049271.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.12	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	~~34~~ 23	~~E~~
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19

H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049271.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

8/2/16

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 19

H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049271.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/06/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	5.79	0.31	J J
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

mw 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19DL
H4116DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049286.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Use original results
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L, mg/L, µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U

new 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19DL
H4116DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049286.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
use orig. DL results
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	23	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19DL

H4116DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030

Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002

Analytical Method : Trace VOA
Level :

Matrix : Water
Lab Sample ID : H2834-19DL

Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049286.D

% Solids :
Date Received : 05/05/2016

GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :

GC Column : ID : (mm)
Date Analyzed : 05/06/2016

Extract Concentrated : (Y / N)
Extract Volume : (µL)

Soil Aliquot (VOA) : (µL)
Extraction Type : PT

Heated Purge : (Y / N) N
Injection Volume : (µL)

Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0

Cleanup Types :
Cleanup Factor :

Concentration Units (µg/L, mg/L, µg/kg): µg/L

Use original results

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

MS 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 20

H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049280.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L, mg/L, µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	4.8	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.57	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.8	
71-55-6	1,1,1-Trichloroethane	0.37	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.61	

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 20

H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049280.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	19	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 20

H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049280.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

Nov 8 | 2016

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 20

H4117

Lab Name : Chemtech Consulting Group
Lab Code: CHM Case No.: 46114
Analytical Method : Trace VOA
Matrix : Water
Sample wt/vol : 25.0 (g/mL): mL
% Solids :
GC Column : RXI-624 ID : 0.25 (mm)
Extract Concentrated : (Y / N)
Soil Aliquot (VOA) : (µL)
Heated Purge : (Y / N) N
Purge Volume : 25 (mL)
Cleanup Types :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

Contract : EPW14030
MA No. : SDG No.: H4002
Level :
Lab Sample ID : H2834-20
Lab File ID : VI049280.D
Date Received : 05/05/2016
Date Extracted :
Date Analyzed : 05/06/2016
Extract Volume : (µL)
Extraction Type : PT
Injection Volume : (µL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000067-63-0	Isopropyl Alcohol	3.22	0.26	~~JN~~ NJ
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 21

H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049278.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.56	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.3	
71-55-6	1,1,1-Trichloroethane	0.29	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.66	

New 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 21

H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049278.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	16	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

New 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 21

H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049278.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

8/24/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005451.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	~~Y~~ UJ Surr
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	~~U~~ UJ CCV
88-06-2	2,4,6-Trichlorophenol	5.0	U

NM 8/21/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005451.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	5.0	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005451.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

New 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 13

H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005389.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	100	U
100-52-7	Benzaldehyde	520	U
108-95-2	Phenol	520	U
111-44-4	Bis(2-Chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	270	U
95-48-7	2-Methylphenol	520	U
108-60-1	2,2-oxybis(1-Chloropropane)	520	U
98-86-2	Acetophenone	520	U
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-di-n-propylamine	270	U
67-72-1	Hexachloroethane	270	U
98-95-3	Nitrobenzene	270	U
78-59-1	Isophorone	270	U
88-75-5	2-Nitrophenol	270	U
105-67-9	2,4-Dimethylphenol	270	U
111-91-1	Bis(2-Chloroethoxy)methane	270	U
120-83-2	2,4-Dichlorophenol	270	U
91-20-3	Naphthalene	270	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	270	U
105-60-2	Caprolactam	520	U
59-50-7	4-Chloro-3-methylphenol	270	U
91-57-6	2-Methylnaphthalene	270	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	270	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 13
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005389.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	270	U
92-52-4	1,1-Biphenyl	270	U
91-58-7	2-Chloronaphthalene	270	U
88-74-4	2-Nitroaniline	270	U
131-11-3	Dimethylphthalate	370	
606-20-2	2,6-Dinitrotoluene	270	U
208-96-8	Acenaphthylene	270	U
99-09-2	3-Nitroaniline	520	U
83-32-9	Acenaphthene	270	U
51-28-5	2,4-Dinitrophenol	520	U
100-02-7	4-Nitrophenol	520	U
132-64-9	Dibenzofuran	270	U
121-14-2	2,4-Dinitrotoluene	270	U
84-66-2	Diethylphthalate	270	U
86-73-7	Fluorene	270	U
7005-72-3	4-Chlorophenyl-phenylether	270	U
100-01-6	4-Nitroaniline	520	U
534-52-1	4,6-Dinitro-2-methylphenol	520	U
86-30-6	N-Nitrosodiphenylamine	270	U
95-94-3	1,2,4,5-Tetrachlorobenzene	270	U
101-55-3	4-Bromophenyl-phenylether	270	U
118-74-1	Hexachlorobenzene	270	U
1912-24-9	Atrazine	520	U
87-86-5	Pentachlorophenol	520	U
85-01-8	Phenanthrene	270	U

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 13

H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005389.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L, mg/L, µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	270	U
86-74-8	Carbazole	520	U
84-74-2	Di-n-butylphthalate	270	U
206-44-0	Fluoranthene	270	U
129-00-0	Pyrene	270	U
85-68-7	Butylbenzylphthalate	270	U
91-94-1	3,3-Dichlorobenzidine	520	U
56-55-3	Benzo(a)anthracene	270	U
218-01-9	Chrysene	270	U
117-81-7	Bis(2-ethylhexyl)phthalate	270	U
117-84-0	Di-n-octyl phthalate	520	U
205-99-2	Benzo(b)fluoranthene	270	U
207-08-9	Benzo(k)fluoranthene	270	U
50-32-8	Benzo(a)pyrene	270	U
193-39-5	Indeno(1,2,3-cd)pyrene	270	U
53-70-3	Dibenzo(a,h)anthracene	270	U
191-24-2	Benzo(g,h,i)perylene	270	U
58-90-2	2,3,4,6-Tetrachlorophenol	270	U

mes 8/2/16

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 13

H4061

Lab Name : Chemtech Consulting Group
Lab Code: CHM Case No.: 46114
Analytical Method : SVOA
Matrix : Soil
Sample wt/vol : 30.1 (g/mL): g
% Solids : 63.8
GC Column : ZB-GR ID : 0.25 (mm)
Extract Concentrated : (Y / N) Y
Soil Aliquot (VOA) : (µL)
Heated Purge : (Y / N)
Purge Volume : (mL)
Cleanup Types : GPC
Concentration Units (µg/L, mg/L, µg/kg): µg/kg

Contract : EPW14030
MA No. : SDG No.: H4002
Level : LOW
Lab Sample ID : H2834-13
Lab File ID : BM005389.D
Date Received : 05/04/2016
Date Extracted : 05/05/2016
Date Analyzed : 05/11/2016
Extract Volume : 500 (µL)
Extraction Type : SOXH
Injection Volume : 1.0 (µL)
pH : Dilution Factor : 1.0
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	002136-71-2	Ethanol, 2-(hexadecyloxy)-	21.04	120	~~JN~~ NJ
2	000083-47-6	.gamma.-Sitosterol	26.67	130	~~JN~~ NJ
3	E966796	Total Alkanes	N/A	1000	NJ

EPA-designated Registry Number.

Lew 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 16
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005392.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	120	~~Y~~ UJ Surr
100-52-7	Benzaldehyde	580	U
108-95-2	Phenol	580	U
111-44-4	Bis(2-Chloroethyl)ether	580	U
95-57-8	2-Chlorophenol	300	U
95-48-7	2-Methylphenol	580	U
108-60-1	2,2-oxybis(1-Chloropropane)	580	U
98-86-2	Acetophenone	580	U
106-44-5	4-Methylphenol	580	U
621-64-7	N-Nitroso-di-n-propylamine	300	U
67-72-1	Hexachloroethane	300	U
98-95-3	Nitrobenzene	300	U
78-59-1	Isophorone	300	U
88-75-5	2-Nitrophenol	300	U
105-67-9	2,4-Dimethylphenol	300	U
111-91-1	Bis(2-Chloroethoxy)methane	300	U
120-83-2	2,4-Dichlorophenol	300	U
91-20-3	Naphthalene	300	U
106-47-8	4-Chloroaniline	580	U
87-68-3	Hexachlorobutadiene	300	U
105-60-2	Caprolactam	580	U
59-50-7	4-Chloro-3-methylphenol	300	U
91-57-6	2-Methylnaphthalene	300	U
77-47-4	Hexachlorocyclopentadiene	580	U
88-06-2	2,4,6-Trichlorophenol	300	U

New 8/24/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 16
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005392.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	300	U
92-52-4	1,1-Biphenyl	300	U
91-58-7	2-Chloronaphthalene	300	U
88-74-4	2-Nitroaniline	300	U
131-11-3	Dimethylphthalate	400	
606-20-2	2,6-Dinitrotoluene	300	U
208-96-8	Acenaphthylene	300	U
99-09-2	3-Nitroaniline	580	U
83-32-9	Acenaphthene	300	U
51-28-5	2,4-Dinitrophenol	580	U
100-02-7	4-Nitrophenol	580	U
132-64-9	Dibenzofuran	300	U
121-14-2	2,4-Dinitrotoluene	300	U
84-66-2	Diethylphthalate	300	U
86-73-7	Fluorene	300	U
7005-72-3	4-Chlorophenyl-phenylether	300	U
100-01-6	4-Nitroaniline	580	U
534-52-1	4,6-Dinitro-2-methylphenol	580	U
86-30-6	N-Nitrosodiphenylamine	300	U
95-94-3	1,2,4,5-Tetrachlorobenzene	300	U
101-55-3	4-Bromophenyl-phenylether	300	U
118-74-1	Hexachlorobenzene	300	U
1912-24-9	Atrazine	580	U
87-86-5	Pentachlorophenol	580	U
85-01-8	Phenanthrene	300	U

nw 8/21/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 16
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005392.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	300	U
86-74-8	Carbazole	580	U
84-74-2	Di-n-butylphthalate	300	U
206-44-0	Fluoranthene	78	J
129-00-0	Pyrene	93	J
85-68-7	Butylbenzylphthalate	300	U
91-94-1	3,3-Dichlorobenzidine	580	U
56-55-3	Benzo(a)anthracene	300	U
218-01-9	Chrysene	120	J
117-81-7	Bis(2-ethylhexyl)phthalate	300	U
117-84-0	Di-n-octyl phthalate	580	U
205-99-2	Benzo(b)fluoranthene	210	J
207-08-9	Benzo(k)fluoranthene	300	U
50-32-8	Benzo(a)pyrene	85	J
193-39-5	Indeno(1,2,3-cd)pyrene	62	J
53-70-3	Dibenzo(a,h)anthracene	300	U
191-24-2	Benzo(g,h,i)perylene	64	J
58-90-2	2,3,4,6-Tetrachlorophenol	300	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 16
H4076

Lab Name : Chemtech Consulting Group
Lab Code: CHM Case No.: 46114
Analytical Method : SVOA
Matrix : Soil
Sample wt/vol : 30.1 (g/mL): g
% Solids : 56.3
GC Column : ZB-GR ID : 0.25 (mm)
Extract Concentrated : (Y / N) Y
Soil Aliquot (VOA) : (µL)
Heated Purge : (Y / N)
Purge Volume : (mL)
Cleanup Types : GPC
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

Contract : EPW14030
MA No. : SDG No.: H4002
Level : LOW
Lab Sample ID : H2834-16
Lab File ID : BM005392.D
Date Received : 05/04/2016
Date Extracted : 05/05/2016
Date Analyzed : 05/11/2016
Extract Volume : 500 (µL)
Extraction Type : SOXH
Injection Volume : 1.0 (µL)
pH : Dilution Factor : 1.0
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000057-10-3	n-Hexadecanoic acid	18.04	170	JN NJ
2	007390-81-0	Oxirane, hexadecyl-	20.76	150	JN
3	000638-66-4	Octadecanal	21.66	240	JN
4	000520-28-5	4H-1-Benzopyran-4-one, 5-hydroxy-7	21.8	130	JN
5	067860-04-2	Oxirane, heptadecyl-	23.79	430	JN
6	081803-09-0	Thieno[2,3-d]-1,3-thiaselenol-2-th	25.67	120	JN
7	086917-79-5	6-Isopropenyl-4,8a-dimethyl-4a,5,6	26.34	130	JN
8	023707-65-5	Anthracene, 9-(2-propenyl)-	27.45	490	JN
9	000116-04-1	.beta.-Humulene	27.98	590	JN
10	E966796	Total Alkanes	N/A	3800	

EPA-designated Registry Number.

jw 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 18
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005454.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	~~U~~ UJ surr
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	~~U~~ UJ ccv
88-06-2	2,4,6-Trichlorophenol	5.0	U

MW 8/24/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 18
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005454.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q	
95-95-4	2,4,5-Trichlorophenol	5.0	U	
92-52-4	1,1-Biphenyl	5.0	U	
91-58-7	2-Chloronaphthalene	5.0	U	
88-74-4	2-Nitroaniline	5.0	~~U~~ R	Surr
131-11-3	Dimethylphthalate	5.0	U	
606-20-2	2,6-Dinitrotoluene	5.0	U	
208-96-8	Acenaphthylene	5.0	U	
99-09-2	3-Nitroaniline	10	~~U~~ R	Surr
83-32-9	Acenaphthene	5.0	U	
51-28-5	2,4-Dinitrophenol	10	~~U~~ R	Surr
100-02-7	4-Nitrophenol	10	~~U~~ R	Surr
132-64-9	Dibenzofuran	5.0	U	
121-14-2	2,4-Dinitrotoluene	5.0	U	
84-66-2	Diethylphthalate	5.0	U	
86-73-7	Fluorene	5.0	U	
7005-72-3	4-Chlorophenyl-phenylether	5.0	U	
100-01-6	4-Nitroaniline	10	~~U~~ R	Surr
534-52-1	4,6-Dinitro-2-methylphenol	10	U	
86-30-6	N-Nitrosodiphenylamine	5.0	U	
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U	
101-55-3	4-Bromophenyl-phenylether	5.0	U	
118-74-1	Hexachlorobenzene	5.0	U	
1912-24-9	Atrazine	10	U	
87-86-5	Pentachlorophenol	10	U	
85-01-8	Phenanthrene	5.0	U	

Lew 8/24/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 18

H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005454.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

NW 8/24/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 1000 (g/mL) : mL
Lab File ID : BM005455.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L, mg/L, µg/kg) : µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	~~U~~ UJ Surr
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	~~U~~ UJ CCV
88-06-2	2,4,6-Trichlorophenol	5.0	U

NW 8/22/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 1000 (g/mL) : mL
Lab File ID : BM005455.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q	
95-95-4	2,4,5-Trichlorophenol	5.0	U	
92-52-4	1,1-Biphenyl	5.0	U	
91-58-7	2-Chloronaphthalene	5.0	U	
88-74-4	2-Nitroaniline	5.0	~~U~~ R	Surr
131-11-3	Dimethylphthalate	5.0	U	
606-20-2	2,6-Dinitrotoluene	5.0	U	
208-96-8	Acenaphthylene	5.0	U	
99-09-2	3-Nitroaniline	10	~~U~~ R	Surr
83-32-9	Acenaphthene	5.0	U	
51-28-5	2,4-Dinitrophenol	10	~~U~~ R	Surr
100-02-7	4-Nitrophenol	10	~~U~~ R	Surr
132-64-9	Dibenzofuran	5.0	U	
121-14-2	2,4-Dinitrotoluene	5.0	U	
84-66-2	Diethylphthalate	43		
86-73-7	Fluorene	5.0	U	
7005-72-3	4-Chlorophenyl-phenylether	5.0	U	
100-01-6	4-Nitroaniline	10	~~U~~ R	Surr
534-52-1	4,6-Dinitro-2-methylphenol	10	U	
86-30-6	N-Nitrosodiphenylamine	5.0	U	
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U	
101-55-3	4-Bromophenyl-phenylether	5.0	U	
118-74-1	Hexachlorobenzene	5.0	U	
1912-24-9	Atrazine	10	U	
87-86-5	Pentachlorophenol	10	U	
85-01-8	Phenanthrene	5.0	U	

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 19

H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005455.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L, mg/L, µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 20

H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005456.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	Y UJ Surr
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	Y UJ CCV
88-06-2	2,4,6-Trichlorophenol	5.0	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 20
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005456.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L, mg/L, µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q	
95-95-4	2,4,5-Trichlorophenol	5.0	U	
92-52-4	1,1-Biphenyl	5.0	U	
91-58-7	2-Chloronaphthalene	5.0	U	
88-74-4	2-Nitroaniline	5.0	~~U~~ R	Surr
131-11-3	Dimethylphthalate	5.0	U	
606-20-2	2,6-Dinitrotoluene	5.0	U	
208-96-8	Acenaphthylene	5.0	U	
99-09-2	3-Nitroaniline	10	~~U~~ R	Surr
83-32-9	Acenaphthene	5.0	U	
51-28-5	2,4-Dinitrophenol	10	~~U~~ R	Surr
100-02-7	4-Nitrophenol	10	~~U~~ R	Surr
132-64-9	Dibenzofuran	5.0	U	
121-14-2	2,4-Dinitrotoluene	5.0	U	
84-66-2	Diethylphthalate	5.0	U	
86-73-7	Fluorene	5.0	U	
7005-72-3	4-Chlorophenyl-phenylether	5.0	U	
100-01-6	4-Nitroaniline	10	~~U~~ R	Surr
534-52-1	4,6-Dinitro-2-methylphenol	10	U	
86-30-6	N-Nitrosodiphenylamine	5.0	U	
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U	
101-55-3	4-Bromophenyl-phenylether	5.0	U	
118-74-1	Hexachlorobenzene	5.0	U	
1912-24-9	Atrazine	10	U	
87-86-5	Pentachlorophenol	10	U	
85-01-8	Phenanthrene	5.0	U	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 20
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005456.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L, mg/L, µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

NW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 21

H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005457.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	~~U~~ UJ Surr
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	~~U~~ UJ CCV
88-06-2	2,4,6-Trichlorophenol	5.0	U

MW 8/2/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 21

H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005457.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q	
95-95-4	2,4,5-Trichlorophenol	5.0	U	
92-52-4	1,1-Biphenyl	5.0	U	
91-58-7	2-Chloronaphthalene	5.0	U	
88-74-4	2-Nitroaniline	5.0	~~U~~ R	Sun
131-11-3	Dimethylphthalate	5.0	U	
606-20-2	2,6-Dinitrotoluene	5.0	U	
208-96-8	Acenaphthylene	5.0	U	
99-09-2	3-Nitroaniline	10	~~U~~ R	Sun
83-32-9	Acenaphthene	5.0	U	
51-28-5	2,4-Dinitrophenol	10	~~U~~ R	Sun
100-02-7	4-Nitrophenol	10	~~U~~ R	Sun
132-64-9	Dibenzofuran	5.0	U	
121-14-2	2,4-Dinitrotoluene	5.0	U	
84-66-2	Diethylphthalate	5.0	U	
86-73-7	Fluorene	5.0	U	
7005-72-3	4-Chlorophenyl-phenylether	5.0	U	
100-01-6	4-Nitroaniline	10	~~U~~ R	Sun
534-52-1	4,6-Dinitro-2-methylphenol	10	U	
86-30-6	N-Nitrosodiphenylamine	5.0	U	
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U	
101-55-3	4-Bromophenyl-phenylether	5.0	U	
118-74-1	Hexachlorobenzene	5.0	U	
1912-24-9	Atrazine	10	U	
87-86-5	Pentachlorophenol	10	U	
85-01-8	Phenanthrene	5.0	U	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 21

H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 1000 (g/mL) : mL
Lab File ID : BM005457.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated : (Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L, mg/L, µg/kg) : µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

New 8/2/16

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
700 SOUTH 1600 EAST PCE PLUME, AOU-1: EAST SIDE SPRINGS, SALT LAKE CITY, UTAH

Client: EA Engineering, Science & Technology, Inc., Greenwood Village, Colorado
SDG: H4082
Laboratory: Chemtech Consulting Group, Mountainside, New Jersey
Site: 700 South 1600 East PCE Plume, AOU-1: East Side Springs, Salt Lake City, Utah
Date: November 22, 2016

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	A-SS-01-D	H2954-01	Soil
2	A-SS-01	H2954-02	Soil
2MS†	A-SS-01MS	H2954-02MS	Soil
2MSD†	A-SS-01MSD	H2954-02MSD	Soil
2RE*	A-SS-01RE	H2954-02RE	Soil

* - VOC only † - SVOC only

A Stage 2B/4 validation was performed on the analytical data for two soil samples collected on May 4, 2016 by EA Engineering at the Veterans Administration site in Salt Lake City, Utah. The samples were analyzed under the Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) Multi-Media Multi-Concentration Organic Analysis SOM02.3.

Specific method references are as follows:

Analysis	*Method References*
Trace VOCs	USEPA CLP SOM02.3
SVOCs	USEPA CLP SOM02.3

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the Quality Assurance Project Plan (QAPP) 700 South 1600 East PCE Plume AOU-1: East Side Springs, Salt Lake City, Rev. 1, February 2016 and the USEPA National Functional Guidelines for Organic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Superfund Organic Methods Data Review," August 2014;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Holding times and sample preservation

- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Tentatively Identified Compounds (TICs)
- Field Duplicate sample precision
- System Performance
- Regional Quality Assurance and Quality Control
- Overall Assessment of Data

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Volatile Organic Compounds (VOC)

Holding Times

- All samples were analyzed within 14 days for soil samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All percent relative standard deviation (%RSD) and mean relative response factor (RRF) criteria were met.

Continuing Calibration

- All percent difference (%D) and RRF criteria were met.

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ug/kg	Qualifier	Affected Samples
VBLK86	Methylene chloride	1.4	U	1, 2RE

Field QC Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- A MS/MSD sample was not collected.

Laboratory Control Samples

- LCS samples were not analyzed.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria except the following.

Sample ID	Internal Standard	Area Count	Qualifier
2	IS3=1,4-Dichlorobenzene-d4	Low	UJ - Associated Compounds
2RE	IS3=1,4-Dichlorobenzene-d4	Low	UJ - Associated Compounds

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- EDS Sample ID #2 was reanalyzed due to a low IS3 recovery. The reanalysis exhibited similar results and the original analysis results should be used for reporting purposes.

Tentatively Identified Compounds (TICs)

- All TICs were qualified estimated (J) for unknown compounds and (NJ) for tentatively identified compounds.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	A-SS-01 ug/kg	A-SS-01-D ug/kg	RPD	Qualifier
Acetone	130	180	32%	None
Methylene chloride	3.1	27U	NC	

System Performance

- Instrument sensitivity and chromatographic performance were acceptable. Degradation of the system performance was not found. Instrument output and response data were reviewed and found to be acceptable.

Regional Quality Assurance and Quality Control

- All criteria were met. PE samples were not included with this project. Field duplicate sample results are summarized above.

Overall Assessment of Data

- Compound identification and quantitation criteria were met. Calculations and transcription data were verified. No action was required.

Semivolatile Organic Compounds (SVOC)

Holding Times

- All samples were extracted within 14 days for soil samples and analyzed within 40 days.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and mean RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values except for the following.

Sample ID	Surrogate	%R	Qualifier
1	1,4-Dioxane-d8	18%	UJ - Associated Compounds
2	1,4-Dioxane-d8	33%	UJ - Associated Compounds

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable %R and RPD values except for the following.

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier
2	Phenol	OK/23%/OK	UJ
	2-Chlorophenol	OK/21%/OK	
	n-Nitroso-di-n-propylamine	29%/24%/OK	
	4-Chloro-3-methylphenol	OK/25%/OK	
	Acenaphthene	OK/26%/OK	
	2,4-Dinitrotoluene	OK/24%/OK	
	Pyrene	31%/25%/OK	

Laboratory Control Samples

- LCS samples were not analyzed.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- All TICs were qualified estimated (J) for unknown compounds and (NJ) for tentatively identified compounds.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	A-SS-01 ug/kg	A-SS-01-D ug/kg	RPD	Qualifier
Dimethylphthalate	390	280	33%	None
bis(2-Ethylhexyl)phthalate	350U	260	NC	None

System Performance

- Instrument sensitivity and chromatographic performance were acceptable. Degradation of the system performance was not found. Instrument output and response data were reviewed and found to be acceptable.

Regional Quality Assurance and Quality Control

- All criteria were met. PE samples were not included with this project. Field duplicate sample results are summarized above.

Overall Assessment of Data

- Compound identification and quantitation criteria were met. Calculations and transcription data were verified. No action was required.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 11/22/16

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

Reason Code	Definition
HT	Holding Time
MB	Method Blank
SURR	Surrogate
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
CB/CCB	Calibration Blank or Continuing Calibration Blank
CCV	Calibration Verification
SD	ICP Serial Dilution
TB	Trip Blank
EB	Equipment Blank
FB	Field Blank
FD	Field Duplicate

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 2.76 (g/mL): g
Lab File ID : VT014149.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	27	U
74-87-3	Chloromethane	27	U
75-01-4	Vinyl chloride	27	U
74-83-9	Bromomethane	27	U
75-00-3	Chloroethane	27	U
75-69-4	Trichlorofluoromethane	27	U
75-35-4	1,1-Dichloroethene	27	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	27	U
67-64-1	Acetone	180	
75-15-0	Carbon disulfide	27	U
79-20-9	Methyl Acetate	27	U
75-09-2	Methylene chloride	~~15~~ 27	~~B~~ U MB
156-60-5	trans-1,2-Dichloroethene	27	U
1634-04-4	Methyl tert-butyl Ether	27	U
75-34-3	1,1-Dichloroethane	27	U
156-59-2	cis-1,2-Dichloroethene	27	U
78-93-3	2-Butanone	55	U
74-97-5	Bromochloromethane	27	U
67-66-3	Chloroform	27	U
71-55-6	1,1,1-Trichloroethane	27	U
110-82-7	Cyclohexane	27	U
56-23-5	Carbon tetrachloride	27	U
71-43-2	Benzene	27	U
107-06-2	1,2-Dichloroethane	27	U
79-01-6	Trichloroethene	27	U

NW 8/8/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 2.76 (g/mL): g
Lab File ID : VT014149.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	27	U
78-87-5	1,2-Dichloropropane	27	U
75-27-4	Bromodichloromethane	27	U
10061-01-5	cis-1,3-Dichloropropene	27	U
108-10-1	4-Methyl-2-pentanone	55	U
108-88-3	Toluene	27	U
10061-02-6	trans-1,3-Dichloropropene	27	U
79-00-5	1,1,2-Trichloroethane	27	U
127-18-4	Tetrachloroethene	27	U
591-78-6	2-Hexanone	55	U
124-48-1	Dibromochloromethane	27	U
106-93-4	1,2-Dibromoethane	27	U
108-90-7	Chlorobenzene	27	U
100-41-4	Ethylbenzene	27	U
95-47-6	o-xylene	27	U
179601-23-1	m,p-Xylene	27	U
100-42-5	Styrene	27	U
75-25-2	Bromoform	27	U
98-82-8	Isopropylbenzene	27	U
79-34-5	1,1,2,2-Tetrachloroethane	27	U
541-73-1	1,3-Dichlorobenzene	27	U
106-46-7	1,4-Dichlorobenzene	27	U
95-50-1	1,2-Dichlorobenzene	27	U
96-12-8	1,2-Dibromo-3-chloropropane	27	U
120-82-1	1,2,4-trichlorobenzene	27	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 2.76 (g/mL): g
Lab File ID : VT014149.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	27	U

MW 8/8/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 2
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 4.65 (g/mL): g
Lab File ID : VT014136.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/12/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	11	U
74-87-3	Chloromethane	11	U
75-01-4	Vinyl chloride	11	U
74-83-9	Bromomethane	11	U
75-00-3	Chloroethane	11	U
75-69-4	Trichlorofluoromethane	11	U
75-35-4	1,1-Dichloroethene	11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	11	U
67-64-1	Acetone	130	
75-15-0	Carbon disulfide	11	U
79-20-9	Methyl Acetate	11	U
75-09-2	Methylene chloride	3.1	J
156-60-5	trans-1,2-Dichloroethene	11	U
1634-04-4	Methyl tert-butyl Ether	11	U
75-34-3	1,1-Dichloroethane	11	U
156-59-2	cis-1,2-Dichloroethene	11	U
78-93-3	2-Butanone	22	U
74-97-5	Bromochloromethane	11	U
67-66-3	Chloroform	11	U
71-55-6	1,1,1-Trichloroethane	11	U
110-82-7	Cyclohexane	11	U
56-23-5	Carbon tetrachloride	11	U
71-43-2	Benzene	11	U
107-06-2	1,2-Dichloroethane	11	U
79-01-6	Trichloroethene	11	U

MW 8/18/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 2
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 4.65 (g/mL): g
Lab File ID : VT014136.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/12/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	11	U
78-87-5	1,2-Dichloropropane	11	U
75-27-4	Bromodichloromethane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
108-10-1	4-Methyl-2-pentanone	22	U
108-88-3	Toluene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
79-00-5	1,1,2-Trichloroethane	11	U
127-18-4	Tetrachloroethene	11	U
591-78-6	2-Hexanone	22	U
124-48-1	Dibromochloromethane	11	U
106-93-4	1,2-Dibromoethane	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
95-47-6	o-xylene	11	U
179601-23-1	m,p-Xylene	11	U
100-42-5	Styrene	11	U
75-25-2	Bromoform	11	U
98-82-8	Isopropylbenzene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
120-82-1	1,2,4-trichlorobenzene	11	U

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MW 8/8/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 2

H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 4.65 (g/mL): g
Lab File ID : VT014136.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/12/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	11	~~U~~ UJ

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MW 8/8/16

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 2

H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 4.65 (g/mL): g
Lab File ID : VT014136.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/12/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	007785-70-8	1R-.alpha.-Pinene	12.04	15	~~JN~~ NJ
2	003338-55-4	1,3,6-Octatriene, 3,7-dimethyl-, (	12.54	6.1	~~JN~~ NJ
3	E966796	Total Alkanes	N/A	230	

EPA-designated Registry Number.

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 2RE
H4086RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02RE
Sample wt/vol : 4.46 (g/mL): g
Lab File ID : VT014150.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RX1-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

use original counts

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	12	U
74-87-3	Chloromethane	12	U
75-01-4	Vinyl chloride	12	U
74-83-9	Bromomethane	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-35-4	1,1-Dichloroethene	12	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	12	U
67-64-1	Acetone	19	J
75-15-0	Carbon disulfide	12	U
79-20-9	Methyl Acetate	12	U
75-09-2	Methylene chloride	~~6.8~~ 12	~~JB~~ U MB
156-60-5	trans-1,2-Dichloroethene	12	U
1634-04-4	Methyl tert-butyl Ether	12	U
75-34-3	1,1-Dichloroethane	12	U
156-59-2	cis-1,2-Dichloroethene	12	U
78-93-3	2-Butanone	23	U
74-97-5	Bromochloromethane	12	U
67-66-3	Chloroform	12	U
71-55-6	1,1,1-Trichloroethane	12	U
110-82-7	Cyclohexane	12	U
56-23-5	Carbon tetrachloride	12	U
71-43-2	Benzene	12	U
107-06-2	1,2-Dichloroethane	12	U
79-01-6	Trichloroethene	12	U

NW 8/8/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 2RE
H4086RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02RE
Sample wt/vol : 4.46 (g/mL): g
Lab File ID : VT014150.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

Vol original results

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	12	U
78-87-5	1,2-Dichloropropane	12	U
75-27-4	Bromodichloromethane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
108-10-1	4-Methyl-2-pentanone	23	U
108-88-3	Toluene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
127-18-4	Tetrachloroethene	12	U
591-78-6	2-Hexanone	23	U
124-48-1	Dibromochloromethane	12	U
106-93-4	1,2-Dibromoethane	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
95-47-6	o-xylene	12	U
179601-23-1	m,p-Xylene	12	U
100-42-5	Styrene	12	U
75-25-2	Bromoform	12	U
98-82-8	Isopropylbenzene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
120-82-1	1,2,4-trichlorobenzene	12	U

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 2RE

H4086RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02RE
Sample wt/vol : 4.46 (g/mL): g
Lab File ID : VT014150.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Use orig. val results
Extract Concentrated : (Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	12	Y u J

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 1
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005493.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L, mg/L, µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	200	~~U~~ UJ
100-52-7	Benzaldehyde	990	U
108-95-2	Phenol	990	U
111-44-4	Bis(2-Chloroethyl)ether	990	U
95-57-8	2-Chlorophenol	510	U
95-48-7	2-Methylphenol	990	U
108-60-1	2,2-oxybis(1-Chloropropane)	990	U
98-86-2	Acetophenone	990	U
106-44-5	4-Methylphenol	990	U
621-64-7	N-Nitroso-di-n-propylamine	510	U
67-72-1	Hexachloroethane	510	U
98-95-3	Nitrobenzene	510	U
78-59-1	Isophorone	510	U
88-75-5	2-Nitrophenol	510	U
105-67-9	2,4-Dimethylphenol	510	U
111-91-1	Bis(2-Chloroethoxy)methane	510	U
120-83-2	2,4-Dichlorophenol	510	U
91-20-3	Naphthalene	510	U
106-47-8	4-Chloroaniline	990	U
87-68-3	Hexachlorobutadiene	510	U
105-60-2	Caprolactam	990	U
59-50-7	4-Chloro-3-methylphenol	510	U
91-57-6	2-Methylnaphthalene	510	U
77-47-4	Hexachlorocyclopentadiene	990	U
88-06-2	2,4,6-Trichlorophenol	510	U

Sum

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FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005493.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	510	U
92-52-4	1,1-Biphenyl	510	U
91-58-7	2-Chloronaphthalene	510	U
88-74-4	2-Nitroaniline	510	U
131-11-3	Dimethylphthalate	280	J
606-20-2	2,6-Dinitrotoluene	510	U
208-96-8	Acenaphthylene	510	U
99-09-2	3-Nitroaniline	990	U
83-32-9	Acenaphthene	510	U
51-28-5	2,4-Dinitrophenol	990	U
100-02-7	4-Nitrophenol	990	U
132-64-9	Dibenzofuran	510	U
121-14-2	2,4-Dinitrotoluene	510	U
84-66-2	Diethylphthalate	510	U
86-73-7	Fluorene	510	U
7005-72-3	4-Chlorophenyl-phenylether	510	U
100-01-6	4-Nitroaniline	990	U
534-52-1	4,6-Dinitro-2-methylphenol	990	U
86-30-6	N-Nitrosodiphenylamine	510	U
95-94-3	1,2,4,5-Tetrachlorobenzene	510	U
101-55-3	4-Bromophenyl-phenylether	510	U
118-74-1	Hexachlorobenzene	510	U
1912-24-9	Atrazine	990	U
87-86-5	Pentachlorophenol	990	U
85-01-8	Phenanthrene	510	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005493.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	510	U
86-74-8	Carbazole	990	U
84-74-2	Di-n-butylphthalate	510	U
206-44-0	Fluoranthene	510	U
129-00-0	Pyrene	510	U
85-68-7	Butylbenzylphthalate	510	U
91-94-1	3,3-Dichlorobenzidine	990	U
56-55-3	Benzo(a)anthracene	510	U
218-01-9	Chrysene	510	U
117-81-7	Bis(2-ethylhexyl)phthalate	260	J
117-84-0	Di-n-octyl phthalate	990	U
205-99-2	Benzo(b)fluoranthene	510	U
207-08-9	Benzo(k)fluoranthene	510	U
50-32-8	Benzo(a)pyrene	510	U
193-39-5	Indeno(1,2,3-cd)pyrene	510	U
53-70-3	Dibenzo(a,h)anthracene	510	U
191-24-2	Benzo(g,h,i)perylene	510	U
58-90-2	2,3,4,6-Tetrachlorophenol	510	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 1

H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005493.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
Extract Concentrated : (Y / N) Y
Date Analyzed : 05/19/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 500 (µL)
Heated Purge : (Y / N)
Extraction Type : SOXH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types : GPC
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	2600	J

EPA-designated Registry Number.

MW 8/8/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 2

H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005494.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L, mg/L, µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q	
123-91-1	1,4-Dioxane	140	~~U~~ UJ	SMS
100-52-7	Benzaldehyde	690	U	
108-95-2	Phenol	690	~~U~~ UJ	MS/MSD
111-44-4	Bis(2-Chloroethyl)ether	690	U	
95-57-8	2-Chlorophenol	350	~~U~~ UJ	MS/MSD
95-48-7	2-Methylphenol	690	U	
108-60-1	2,2-oxybis(1-Chloropropane)	690	U	
98-86-2	Acetophenone	690	U	
106-44-5	4-Methylphenol	690	U	
621-64-7	N-Nitroso-di-n-propylamine	350	~~U~~ UJ	MS/MSD
67-72-1	Hexachloroethane	350	U	
98-95-3	Nitrobenzene	350	U	
78-59-1	Isophorone	350	U	
88-75-5	2-Nitrophenol	350	U	
105-67-9	2,4-Dimethylphenol	350	U	
111-91-1	Bis(2-Chloroethoxy)methane	350	U	
120-83-2	2,4-Dichlorophenol	350	U	
91-20-3	Naphthalene	350	U	
106-47-8	4-Chloroaniline	690	U	
87-68-3	Hexachlorobutadiene	350	U	
105-60-2	Caprolactam	690	U	
59-50-7	4-Chloro-3-methylphenol	350	~~U~~ UJ	MS/MSD
91-57-6	2-Methylnaphthalene	350	U	
77-47-4	Hexachlorocyclopentadiene	690	U	
88-06-2	2,4,6-Trichlorophenol	350	U	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 2
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005494.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated : (Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L, mg/L, µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q	
95-95-4	2,4,5-Trichlorophenol	350	U	
92-52-4	1,1-Biphenyl	350	U	
91-58-7	2-Chloronaphthalene	350	U	
88-74-4	2-Nitroaniline	350	U	
131-11-3	Dimethylphthalate	390		
606-20-2	2,6-Dinitrotoluene	350	U	
208-96-8	Acenaphthylene	350	U	
99-09-2	3-Nitroaniline	690	U	
83-32-9	Acenaphthene	350	~~U~~ UJ	MS/MSD
51-28-5	2,4-Dinitrophenol	690	U	
100-02-7	4-Nitrophenol	690	U	
132-64-9	Dibenzofuran	350	U	
121-14-2	2,4-Dinitrotoluene	350	~~U~~ UJ	MS/MSD
84-66-2	Diethylphthalate	350	U	
86-73-7	Fluorene	350	U	
7005-72-3	4-Chlorophenyl-phenylether	350	U	
100-01-6	4-Nitroaniline	690	U	
534-52-1	4,6-Dinitro-2-methylphenol	690	U	
86-30-6	N-Nitrosodiphenylamine	350	U	
95-94-3	1,2,4,5-Tetrachlorobenzene	350	U	
101-55-3	4-Bromophenyl-phenylether	350	U	
118-74-1	Hexachlorobenzene	350	U	
1912-24-9	Atrazine	690	U	
87-86-5	Pentachlorophenol	690	U	
85-01-8	Phenanthrene	350	U	

NW 8/8/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO. 2

H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005494.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	350	U
86-74-8	Carbazole	690	U
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	~~U~~ UJ MS/MSD
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	Bis(2-ethylhexyl)phthalate	350	U
117-84-0	Di-n-octyl phthalate	690	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U
58-90-2	2,3,4,6-Tetrachlorophenol	350	U

lw 8/8/16

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. L

H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005494.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
Extract Concentrated : (Y / N) Y
Date Analyzed : 05/19/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 500 (µL)
Heated Purge : (Y / N)
Extraction Type : SOXH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types : GPC
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q	
1	039029-41-9	Naphthalene, 1,2,3,4,4a,5,6,8a-oct	14.74	370	JN	NJ
2	000475-03-6	Naphthalene, 1,2,3,4-tetrahydro-1,	14.79	160	JN	
3	000057-10-3	n-Hexadecanoic acid	18.1	170	JN	
4		unknown-01	20.49	250	J	J
5		unknown-02	20.53	490	J	J
6	018956-15-5	2-Propen-1-one, 1-(2,6-dihydroxy-4	20.9	220	JN	NJ
7	029244-55-1	1H-Pyrrole-2,5-dione, 3,4-dichloro	20.97	220	JN	
8	000480-39-7	4H-1-Benzopyran-4-one, 2,3-dihydro	21.28	370	JN	
9	036653-82-4	1-Hexadecanol	23.02	230	JN	
10		unknown-03	24.31	1400	J	J
11	038775-38-1	1-Hexadecanesulfonyl chloride	26.04	200	JN	NJ
12	000083-47-6	.gamma.-Sitosterol	26.81	500	JN	
13	1000194-62-4	4,4,6a,6b,8a,11,11,14b-Octamethyl-	27.6	380	JN	
14	E966796	Total Alkanes	N/A	6500		

EPA-designated Registry Number.

NW 8/18/16

Attachment 2
Laboratory Analytical Data Reports

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SDG COVER PAGE

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

SOW No. : ISM02.3

EPA Sample No.	Lab Sample Id	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MH4002	H2837-01		X	X	
MH4002D	H2837-02		X	X	
MH4002S	H2837-03		X	X	
MH4025	H2837-04		X	X	
MH4025D	H2837-05		X	X	
MH4025S	H2837-06		X	X	
MH4028	H2837-07		X	X	
MH4029	H2837-08		X	X	
MH4030	H2837-09		X	X	
MH4113	H2837-10		X	X	
MH4116	H2837-11		X	X	
MH4202	H2837-12		X	X	
MH4211	H2837-13		X	X	
MH4217	H2837-14		X	X	
MH4218	H2837-15		X	X	
MH4113D	H2837-16		X	X	
MH4113S	H2837-17		X	X	

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative. Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name:

Date: 5/25/16 Title: QA/QC Dco

SDG# MH4002

USEPA CLP COC (LAB COPY)
DateShipped: 5/2/2016
CarrierName: FedEx
AirbillNo: 776245148907

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050216-102658-0009
Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-GW-MTO-MS	H4001	Ground Water/ Ned Lundvall	Grab	SVOC(21)	1327 (6 C), 1328 (6 C) (2)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO	H4002	Ground Water/ Ned Lundvall	Grab	SVOC(21)	1119 (6 C), 1120 (6 C) (2)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	H4004	Ground Water/ Ned Lundvall	Grab	SVOC(21)	1335 (6 C), 1336 (6 C) (2)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO	MH4001	Ground Water/ Ned Lundvall	Grab	DMet(21)	1121 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO	MH4002	Ground Water/ Ned Lundvall	Grab	TMet(21)	1122 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MS	MH4005	Ground Water/ Ned Lundvall	Grab	DMet(21)	1329 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MS	MH4014	Ground Water/ Ned Lundvall	Grab	TMet(21)	1330 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	MH4016	Ground Water/ Ned Lundvall	Grab	DMet(21)	1337 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	MH4017	Ground Water/ Ned Lundvall	Grab	TMet(21)	1338 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	

Original Documents are included in CSF MH4002
Copy
S.M. Lundvall
Signature
5/3/16
Date

Sample(s) to be used for Lab QC: A-GW-MTO-MS Tag 1327, A-GW-MTO-MS Tag 1328, A-GW-MTO-MSD Tag 1335, A-GW-MTO-MSD Tag 1336, A-GW-MTO-MS Tag 1329, A-GW-MTO-MS Tag 1330, A-GW-MTO-MSD Tag 1337, A-GW-MTO-MSD Tag 1338

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: SVOC=TCL SVOCs by CLP, DMet=Dissolved Metals, TMet=Total Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/2/16 1700	Fedex		
			George Nesslow	5/3/16 920	4.9°C

2

SDG # MH4002

USEPA CLP COC (LAB COPY)
DateShipped: 5/3/2016
CarrierName: FedEx
AirbillNo: 776255658133

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050316-160550-0012
Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-TB-006	H4004	Water/ Ned Lundvall		VOC(21)	1458 (HCL), 1459 (HCL), 1460 (HCL) (3)	A-TB-006	05/03/2016 07:30	—
A-SS-09	H4061	Soil/ Ned Lundvall	Grab	SVOC(21), VOC(21)	1004 (6 C), 1012 (6 C), 1013 (6 C), 1014 (6 C), 1018 (6 C) (5)	A-SW-09	05/03/2016 08:55	—
A-SS-09-MS	H4061MS	Soil/ Ned Lundvall	Grab	SVOC(21), VOC(21)	1352 (6 C), 1354 (6 C), 1355 (6 C), 1356 (6 C), 1357 (6 C) (5)	A-SW-09	05/03/2016 08:55	—
A-SS-09-MSD	H4061MSD	Soil/ Ned Lundvall	Grab	SVOC(21), VOC(21)	1358 (6 C), 1360 (6 C), 1361 (6 C), 1362 (6 C), 1363 (6 C) (5)	A-SW-09	05/03/2016 08:55	—
A-SS-26	H4076	Soil/ Ned Lundvall	Grab	VOC(21), SVOC(21)	1006 (6 C), 1007 (6 C), 1015 (6 C), 1016 (6 C), 1017 (6 C) (5)	A-SW-26	05/03/2016 13:45	—
A-SS-09	MH4025	Soil/ Ned Lundvall	Grab	TMet(21)	1005 (6 C) (1)	A-SW-09	05/03/2016 08:55	—
A-SS-09-MSD	MH4025D	Soil/ Ned Lundvall	Grab	TMet(21)	1359 (6 C) (1)	A-SW-09	05/03/2016 08:55	—
A-SS-09-MS	MH4025S	Soil/ Ned Lundvall	Grab	TMet(21)	1353 (6 C) (1)	A-SW-09	05/03/2016 08:55	—
A-SS-26	MH4028	Soil/ Ned Lundvall	Grab	TMet(21)	1008 (HNO3 pH<2) (1)	A-SW-26	05/03/2016 13:45	—

Original Documents are included in CSF MH4002
S.M. Hodkins
Signature
5/6/16
Date

Sample(s) to be used for Lab QC: A-SS-09-MS Tag 1352, A-SS-09-MS Tag 1354, A-SS-09-MS Tag 1355, A-SS-09-MS Tag 1356, A-SS-09-MS Tag 1357, A-SS-09-MSD Tag 1358, A-SS-09-MSD Tag 1360, A-SS-09-MSD Tag 1361, A-SS-09-MSD Tag 1362, A-SS-09-MSD Tag 1363, A-SS-09-MSD Tag 1359, A-SS-09-MS Tag 1353

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: VOC=TCL VOCs by CLP, SVOC=TCL SVOCs by CLP, TMet=Total Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/3/16 1700	Fedex		
	Fedex	9:25 5-4-16		9:25 5-4-16	36°C

3

SDG# MH4002

USEPA CLP COC (LAB COPY)
DateShipped: 5/4/2016
CarrierName: FedEx
AirbillNo: 776257380633

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050416-122017-0019
Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-SW-023-MS	H4113MS	Surface Water/ Ned Lundvall	Grab	VOC(21)	1376 (HCL), 1377 (HCL), 1378 (HCL) (3)	A-SW-23	05/03/2016 09:30	
A-SW-023-MSD	H4113MSD	Surface Water/ Ned Lundvall	Grab	VOC(21)	1391 (HCL), 1392 (HCL), 1393 (HCL) (3)	A-SW-23	05/03/2016 09:30	
A-SW-026	H4116	Surface Water/ Ned Lundvall	Grab	VOC(21)	1207 (HCL), 1208 (HCL), 1209 (HCL) (3)	A-SW-26	05/03/2016 13:45	
A-SW-027	H4117	Surface Water/ Ned Lundvall	Grab	VOC(21)	1210 (HCL), 1211 (HCL), 1212 (HCL) (3)	A-SW-27	05/03/2016 11:20	
A-SW-028	H4118	Surface Water/ Ned Lundvall	Grab	VOC(21)	1213 (HCL), 1214 (HCL), 1215 (HCL) (3)	A-SW-28	05/03/2016 12:00	
A-SW-030	H4120	Surface Water/ Ned Lundvall	Grab	VOC(21)	1219 (HCL), 1220 (HCL), 1221 (HCL) (3)	A-SW-30	05/03/2016 16:30	
A-SW-036	H4126	Surface Water/ Ned Lundvall	Grab	VOC(21)	1237 (HCL), 1238 (HCL), ~~1239 (HCL) (3)~~ 2	A-SW-36	05/03/2016 17:30	
A-SW-039	H4129	Surface Water/ Ned Lundvall	Grab	VOC(21)	1246 (HCL), 1247 (HCL), 1248 (HCL) (3)	A-SW-39	05/03/2016 17:00	
A-SS-01-D	MH4029	Soil/ Ned Lundvall	Grab	TMet(21)	1038 (6 C) (1)	A-SW-~~15~~01	05/04/2016 13:40	
A-SS-01	MH4030	Soil/ Ned Lundvall	Grab	TMet(21)	1002 (6 C) (1)	A-SW-~~15~~01	05/04/2016 13:40	

Copy
Original Documents are Included in CSF MH4002
Signature
5/5/16
Date

Sample(s) to be used for Lab QC: A-SW-023-MS Tag 1378, A-SW-023-MSD Tag 1391, A-SW-023-MSD Tag 1392, A-SW-023-MSD Tag 1393

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: VOC=TCL VOCs by CLP, SVOC=TCL SVOCs by CLP, TMet=Total Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/4/16 1600	Fedex		
			GORGE NEGRON	5/5/16 925	31°C

SDG# MH4002

USEPA CLP COC (LAB COPY)

DateShipped: 5/4/2016
CarrierName: FedEx
AirbillNo: 776267136562

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050416-093118-0016

Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-SW-023	MH4113	Surface Water/ Ned Lundvall	Grab	TMet(21)	1366 (HNO3 pH<2) (1)	A-SW-23	05/03/2016 09:30	
A-SW-023-MSD	MH4113D	Surface Water/ Ned Lundvall	Grab	TMet(21)	1396 (HNO3 pH<2) (1)	A-SW-23	05/03/2016 09:30	
A-SW-023-MS	MH4113S	Surface Water/ Ned Lundvall	Grab	TMet(21)	1381 (HNO3 pH<2) (1)	A-SW-23	05/03/2016 09:30	
A-SW-026	MH4116	Surface Water/ Ned Lundvall	Grab	TMet(21)	1447 (HNO3 pH<2) (1)	A-SW-26	05/03/2016 13:45	
A-SW-012	MH4202	Surface Water/ Ned Lundvall	Grab	TMet(21)	1457 (HNO3 pH<2) (1)	A-SW-12	05/03/2016 10:30	
A-SW-021	MH4211	Surface Water/ Ned Lundvall	Grab	TMet(21)	1456 (6 C) (1)	A-SW-21	05/03/2016 13:20	
A-SW-027	MH4217	Surface Water/ Ned Lundvall	Grab	TMet(21)	1454 (HNO3 pH<2) (1)	A-SW-27	05/03/2016 11:20	
A-SW-028	MH4218	Surface Water/ Ned Lundvall	Grab	TMet(21)	1455 (HNO3 pH<2) (1)	A-SW-28	05/03/2016 12:00	

Sample(s) to be used for Lab QC: A-SW-023-MSD Tag 1396, A-SW-023-MS Tag 1381

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: TMet=Total Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	[signature]	5/4/16 1700	FedEx George Negron	5/5/16 9:25	4°C

9

Sample Delivery Group (SDG) Cover Sheet

SDG Number MH4002 Case Number 46114 Contract Number EP-W-14-030

Lab Code CHM SDG Turnaround 21DAYS Delivery CLIN(s) 1

First Sample Received in SDG MH4002 Last Sample Received in SDG MH4218

First Sample Receipt Date 5/3/2016 9:20:00 AM Last Sample Receipt Date 5/5/2016 9:25:00 AM

USEPA Sample Numbers in SDG (Listed in Numerical Order)

CLP Sample ID	Sample Type	Requested Analytical CLIN(s)/SubCLIN(s)	Solicitation Number	MA Number(s)
MH4002	Field Sample	0046AB,0047AB	N/A	N/A
MH4002D	Field Sample	0047AB,0046AB	N/A	N/A
MH4002S	Field Sample	0046AB,0047AB	N/A	N/A
MH4025	Field Sample	0047AB,0046AB	N/A	N/A
MH4025D	Field Sample	0046AB,0047AB	N/A	N/A
MH4025S	Field Sample	0046AB,0047AB	N/A	N/A
MH4028	Field Sample	0046AB,0047AB	N/A	N/A
MH4029	Field Sample	0046AB,0047AB	N/A	N/A
MH4030	Field Sample	0046AB,0047AB	N/A	N/A
MH4113	Field Sample	0047AB,0046AB	N/A	N/A
MH4113D	Field Sample	0047AB,0046AB	N/A	N/A
MH4113S	Field Sample	0047AB,0046AB	N/A	N/A
MH4116	Field Sample	0046AB,0047AB	N/A	N/A
MH4202	Field Sample	0046AB,0047AB	N/A	N/A
MH4211	Field Sample	0046AB,0047AB	N/A	N/A
MH4217	Field Sample	0046AB,0047AB	N/A	N/A
MH4218	Field Sample	0046AB,0047AB	N/A	N/A

Note: *There are a maximum of 20* ***field*** *samples (excluding PE samples) in an SDG. Attach TR/COC Records to this form in alphanumeric order (the order listed above on this form).*

Signature S.M. Jedlicki Date 5/9/16

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 1 of 4
Received By (Print Name) DEEPAK PARMAR		Log-in Date 5/3/2016
Received By (Signature)		
Case Number 46114	SDG No. MH4002	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776245148907
6. Sample Tags Sample Tag #	N/A yes
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	4.9
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/03/2016
12.Time Received	09:20

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	MH4002	< 2	1122	H2837-01	Intact
2	MH4002D	↓	1122	H2837-02	↓
3	MH4002S	↓	1122	H2837-03	↓
4					
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22					
23					

* Contact SMO and attach record of resolution

Reviewed By S. M. Jodhawat	Logbook No.
Date 5/9/16	Logbook Page No.

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 2 of 4
Received By (Print Name) DEEPAK Parmar		Log-in Date **5/4/2016**
Received By (Signature)		
Case Number 46114	SDG No. MH4002	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776255658133
6. Sample Tags Sample Tag #	N/A yes
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	3.6
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/04/2016
12.Time Received	09:25

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	MH4025	N/A	1005	H2837-04	Intact
2	MH4025D		1359	H2837-05	
3	MH4025S		1353	H2837-06	
4	MH4028		1008	H2837-07	
5					
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20					
21					
22					
23					

* Contact SMO and attach record of resolution

Reviewed By	S.M. Jadhavi	Logbook No.	
Date	5/9/16	Logbook Page No.	

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 3 of 4
Received By (Print Name) DEEPAK PARMAR		Log-in Date **5/5/2016**
Received By (Signature)		
Case Number 46114	SDG No. MH4002	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776257380633
6. Sample Tags Sample Tag #	N/A Yes
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	3.1
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/05/2016
12.Time Received	09:25

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	MH4029	N/A	1038	H2837-08	Intact
2	MH4030	1	1002	H2837-09	〃
3					
4					
5					
6					
7					
8					
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10					
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20					
21					
22					
23					

* Contact SMO and attach record of resolution

Reviewed By S.M. Sadhoo	Logbook No. 2
Date 5/9/16	Logbook Page No. 2

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 4 of 4
Received By (Print Name) DEEPAK PANWAR		Log-in Date **5/5/2016**
Received By (Signature)		
Case Number 46114	SDG No. MH4002	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776267136562
6. Sample Tags Sample Tag #	N/A Yes
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	4
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/05/2016
12.Time Received	09:25

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	MH4113	<2	1366	H2837-10	Intact
2	MH4116		1447	H2837-11	
3	MH4202		1457	H2837-12	
4	MH4211		1456	H2837-13	
5	MH4217		1454	H2837-14	
6	MH4218		1455	H2837-15	
7	MH4113D		1396	H2837-16	
8	MH4113S		1381	H2837-17	
9					
10					
11					
12					
13					
14					
15					
16					
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18					
19					
20					
21					
22					
23					

* Contact SMO and attach record of resolution

Reviewed By S. M. Jadhav	Logbook No.
Date 5/9/16	Logbook Page No.

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

LAB NAME	**CHEMTECH CONSULTING GROUP**
LAB CODE	**CHM**
CONTRACT NO.	**EPW14030**
CASE NO.	**46114** SDG NO. **MH4002**
MA NO.	
SOW NO.	**ISM02.3**

All documents delivered in the Complete SDG File must be original documents where possible.
(Reference - Exhibit B Section 2.4)

	PAGE NOS: FROM	TO	CHECK LAB	REGION
1. SDG Cover Page	1	1	✓	
2. Sample TR/COCs	2	6	✓	
3. Sample Login Sheet (DC-1)	7	10	✓	
4. CSF Inventory Sheet (DC-2)	11	14	✓	
5. SDG Narrative	15	20	✓	
Inorganic Analysis				
ICP-AES				
6. Inorganic Analysis Data Sheet (Form 1-IN)	NA	NA	✓	
7. Initial and Continuing Calibration Verification (Form 2-IN)	NA	NA	✓	
8. Blanks (Form 3-IN)	NA	NA	✓	
9. ICP Interference Check Sample (Form 4-IN)	NA	NA	✓	
10. Matrix Spike Sample Recovery (Form 5A-IN)	NA	NA	✓	
11. Post-Digestion Spike Sample Recovery (Form 5B-IN)	NA	NA	✓	
12. Duplicates (Form 6-IN)	NA	NA	✓	
13. Laboratory Control Sample (Form 7-IN)	NA	NA	✓	
14. ICP-AES Serial Dilutions (Form 8-IN)	NA	NA	✓	
15. Method Detection Limits (Form 9-IN)	NA	NA	✓	

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOS: FROM	PAGE NOS: TO	CHECK LAB	CHECK REGION
16. ICP-AES Interelement Correction Factors (Form 10A-IN)	NA	NA	✓	
17. ICP-AES Interelement Correction Factors (Form 10B-IN)	NA	NA	✓	
18. Analysis Log (Form 12-IN)	NA	NA	✓	
19. Initial Calibration (Form 15-IN)	NA	NA	✓	
20. Initial Calibration Summary (Form 16-IN)	NA	NA	✓	
21. ICP-AES Raw Data	NA	NA	✓	
22. ICP-AES Preparation Log Books, Preparation records, Analysis records, and PE Instructions	NA	NA	✓	
ICP-MS				
23. Inorganic Analysis Data Sheet (Form 1-IN)	21	31	✓	
24. Initial and Continuing Calibration Verification (Form 2-IN)	32	32	✓	
25. Blanks (Form 3-IN)	33	34	✓	
26. ICP Interference Check Sample (Form 4-IN)	35	35	✓	
27. Matrix Spike Sample Recovery (Form 5A-IN)	36	38	✓	
28. Post-Digestion Spike Sample Recovery (Form 5B-IN)	39	39	✓	
29. Duplicates (Form 6-IN)	40	42	✓	
30. Laboratory Control Sample (Form 7-IN)	43	44	✓	
31. ICP-MS Serial Dilutions (Form 8-IN)	45	47	✓	
32. Method Detection Limits (Form 9-IN)	48	49	✓	
33. ICP-MS Internal Standard Association (Form 11-IN)	50	50	✓	
34. Analysis Log (Form 12-IN)	51	52	✓	
35. ICP-MS Tune (Form 13-IN)	53	53	✓	
36. ICP-MS Internal Standard Relative Intensity Summary (Form 14-IN)	54	61	✓	
37. Initial Calibration (Form 15-IN)	62	64	✓	

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOS: FROM	PAGE NOS: TO	CHECK LAB	CHECK REGION
38 . Initial Calibration Summary (Form 16-IN)	65	65	✓	
39 . ICP-MS Raw Data	66	254	✓	
40 . ICP-MS Preparation Log Books,Preparation records, Analysis records, and PE Instructions	255	328	✓	
Mercury				
41 . Inorganic Analysis Data Sheet (Form 1-IN)	329	339	✓	
42 . Initial and Continuing Calibration Verification (Form 2-IN)	340	341	✓	
43 . Blanks (Form 3-IN)	342	343	✓	
44 . Matrix Spike Sample Recovery (Form 5A-IN)	344	346	✓	
45 . Duplicates (Form 6-IN)	347	349	✓	
46 . Method Detection Limits (Form 9-IN)	350	351	✓	
47 . Analysis Log (Form 12-IN)	352	353	✓	
48 . Initial Calibration (Form 15-IN)	354	357	✓	
49 . Initial Calibration Summary (Form 16-IN)	358	359	✓	
50 . Mercury Raw Data	360	368	✓	
51 . Mercury Preparation Log Books,Preparation records, Analysis records, and PE Instructions	369	422	✓	
Cyanide				
52 . Inorganic Analysis Data Sheet (Form 1-IN)	NA	NA	✓	
53 . Initial and Continuing Calibration Verification (Form 2-IN)	NA	NA	✓	
54 . Blanks (Form 3-IN)	NA	NA	✓	
55 . Matrix Spike Sample Recovery (Form 5A-IN)	NA	NA	✓	
56 . Post-Distillation Spike Sample Recovery (Form 5B-IN)	NA	NA	✓	
57 . Duplicates (Form 6-IN)	NA	NA	✓	
58 . Method Detection Limits (Form 9-IN)	NA	NA	✓	

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOS: FROM	TO	CHECK LAB	REGION
59. Analysis Log (Form 12-IN)	NA	NA	✓	
60. Initial Calibration (Form 15-IN)	NA	NA	✓	
61. Initial Calibration Summary (Form 16-IN)	NA	NA	✓	
62. Cyanide Raw Data	NA	NA	✓	
63. Cyanide Preparation Log Books, Preparation records, Analysis records, and PE Instructions	NA	NA	✓	
Additional				
64. Percent Solids Determination Log	423	424	✓	
65. EPA Shipping/Receiving Documents			✓	
Airbill (No. of Shipments 4)	425	428	✓	
Sample Tags	NA	NA	✓	
Sample Log-In Sheet (Lab)	429	430	✓	
66. Misc. Shipping/Receiving Records (list all individual records)				
Communication Logs	NA	NA	✓	
67. Internal Lab Sample Transfer Records &				
Tracking Sheets (describe or list)	431	434	✓	
68. Other Records (describe or list) Communication Logs	435	449	✓	

69. Comments:

Completed by:
(CLP Lab) Mildred V. Reyes (Signature) | Mildred V. Reyes, Document Control Officer (Print Name & Title) | 5/25/16 (Date)

Audited by:
(EPA) (Signature) | (Print Name & Title) | (Date)

CHEMTECH
284 Sheffield Street
Mountainside, NJ 07092

SDG NARRATIVE

USEPA
SDG # MH4002
CASE # 46114
CONTRACT # EPW14030
SOW# ISM02.3
LAB NAME: CHEMTECH CONSULTING GROUP
LAB CODE: CHM
CHEMTECH PROJECT #H2837

A. Number of Samples and Date of Receipt

07 Water and 04 Soil samples were delivered to the laboratory intact on 05/03/2016 & 05/04/2016 & 05/05/2016.

B. Parameters

Test requested for Metals CLP MS = Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc & HG.

Test requested for Metals CLP MS FULL = Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel, Selenium, Silver, Thallium, Vanadium & Zinc.

C. Cooler Temp

Indicator Bottle: **Presence**/Absence
Cooler: 3.1°C & 3.6°C & 4°C & 4.9°C

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

Issue1: Mercury analysis is scheduled for the water and soil samples; however, the analysis key on the COC only lists DMet=Dissolved Metals and TMet=Total Metals. The laboratory would like to confirm that the samples should also be analyzed for Mercury with Total Metals and Dissolved Metals.

Issue 2: An additional sample was designated on the COC for laboratory QC. The laboratory received water samples with QC for metals analysis on 5/3 and on 5/5. The laboratory has already used MH4002 for laboratory QC for this SDG; however, MH4113 is also listed on the COC for QC.

Issue 3: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of

including them under one sample ID. The laboratory is requesting to use the sample IDs as listed below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	H4002, H4002MS, H4002MSD
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	MH4001 MH4001D MH1001S
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	MH4002 MH4002D MH1002S
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

Issue 4: The samples listed below appear to be received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005
MH4014
MH4016
MH4017

Issue 5: Sample tags were not received with samples at the laboratory. Sample tag numbers may or may not be listed on the COC.

E. Corrective Action taken for above:

Resolution1: Per Region 8, mercury is required for all total and dissolved water samples, and for soil samples for this Case. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Resolution 2: Per Region 8, the Region would like laboratory QC on both samples. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Resolution3: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples using the attached revised COCs.

Resolution 4: Per Region 8, the laboratory shall preserve the unpreserved samples to an acceptable pH level of <2. This resolution applies to the remainder of the samples associated with this Case when the pH exceeds acceptable levels. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Resolution 5: In accordance with previous direction from [Region 8], the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the sample. The Resolution will be applied to all samples received for this Case.

F. Analytical Techniques:

All analyses were based on CLP Methodology by method ISM02.3

G. Calculation:

Calculation for ICP-MS Soil Sample:

Conversion of Results from µg /L or ppb to mg/kg :

$$\text{Concentration (mg/kg)} = C \times \frac{V_f}{W \times S} \times DF / 1000$$

Where,

C = Instrument value in ppb (The average of all replicate integrations)
V_f = Final digestion volume (mL)
W = Initial aliquot amount (g) (Fraction of Sample amount taken in prep)
S = % Solids / 100 (Fraction of Percent Solids)

DF = Dilution Factor

Example Calculation:

If C = 12.34 ppb
V_f = 100 ml

W = 1.20 g
S = 0.90 (90/100)

DF = 1

$$\text{Concentration (mg/kg)} = 12.34 \times \frac{100}{1.2 \times 0.90} \times 1 / 1000$$

$$= 1.1426 \text{ mg/kg}$$

$$= 1.1 \text{ mg/kg (Reported Result with Signification)}$$

Calculation for ICP-MS Water Sample:

$$\text{Concentration or Result (µg/L)} = C \times \frac{V_f}{V_i} \times DF$$

Where,

C = Instrument value in ppb (The average of all replicate integrations)
V_f = Final digestion volume (mL)

V_i = Initial aliquot amount (mL) (Sample amount taken in prep)

DF = Dilution Factor

Example Calculation:

If C = 12.34 ppb
V_f = 50 ml
V_i = 50 ml
DF = 1

$$\text{Concentration or Result (µg/L)} = 12.34 \times \frac{50}{50} \times 1$$

$$= 12.34 \text{ µg/L}$$

$$= 12.3 \text{ µg/L (Reported Result with Signification)}$$

Calculation for Hg Soil Sample:

Conversion of Results from µg /L or ppb to mg/kg :

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$$\text{Concentration (mg/kg)} = C \times \frac{1}{W \times S} \times DF \times 0.1$$

Where,

C = Instrument response in µg/L from the calibration curve.
W = Initial aliquot amount (g) (Fraction of Sample amount taken in prep)
S = % Solids / 100 (Fraction of Percent Solids)
DF = Dilution Factor

Example Calculation:

If C = 12.34 ppb
W = 0.51 g
S = 0.90 (90/100)
DF = 1

$$\text{Concentration (mg/kg)} = 12.34 \times \frac{1}{0.51 \times 0.90} \times 1 \times 0.1$$

$$= 2.688 \text{ mg/kg}$$

$$= 2.7 \text{ mg/kg (Reported Result with Signification)}$$

Calculation for Hg Water Sample:

$$\text{Concentration or Result (µg/L)} = C \times DF$$

Where,

C = Instrument response in µg/L from the calibration curve.
DF = Dilution Factor

Example Calculation:

If C = 12.34 ppb
DF = 1

Concentration or Result (µg/L) = 12.34 x 1

= 12.34 µg/L

= 12.3 µg/L (Reported Result with Signification)

H. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate any presence of contamination. Laboratory Control sample was within control limits. Spike sample did meet requirements. Duplicate sample did meet requirements. Serial Dilution did meet requirements except for Copper, Antimony & Zinc.

Chemical or physical interference effect was suspected and the data for all affected analytes in the sample received and associated with this serial dilution were flagged.

Some samples from SDG (MH4002) have % solids results less than 50% but more than 30%. Please see below table for detail. Laboratory has processed these samples according to the ISM02.3 SOW, Exhibit D, sections 10.1.1.5, 10.1.1.5.1, 10.1.1.6 and 10.1.1.7.

EPA Sample ID	% Solids
MH4029	44.7
MH4030	39

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signature Mildred V Reyes

Name: Mildred V. Reyes

Date 5/25/16

Title: Document Control Officer

EPA SAMPLE NO.

MH4002

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-01

% Solids: Date Received: 05/03/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	4.0	J	05/06/2016	1503
7440-36-0	Antimony	0.68	J	05/06/2016	1503
7440-38-2	Arsenic	0.59	J	05/06/2016	1503
7440-39-3	Barium	69.0		05/06/2016	1503
7440-41-7	Beryllium	1.0	U	05/06/2016	1503
7440-43-9	Cadmium	1.0	U	05/06/2016	1503
7440-70-2	Calcium	132000		05/06/2016	1503
7440-47-3	Chromium	1.1	J	05/06/2016	1503
7440-48-4	Cobalt	1.0	U	05/06/2016	1503
7440-50-8	Copper	7.4	*	05/06/2016	1503
7439-89-6	Iron	410		05/06/2016	1503
7439-92-1	Lead	0.70	J	05/06/2016	1503
7439-95-4	Magnesium	46400		05/06/2016	1503
7439-96-5	Manganese	9.4		05/06/2016	1503
7440-02-0	Nickel	0.25	J	05/06/2016	1503
7440-09-7	Potassium	2310		05/06/2016	1503
7782-49-2	Selenium	5.0	U	05/06/2016	1503
7440-22-4	Silver	0.20	J	05/06/2016	1503
7440-23-5	Sodium	122000		05/06/2016	1503
7440-28-0	Thallium	0.15	J	05/06/2016	1503
7440-62-2	Vanadium	1.6	J	05/06/2016	1503
7440-66-6	Zinc	146	*	05/06/2016	1503

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4025

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-04

% Solids: 63.6 Date Received: 05/04/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	2.7	*	05/06/2016	1544
7440-38-2	Arsenic	24.2		05/06/2016	1544
7440-39-3	Barium	224		05/06/2016	1544
7440-41-7	Beryllium	0.40	J	05/06/2016	1544
7440-43-9	Cadmium	1.8		05/06/2016	1544
7440-47-3	Chromium	14.0		05/06/2016	1544
7440-48-4	Cobalt	5.2		05/06/2016	1544
7440-50-8	Copper	52.0		05/06/2016	1544
7439-92-1	Lead	301		05/06/2016	1544
7439-96-5	Manganese	583		05/06/2016	1544
7440-02-0	Nickel	11.1		05/06/2016	1544
7782-49-2	Selenium	1.1	J	05/06/2016	1544
7440-22-4	Silver	0.71		05/06/2016	1544
7440-28-0	Thallium	0.28	J	05/06/2016	1544
7440-62-2	Vanadium	14.8		05/06/2016	1544
7440-66-6	Zinc	348		05/06/2016	1544

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4028

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-07

% Solids: 63.5 Date Received: 05/04/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.2	*	05/06/2016	1608
7440-38-2	Arsenic	7.9		05/06/2016	1608
7440-39-3	Barium	122		05/06/2016	1608
7440-41-7	Beryllium	0.34	J	05/06/2016	1608
7440-43-9	Cadmium	1.1		05/06/2016	1608
7440-47-3	Chromium	9.7		05/06/2016	1608
7440-48-4	Cobalt	5.1		05/06/2016	1608
7440-50-8	Copper	36.5		05/06/2016	1608
7439-92-1	Lead	130		05/06/2016	1608
7439-96-5	Manganese	386		05/06/2016	1608
7440-02-0	Nickel	10.2		05/06/2016	1608
7782-49-2	Selenium	1.6	J	05/06/2016	1608
7440-22-4	Silver	0.39	J	05/06/2016	1608
7440-28-0	Thallium	0.22	J	05/06/2016	1608
7440-62-2	Vanadium	14.3		05/06/2016	1608
7440-66-6	Zinc	153		05/06/2016	1608

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4029

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-08

% Solids: 44.7 Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.4	J*	05/06/2016	1614
7440-38-2	Arsenic	6.0		05/06/2016	1614
7440-39-3	Barium	118		05/06/2016	1614
7440-41-7	Beryllium	0.36	J	05/06/2016	1614
7440-43-9	Cadmium	1.1		05/06/2016	1614
7440-47-3	Chromium	10.3		05/06/2016	1614
7440-48-4	Cobalt	4.0		05/06/2016	1614
7440-50-8	Copper	50.1		05/06/2016	1614
7439-92-1	Lead	109		05/06/2016	1614
7439-96-5	Manganese	300		05/06/2016	1614
7440-02-0	Nickel	9.6		05/06/2016	1614
7782-49-2	Selenium	1.6	J	05/06/2016	1614
7440-22-4	Silver	0.26	J	05/06/2016	1614
7440-28-0	Thallium	0.15	J	05/06/2016	1614
7440-62-2	Vanadium	11.7		05/06/2016	1614
7440-66-6	Zinc	178		05/06/2016	1614

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4030

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-09

% Solids: 39 Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.6	J*	05/06/2016	1620
7440-38-2	Arsenic	6.1		05/06/2016	1620
7440-39-3	Barium	130		05/06/2016	1620
7440-41-7	Beryllium	0.31	J	05/06/2016	1620
7440-43-9	Cadmium	1.3		05/06/2016	1620
7440-47-3	Chromium	13.6		05/06/2016	1620
7440-48-4	Cobalt	4.5		05/06/2016	1620
7440-50-8	Copper	67.8		05/06/2016	1620
7439-92-1	Lead	132		05/06/2016	1620
7439-96-5	Manganese	288		05/06/2016	1620
7440-02-0	Nickel	11.4		05/06/2016	1620
7782-49-2	Selenium	1.8	J	05/06/2016	1620
7440-22-4	Silver	0.31	J	05/06/2016	1620
7440-28-0	Thallium	0.18	J	05/06/2016	1620
7440-62-2	Vanadium	14.8		05/06/2016	1620
7440-66-6	Zinc	227		05/06/2016	1620

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4113

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-10

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	33.2		05/06/2016	1515
7440-36-0	Antimony	0.58	J	05/06/2016	1515
7440-38-2	Arsenic	1.8		05/06/2016	1515
7440-39-3	Barium	73.3		05/06/2016	1515
7440-41-7	Beryllium	1.0	U	05/06/2016	1515
7440-43-9	Cadmium	0.080	J	05/06/2016	1515
7440-70-2	Calcium	148000		05/06/2016	1515
7440-47-3	Chromium	0.64	J	05/06/2016	1515
7440-48-4	Cobalt	0.10	J	05/06/2016	1515
7440-50-8	Copper	1.6	J*	05/06/2016	1515
7439-89-6	Iron	70.6	J	05/06/2016	1515
7439-92-1	Lead	0.31	J	05/06/2016	1515
7439-95-4	Magnesium	60900		05/06/2016	1515
7439-96-5	Manganese	11.5		05/06/2016	1515
7440-02-0	Nickel	0.68	J	05/06/2016	1515
7440-09-7	Potassium	2630		05/06/2016	1515
7782-49-2	Selenium	1.8	J	05/06/2016	1515
7440-22-4	Silver	0.14	J	05/06/2016	1515
7440-23-5	Sodium	67700		05/06/2016	1515
7440-28-0	Thallium	1.0	U	05/06/2016	1515
7440-62-2	Vanadium	5.1		05/06/2016	1515
7440-66-6	Zinc	8.8	*	05/06/2016	1515

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4116

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-11

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	164		05/06/2016	1527
7440-36-0	Antimony	0.78	J	05/06/2016	1527
7440-38-2	Arsenic	1.2		05/06/2016	1527
7440-39-3	Barium	106		05/06/2016	1527
7440-41-7	Beryllium	1.0	U	05/06/2016	1527
7440-43-9	Cadmium	0.13	J	05/06/2016	1527
7440-70-2	Calcium	159000		05/06/2016	1527
7440-47-3	Chromium	0.82	J	05/06/2016	1527
7440-48-4	Cobalt	0.20	J	05/06/2016	1527
7440-50-8	Copper	3.2	*	05/06/2016	1527
7439-89-6	Iron	314		05/06/2016	1527
7439-92-1	Lead	7.4		05/06/2016	1527
7439-95-4	Magnesium	61100		05/06/2016	1527
7439-96-5	Manganese	9.4		05/06/2016	1527
7440-02-0	Nickel	0.72	J	05/06/2016	1527
7440-09-7	Potassium	2120		05/06/2016	1527
7782-49-2	Selenium	2.2	J	05/06/2016	1527
7440-22-4	Silver	0.13	J	05/06/2016	1527
7440-23-5	Sodium	71200		05/06/2016	1527
7440-28-0	Thallium	1.0	U	05/06/2016	1527
7440-62-2	Vanadium	5.6		05/06/2016	1527
7440-66-6	Zinc	15.1	*	05/06/2016	1527

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4202

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-12

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	30.8		05/06/2016	1530
7440-36-0	Antimony	0.84	J	05/06/2016	1530
7440-38-2	Arsenic	1.4		05/06/2016	1530
7440-39-3	Barium	72.6		05/06/2016	1530
7440-41-7	Beryllium	1.0	U	05/06/2016	1530
7440-43-9	Cadmium	0.060	J	05/06/2016	1530
7440-70-2	Calcium	148000		05/06/2016	1530
7440-47-3	Chromium	0.39	J	05/06/2016	1530
7440-48-4	Cobalt	0.060	J	05/06/2016	1530
7440-50-8	Copper	1.5	J*	05/06/2016	1530
7439-89-6	Iron	75.0	J	05/06/2016	1530
7439-92-1	Lead	0.40	J	05/06/2016	1530
7439-95-4	Magnesium	57600		05/06/2016	1530
7439-96-5	Manganese	1.7		05/06/2016	1530
7440-02-0	Nickel	0.57	J	05/06/2016	1530
7440-09-7	Potassium	2110		05/06/2016	1530
7782-49-2	Selenium	4.2	J	05/06/2016	1530
7440-22-4	Silver	0.090	J	05/06/2016	1530
7440-23-5	Sodium	64200		05/06/2016	1530
7440-28-0	Thallium	1.0	U	05/06/2016	1530
7440-62-2	Vanadium	5.9		05/06/2016	1530
7440-66-6	Zinc	6.0	*	05/06/2016	1530

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4211

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-13

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	64.2		05/06/2016	1533
7440-36-0	Antimony	0.90	J	05/06/2016	1533
7440-38-2	Arsenic	3.5		05/06/2016	1533
7440-39-3	Barium	59.3		05/06/2016	1533
7440-41-7	Beryllium	1.0	U	05/06/2016	1533
7440-43-9	Cadmium	1.0	U	05/06/2016	1533
7440-70-2	Calcium	139000		05/06/2016	1533
7440-47-3	Chromium	0.69	J	05/06/2016	1533
7440-48-4	Cobalt	0.070	J	05/06/2016	1533
7440-50-8	Copper	1.6	J*	05/06/2016	1533
7439-89-6	Iron	140	J	05/06/2016	1533
7439-92-1	Lead	1.3		05/06/2016	1533
7439-95-4	Magnesium	49900		05/06/2016	1533
7439-96-5	Manganese	16.6		05/06/2016	1533
7440-02-0	Nickel	0.35	J	05/06/2016	1533
7440-09-7	Potassium	1750		05/06/2016	1533
7782-49-2	Selenium	1.9	J	05/06/2016	1533
7440-22-4	Silver	0.090	J	05/06/2016	1533
7440-23-5	Sodium	51000		05/06/2016	1533
7440-28-0	Thallium	1.0	U	05/06/2016	1533
7440-62-2	Vanadium	2.2	J	05/06/2016	1533
7440-66-6	Zinc	8.0	*	05/06/2016	1533

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4217

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-14

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	2.2	J	05/06/2016	1536
7440-36-0	Antimony	0.81	J	05/06/2016	1536
7440-38-2	Arsenic	2.0		05/06/2016	1536
7440-39-3	Barium	71.8		05/06/2016	1536
7440-41-7	Beryllium	1.0	U	05/06/2016	1536
7440-43-9	Cadmium	1.0	U	05/06/2016	1536
7440-70-2	Calcium	145000		05/06/2016	1536
7440-47-3	Chromium	0.48	J	05/06/2016	1536
7440-48-4	Cobalt	1.0	U	05/06/2016	1536
7440-50-8	Copper	1.2	J*	05/06/2016	1536
7439-89-6	Iron	38.7	J	05/06/2016	1536
7439-92-1	Lead	1.0	U	05/06/2016	1536
7439-95-4	Magnesium	58300		05/06/2016	1536
7439-96-5	Manganese	6.4		05/06/2016	1536
7440-02-0	Nickel	0.44	J	05/06/2016	1536
7440-09-7	Potassium	2320		05/06/2016	1536
7782-49-2	Selenium	2.6	J	05/06/2016	1536
7440-22-4	Silver	0.080	J	05/06/2016	1536
7440-23-5	Sodium	63800		05/06/2016	1536
7440-28-0	Thallium	1.0	U	05/06/2016	1536
7440-62-2	Vanadium	5.1		05/06/2016	1536
7440-66-6	Zinc	4.3	*	05/06/2016	1536

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4218

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-15

% Solids: Date Received: 05/05/2016

Analytical Method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	5.5	J	05/06/2016	1539
7440-36-0	Antimony	0.94	J	05/06/2016	1539
7440-38-2	Arsenic	2.5		05/06/2016	1539
7440-39-3	Barium	70.7		05/06/2016	1539
7440-41-7	Beryllium	1.0	U	05/06/2016	1539
7440-43-9	Cadmium	1.0	U	05/06/2016	1539
7440-70-2	Calcium	151000		05/06/2016	1539
7440-47-3	Chromium	0.54	J	05/06/2016	1539
7440-48-4	Cobalt	0.060	J	05/06/2016	1539
7440-50-8	Copper	1.4	J*	05/06/2016	1539
7439-89-6	Iron	40.0	J	05/06/2016	1539
7439-92-1	Lead	0.11	J	05/06/2016	1539
7439-95-4	Magnesium	58400		05/06/2016	1539
7439-96-5	Manganese	6.0		05/06/2016	1539
7440-02-0	Nickel	0.49	J	05/06/2016	1539
7440-09-7	Potassium	2290		05/06/2016	1539
7782-49-2	Selenium	3.0	J	05/06/2016	1539
7440-22-4	Silver	0.080	J	05/06/2016	1539
7440-23-5	Sodium	64600		05/06/2016	1539
7440-28-0	Thallium	1.0	U	05/06/2016	1539
7440-62-2	Vanadium	5.2		05/06/2016	1539
7440-66-6	Zinc	5.6	*	05/06/2016	1539

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 2 - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Initial Calibration Verification Source : EPA-0307

Continuing Calibration Verification Source : MP33622

Run Batch: LB81457 Analytical Method: ICP-MS

Concentration Units: µg/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID: ICV				ID: CCV081				ID: CCV082		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Aluminum	504	479	95	1	10000	9170	92	2	10300	103	1
Antimony	199	204	103	0	500	513	103	1	514	103	1
Arsenic	200	203	102	0	500	512	102	1	513	103	1
Barium	99.0	101	102	0	2500	2560	102	1	2540	102	0
Beryllium	99.0	104	105	2	500	527	105	1	514	103	1
Cadmium	99.0	103	104	0	500	504	101	1	504	101	0
Calcium	2005	1930	96	2	50000	49000	98	1	49200	98	0
Chromium	98.0	98.0	100	0	500	515	103	2	527	105	1
Cobalt	100	103	103	0	500	514	103	2	531	106	1
Copper	98.0	102	104	0	1000	1030	103	2	1070	107	1
Iron	1016	995	98	0	25000	25600	102	2	26200	105	1
Lead	200	195	98	1	500	500	100	1	504	101	1
Magnesium	1215	1150	95	1	50000	47300	95	2	47800	96	1
Manganese	100	101	101	0	1000	1030	103	2	1050	105	0
Nickel	101	105	104	1	500	510	102	2	529	106	1
Potassium	2004	1910	95	1	25000	24100	96	2	24000	96	0
Selenium	206	203	99	1	500	504	101	1	506	101	2
Silver	100	105	105	0	500	522	104	1	518	104	0
Sodium	2019	2010	100	1	50000	48100	96	2	48800	98	0
Thallium	206	200	97	1	500	502	100	1	508	102	1
Vanadium	100	99.8	100	1	500	513	103	1	526	105	1
Zinc	205	206	100	1	1000	1020	102	2	1060	106	1

FORM 3 - IN
BLANKS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Preparation Blank Matrix : Solid

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical Method: ICP-MS Preparation Batch: PB90341

Run Batch: LB81457 Preparation Method: 200.8

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction	
	ID: ICB	Q	ID: CCB081	Q	ID: CCB082	Q	ID:	Q	ID: PBS008	Q
Aluminum	20.0	U	1.7	J	20.0	U				
Antimony	0.06	J	0.32	J	0.31	J			0.044	J
Arsenic	1.0	U	1.0	U	1.0	U			0.49	U
Barium	10.0	U	10.0	U	10.0	U			4.9	U
Beryllium	1.0	U	0.07	J	0.07	J			0.49	U
Cadmium	1.0	U	1.0	U	1.0	U			0.49	U
Calcium	500	U	500	U	500	U				
Chromium	2.0	U	2.0	U	0.17	J			0.092	J
Cobalt	1.0	U	1.0	U	1.0	U			0.49	U
Copper	-0.6	J	-0.45	J	-0.43	J			-0.27	J
Iron	200	U	200	U	200	U				
Lead	1.0	U	1.0	U	1.0	U			0.49	U
Magnesium	500	U	500	U	500	U				U
Manganese	1.0	U	1.0	U	0.06	J			0.49	U
Nickel	1.0	U	1.0	U	1.0	U			0.49	U
Potassium	500	U	9.1	J	500	U				
Selenium	5.0	U	5.0	U	5.0	U			2.4	U
Silver	1.0	U	1.0	U	1.0	U			0.49	U
Sodium	500	U	21.7	J	500	U				
Thallium	1.0	U	0.06	J	0.06	J			0.49	U
Vanadium	5.0	U	5.0	U	5.0	U			2.4	U
Zinc	-0.14	J	2.0	U	2.0	U			-0.13	J

FORM 3 - IN
BLANKS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Preparation Blank Matrix : WATER

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): ug/L

Analytical Method: ICP-MS Preparation Batch: PB90375

Run Batch: LB81457 Preparation Method: 200.8

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction	
	ID:	Q	ID:	Q	ID:	Q	ID:	Q	ID: PBW007	Q
Aluminum									20.0	U
Antimony									2.0	U
Arsenic									1.0	U
Barium									10.0	U
Beryllium									1.0	U
Cadmium									1.0	U
Calcium									500	U
Chromium									0.18	J
Cobalt									1.0	U
Copper									-0.6	J
Iron									200	U
Lead									1.0	U
Magnesium									500	U
Manganese									1.0	U
Nickel									1.0	U
Potassium									500	U
Selenium									5.0	U
Silver									1.0	U
Sodium									10.9	J
Thallium									1.0	U
Vanadium									5.0	U
Zinc									-0.28	J

FORM 4 - IN

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Analytical Method: ICP-MS ICSA Source: EPA-0803

Instrument ID: P7 ICSB Source: EPA-0803

Run Batch: LB81457

Concentration Units: ug/L

Analyte	True		Found			
	ICSA	ICSAB	ICSA	%R	ICSAB	%R
Aluminum	100000	100000	92100	92	90700	91
Antimony	1.5	22	1.3	87	20.6	94
Arsenic	0.1	19	0.34	340	19.7	104
Barium	1.2	22	1.7	142	21.6	98
Beryllium	0	19	0.29		21.2	112
Cadmium	0.7	20	0.47	67	19.3	97
Calcium	100000	100000	96000	96	95000	95
Chromium	21	40	20.3	97	41.9	105
Cobalt	1	20	1.2	120	21.3	106
Copper	8	25	7.5	94	27.2	109
Iron	100000	100000	101000	101	99900	100
Lead	4	25	4.2	105	23.0	92
Magnesium	100000	100000	93800	94	92800	93
Manganese	7	27	8.3	119	28.4	105
Nickel	6	24	5.6	93	27.0	113
Potassium	100000	100000	95600	96	94400	94
Selenium	0.3	19	0.32	107	19.1	101
Silver	0	18	0.08		18.9	105
Sodium	100000	100000	96100	96	94700	95
Thallium	0	21	0.09		19.9	95
Vanadium	0.5	19	0.16	32	19.9	105
Zinc	11	29	12.2	111	31.9	110

EPA SAMPLE NO.

MH4002S

FORM 5A - IN

MATRIX SPIKE SAMPLE RECOVERY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : WATER Analytical Method: ICP-MS

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight): ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Antimony	75 - 125	111		0.68	J	100	110	
Arsenic	75 - 125	45.7		0.59	J	40.0	113	
Barium	75 - 125	2300		69.0		2000	112	
Beryllium	75 - 125	55.4		1.0	U	50.0	111	
Cadmium	75 - 125	54.4		1.0	U	50.0	109	
Chromium	75 - 125	224		1.1	J	200	111	
Cobalt	75 - 125	578		1.0	U	500	116	
Copper	75 - 125	291		7.4		250	113	
Lead	75 - 125	22.5		0.7	J	20.0	109	
Manganese	75 - 125	572		9.4		500	113	
Nickel	75 - 125	569		0.25	J	500	114	
Selenium	75 - 125	117		5.0	U	100	117	
Silver	75 - 125	55.5		0.2	J	50.0	111	
Thallium	75 - 125	55.7		0.15	J	50.0	111	
Vanadium	75 - 125	579		1.6	J	500	115	
Zinc	75 - 125	719		146		500	115	

EPA SAMPLE NO.

MH4025S

FORM 5A - IN

MATRIX SPIKE SAMPLE RECOVERY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : Solid Analytical Method: ICP-MS

% Solids: 63.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Antimony	75 - 125	13.8		2.7		11.2	99	
Arsenic		28.2		24.2		4.5	89	
Barium	75 - 125	446		224		220	101	
Beryllium	75 - 125	5.9		0.4	J	5.6	98	
Cadmium	75 - 125	7.3		1.8		5.6	98	
Chromium	75 - 125	38.3		14.0		22.5	108	
Cobalt	75 - 125	67.4		5.2		56.2	111	
Copper	75 - 125	83.4		52.0		28.1	112	
Lead		300		301		2.2	-45	
Manganese		643		583		56.2	107	
Nickel	75 - 125	73.4		11.1		56.2	111	
Selenium	75 - 125	11.1		1.1	J	11.2	89	
Silver	75 - 125	6.3		0.71		5.6	100	
Thallium	75 - 125	5.9		0.28	J	5.6	100	
Vanadium	75 - 125	75.4		14.8		56.2	108	
Zinc		412		348		56.2	114	

EPA SAMPLE NO.

MH4113S

FORM 5A - IN

MATRIX SPIKE SAMPLE RECOVERY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : WATER Analytical Method: ICP-MS

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight): ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Antimony	75 - 125	109		0.58	J	100	108	
Arsenic	75 - 125	46.3		1.8		40.0	111	
Barium	75 - 125	2250		73.3		2000	109	
Beryllium	75 - 125	51.6		1.0	U	50.0	103	
Cadmium	75 - 125	53.3		0.08	J	50.0	106	
Chromium	75 - 125	226		0.64	J	200	113	
Cobalt	75 - 125	585		0.1	J	500	117	
Copper	75 - 125	291		1.6	J	250	116	
Lead	75 - 125	22.0		0.31	J	20.0	108	
Manganese	75 - 125	584		11.5		500	115	
Nickel	75 - 125	580		0.68	J	500	116	
Selenium	75 - 125	114		1.8	J	100	112	
Silver	75 - 125	53.5		0.14	J	50.0	107	
Thallium	75 - 125	55.7		1.0	U	50.0	111	
Vanadium	75 - 125	584		5.1		500	116	
Zinc	75 - 125	588		8.8		500	116	

EPA SAMPLE NO.

FORM 5B - IN

POST-DIGESTION/DISTILLATION SPIKE
SAMPLE RECOVERY

Lab Name: _____ Contract: _____

Lab Code: _____ Case No.: _____ MA No. : _____ SDG No.: _____

Matrix : _____ Analytical Method: _____

% Solids: _____

Concentration Units (µg/L, mg/L or mg/kg dry weight): _____

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q

EPA SAMPLE NO.

MH4002D

FORM 6 - IN
DUPLICATES

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : WATER Analytical Method: ICP-MS

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight): ug/L

Analyte	Control Limit	Sample (S)	Q	Duplicate (D)	Q	RPD	Q
Aluminum		4.0	J	3.7	J		
Antimony		0.68	J	0.42	J		
Arsenic		0.59	J	0.64	J		
Barium		69.0		70.7		2	
Beryllium		1.0	U	1.0	U		
Cadmium		1.0	U	1.0	U		
Calcium		132000		134000		2	
Chromium		1.1	J	1.1	J		
Cobalt		1.0	U	1.0	U		
Copper	2.0	7.4		7.7		4	
Iron	200	410		419		2	
Lead		0.7	J	0.67	J		
Magnesium		46400		46800		1	
Manganese		9.4		9.5		1	
Nickel		0.25	J	0.24	J		
Potassium	500	2310		2300		0	
Selenium		5.0	U	5.0	U		
Silver		0.2	J	0.21	J		
Sodium		122000		123000		1	
Thallium		0.15	J	0.06	J		
Vanadium		1.6	J	1.6	J		
Zinc		146		147		1	

EPA SAMPLE NO.

MH4025D

FORM 6 - IN
DUPLICATES

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : Solid Analytical Method: ICP-MS

% Solids: 63.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/kg

Analyte	Control Limit	Sample (S)	Q	Duplicate (D)	Q	RPD	Q
Antimony	1.1	2.7		2.6		4	
Arsenic		24.2		24.1		0	
Barium		224		222		1	
Beryllium		0.4	J	0.37	J		
Cadmium	0.57	1.8		1.8		0	
Chromium		14.0		14.1		1	
Cobalt		5.2		5.3		2	
Copper		52.0		52.0		0	
Lead		301		299		1	
Manganese		583		587		1	
Nickel		11.1		11.0		1	
Selenium		1.1	J	1.0	J		
Silver	0.57	0.71		0.7		1	
Thallium		0.28	J	0.27	J		
Vanadium		14.8		14.9		1	
Zinc		348		349		0	

EPA SAMPLE NO.

MH4113D

FORM 6 - IN
DUPLICATES

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : WATER Analytical Method: ICP-MS

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight): ug/L

Analyte	Control Limit	Sample (S)	Q	Duplicate (D)	Q	RPD	Q
Aluminum	20.0	33.2		35.2		6	
Antimony		0.58	J	0.6	J		
Arsenic	1.0	1.8		1.7		6	
Barium		73.3		72.7		1	
Beryllium		1.0	U	1.0	U		
Cadmium		0.08	J	0.1	J		
Calcium		148000		149000		1	
Chromium		0.64	J	0.57	J		
Cobalt		0.1	J	0.08	J		
Copper		1.6	J	1.5	J		
Iron		70.6	J	71.2	J		
Lead		0.31	J	0.28	J		
Magnesium		60900		61300		1	
Manganese		11.5		11.7		2	
Nickel		0.68	J	0.65	J		
Potassium		2630		2630		0	
Selenium		1.8	J	2.0	J		
Silver		0.14	J	0.12	J		
Sodium		67700		68100		1	
Thallium		1.0	U	1.0	U		
Vanadium	5.0	5.1		5.1		0	
Zinc	2.0	8.8		7.0		23	

FORM 7-IN

LABORATORY CONTROL SAMPLE

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Matrix : Solid Preparation Method: 200.8

Analytical Method: ICP-MS Preparation Batch: PB90341

Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg) mg/kg

Analyte	True	Found	%R
Antimony	2	1.9	95
Arsenic	0.98	1.0	102
Barium	9.8	9.5	97
Beryllium	0.98	1.0	102
Cadmium	0.98	0.98	100
Chromium	2	2.1	105
Cobalt	0.98	0.98	100
Copper	2	1.7	85
Lead	0.98	0.9	92
Manganese	0.98	1.0	102
Nickel	0.98	1.0	102
Selenium	4.9	5.2	106
Silver	0.98	1.2	122
Thallium	0.98	0.96	98
Vanadium	4.9	4.9	100
Zinc	2	1.9	95

FORM 7-IN

LABORATORY CONTROL SAMPLE

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Matrix : WATER Preparation Method: 200.8

Analytical Method: ICP-MS Preparation Batch: PB90375

Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg) ug/L

Analyte	True	Found	%R
Aluminum	40	37.2	93
Antimony	4	3.9	98
Arsenic	2	1.9	95
Barium	20	19.7	99
Beryllium	2	2.0	100
Cadmium	2	2.0	100
Calcium	1000	941	94
Chromium	4	4.2	105
Cobalt	2	2.0	100
Copper	4	3.4	85
Iron	400	423	106
Lead	2	1.9	95
Magnesium	1000	908	91
Manganese	2	2.0	100
Nickel	2	2.1	105
Potassium	1000	916	92
Selenium	10	10.7	107
Silver	2	2.4	120
Sodium	1000	925	93
Thallium	2	2.0	100
Vanadium	10	9.9	99
Zinc	4	3.7	93

EPA SAMPLE NO.

MH4002L

FORM 8-IN

ICP-AES AND ICP-MS SERIAL DILUTIONS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Matrix : WATER Analytical Method: ICP-MS

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight) ug/L

Analyte	Initial Sample Result (I)	Q	Serial Dilution	Q	% Difference	Q
Aluminum	4.0	J	100	U	100	
Antimony	0.68	J	10.0	U	100	
Arsenic	0.59	J	0.55	J	7	
Barium	69.0		69.4		1	
Beryllium	1.0	U	5.0	U		
Cadmium	1.0	U	5.0	U		
Calcium	132000		131000		1	
Chromium	1.1	J	1.9	J	73	
Cobalt	1.0	U	5.0	U		
Copper	7.4		6.5	J	12	*
Iron	410		411	J	0	
Lead	0.7	J	0.35	J	50	
Magnesium	46400		46200		0	
Manganese	9.4		9.3		1	
Nickel	0.25	J	5.0	U	100	
Potassium	2310		2240	J	3	
Selenium	5.0	U	25.0	U		
Silver	0.2	J	0.2	J	0	
Sodium	122000		120000		2	
Thallium	0.15	J	5.0	U	100	
Vanadium	1.6	J	1.7	J	6	
Zinc	146		148		1	

EPA SAMPLE NO.

MH4025L

FORM 8-IN

ICP-AES AND ICP-MS SERIAL DILUTIONS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Matrix : Solid Analytical Method: ICP-MS

% Solids: 63.6

Concentration Units (µg/L, mg/L or mg/kg dry weight) mg/kg

Analyte	Initial Sample Result (I)	Q	Serial Dilution	Q	% Difference	Q
Antimony	2.7		2.4	J	11	*
Arsenic	24.2		26.7		10	
Barium	224		217		3	
Beryllium	0.4	J	0.42	J	5	
Cadmium	1.8		1.8	J	0	
Chromium	14.0		14.0		0	
Cobalt	5.2		5.1		2	
Copper	52.0		50.3		3	
Lead	301		290		4	
Manganese	583		553		5	
Nickel	11.1		10.6		5	
Selenium	1.1	J	14.0	U	100	
Silver	0.71		0.67	J	6	
Thallium	0.28	J	0.25	J	11	
Vanadium	14.8		14.4		3	
Zinc	348		351		1	

EPA SAMPLE NO.

MH4113L

FORM 8-IN

ICP-AES AND ICP-MS SERIAL DILUTIONS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Matrix : WATER Analytical Method: ICP-MS

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight) ug/L

Analyte	Initial Sample Result (I)	Q	Serial Dilution	Q	% Difference	Q
Aluminum	33.2		30.0	J	10	
Antimony	0.58	J	0.35	J	40	
Arsenic	1.8		1.5	J	17	
Barium	73.3		72.1		2	
Beryllium	1.0	U	5.0	U		
Cadmium	0.08	J	5.0	U	100	
Calcium	148000		149000		1	
Chromium	0.64	J	1.4	J	119	
Cobalt	0.1	J	5.0	U	100	
Copper	1.6	J	0.75	J	53	
Iron	70.6	J	68.2	J	3	
Lead	0.31	J	5.0	U	100	
Magnesium	60900		62700		3	
Manganese	11.5		11.7		2	
Nickel	0.68	J	0.5	J	26	
Potassium	2630		2630		0	
Selenium	1.8	J	25.0	U	100	
Silver	0.14	J	5.0	U	100	
Sodium	67700		68400		1	
Thallium	1.0	U	5.0	U		
Vanadium	5.1		5.0	J	2	
Zinc	8.8		7.0	J	20	*

FORM 9-IN

METHOD DETECTION LIMIT

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Analytical Method: ICP-MS Instrument ID: P7

Preparation Method: 200.8

Concentration Units (µg/L, µg or mg/kg): ug/L

Analyte	Wavelength/Mass	MDL	Date Analyzed
Aluminum	27	1.2	12/04/2015
Antimony	121	0.051	12/04/2015
Arsenic	75	0.11	12/04/2015
Barium	137	0.21	12/04/2015
Beryllium	9	0.060	12/04/2015
Cadmium	111	0.054	12/04/2015
Calcium	44	5.5	12/04/2015
Chromium	52	0.070	12/04/2015
Cobalt	59	0.056	12/04/2015
Copper	63	0.054	12/04/2015
Iron	57	4.1	12/04/2015
Lead	208	0.061	12/04/2015
Magnesium	24	5.2	12/04/2015
Manganese	55	0.060	12/04/2015
Nickel	60	0.060	12/04/2015
Potassium	39	8.1	12/04/2015
Selenium	82	1.4	12/04/2015
Silver	107	0.036	12/04/2015
Sodium	23	10.4	12/04/2015
Thallium	205	0.054	12/04/2015
Vanadium	51	0.026	12/04/2015
Zinc	66	0.13	12/04/2015

FORM 9-IN

METHOD DETECTION LIMIT

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Analytical Method: ICP-MS Instrument ID: P7

Preparation Method: 200.8

Concentration Units (µg/L, µg or mg/kg): mg/kg

Analyte	Wavelength/Mass	MDL	Date Analyzed
Antimony	121	0.015	12/04/2015
Arsenic	75	0.053	12/04/2015
Barium	137	0.084	12/04/2015
Beryllium	9	0.051	12/04/2015
Cadmium	111	0.027	12/04/2015
Chromium	52	0.035	12/04/2015
Cobalt	59	0.020	12/04/2015
Copper	63	0.026	12/04/2015
Lead	208	0.029	12/04/2015
Manganese	55	0.051	12/04/2015
Nickel	60	0.026	12/04/2015
Selenium	82	0.46	12/04/2015
Silver	107	0.015	12/04/2015
Thallium	205	0.036	12/04/2015
Vanadium	51	0.024	12/04/2015
Zinc	66	0.083	12/04/2015

FORM 11-IN
ICP-MS INTERNAL STANDARD ASSOCIATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Date: 05/06/2016

Run Batch: LB81457

Analyte	Assoc. Internal Standard 1	Assoc. Internal Standard 2
Aluminum	45Sc	
Antimony	159Tb	
Arsenic	89Y	
Barium	159Tb	
Beryllium	6Li	
Cadmium	159Tb	
Calcium	45Sc	
Chromium	45Sc	
Cobalt	45Sc	
Copper	45Sc	
Iron	45Sc	
Lead	209Bi	
Magnesium	45Sc	
Manganese	45Sc	
Nickel	45Sc	
Potassium	45Sc	
Selenium	89Y	
Silver	159Tb	
Sodium	45Sc	
Thallium	209Bi	
Vanadium	45Sc	
Zinc	45Sc	

FORM 12-IN

ANALYSIS LOG

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: P7 Analytical Method: ICP-MS

Start Date: 05/06/2016 End Date: 05/06/2016

Run Batch: LB81457

EPA Sample No.	D/F	Time	Analytes																										
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN			
TUNE	1.0	1341					X				X			X	X														
S00	1.0	1344	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
S02	1.0	1351	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
S03	1.0	1354	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
S04	1.0	1358	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
S05	1.0	1401	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
S06	1.0	1404	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
S07	1.0	1407	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
S08	1.0	1410	X						X				X		X				X			X							
ICV	1.0	1415	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
ICB	1.0	1434	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
ICSA	1.0	1437	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
ICSAB	1.0	1441	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
CCV081	1.0	1444	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
CCB081	1.0	1446	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
PBS008	1.0	1451		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X				
LCS008	1.0	1454		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X				
PBW007	1.0	1457	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
LCS007	1.0	1500	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4002	1.0	1503	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4002D	1.0	1506	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4002L	5.0	1509	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4002S	1.0	1512		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X				
MH4113	1.0	1515	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4113D	1.0	1518	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4113L	5.0	1521	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4113S	1.0	1524		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X				
MH4116	1.0	1527	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4202	1.0	1530	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4211	1.0	1533	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4217	1.0	1536	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4218	1.0	1539	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				
MH4025	1.0	1544		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X				
MH4025	2.0	1547																											
MH4025D	1.0	1550		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X				
MH4025D	2.0	1553																											
MH4025L	5.0	1556		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X				
MH4025L	10.0	1559																											
MH4025S	1.0	1602		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X				
MH4025S	2.0	1605																											

FORM 12-IN

ANALYSIS LOG

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: P7 Analytical Method: ICP-MS

Start Date: 05/06/2016 End Date: 05/06/2016

Run Batch: LB81457

EPA Sample No.	D/F	Time	Analytes																									
			AL	**SB**	**AS**	**BA**	**BE**	**CD**	**CA**	**CR**	**CO**	**CU**	**FE**	**PB**	**MG**	**MN**	**HG**	**NI**	**K**	**SE**	**AG**	**NA**	**TL**	**V**	**ZN**	**CN**		
MH4028	1.0	1608		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X			
MH4028	2.0	1611																										
MH4029	1.0	1614		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X			
MH4029	2.0	1617																										
MH4030	1.0	1620		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X			
MH4030	2.0	1623																										
CCV082	1.0	1626	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB082	1.0	1629	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			

FORM 13-IN
ICP-MS TUNE

Lab Name: Chemtech Consulting Group Contract: EPW14030
Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002
Instrument ID: P7 Date: 05/06/2016
Run Batch: LB81457

Element - Mass	Avg. Measured Mass (u)	Average Peak Width (u)	%Height	%RSD
Be - 9	8.95	0.7	5	1.2
Co - 59	58.9	0.7	5	0.3
In - 113	113	0.7	5	2.0
In - 115	115	0.7	5	1.0
Mg - 24	23.9	0.7	5	2.3
Mg - 25	24.9	0.7	5	0.7
Mg - 26	25.9	0.7	5	0.9
Pb - 206	206	0.7	5	0.1
Pb - 207	206.	0.7	5	0.5
Pb - 208	207.	0.7	5	0.7

FORM 14-IN

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Start Date : 05/06/2016

Run Batch: LB81457 End Date : 05/06/2016

EPA Sample No.	Time	Internal Standard %RI For:									
		Element 6Li	Q	Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q
S00	1344	100		100		100		100		100	
S02	1351	101		99		101		101		99	
S03	1354	102		99		100		99		100	
S04	1358	101		97		98		96		98	
S05	1401	102		96		98		95		99	
S06	1404	101		94		96		93		99	
S07	1407	99		92		95		91		98	
S08	1410	89		94		94		83		94	
ICV	1415	100		105		104		104		102	
ICB	1434	100		101		102		101		100	
ICSA	1437	97		98		98		93		99	
ICSAB	1441	98		102		103		97		102	
CCV081	1444	99		103		103		99		102	
CCB081	1446	99		101		102		102		101	
PBS008	1451	99		99		99		99		99	
LCS008	1454	100		99		99		100		100	
PBW007	1457	99		98		99		99		99	
LCS007	1500	98		98		99		99		100	
MH4002	1503	112		115		113		107		113	
MH4002D	1506	112		112		112		106		112	
MH4002L	1509	101		103		104		101		103	
MH4002S	1512	114		111		111		105		111	
MH4113	1515	116		108		110		105		111	
MH4113D	1518	117		108		110		105		112	
MH4113L	1521	106		99		102		100		105	
MH4113S	1524	116		103		106		101		110	
MH4116	1527	119		105		108		104		112	
MH4202	1530	119		104		108		103		112	
MH4211	1533	121		105		109		105		114	
MH4217	1536	121		105		109		105		114	
MH4218	1539	119		103		106		102		111	
MH4025	1544	108		95		113		95		104	
ZZZZZZ	1547										
MH4025D	1550	110		97		115		96		106	
ZZZZZZ	1553										
MH4025L	1556	106		97		103		99		104	
ZZZZZZ	1559										
MH4025S	1602	112		99		118		99		108	

FORM 14-IN

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Start Date : 05/06/2016

Run Batch: LB81457 End Date : 05/06/2016

EPA Sample No.	Time	Internal Standard %RI For:									
		Element 6Li	Q	Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q
ZZZZZZ	1605										
MH4028	1608	111		101		118		100		107	
ZZZZZZ	1611										
MH4029	1614	110		100		112		101		107	
ZZZZZZ	1617										
MH4030	1620	109		98		109		99		105	
ZZZZZZ	1623										
CCV082	1626	101		97		98		94		101	
CCB082	1629	100		94		97		96		100	

FORM 14-IN

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Start Date : 05/06/2016

Run Batch: LB81457 End Date : 05/06/2016

EPA Sample No.	Time	Internal Standard %RI For:									
		Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q	Element 165Ho	Q
S00	1344	100		100		100		100		100	
S02	1351	100		101		100		100		99	
S03	1354	100		100		100		101		100	
S04	1358	98		98		98		102		102	
S05	1401	96		96		95		100		99	
S06	1404	96		95		93		100		100	
S07	1407	97		94		90		99		99	
S08	1410	103		101		88		101		101	
ICV	1415	107		105		103		105		105	
ICB	1434	104		103		102		103		103	
ICSA	1437	99		99		93		103		102	
ICSAB	1441	103		103		97		105		106	
CCV081	1444	104		101		97		103		103	
CCB081	1446	99		99		99		101		100	
PBS008	1451	97		98		98		99		100	
LCS008	1454	99		99		99		102		101	
PBW007	1457	98		99		98		101		101	
LCS007	1500	99		100		100		102		102	
MH4002	1503	110		110		106		111		112	
MH4002D	1506	108		108		104		110		110	
MH4002L	1509	102		103		101		105		105	
MH4002S	1512	105		107		103		110		110	
MH4113	1515	102		103		100		108		109	
MH4113D	1518	101		104		101		111		110	
MH4113L	1521	95		99		98		103		104	
MH4113S	1524	97		100		98		107		107	
MH4116	1527	97		101		99		108		108	
MH4202	1530	98		103		101		110		110	
MH4211	1533	96		102		101		110		109	
MH4217	1536	98		102		101		111		110	
MH4218	1539	96		100		99		108		109	
MH4025	1544	89		107		92		101		101	
ZZZZZZ	1547										
MH4025D	1550	91		109		94		103		103	
ZZZZZZ	1553										
MH4025L	1556	93		100		98		103		103	
ZZZZZZ	1559										
MH4025S	1602	92		109		95		103		104	

FORM 14-IN

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Start Date : 05/06/2016

Run Batch: LB81457 End Date : 05/06/2016

EPA Sample No.	Time	Internal Standard %RI For:									
		Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q	Element 165Ho	Q
ZZZZZZ	1605										
MH4028	1608	95		110		97		105		104	
ZZZZZZ	1611										
MH4029	1614	93		103		96		102		103	
ZZZZZZ	1617										
MH4030	1620	92		103		97		103		103	
ZZZZZZ	1623										
CCV082	1626	94		95		93		100		100	
CCB082	1629	92		94		96		100		100	

FORM 14-IN

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Start Date : 05/06/2016

Run Batch: LB81457 End Date : 05/06/2016

EPA Sample No.	Time	Internal Standard %RI For:									
		Element 165Ho	Q	Element 209Bi	Q	Element	Q	Element	Q	Element	Q
S00	1344	100		100							
S02	1351	101		101							
S03	1354	100		100							
S04	1358	98		98							
S05	1401	100		100							
S06	1404	100		98							
S07	1407	99		97							
S08	1410	95		84							
ICV	1415	102		101							
ICB	1434	100		100							
ICSA	1437	100		95							
ICSAB	1441	102		97							
CCV081	1444	103		100							
CCB081	1446	102		102							
PBS008	1451	100		100							
LCS008	1454	101		101							
PBW007	1457	100		100							
LCS007	1500	100		100							
MH4002	1503	114		107							
MH4002D	1506	113		107							
MH4002L	1509	104		102							
MH4002S	1512	112		107							
MH4113	1515	112		107							
MH4113D	1518	113		109							
MH4113L	1521	106		105							
MH4113S	1524	111		107							
MH4116	1527	114		110							
MH4202	1530	113		111							
MH4211	1533	115		114							
MH4217	1536	115		112							
MH4218	1539	113		110							
MH4025	1544	105		105							
ZZZZZZ	1547										
MH4025D	1550	107		107							
ZZZZZZ	1553										
MH4025L	1556	105		105							

FORM 14-IN

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Start Date : 05/06/2016

Run Batch: LB81457 End Date : 05/06/2016

EPA Sample No.	Time	Internal Standard %RI For:									
		Element 165Ho	Q	Element 209Bi	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	1559										
MH4025S	1602	108		108							
ZZZZZZ	1605										
MH4028	1608	109		109							
ZZZZZZ	1611										
MH4029	1614	108		109							
ZZZZZZ	1617										
MH4030	1620	107		108							
ZZZZZZ	1623										
CCV082	1626	101		100							
CCB082	1629	101		102							

FORM 14-IN

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Start Date : 05/06/2016

Run Batch: LB81457 End Date : 05/06/2016

EPA Sample No.	Time	Internal Standard %RI For:									
		Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
S00	1344	100									
S02	1351	100									
S03	1354	100									
S04	1358	99									
S05	1401	97									
S06	1404	96									
S07	1407	94									
S08	1410	87									
ICV	1415	102									
ICB	1434	102									
ICSA	1437	94									
ICSAB	1441	97									
CCV081	1444	97									
CCB081	1446	99									
PBS008	1451	99									
LCS008	1454	100									
PBW007	1457	100									
LCS007	1500	100									
MH4002	1503	104									
MH4002D	1506	103									
MH4002L	1509	102									
MH4002S	1512	103									
MH4113	1515	101									
MH4113D	1518	103									
MH4113L	1521	100									
MH4113S	1524	101									
MH4116	1527	102									
MH4202	1530	103									
MH4211	1533	104									
MH4217	1536	104									
MH4218	1539	102									
MH4025	1544	98									
ZZZZZZ	1547										
MH4025D	1550	99									
ZZZZZZ	1553										
MH4025L	1556	101									

FORM 14-IN

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Start Date : 05/06/2016

Run Batch: LB81457 End Date : 05/06/2016

EPA Sample No.	Time	Internal Standard %RI For:									
		Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	1559										
MH4025S	1602	99									
ZZZZZZ	1605										
MH4028	1608	101									
ZZZZZZ	1611										
MH4029	1614	100									
ZZZZZZ	1617										
MH4030	1620	100									
ZZZZZZ	1623										
CCV082	1626	95									
CCB082	1629	98									

FORM 15-IN

INITIAL CALIBRATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: P7 Start Date: 05/06/2016

Analytical Method: ICP-MS Run Batch: LB81457

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Aluminum	0	0	0	20	19.8	1	1000	1030	-3
Antimony	0	0	0	2	2.0	0	50	51.5	-3
Arsenic	0	0	0	1	1.0	0	50	55.9	-12
Barium	0	0	0	10	9.9	1	250	260	-4
Beryllium	0	0	0	1	1.0	0	50	53.3	-7
Cadmium	0	0	0	1	1.1	-10	50	53.3	-7
Calcium	0	0	0	500	482	4	5000	4970	1
Chromium	0	0	0	2	2.2	-10	50	56.6	-13
Cobalt	0	0	0	1	1.1	-10	50	58.7	-17
Copper	0	0	0	2	1.9	5	100	118	-18
Iron	0	0	0	50	51.6	-3	2500	2830	-13
Lead	0	0	0	1	0.92	8	50	49.2	2
Magnesium	0	0	0	500	475	5	5000	4980	0
Manganese	0	0	0	1	1.0	0	100	116	-16
Nickel	0	0	0	1	1.1	-10	50	60.0	-20
Potassium	0	0	0	500	477	5	2500	2360	6
Selenium	0	0	0	5	5.8	-16	50	60.9	-22
Silver	0	0	0	1	1.1	-10	50	54.2	-8
Sodium	0	0	0	500	483	3	5000	5060	-1
Thallium	0	0	0	1	1.0	0	50	50.0	0
Vanadium	0	0	0	5	5.2	-4	50	56.7	-13
Zinc	0	0	0	2	1.9	5	100	120	-20

FORM 15-IN

INITIAL CALIBRATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: P7 Start Date: 05/06/2016

Analytical Method: ICP-MS Run Batch: LB81457

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Aluminum	2500	2380	5	5000	4690	6	10000	9220	8
Antimony	125	130	-4	250	254	-2	500	506	-1
Arsenic	125	130	-4	250	258	-3	500	507	-1
Barium	625	652	-4	1250	1260	-1	2500	2510	0
Beryllium	125	133	-6	250	254	-2	500	511	-2
Cadmium	125	133	-6	250	257	-3	500	503	-1
Calcium	12500	12600	-1	25000	24600	2	50000	49800	0
Chromium	125	130	-4	250	257	-3	500	512	-2
Cobalt	125	134	-7	250	264	-6	500	519	-4
Copper	250	268	-7	500	537	-7	1000	1040	-4
Iron	6250	6450	-3	12500	12800	-2	25000	25600	-2
Lead	125	126	-1	250	250	0	500	505	-1
Magnesium	12500	12100	3	25000	23700	5	50000	46500	7
Manganese	250	262	-5	500	521	-4	1000	1040	-4
Nickel	125	136	-9	250	268	-7	500	520	-4
Potassium	6250	6150	2	12500	12000	4	25000	23600	6
Selenium	125	136	-9	250	256	-2	500	516	-3
Silver	125	136	-9	250	262	-5	500	512	-2
Sodium	12500	12300	2	25000	24100	4	50000	47500	5
Thallium	125	127	-2	250	249	0	500	504	-1
Vanadium	125	130	-4	250	258	-3	500	514	-3
Zinc	250	273	-9	500	539	-8	1000	1050	-5

FORM 15-IN

INITIAL CALIBRATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: P7 Start Date: 05/06/2016

Analytical Method: ICP-MS Run Batch: LB81457

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Aluminum	20000	18100	10	100000	100000	0			
Antimony	1000	995	1						
Arsenic	1000	994	1						
Barium	5000	4990	0						
Beryllium	1000	992	1						
Cadmium	1000	996	0						
Calcium	100000	97500	3	500000	501000	0			
Chromium	1000	991	1						
Cobalt	1000	985	2						
Copper	2000	1970	2						
Iron	50000	49200	2	250000	250000	0			
Lead	1000	997	0						
Magnesium	100000	90600	9	500000	502000	0			
Manganese	2000	1970	2						
Nickel	1000	984	2						
Potassium	50000	45600	9	250000	251000	0			
Selenium	1000	989	1						
Silver	1000	989	1						
Sodium	100000	92200	8	500000	502000	0			
Thallium	1000	998	0						
Vanadium	1000	990	1						
Zinc	2000	1960	2						

FORM 16-IN

INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: P7 Start Date : 05/06/2016

Analytical Method: ICP-MS Run Batch : LB81457

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Aluminum	0.999783	0.994021	429.286	Lin. Reg	NONE
Antimony	0.999952	1.00423	-2.9608	Lin. Reg	NONE
Arsenic	0.999923	1.00653	-4.57392	Lin. Reg	NONE
Barium	0.999981	1.00335	-11.6557	Lin. Reg	NONE
Beryllium	0.999886	1.00624	-4.41025	Lin. Reg	NONE
Cadmium	0.999948	1.00569	-3.97237	Lin. Reg	NONE
Calcium	0.999985	0.998895	410.797	Lin. Reg	NONE
Chromium	0.999855	1.0073	-5.16195	Lin. Reg	NONE
Cobalt	0.999602	1.01178	-8.47266	Lin. Reg	NONE
Copper	0.999536	1.01272	-18.3499	Lin. Reg	NONE
Iron	0.999988	1.00055	-108.744	Lin. Reg	NONE
Lead	0.999981	1.00094	-0.664541	Lin. Reg	NONE
Magnesium	0.999799	0.994404	2008.38	Lin. Reg	NONE
Manganese	0.999689	1.00953	-13.6875	Lin. Reg	NONE
Nickel	0.999503	1.01386	-9.99152	Lin. Reg	NONE
Potassium	0.999824	0.995004	896.926	Lin. Reg	NONE
Selenium	0.999745	1.01098	-7.7829	Lin. Reg	NONE
Silver	0.999782	1.00955	-6.77934	Lin. Reg	NONE
Sodium	0.999863	0.99571	1549.73	Lin. Reg	NONE
Thallium	0.999983	1.00126	-0.888532	Lin. Reg	NONE
Vanadium	0.999817	1.00802	-5.68233	Lin. Reg	NONE
Zinc	0.999365	1.01472	-21.3949	Lin. Reg	NONE

US EPA Tune Check Sample Report

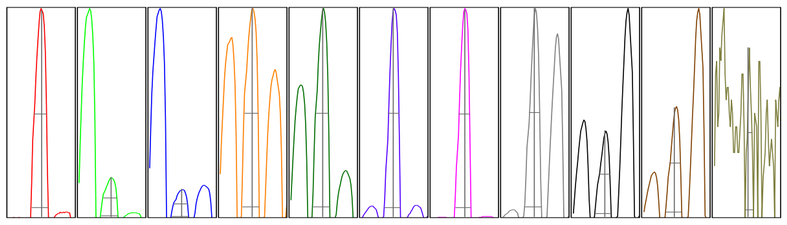
Batch Folder D:\ICP-MS Data\P7050616.b
Report Comment
Instrument Name G8403A JP14410463

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	3234	1.25	5.00	
24	83165	2.30	5.00	
25	11217	0.78	5.00	
26	13119	0.94	5.00	
59	50266	0.40	5.00	
113	3870	2.10	5.00	
115	86810	1.02	5.00	
206	17934	0.14	5.00	
207	15982	0.59	5.00	
208	38620	0.72	5.00	
220	4	72.18		

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	3172	3231	3264	3275	3229
24	86547	82808	82129	82066	82275
25	11332	11287	11149	11185	11135
26	13255	13214	12957	13035	13134
59	50200	50563	50331	50219	50018
113	3932	3918	3787	3777	3938
115	88021	87095	87062	86034	85837
206	17911	17912	17968	17928	17951
207	15879	16129	15970	15927	16006
208	38300	38478	38977	38507	38837
220	8	6	0	3	4

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	594	9.05	8.9 - 9.1		0.774	0.900	
24	14326	24.00	23.9 - 24.1		0.784	0.900	
25	1928	25.00	24.9 - 25.1		0.784	0.900	
26	2251	26.00	25.9 - 26.1		0.782	0.900	
59	9251	59.00	58.9 - 59.1		0.774	0.900	
113	800	113.00	112.9 - 113.1		0.718	0.900	
115	17723	115.05	114.9 - 115.1		0.720	0.900	
206	3843	206.00	205.9 - 206.1		0.748	0.900	
207	3384	207.00	206.9 - 207.1		0.726	0.900	
208	8050	207.95	207.9 - 208.1		0.723	0.900	
220	1	220.10	-		0.387		

X% = 5 Integration Time [sec] = 0.1 Acquisition Time [sec] = 268 Y Axis = Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1600	W	Carrier Gas	0.80	L/min			
RF Matching	1.80	V	Option Gas	0.0	%			
Smpl Depth	10.0	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	℃						

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens					
Extract 2	-195.0	V	Cell Entrance					
Omega Bias	-105	V	Cell Exit	-50	V			
Deflect	13.2	V						

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		OctP Bias	-8.0	V			
He Flow	0.0	mL/min	OctP RF	180	V			
Energy Discrimination	5.0	V						

[He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)
59	13758	0.71	
89	75	10.36	
205	396	4.33	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	13720	13910	13670	13800	13692
89	77	84	78	72	63
205	417	374	409	388	391

Integration Time [sec] = 0.1

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1600	W	Carrier Gas	0.80	L/min			
RF Matching	1.80	V	Option Gas	0.0	%			
Smpl Depth	10.0	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	℃						

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.9	V			
Extract 2	-200.0	V	Cell Entrance	-40	V			
Omega Bias	-110	V	Cell Exit	-60	V			
Deflect	2.0	V						

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	true		OctP Bias	-18.0	V			
He Flow	4.1	mL/min	OctP RF	180	V			
Energy Discrimination	5.0	V						

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S00	Instrumnet Name :	P7
Client Sample ID :	S00	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:44:28	DataFile Name :	002CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.03	0.05	-0.02	0.00	N/A	ppb
Antimony	121-1	0.00	0.00	0.00	0.00	N/A	ppb
Arsenic	75-2	0.00	0.00	0.00	0.00	N/A	ppb
Barium	135-1	0.00	-0.01	0.01	0.00	N/A	ppb
Barium	137-1	0.00	0.00	0.00	0.00	N/A	ppb
Beryllium	9-1	0.00	0.00	0.00	0.00	N/A	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Boron	10-1	0.13	-0.16	0.03	0.00	N/A	ppb
Boron	11-1	-0.09	0.09	0.00	0.00	N/A	ppb
Cadmium	111-1	0.02	0.00	-0.02	0.00	N/A	ppb
Cadmium	106-1	0.20	0.05	-0.25	0.00	N/A	ppb
Cadmium	108-1	0.04	-0.01	-0.03	0.00	N/A	ppb
Calcium	43-1	0.19	0.64	-0.83	0.00	N/A	ppb
Calcium	44-1	0.17	1.06	-1.23	0.00	N/A	ppb
Chromium	52-2	-0.02	-0.01	0.03	0.00	N/A	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	N/A	ppb
Copper	63-2	-0.04	-0.01	0.05	0.00	N/A	ppb
Holmium	165-2				100		%
Holmium	165-1				100		%
Indium	115-1				100		%
Indium	115-2				100		%
Iron	56-2	-0.06	-0.07	0.13	0.00	N/A	ppb
Iron	57-2	-0.20	-0.06	0.25	0.00	N/A	ppb
Lead	206-1	0.00	0.01	0.00	0.00	N/A	ppb
Lead	207-1	-0.01	0.00	0.01	0.00	N/A	ppb
Lead	208-1	0.00	0.00	0.00	0.00	N/A	ppb
Lithium	6-1				100		%
Magnesium	24-2	0.07	0.09	-0.16	0.00	N/A	ppb
Manganese	55-2	-0.01	0.01	0.00	0.00	N/A	ppb
Molybdenum	94-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	95-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	96-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	97-1	0.00	0.00	0.00	0.00	N/A	ppb
Molybdenum	98-1	0.00	0.00	0.00	0.00	N/A	ppb
Nickel	60-2	0.00	0.00	0.01	0.00	N/A	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S00	Instrumnet Name :	P7
Client Sample ID :	S00	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:44:28	DataFile Name :	002CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-23.86	-17.86	-31.31	-24.35		ppb
Potassium	39-2	0.25	-2.13	1.88	0.00	N/A	ppb
Rhodium	103-1				100		%
Rhodium	103-2				100		%
Scandium	45-2				100		%
Scandium	45-1				100		%
Selenium	82-1	0.07	0.44	-0.52	0.00	N/A	ppb
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	0.17	-0.02	-0.15	0.00	N/A	ppb
Silicon	28-1	0.00	0.07	-0.07	0.00	N/A	ppb
Silver	109-1	0.00	0.00	0.00	0.00	N/A	ppb
Silver	107-1	0.00	0.00	0.00	0.00	N/A	ppb
Sodium	23-2	0.04	-0.44	0.40	0.00	N/A	ppb
Strontium	86-1	0.02	-0.02	0.00	0.00	N/A	ppb
Strontium	88-1	0.00	0.00	0.00	0.00	N/A	ppb
Sulfur	34-1	41.74	64.46	-113.69	-2.50		ppb
Terbium	159-1				100		%
Terbium	159-2				100		%
Thallium	203-1	0.00	0.00	0.00	0.00	N/A	ppb
Thallium	205-1	0.00	0.00	0.00	0.00	N/A	ppb
Tin	118-1	0.01	0.00	-0.01	0.00	N/A	ppb
Titanium	47-1	0.00	0.00	0.00	0.00	N/A	ppb
Uranium	238-1	0.00	0.00	0.00	0.00	N/A	ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	N/A	ppb
Yttrium	89-1				100		%
Yttrium	89-2				100		%
Zinc	66-2	-0.19	0.08	0.11	0.00	N/A	ppb
Zirconium	90-1	0.00	0.00	0.00	0.00	N/A	ppb
Zirconium	91-1	0.00	0.00	0.00	0.00	N/A	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S02	Instrumnet Name :	P7
Client Sample ID :	S02	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:51:12	DataFile Name :	004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	18.59	19.58	21.13	19.77	6.47	ppb
Antimony	121-1	1.99	1.93	1.94	1.95	1.61	ppb
Arsenic	75-2	1.07	0.86	1.17	1.03	15.50	ppb
Barium	135-1	9.88	9.85	10.09	9.94	1.34	ppb
Barium	137-1	9.75	9.92	10.05	9.91	1.49	ppb
Beryllium	9-1	0.99	0.99	1.05	1.01	3.38	ppb
Bismuth	209-1				101		%
Bismuth	209-2				100		%
Boron	10-1	9.87	9.22	11.07	10.06	9.35	ppb
Boron	11-1	9.60	9.22	10.07	9.63	4.39	ppb
Cadmium	106-1	1.31	1.36	0.90	1.19	21.01	ppb
Cadmium	108-1	1.16	0.95	1.05	1.05	9.85	ppb
Cadmium	111-1	1.08	1.00	1.06	1.05	4.22	ppb
Calcium	43-1	485.42	486.97	483.25	485.21	0.38	ppb
Calcium	44-1	480.10	483.94	480.52	481.52	0.44	ppb
Chromium	52-2	2.23	2.13	2.14	2.17	2.60	ppb
Cobalt	59-2	1.03	1.08	1.03	1.05	2.55	ppb
Copper	63-2	2.03	1.97	1.81	1.94	5.72	ppb
Holmium	165-2				99		%
Holmium	165-1				101		%
Indium	115-1				101		%
Indium	115-2				100		%
Iron	56-2	52.32	51.62	49.65	51.19	2.70	ppb
Iron	57-2	53.74	50.83	50.23	51.60	3.63	ppb
Lead	206-1	0.92	0.94	0.90	0.92	2.23	ppb
Lead	207-1	0.96	0.91	0.94	0.94	2.43	ppb
Lead	208-1	0.94	0.92	0.90	0.92	2.06	ppb
Lithium	6-1				101		%
Magnesium	24-2	483.92	477.59	464.07	475.19	2.13	ppb
Manganese	55-2	1.05	1.01	1.06	1.04	2.55	ppb
Molybdenum	94-1	2.11	2.08	2.13	2.11	1.34	ppb
Molybdenum	95-1	4.97	5.02	4.90	4.97	1.24	ppb
Molybdenum	96-1	4.25	4.30	4.11	4.22	2.31	ppb
Molybdenum	97-1	4.97	4.88	4.96	4.94	0.96	ppb
Molybdenum	98-1	4.88	4.77	4.83	4.83	1.10	ppb
Nickel	60-2	1.16	1.02	1.00	1.06	8.47	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S02	Instrumnet Name :	P7
Client Sample ID :	S02	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:51:12	DataFile Name :	004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	20.63	27.27	25.14	24.35	13.94	ppb
Potassium	39-2	493.98	475.32	460.45	476.58	3.53	ppb
Rhodium	103-1				101		%
Rhodium	103-2				100		%
Scandium	45-2				100		%
Scandium	45-1				99		%
Selenium	82-1	6.12	5.57	5.73	5.81	4.87	ppb
Selenium	77-2	4.83	6.49	5.64	5.65	14.62	ppb
Selenium	78-2	5.45	5.40	6.14	5.66	7.29	ppb
Silicon	28-1	11.74	11.05	11.63	11.47	3.23	ppb
Silver	107-1	1.15	1.11	1.14	1.13	2.01	ppb
Silver	109-1	1.12	1.08	1.05	1.08	2.87	ppb
Sodium	23-2	491.90	484.83	471.14	482.62	2.19	ppb
Strontium	86-1	0.94	0.99	1.04	0.99	4.95	ppb
Strontium	88-1	0.98	0.99	1.00	0.99	1.07	ppb
Sulfur	34-1	59.66	10.65	-62.82	2.50	2469.57	ppb
Terbium	159-1				99		%
Terbium	159-2				100		%
Thallium	203-1	0.98	0.98	1.03	1.00	3.24	ppb
Thallium	205-1	1.01	1.01	1.01	1.01	0.40	ppb
Tin	118-1	5.06	5.01	4.94	5.00	1.25	ppb
Titanium	47-1	4.82	4.93	4.87	4.87	1.14	ppb
Uranium	238-1	0.90	0.91	0.91	0.91	0.77	ppb
Vanadium	51-2	5.22	5.30	5.01	5.17	2.92	ppb
Yttrium	89-2				101		%
Yttrium	89-1				101		%
Zinc	66-2	1.93	1.96	1.85	1.91	3.17	ppb
Zirconium	90-1	0.87	0.84	0.86	0.86	1.47	ppb
Zirconium	91-1	0.96	0.86	0.89	0.90	5.88	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S03	Instrumnet Name :	P7
Client Sample ID :	S03	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:54:32	DataFile Name :	005CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1076.22	1062.07	955.02	1031.10	6.43	ppb
Antimony	121-1	51.24	50.95	52.28	51.49	1.35	ppb
Arsenic	75-2	57.75	56.23	53.59	55.86	3.77	ppb
Barium	135-1	256.74	257.71	256.88	257.11	0.20	ppb
Barium	137-1	257.77	259.00	262.33	259.70	0.91	ppb
Beryllium	9-1	52.81	53.20	53.99	53.33	1.13	ppb
Bismuth	209-2				100		%
Bismuth	209-1				100		%
Boron	10-1	51.05	48.73	52.39	50.73	3.65	ppb
Boron	11-1	48.41	50.63	49.49	49.51	2.23	ppb
Cadmium	106-1	51.69	55.07	55.83	54.19	4.06	ppb
Cadmium	108-1	54.49	53.62	54.75	54.28	1.09	ppb
Cadmium	111-1	52.88	53.45	53.49	53.27	0.64	ppb
Calcium	43-1	4951.91	4974.21	4989.17	4971.76	0.38	ppb
Calcium	44-1	4904.12	4992.69	5019.93	4972.25	1.22	ppb
Chromium	52-2	59.41	57.11	53.13	56.55	5.62	ppb
Cobalt	59-2	61.24	59.07	55.86	58.72	4.61	ppb
Copper	63-2	122.87	118.66	111.43	117.65	4.92	ppb
Holmium	165-2				100		%
Holmium	165-1				100		%
Indium	115-1				99		%
Indium	115-2				100		%
Iron	56-2	3008.81	2890.65	2684.44	2861.30	5.74	ppb
Iron	57-2	2955.70	2866.12	2672.04	2831.29	5.12	ppb
Lead	206-1	48.97	48.71	49.11	48.93	0.42	ppb
Lead	207-1	49.72	48.95	49.86	49.51	0.99	ppb
Lead	208-1	49.14	48.99	49.43	49.18	0.46	ppb
Lithium	6-1				102		%
Magnesium	24-2	5187.61	5048.87	4698.07	4978.18	5.07	ppb
Manganese	55-2	120.62	116.75	109.33	115.57	4.96	ppb
Molybdenum	94-1	49.41	49.49	50.13	49.67	0.79	ppb
Molybdenum	95-1	50.13	50.60	51.30	50.68	1.16	ppb
Molybdenum	96-1	49.84	49.87	50.48	50.07	0.72	ppb
Molybdenum	97-1	48.97	48.40	49.53	48.96	1.15	ppb
Molybdenum	98-1	48.28	48.92	49.46	48.89	1.20	ppb
Nickel	60-2	62.19	61.31	56.56	60.02	5.05	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S03	Instrumnet Name :	P7
Client Sample ID :	S03	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:54:32	DataFile Name :	005CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	1060.48	988.28	944.77	997.84	5.86	ppb
Potassium	39-2	2417.33	2368.54	2281.74	2355.87	2.92	ppb
Rhodium	103-1				99		%
Rhodium	103-2				100		%
Scandium	45-1				99		%
Scandium	45-2				100		%
Selenium	82-1	60.59	60.98	61.22	60.93	0.53	ppb
Selenium	77-2	59.43	64.74	55.05	59.74	8.12	ppb
Selenium	78-2	59.84	60.71	55.11	58.56	5.14	ppb
Silicon	28-1	57.06	58.90	60.03	58.66	2.56	ppb
Silver	107-1	53.92	53.83	54.91	54.22	1.11	ppb
Silver	109-1	53.14	53.14	53.89	53.39	0.80	ppb
Sodium	23-2	5214.18	5079.92	4877.84	5057.31	3.35	ppb
Strontium	86-1	49.73	49.29	50.17	49.73	0.88	ppb
Strontium	88-1	50.59	50.73	52.00	51.11	1.52	ppb
Sulfur	34-1	974.98	1317.88	1389.46	1227.44	18.05	ppb
Terbium	159-2				101		%
Terbium	159-1				100		%
Thallium	203-1	49.90	49.33	49.87	49.70	0.65	ppb
Thallium	205-1	50.03	49.44	50.52	50.00	1.09	ppb
Tin	118-1	51.07	50.47	51.70	51.08	1.20	ppb
Titanium	47-1	50.41	52.66	50.82	51.30	2.34	ppb
Uranium	238-1	47.83	48.19	48.42	48.15	0.61	ppb
Vanadium	51-2	58.82	57.84	53.57	56.74	4.91	ppb
Yttrium	89-2				100		%
Yttrium	89-1				100		%
Zinc	66-2	125.91	120.86	114.23	120.33	4.87	ppb
Zirconium	90-1	49.30	49.66	49.78	49.58	0.51	ppb
Zirconium	91-1	49.97	49.76	50.60	50.11	0.87	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S04	Instrumnet Name :	P7
Client Sample ID :	S04	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:58:08	DataFile Name :	006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2391.97	2367.28	2390.99	2383.41	0.59	ppb
Antimony	121-1	127.28	129.96	134.08	130.44	2.63	ppb
Arsenic	75-2	131.13	128.59	130.23	129.98	0.99	ppb
Barium	135-1	641.59	654.82	678.08	658.17	2.81	ppb
Barium	137-1	638.40	652.87	664.42	651.90	2.00	ppb
Beryllium	9-1	132.16	131.34	135.09	132.86	1.48	ppb
Bismuth	209-1				98		%
Bismuth	209-2				99		%
Boron	10-1	123.05	125.68	131.70	126.81	3.50	ppb
Boron	11-1	119.16	124.87	130.75	124.93	4.64	ppb
Cadmium	111-1	130.66	132.61	136.19	133.15	2.11	ppb
Cadmium	106-1	132.89	135.27	141.95	136.70	3.44	ppb
Cadmium	108-1	129.38	135.62	139.83	134.94	3.90	ppb
Calcium	43-1	12491.94	12849.73	12826.36	12722.68	1.57	ppb
Calcium	44-1	12341.74	12748.40	12813.92	12634.69	2.02	ppb
Chromium	52-2	129.78	129.82	130.25	129.95	0.20	ppb
Cobalt	59-2	134.32	133.66	133.48	133.82	0.33	ppb
Copper	63-2	268.36	265.60	268.59	267.52	0.62	ppb
Holmium	165-2				102		%
Holmium	165-1				98		%
Indium	115-1				97		%
Indium	115-2				97		%
Iron	56-2	6476.99	6463.44	6452.32	6464.25	0.19	ppb
Iron	57-2	6482.81	6416.61	6461.04	6453.49	0.52	ppb
Lead	206-1	121.65	125.15	125.56	124.12	1.73	ppb
Lead	207-1	124.19	128.51	128.29	127.00	1.91	ppb
Lead	208-1	123.06	127.27	128.02	126.11	2.12	ppb
Lithium	6-1				101		%
Magnesium	24-2	12071.32	12062.16	12139.51	12091.00	0.35	ppb
Manganese	55-2	262.78	260.47	261.64	261.63	0.44	ppb
Molybdenum	94-1	124.10	126.38	127.77	126.08	1.47	ppb
Molybdenum	95-1	126.43	127.11	130.75	128.10	1.82	ppb
Molybdenum	96-1	125.86	126.55	130.47	127.62	1.95	ppb
Molybdenum	97-1	123.82	125.85	128.78	126.15	1.97	ppb
Molybdenum	98-1	122.61	124.74	127.35	124.90	1.90	ppb
Nickel	60-2	137.27	135.89	135.52	136.23	0.68	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S04	Instrumnet Name :	P7
Client Sample ID :	S04	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:58:08	DataFile Name :	006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	2717.48	2675.63	2682.46	2691.86	0.83	ppb
Potassium	39-2	6201.24	6135.39	6124.85	6153.83	0.67	ppb
Rhodium	103-2				98		%
Rhodium	103-1				96		%
Scandium	45-1				97		%
Scandium	45-2				98		%
Selenium	77-2	124.46	131.15	134.89	130.17	4.06	ppb
Selenium	78-2	134.94	132.99	135.55	134.49	0.99	ppb
Selenium	82-1	133.03	133.99	139.48	135.50	2.57	ppb
Silicon	28-1	143.47	147.38	141.96	144.27	1.94	ppb
Silver	109-1	131.84	135.97	138.57	135.46	2.51	ppb
Silver	107-1	132.87	136.41	138.98	136.09	2.25	ppb
Sodium	23-2	12271.70	12226.92	12277.92	12258.85	0.23	ppb
Strontium	86-1	125.05	127.44	130.01	127.50	1.95	ppb
Strontium	88-1	126.73	128.54	131.32	128.86	1.80	ppb
Sulfur	34-1	2771.15	3038.95	2877.51	2895.87	4.66	ppb
Terbium	159-1				98		%
Terbium	159-2				102		%
Thallium	203-1	123.22	127.59	127.34	126.05	1.95	ppb
Thallium	205-1	124.32	128.97	128.80	127.36	2.07	ppb
Tin	118-1	128.34	129.74	134.14	130.74	2.31	ppb
Titanium	47-1	127.08	130.90	128.41	128.80	1.51	ppb
Uranium	238-1	123.00	123.43	124.11	123.51	0.46	ppb
Vanadium	51-2	129.99	129.92	130.80	130.24	0.38	ppb
Yttrium	89-2				98		%
Yttrium	89-1				98		%
Zinc	66-2	274.70	270.23	274.01	272.98	0.88	ppb
Zirconium	90-1	126.26	129.29	131.45	129.00	2.02	ppb
Zirconium	91-1	124.56	127.01	127.77	126.45	1.32	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S05	Instrumnet Name :	P7
Client Sample ID :	S05	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:01:19	DataFile Name :	007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4667.76	4717.64	4696.33	4693.91	0.53	ppb
Antimony	121-1	255.22	256.23	251.92	254.46	0.89	ppb
Arsenic	75-2	257.34	257.44	258.50	257.76	0.25	ppb
Barium	135-1	1277.76	1266.20	1276.03	1273.33	0.49	ppb
Barium	137-1	1263.12	1269.01	1261.48	1264.54	0.31	ppb
Beryllium	9-1	252.67	256.75	254.01	254.48	0.82	ppb
Bismuth	209-1				100		%
Bismuth	209-2				97		%
Boron	10-1	235.56	243.89	245.50	241.65	2.21	ppb
Boron	11-1	235.46	245.68	250.93	244.02	3.22	ppb
Cadmium	106-1	264.34	260.67	266.63	263.88	1.14	ppb
Cadmium	108-1	260.65	257.44	262.52	260.20	0.99	ppb
Cadmium	111-1	259.20	254.15	256.53	256.63	0.99	ppb
Calcium	44-1	24466.78	24489.21	24763.69	24573.23	0.67	ppb
Calcium	43-1	24507.23	24657.81	24931.86	24698.96	0.87	ppb
Chromium	52-2	257.35	255.90	256.67	256.64	0.28	ppb
Cobalt	59-2	259.78	267.69	264.78	264.08	1.51	ppb
Copper	63-2	536.07	537.52	536.75	536.78	0.14	ppb
Holmium	165-2				99		%
Holmium	165-1				100		%
Indium	115-1				96		%
Indium	115-2				94		%
Iron	56-2	12766.12	12837.23	12829.31	12810.89	0.30	ppb
Iron	57-2	12783.48	12798.21	12721.38	12767.69	0.32	ppb
Lead	206-1	254.54	252.19	253.02	253.25	0.47	ppb
Lead	207-1	250.13	250.85	250.11	250.36	0.17	ppb
Lead	208-1	250.02	250.54	250.78	250.45	0.16	ppb
Lithium	6-1				102		%
Magnesium	24-2	23857.35	23604.25	23745.00	23735.53	0.53	ppb
Manganese	55-2	521.24	518.63	521.81	520.56	0.33	ppb
Molybdenum	94-1	249.73	253.25	253.71	252.23	0.86	ppb
Molybdenum	95-1	251.74	252.70	251.06	251.83	0.33	ppb
Molybdenum	96-1	250.40	250.99	251.63	251.01	0.24	ppb
Molybdenum	97-1	243.88	243.65	246.31	244.61	0.60	ppb
Molybdenum	98-1	250.67	250.93	252.92	251.51	0.49	ppb
Nickel	60-2	268.32	267.75	266.90	267.65	0.27	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S05	Instrumnet Name :	P7
Client Sample ID :	S05	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:01:19	DataFile Name :	007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	5132.91	4983.52	5239.67	5118.70	2.51	ppb
Potassium	39-2	11994.90	12075.45	12065.71	12045.35	0.36	ppb
Rhodium	103-1				95		%
Rhodium	103-2				95		%
Scandium	45-1				96		%
Scandium	45-2				96		%
Selenium	82-1	251.18	250.81	265.94	255.98	3.37	ppb
Selenium	77-2	265.59	267.98	248.35	260.64	4.11	ppb
Selenium	78-2	268.75	260.61	270.58	266.64	1.99	ppb
Silicon	28-1	262.53	265.67	266.66	264.95	0.81	ppb
Silver	107-1	262.50	262.76	260.51	261.92	0.47	ppb
Silver	109-1	264.62	262.14	262.96	263.24	0.48	ppb
Sodium	23-2	24282.76	23899.09	24126.95	24102.93	0.80	ppb
Strontium	86-1	249.17	246.38	252.39	249.31	1.21	ppb
Strontium	88-1	251.06	251.17	252.00	251.41	0.21	ppb
Sulfur	34-1	5308.09	5283.21	5472.98	5354.76	1.93	ppb
Terbium	159-1				99		%
Terbium	159-2				100		%
Thallium	203-1	255.11	254.49	249.82	253.14	1.14	ppb
Thallium	205-1	251.47	249.76	246.94	249.39	0.92	ppb
Tin	118-1	257.31	255.32	258.36	257.00	0.60	ppb
Titanium	47-1	252.33	249.14	255.75	252.40	1.31	ppb
Uranium	238-1	246.07	244.83	244.16	245.02	0.40	ppb
Vanadium	51-2	259.06	258.60	256.60	258.09	0.51	ppb
Yttrium	89-1				98		%
Yttrium	89-2				96		%
Zinc	66-2	538.36	538.20	540.93	539.16	0.28	ppb
Zirconium	90-1	251.22	249.36	252.57	251.05	0.64	ppb
Zirconium	91-1	247.83	246.94	250.56	248.44	0.76	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S06	Instrumnet Name :	P7
Client Sample ID :	S06	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:04:22	DataFile Name :	008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9144.27	9256.02	9257.36	9219.21	0.70	ppb
Antimony	121-1	494.82	511.66	511.83	506.10	1.93	ppb
Arsenic	75-2	502.36	508.00	510.90	507.09	0.86	ppb
Barium	135-1	2442.17	2566.25	2538.80	2515.74	2.59	ppb
Barium	137-1	2448.30	2544.92	2540.07	2511.10	2.17	ppb
Beryllium	9-1	501.59	514.63	515.67	510.63	1.54	ppb
Bismuth	209-1				98		%
Bismuth	209-2				96		%
Boron	10-1	468.27	497.59	520.64	495.50	5.30	ppb
Boron	11-1	474.64	491.79	504.72	490.38	3.08	ppb
Cadmium	108-1	506.09	515.41	511.09	510.86	0.91	ppb
Cadmium	111-1	494.30	511.74	502.94	502.99	1.73	ppb
Cadmium	106-1	502.44	522.66	507.52	510.87	2.06	ppb
Calcium	43-1	49401.91	51506.21	50885.64	50597.92	2.14	ppb
Calcium	44-1	49046.66	50589.80	49793.65	49810.04	1.55	ppb
Chromium	52-2	514.47	513.94	508.80	512.40	0.61	ppb
Cobalt	59-2	517.19	520.89	519.35	519.15	0.36	ppb
Copper	63-2	1029.94	1051.93	1031.08	1037.65	1.19	ppb
Holmium	165-2				100		%
Holmium	165-1				100		%
Indium	115-1				93		%
Indium	115-2				90		%
Iron	56-2	25255.25	25429.62	25232.94	25305.94	0.43	ppb
Iron	57-2	25390.82	25694.55	25786.20	25623.86	0.81	ppb
Lead	206-1	516.05	512.84	500.16	509.68	1.65	ppb
Lead	207-1	504.26	516.67	500.45	507.12	1.67	ppb
Lead	208-1	502.15	513.68	498.51	504.78	1.57	ppb
Lithium	6-1				101		%
Magnesium	24-2	46923.66	46632.81	46086.92	46547.80	0.91	ppb
Manganese	55-2	1044.47	1032.20	1032.10	1036.26	0.69	ppb
Molybdenum	94-1	497.50	519.24	512.16	509.63	2.18	ppb
Molybdenum	95-1	500.15	516.12	518.77	511.68	1.97	ppb
Molybdenum	96-1	498.64	512.94	510.34	507.30	1.50	ppb
Molybdenum	97-1	500.51	516.69	509.78	508.99	1.60	ppb
Molybdenum	98-1	489.78	520.50	505.55	505.27	3.04	ppb
Nickel	60-2	517.61	525.61	516.80	520.01	0.94	ppb

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S06	Instrumnet Name :	P7
Client Sample ID :	S06	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:04:22	DataFile Name :	008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	10232.37	10488.53	10083.46	10268.12	2.00	ppb
Potassium	39-2	23577.99	23804.75	23532.21	23638.32	0.62	ppb
Rhodium	103-2				93		%
Rhodium	103-1				93		%
Scandium	45-1				94		%
Scandium	45-2				96		%
Selenium	77-2	508.16	515.84	529.53	517.84	2.09	ppb
Selenium	78-2	500.86	510.54	530.39	513.93	2.93	ppb
Selenium	82-1	509.94	520.45	517.97	516.12	1.06	ppb
Silicon	28-1	510.43	525.31	516.87	517.53	1.44	ppb
Silver	107-1	500.80	519.60	515.62	512.01	1.93	ppb
Silver	109-1	507.59	522.26	512.01	513.95	1.46	ppb
Sodium	23-2	47398.90	47803.76	47432.53	47545.06	0.47	ppb
Strontium	86-1	504.63	526.48	516.35	515.82	2.12	ppb
Strontium	88-1	499.14	514.60	508.36	507.36	1.53	ppb
Sulfur	34-1	11026.55	11455.86	11242.44	11241.61	1.91	ppb
Terbium	159-1				99		%
Terbium	159-2				100		%
Thallium	203-1	508.08	509.81	504.52	507.47	0.53	ppb
Thallium	205-1	501.26	509.35	502.34	504.32	0.87	ppb
Tin	118-1	496.48	505.97	513.60	505.35	1.70	ppb
Titanium	47-1	496.48	512.31	511.05	506.61	1.74	ppb
Uranium	238-1	494.10	506.23	497.14	499.16	1.26	ppb
Vanadium	51-2	514.62	515.42	511.19	513.75	0.44	ppb
Yttrium	89-2				95		%
Yttrium	89-1				96		%
Zinc	66-2	1032.44	1063.14	1042.49	1046.02	1.50	ppb
Zirconium	90-1	498.04	515.89	508.25	507.39	1.77	ppb
Zirconium	91-1	501.02	522.48	507.73	510.41	2.15	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S07	Instrumnet Name :	P7
Client Sample ID :	S07	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:07:21	DataFile Name :	009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	18216.26	17780.35	18209.86	18068.82	1.38	ppb
Antimony	121-1	995.28	991.11	998.86	995.08	0.39	ppb
Arsenic	75-2	999.42	983.69	997.69	993.60	0.87	ppb
Barium	135-1	5000.32	4948.85	4996.21	4981.80	0.57	ppb
Barium	137-1	5013.77	4939.46	5007.68	4986.97	0.83	ppb
Beryllium	9-1	977.56	1002.09	997.60	992.42	1.32	ppb
Bismuth	209-2				94		%
Bismuth	209-1				97		%
Boron	10-1	980.88	1008.50	1022.84	1004.07	2.12	ppb
Boron	11-1	977.32	1014.32	1027.38	1006.34	2.58	ppb
Cadmium	111-1	995.74	990.94	1000.31	995.66	0.47	ppb
Cadmium	106-1	997.23	978.31	992.72	989.42	1.00	ppb
Cadmium	108-1	994.81	979.23	997.64	990.56	1.00	ppb
Calcium	43-1	98298.66	97035.36	98387.31	97907.11	0.77	ppb
Calcium	44-1	97354.74	96671.41	98350.03	97458.73	0.87	ppb
Chromium	52-2	986.76	977.31	1009.50	991.19	1.67	ppb
Cobalt	59-2	981.58	979.69	994.83	985.37	0.84	ppb
Copper	63-2	1977.27	1946.88	1982.57	1968.91	0.98	ppb
Holmium	165-2				99		%
Holmium	165-1				99		%
Indium	115-1				89		%
Indium	115-2				85		%
Iron	56-2	48809.51	47760.12	49002.54	48524.06	1.38	ppb
Iron	57-2	48969.73	48798.07	49735.03	49167.61	1.01	ppb
Lead	207-1	997.95	986.86	1003.56	996.12	0.85	ppb
Lead	208-1	998.46	993.62	1000.12	997.40	0.34	ppb
Lead	206-1	995.14	995.49	992.89	994.51	0.14	ppb
Lithium	6-1				99		%
Magnesium	24-2	90482.17	90129.14	91248.54	90619.95	0.63	ppb
Manganese	55-2	1978.18	1940.16	2005.16	1974.50	1.65	ppb
Molybdenum	94-1	1001.71	989.40	992.46	994.52	0.64	ppb
Molybdenum	95-1	998.60	989.21	992.03	993.28	0.49	ppb
Molybdenum	96-1	995.46	999.61	992.24	995.77	0.37	ppb
Molybdenum	97-1	1005.30	995.16	989.82	996.76	0.79	ppb
Molybdenum	98-1	997.40	1000.66	993.11	997.05	0.38	ppb
Nickel	60-2	981.66	972.53	996.84	983.68	1.25	ppb

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S07	Instrumnet Name :	P7
Client Sample ID :	S07	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:07:21	DataFile Name :	009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	20014.85	19515.63	19906.69	19812.39	1.33	ppb
Potassium	39-2	45671.36	44972.73	46032.30	45558.80	1.18	ppb
Rhodium	103-2				90		%
Rhodium	103-1				91		%
Scandium	45-1				92		%
Scandium	45-2				97		%
Selenium	77-2	979.71	990.92	991.22	987.28	0.66	ppb
Selenium	78-2	997.44	964.11	1000.22	987.26	2.04	ppb
Selenium	82-1	985.30	994.41	986.03	988.58	0.51	ppb
Silicon	28-1	984.35	981.27	988.29	984.64	0.36	ppb
Silver	107-1	998.19	974.51	995.55	989.42	1.31	ppb
Silver	109-1	993.48	975.93	995.31	988.24	1.08	ppb
Sodium	23-2	92397.17	90937.23	93384.75	92239.71	1.33	ppb
Strontium	86-1	997.33	998.64	979.93	991.96	1.05	ppb
Strontium	88-1	1000.84	995.46	989.98	995.43	0.55	ppb
Sulfur	34-1	19280.55	19078.53	19329.86	19229.65	0.69	ppb
Terbium	159-1				98		%
Terbium	159-2				99		%
Thallium	203-1	998.63	995.67	991.78	995.36	0.35	ppb
Thallium	205-1	989.20	1004.57	999.32	997.70	0.78	ppb
Tin	118-1	992.70	994.18	997.53	994.80	0.25	ppb
Titanium	47-1	993.17	995.16	998.33	995.55	0.26	ppb
Uranium	238-1	1007.92	1000.53	997.39	1001.95	0.54	ppb
Vanadium	51-2	982.67	980.53	1007.13	990.11	1.49	ppb
Yttrium	89-2				94		%
Yttrium	89-1				95		%
Zinc	66-2	1966.59	1942.31	1981.03	1963.31	1.00	ppb
Zirconium	90-1	998.27	1002.23	986.18	995.56	0.84	ppb
Zirconium	91-1	994.08	995.46	995.45	995.00	0.08	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S08	Instrumnet Name :	P7
Client Sample ID :	S08	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:10:21	DataFile Name :	010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	99920.04	101351.52	100175.10	100482.22	0.76	ppb
Antimony	121-1	1.41	1.44	1.47	1.44	1.96	ppb
Arsenic	75-2	0.55	0.43	0.44	0.48	14.40	ppb
Barium	135-1	1.77	1.75	1.67	1.73	3.11	ppb
Barium	137-1	1.76	1.81	1.77	1.78	1.58	ppb
Beryllium	9-1	0.23	0.23	0.15	0.20	23.29	ppb
Bismuth	209-1				84		%
Bismuth	209-2				87		%
Boron	10-1	53.91	51.36	43.41	49.56	11.04	ppb
Boron	11-1	52.80	49.32	44.35	48.82	8.70	ppb
Cadmium	106-1	1.32	0.82	-0.16	0.66	113.38	ppb
Cadmium	108-1	0.48	0.30	0.45	0.41	24.12	ppb
Cadmium	111-1	0.24	0.24	0.14	0.21	29.09	ppb
Calcium	43-1	500932.15	500968.22	499205.34	500368.57	0.20	ppb
Calcium	44-1	500039.76	501396.82	500199.98	500545.52	0.15	ppb
Chromium	52-2	11.99	11.95	11.42	11.79	2.70	ppb
Cobalt	59-2	0.85	0.90	0.89	0.88	2.76	ppb
Copper	63-2	3.20	3.48	3.23	3.30	4.64	ppb
Holmium	165-1				95		%
Holmium	165-2				101		%
Indium	115-2				95		%
Indium	115-1				89		%
Iron	56-2	247758.82	253901.01	249060.41	250240.08	1.29	ppb
Iron	57-2	247250.99	254882.03	248113.90	250082.31	1.67	ppb
Lead	206-1	5.18	5.07	5.21	5.16	1.38	ppb
Lead	207-1	4.96	4.94	4.83	4.91	1.41	ppb
Lead	208-1	5.06	5.06	5.04	5.05	0.18	ppb
Lithium	6-1				89		%
Magnesium	24-2	496967.48	509626.34	500290.94	502294.92	1.31	ppb
Manganese	55-2	6.63	6.61	6.49	6.57	1.17	ppb
Molybdenum	94-1	0.92	0.94	0.93	0.93	1.17	ppb
Molybdenum	95-1	2.54	2.59	2.63	2.59	1.62	ppb
Molybdenum	96-1	2.84	2.92	2.82	2.86	1.87	ppb
Molybdenum	97-1	2.46	2.39	2.35	2.40	2.47	ppb
Molybdenum	98-1	2.47	2.42	2.46	2.45	1.19	ppb
Nickel	60-2	6.87	6.69	6.80	6.79	1.32	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S08	Instrumnet Name :	P7
Client Sample ID :	S08	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:10:21	DataFile Name :	010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-28.87	-22.84	-19.40	-23.70		ppb
Potassium	39-2	249373.37	253525.35	250254.39	251051.03	0.87	ppb
Rhodium	103-2				88		%
Rhodium	103-1				83		%
Scandium	45-1				94		%
Scandium	45-2				103		%
Selenium	77-2	0.00	0.43	0.00	0.14	173.21	ppb
Selenium	78-2	0.44	1.18	0.32	0.65	72.08	ppb
Selenium	82-1	1.59	0.89	1.84	1.44	34.38	ppb
Silicon	28-1	15.99	16.01	16.31	16.10	1.10	ppb
Silver	107-1	0.82	0.91	0.86	0.86	5.50	ppb
Silver	109-1	0.88	0.83	0.83	0.85	3.12	ppb
Sodium	23-2	494728.75	508169.86	502645.02	501847.88	1.35	ppb
Strontium	86-1	33.26	33.25	34.04	33.52	1.35	ppb
Strontium	88-1	33.67	33.65	34.26	33.86	1.02	ppb
Sulfur	34-1	-89.27	-45.99	90.43	-14.94		ppb
Terbium	159-1				94		%
Terbium	159-2				101		%
Thallium	203-1	0.46	0.47	0.45	0.46	2.21	ppb
Thallium	205-1	0.46	0.42	0.46	0.45	5.09	ppb
Tin	118-1	1.02	1.01	1.05	1.03	1.90	ppb
Titanium	47-1	0.95	1.18	2.09	1.41	42.53	ppb
Uranium	238-1	0.09	0.08	0.09	0.09	6.01	ppb
Vanadium	51-2	0.27	0.26	0.28	0.27	3.85	ppb
Yttrium	89-2				101		%
Yttrium	89-1				94		%
Zinc	66-2	19.93	19.91	18.93	19.59	2.92	ppb
Zirconium	90-1	0.16	0.17	0.14	0.16	11.99	ppb
Zirconium	91-1	0.16	0.14	0.17	0.16	8.09	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICV	Instrumnet Name :	P7
Client Sample ID :	ICV	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:15:27	DataFile Name :	011ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	482.32	479.69	475.24	479.08	0.75	ppb
Antimony	121-1	203.94	204.89	204.26	204.36	0.24	ppb
Arsenic	75-2	203.04	201.95	202.87	202.62	0.29	ppb
Barium	135-1	101.02	101.89	99.48	100.80	1.21	ppb
Barium	137-1	100.86	101.40	101.82	101.36	0.47	ppb
Beryllium	9-1	102.55	104.21	105.82	104.19	1.57	ppb
Bismuth	209-2				102		%
Bismuth	209-1				101		%
Boron	10-1	612.22	615.84	634.26	620.77	1.90	ppb
Boron	11-1	620.57	630.88	642.92	631.45	1.77	ppb
Cadmium	106-1	86.44	89.37	85.23	87.02	2.44	ppb
Cadmium	108-1	98.08	98.23	96.62	97.64	0.91	ppb
Cadmium	111-1	103.11	102.73	103.10	102.98	0.21	ppb
Calcium	43-1	1938.22	1893.05	1919.09	1916.79	1.18	ppb
Calcium	44-1	1905.89	1909.73	1964.64	1926.75	1.71	ppb
Chromium	52-2	98.04	98.10	97.97	98.04	0.07	ppb
Cobalt	59-2	102.90	102.97	102.32	102.73	0.35	ppb
Copper	63-2	102.45	101.88	101.80	102.04	0.34	ppb
Holmium	165-2				105		%
Holmium	165-1				102		%
Indium	115-1				101		%
Indium	115-2				100		%
Iron	56-2	1021.44	1015.64	1014.02	1017.03	0.38	ppb
Iron	57-2	998.09	996.41	990.81	995.10	0.38	ppb
Lead	206-1	198.96	201.61	197.85	199.47	0.97	ppb
Lead	207-1	188.18	190.60	187.39	188.72	0.88	ppb
Lead	208-1	194.01	196.38	193.16	194.52	0.86	ppb
Lithium	6-1				100		%
Magnesium	24-2	1153.12	1146.56	1139.97	1146.55	0.57	ppb
Manganese	55-2	101.39	100.62	100.95	100.99	0.38	ppb
Molybdenum	97-1	494.33	491.61	497.85	494.60	0.63	ppb
Molybdenum	98-1	490.80	488.43	490.18	489.80	0.25	ppb
Molybdenum	94-1	153.37	154.56	153.91	153.95	0.39	ppb
Molybdenum	95-1	497.08	490.25	492.52	493.28	0.70	ppb
Molybdenum	96-1	410.86	412.90	413.15	412.30	0.30	ppb
Nickel	60-2	105.40	104.34	104.40	104.71	0.57	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICV	Instrumnet Name :	P7
Client Sample ID :	ICV	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:15:27	DataFile Name :	011ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-20.06	-38.71	-35.93	-31.56		ppb
Potassium	39-2	1924.31	1896.81	1899.45	1906.86	0.80	ppb
Rhodium	103-1				104		%
Rhodium	103-2				103		%
Scandium	45-1				105		%
Scandium	45-2				107		%
Selenium	82-1	200.87	205.42	201.51	202.60	1.22	ppb
Selenium	77-2	220.44	213.09	202.83	212.12	4.17	ppb
Selenium	78-2	208.40	206.56	211.23	208.73	1.13	ppb
Silicon	28-1	479.66	480.43	485.88	481.99	0.70	ppb
Silver	107-1	105.11	104.91	105.20	105.07	0.14	ppb
Silver	109-1	104.27	102.90	103.20	103.46	0.70	ppb
Sodium	23-2	2037.11	2012.53	1981.54	2010.39	1.39	ppb
Strontium	86-1	2.22	2.31	2.28	2.27	2.06	ppb
Strontium	88-1	2.28	2.33	2.29	2.30	1.20	ppb
Sulfur	34-1	-324.38	-325.64	-252.48	-300.83		ppb
Terbium	159-2				105		%
Terbium	159-1				102		%
Thallium	203-1	205.49	201.56	199.44	202.16	1.52	ppb
Thallium	205-1	201.46	200.88	197.65	200.00	1.03	ppb
Tin	118-1	496.43	492.66	494.62	494.57	0.38	ppb
Titanium	47-1	456.71	465.57	469.00	463.76	1.37	ppb
Uranium	238-1	0.01	0.01	0.01	0.01	20.31	ppb
Vanadium	51-2	99.53	100.45	99.28	99.75	0.62	ppb
Yttrium	89-1				104		%
Yttrium	89-2				105		%
Zinc	66-2	206.99	206.65	204.93	206.19	0.54	ppb
Zirconium	90-1	0.29	0.26	0.24	0.26	9.86	ppb
Zirconium	91-1	0.35	0.36	0.29	0.33	12.07	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICB	Instrumnet Name :	P7
Client Sample ID :	ICB	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:34:55	DataFile Name :	012CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	-0.12	0.55	0.17	0.20	165.32	ppb
Antimony	121-1	0.06	0.05	0.06	0.06	11.92	ppb
Arsenic	75-2	0.01	0.02	0.01	0.01	59.74	ppb
Barium	135-1	0.02	0.01	0.00	0.01	95.51	ppb
Barium	137-1	0.00	0.01	0.00	0.00	272.76	ppb
Beryllium	9-1	0.03	0.05	0.04	0.04	16.58	ppb
Bismuth	209-1				100		%
Bismuth	209-2				102		%
Boron	10-1	3.59	2.84	3.11	3.18	11.91	ppb
Boron	11-1	3.36	3.58	3.19	3.38	5.76	ppb
Cadmium	111-1	0.01	0.03	0.00	0.01	102.63	ppb
Cadmium	106-1	0.15	0.36	-0.03	0.16	119.85	ppb
Cadmium	108-1	-0.01	-0.01	0.01	0.00		ppb
Calcium	43-1	-0.40	-2.38	2.62	-0.05		ppb
Calcium	44-1	-0.29	-1.90	-2.12	-1.44		ppb
Chromium	52-2	-0.06	-0.04	-0.02	-0.04		ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	1417.04	ppb
Copper	63-2	-0.61	-0.58	-0.62	-0.60		ppb
Holmium	165-2				103		%
Holmium	165-1				100		%
Indium	115-1				102		%
Indium	115-2				103		%
Iron	56-2	0.24	0.31	0.33	0.29	16.75	ppb
Iron	57-2	0.58	0.22	-0.23	0.19	213.07	ppb
Lead	206-1	0.01	0.01	0.01	0.01	32.01	ppb
Lead	207-1	0.00	0.02	0.01	0.01	81.82	ppb
Lead	208-1	0.01	0.02	0.01	0.01	50.03	ppb
Lithium	6-1				100		%
Magnesium	24-2	1.06	1.21	1.28	1.18	9.26	ppb
Manganese	55-2	-0.01	-0.02	-0.01	-0.01		ppb
Molybdenum	94-1	0.01	0.00	0.01	0.01	27.17	ppb
Molybdenum	95-1	0.01	0.01	0.01	0.01	25.10	ppb
Molybdenum	96-1	0.02	0.01	0.01	0.01	55.48	ppb
Molybdenum	97-1	0.00	0.01	0.01	0.00	61.66	ppb
Molybdenum	98-1	0.01	0.00	0.01	0.01	42.72	ppb
Nickel	60-2	-0.05	-0.06	-0.06	-0.05		ppb

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICB	Instrumnet Name :	P7
Client Sample ID :	ICB	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:34:55	DataFile Name :	012CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-37.29	-39.52	-23.56	-33.45		ppb
Potassium	39-2	0.29	-0.66	1.15	0.26	350.90	ppb
Rhodium	103-1				101		%
Rhodium	103-2				102		%
Scandium	45-2				104		%
Scandium	45-1				101		%
Selenium	82-1	0.44	1.87	0.76	1.02	72.93	ppb
Selenium	77-2	0.00	0.43	0.00	0.14	173.21	ppb
Selenium	78-2	0.94	0.04	0.11	0.36	137.94	ppb
Silicon	28-1	-1.45	-1.06	-2.34	-1.62		ppb
Silver	109-1	0.00	0.00	-0.01	0.00		ppb
Silver	107-1	0.00	0.00	0.00	0.00		ppb
Sodium	23-2	6.82	7.40	7.76	7.33	6.47	ppb
Strontium	86-1	-0.03	-0.02	-0.02	-0.02		ppb
Strontium	88-1	0.00	0.00	0.00	0.00	57.82	ppb
Sulfur	34-1	-96.58	62.60	-96.83	-43.60		ppb
Terbium	159-1				100		%
Terbium	159-2				103		%
Thallium	203-1	0.01	0.01	0.01	0.01	8.45	ppb
Thallium	205-1	0.02	0.02	0.01	0.02	3.00	ppb
Tin	118-1	0.01	0.02	0.01	0.01	32.09	ppb
Titanium	47-1	-0.01	-0.03	-0.03	-0.02		ppb
Uranium	238-1	0.00	0.00	0.00	0.00	82.33	ppb
Vanadium	51-2	0.00	0.00	0.00	0.00		ppb
Yttrium	89-2				103		%
Yttrium	89-1				102		%
Zinc	66-2	-0.18	-0.14	-0.11	-0.14		ppb
Zirconium	91-1	0.00	0.01	-0.01	0.00		ppb
Zirconium	90-1	0.00	0.01	0.00	0.00	5756.31	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICSA	Instrumnet Name :	P7
Client Sample ID :	ICSA	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:37:59	DataFile Name :	013ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	92013.95	91845.06	92418.24	92092.42	0.32	ppb
Antimony	121-1	1.29	1.29	1.32	1.30	1.35	ppb
Arsenic	75-2	0.35	0.34	0.34	0.34	1.50	ppb
Barium	135-1	1.73	1.60	1.73	1.69	4.33	ppb
Barium	137-1	1.69	1.61	1.70	1.67	3.10	ppb
Beryllium	9-1	0.33	0.24	0.30	0.29	17.22	ppb
Bismuth	209-1				95		%
Bismuth	209-2				94		%
Boron	10-1	3.79	3.77	4.27	3.94	7.14	ppb
Boron	11-1	3.90	3.59	3.54	3.68	5.29	ppb
Cadmium	111-1	0.46	0.43	0.53	0.47	10.67	ppb
Cadmium	106-1	0.45	-0.14	0.25	0.19	163.00	ppb
Cadmium	108-1	13.57	12.19	12.06	12.61	6.65	ppb
Calcium	43-1	97861.06	94076.80	96652.73	96196.86	2.01	ppb
Calcium	44-1	96673.66	94717.80	96597.92	95996.46	1.15	ppb
Chromium	52-2	20.49	20.33	20.05	20.29	1.08	ppb
Cobalt	59-2	1.24	1.20	1.24	1.23	2.10	ppb
Copper	63-2	7.63	7.53	7.41	7.53	1.46	ppb
Holmium	165-2				102		%
Holmium	165-1				100		%
Indium	115-1				96		%
Indium	115-2				97		%
Iron	56-2	101079.00	101136.51	101691.03	101302.18	0.33	ppb
Iron	57-2	101549.09	100897.20	101817.26	101421.18	0.47	ppb
Lead	206-1	4.56	4.52	4.62	4.56	1.07	ppb
Lead	207-1	3.98	4.03	3.94	3.98	1.15	ppb
Lead	208-1	4.13	4.19	4.18	4.17	0.78	ppb
Lithium	6-1				97		%
Magnesium	24-2	93604.73	93925.94	93936.40	93822.36	0.20	ppb
Manganese	55-2	8.44	8.18	8.31	8.31	1.57	ppb
Molybdenum	94-1	597.50	591.90	603.69	597.70	0.99	ppb
Molybdenum	95-1	1947.30	1910.32	1945.28	1934.30	1.07	ppb
Molybdenum	96-1	1613.65	1596.42	1614.26	1608.11	0.63	ppb
Molybdenum	97-1	1931.20	1904.56	1930.64	1922.13	0.79	ppb
Molybdenum	98-1	1944.28	1910.28	1936.24	1930.27	0.92	ppb
Nickel	60-2	5.62	5.43	5.67	5.57	2.20	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICSA	Instrumnet Name :	P7
Client Sample ID :	ICSA	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:37:59	DataFile Name :	013ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	103267.30	101918.02	103067.52	102750.95	0.71	ppb
Potassium	39-2	95402.36	95790.76	95652.58	95615.23	0.21	ppb
Rhodium	103-2				93		%
Rhodium	103-1				93		%
Scandium	45-1				98		%
Scandium	45-2				99		%
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	-0.05	-0.05	0.08	0.00		ppb
Selenium	82-1	0.63	0.73	-0.40	0.32	196.53	ppb
Silicon	28-1	24.11	22.19	24.82	23.71	5.73	ppb
Silver	109-1	0.07	0.10	0.09	0.09	15.45	ppb
Silver	107-1	0.07	0.07	0.08	0.08	5.67	ppb
Sodium	23-2	95898.90	95507.83	96904.96	96103.90	0.75	ppb
Strontium	86-1	33.57	33.66	33.59	33.61	0.14	ppb
Strontium	88-1	33.88	33.73	34.18	33.93	0.67	ppb
Sulfur	34-1	92157.39	89521.14	90043.76	90574.10	1.54	ppb
Terbium	159-1				99		%
Terbium	159-2				103		%
Thallium	203-1	0.08	0.07	0.09	0.08	12.37	ppb
Thallium	205-1	0.07	0.10	0.09	0.09	15.93	ppb
Tin	118-1	0.18	0.20	0.17	0.18	7.55	ppb
Titanium	47-1	1966.21	1932.45	1944.26	1947.64	0.88	ppb
Uranium	238-1	0.02	0.02	0.02	0.02	2.95	ppb
Vanadium	51-2	0.15	0.16	0.17	0.16	6.22	ppb
Yttrium	89-2				99		%
Yttrium	89-1				98		%
Zinc	66-2	12.66	11.97	11.94	12.19	3.31	ppb
Zirconium	90-1	0.04	0.04	0.03	0.04	4.92	ppb
Zirconium	91-1	0.04	0.02	0.02	0.03	37.49	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICSAB	Instrumnet Name :	P7
Client Sample ID :	ICSAB	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:41:01	DataFile Name :	014ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	90696.28	90410.99	90891.47	90666.24	0.27	ppb
Antimony	121-1	20.56	20.59	20.73	20.63	0.45	ppb
Arsenic	75-2	20.28	19.73	19.10	19.70	2.98	ppb
Barium	135-1	21.76	21.58	21.77	21.70	0.49	ppb
Barium	137-1	21.73	21.61	21.42	21.59	0.73	ppb
Beryllium	9-1	21.21	21.05	21.34	21.20	0.69	ppb
Bismuth	209-2				97		%
Bismuth	209-1				97		%
Boron	10-1	3.66	3.72	3.07	3.48	10.37	ppb
Boron	11-1	3.63	3.74	3.40	3.59	4.90	ppb
Cadmium	108-1	29.36	31.79	29.57	30.24	4.45	ppb
Cadmium	111-1	19.01	19.85	18.94	19.27	2.63	ppb
Cadmium	106-1	15.21	15.39	15.68	15.43	1.55	ppb
Calcium	43-1	94150.17	95698.00	95940.20	95262.79	1.02	ppb
Calcium	44-1	93689.93	95526.55	95788.28	95001.59	1.20	ppb
Chromium	52-2	41.89	41.84	41.81	41.85	0.09	ppb
Cobalt	59-2	21.24	21.52	21.24	21.33	0.75	ppb
Copper	63-2	26.98	26.91	27.55	27.15	1.30	ppb
Holmium	165-1				102		%
Holmium	165-2				106		%
Indium	115-2				101		%
Indium	115-1				102		%
Iron	56-2	98741.12	98806.43	100043.76	99197.10	0.74	ppb
Iron	57-2	100140.79	99726.66	99869.29	99912.25	0.21	ppb
Lead	206-1	24.13	23.98	23.81	23.97	0.65	ppb
Lead	207-1	22.61	22.52	22.57	22.57	0.21	ppb
Lead	208-1	23.13	22.93	23.07	23.04	0.44	ppb
Lithium	6-1				98		%
Magnesium	24-2	92279.50	92431.07	93612.21	92774.26	0.79	ppb
Manganese	55-2	28.26	28.39	28.44	28.36	0.33	ppb
Molybdenum	94-1	580.46	584.36	582.97	582.60	0.34	ppb
Molybdenum	95-1	1898.66	1882.44	1908.78	1896.63	0.70	ppb
Molybdenum	96-1	1587.76	1564.96	1592.15	1581.62	0.92	ppb
Molybdenum	97-1	1887.30	1868.00	1887.56	1880.95	0.60	ppb
Molybdenum	98-1	1854.78	1868.21	1885.81	1869.60	0.83	ppb
Nickel	60-2	26.80	27.11	27.09	27.00	0.64	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICSAB	Instrumnet Name :	P7
Client Sample ID :	ICSAB	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:41:01	DataFile Name :	014ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	100924.98	101694.25	99642.84	100754.02	1.03	ppb
Potassium	39-2	94787.88	94155.43	94287.35	94410.22	0.35	ppb
Rhodium	103-2				97		%
Rhodium	103-1				97		%
Scandium	45-1				102		%
Scandium	45-2				103		%
Selenium	82-1	18.77	17.49	20.88	19.05	8.98	ppb
Selenium	77-2	20.05	21.91	19.44	20.47	6.27	ppb
Selenium	78-2	18.52	19.63	19.77	19.31	3.54	ppb
Silicon	28-1	24.41	25.62	25.66	25.23	2.81	ppb
Silver	107-1	18.73	18.83	19.07	18.88	0.93	ppb
Silver	109-1	18.54	18.79	18.69	18.67	0.67	ppb
Sodium	23-2	94149.38	94986.86	95044.26	94726.83	0.53	ppb
Strontium	86-1	32.27	32.74	33.32	32.78	1.61	ppb
Strontium	88-1	32.93	33.31	33.28	33.17	0.64	ppb
Sulfur	34-1	89731.79	90229.78	90702.99	90221.52	0.54	ppb
Terbium	159-1				102		%
Terbium	159-2				105		%
Thallium	203-1	19.79	19.64	19.78	19.74	0.42	ppb
Thallium	205-1	19.87	19.82	20.00	19.90	0.48	ppb
Tin	118-1	0.16	0.17	0.15	0.16	6.20	ppb
Titanium	47-1	1875.81	1922.10	1940.71	1912.87	1.75	ppb
Uranium	238-1	0.03	0.03	0.03	0.03	3.64	ppb
Vanadium	51-2	19.88	19.71	20.03	19.88	0.81	ppb
Yttrium	89-1				103		%
Yttrium	89-2				103		%
Zinc	66-2	31.08	31.87	32.85	31.94	2.78	ppb
Zirconium	90-1	0.03	0.03	0.04	0.04	11.17	ppb
Zirconium	91-1	0.03	0.06	0.04	0.04	33.65	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCV081	Instrumnet Name :	P7
Client Sample ID :	CCV081	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:44:03	DataFile Name :	015CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	9333.34	8968.85	9202.32	9168.17	2.01	ppb
Antimony	121-1	518.92	511.63	509.27	513.27	0.98	ppb
Arsenic	75-2	510.57	506.98	517.83	511.79	1.08	ppb
Barium	135-1	2559.29	2550.54	2529.72	2546.52	0.60	ppb
Barium	137-1	2571.12	2561.94	2535.79	2556.28	0.72	ppb
Beryllium	9-1	528.95	528.75	522.88	526.86	0.65	ppb
Bismuth	209-1				100		%
Bismuth	209-2				97		%
Boron	10-1	476.85	496.67	510.41	494.64	3.41	ppb
Boron	11-1	481.95	499.85	513.69	498.50	3.19	ppb
Cadmium	111-1	508.25	503.69	500.61	504.18	0.76	ppb
Cadmium	106-1	514.21	509.17	509.59	510.99	0.55	ppb
Cadmium	108-1	517.68	510.70	513.20	513.86	0.69	ppb
Calcium	43-1	50513.63	49216.26	49884.67	49871.52	1.30	ppb
Calcium	44-1	49334.54	48793.65	48883.82	49004.01	0.59	ppb
Chromium	52-2	525.30	509.46	510.27	515.01	1.73	ppb
Cobalt	59-2	523.44	500.46	517.30	513.73	2.32	ppb
Copper	63-2	1050.03	1010.76	1022.99	1027.93	1.96	ppb
Holmium	165-1				103		%
Holmium	165-2				103		%
Indium	115-2				95		%
Indium	115-1				98		%
Iron	56-2	25667.74	24529.01	25000.66	25065.80	2.28	ppb
Iron	57-2	26009.77	25276.50	25446.99	25577.75	1.50	ppb
Lead	206-1	508.92	503.66	498.89	503.82	1.00	ppb
Lead	207-1	504.99	499.32	496.94	500.42	0.83	ppb
Lead	208-1	502.27	502.09	495.35	499.90	0.79	ppb
Lithium	6-1				99		%
Magnesium	24-2	48162.32	46096.42	47605.54	47288.09	2.26	ppb
Manganese	55-2	1049.36	1002.86	1034.84	1029.02	2.31	ppb
Molybdenum	94-1	509.58	502.48	496.68	502.91	1.28	ppb
Molybdenum	95-1	513.98	508.93	503.91	508.94	0.99	ppb
Molybdenum	96-1	505.81	502.45	496.56	501.61	0.93	ppb
Molybdenum	97-1	509.78	504.81	495.99	503.53	1.39	ppb
Molybdenum	98-1	510.00	499.57	493.02	500.86	1.71	ppb
Nickel	60-2	522.12	497.93	511.08	510.38	2.37	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCV081	Instrumnet Name :	P7
Client Sample ID :	CCV081	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:44:03	DataFile Name :	015CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	10273.19	9968.08	10205.97	10149.08	1.58	ppb
Potassium	39-2	24520.70	23524.41	24159.45	24068.19	2.10	ppb
Rhodium	103-2				97		%
Rhodium	103-1				99		%
Scandium	45-1				103		%
Scandium	45-2				104		%
Selenium	77-2	526.21	518.69	540.96	528.62	2.14	ppb
Selenium	78-2	531.56	516.30	534.98	527.61	1.88	ppb
Selenium	82-1	507.30	501.34	503.31	503.98	0.60	ppb
Silicon	28-1	524.00	505.87	506.96	512.28	1.98	ppb
Silver	109-1	524.37	516.13	517.86	519.45	0.84	ppb
Silver	107-1	527.92	516.66	519.91	521.50	1.11	ppb
Sodium	23-2	48868.19	46943.70	48393.32	48068.40	2.09	ppb
Strontium	86-1	515.17	511.25	511.97	512.80	0.41	ppb
Strontium	88-1	512.46	509.69	501.04	507.73	1.17	ppb
Sulfur	34-1	10519.47	10150.39	10050.76	10240.21	2.41	ppb
Terbium	159-1				102		%
Terbium	159-2				103		%
Thallium	203-1	516.43	505.57	501.95	507.99	1.48	ppb
Thallium	205-1	506.94	504.31	494.88	502.04	1.26	ppb
Tin	118-1	521.25	511.56	515.98	516.26	0.94	ppb
Titanium	47-1	492.69	490.07	491.79	491.52	0.27	ppb
Uranium	238-1	491.30	490.72	482.70	488.24	0.98	ppb
Vanadium	51-2	521.16	506.73	510.49	512.79	1.46	ppb
Yttrium	89-2				101		%
Yttrium	89-1				103		%
Zinc	66-2	1030.13	996.50	1019.75	1015.46	1.70	ppb
Zirconium	90-1	504.27	498.92	498.32	500.50	0.65	ppb
Zirconium	91-1	514.47	507.39	512.06	511.31	0.70	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCB081	Instrumnet Name :	P7
Client Sample ID :	CCB081	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:46:52	DataFile Name :	016CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1.02	2.22	1.72	1.65	36.42	ppb
Antimony	121-1	0.32	0.33	0.31	0.32	3.43	ppb
Arsenic	75-2	0.05	0.09	0.04	0.06	48.13	ppb
Barium	135-1	0.07	0.08	0.08	0.08	3.49	ppb
Barium	137-1	0.12	0.08	0.07	0.09	29.22	ppb
Beryllium	9-1	0.05	0.06	0.09	0.07	30.00	ppb
Bismuth	209-1				102		%
Bismuth	209-2				99		%
Boron	10-1	23.59	20.54	18.62	20.92	11.99	ppb
Boron	11-1	22.00	19.86	18.43	20.10	8.93	ppb
Cadmium	106-1	0.05	0.04	-0.23	-0.05		ppb
Cadmium	108-1	0.06	0.04	0.06	0.05	24.86	ppb
Cadmium	111-1	0.04	0.02	0.01	0.02	78.92	ppb
Calcium	43-1	2.97	2.38	4.15	3.17	28.36	ppb
Calcium	44-1	2.16	2.52	3.23	2.64	20.60	ppb
Chromium	52-2	0.02	0.02	-0.01	0.01	121.83	ppb
Cobalt	59-2	0.01	0.02	0.02	0.02	23.78	ppb
Copper	63-2	-0.46	-0.45	-0.43	-0.45		ppb
Holmium	165-1				102		%
Holmium	165-2				100		%
Indium	115-2				99		%
Indium	115-1				102		%
Iron	56-2	3.06	2.99	2.90	2.98	2.77	ppb
Iron	57-2	3.11	3.48	4.87	3.82	24.30	ppb
Lead	206-1	0.04	0.05	0.05	0.05	18.95	ppb
Lead	207-1	0.04	0.05	0.04	0.05	4.86	ppb
Lead	208-1	0.04	0.05	0.05	0.05	13.13	ppb
Lithium	6-1				99		%
Magnesium	24-2	4.05	3.32	4.02	3.80	10.95	ppb
Manganese	55-2	0.01	0.05	0.04	0.03	52.99	ppb
Molybdenum	94-1	0.04	0.06	0.06	0.05	20.21	ppb
Molybdenum	95-1	0.12	0.12	0.11	0.12	4.49	ppb
Molybdenum	96-1	0.10	0.09	0.10	0.10	3.27	ppb
Molybdenum	97-1	0.11	0.14	0.10	0.12	16.44	ppb
Molybdenum	98-1	0.12	0.10	0.13	0.12	11.03	ppb
Nickel	60-2	-0.02	-0.04	-0.02	-0.03		ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCB081	Instrumnet Name :	P7
Client Sample ID :	CCB081	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:46:52	DataFile Name :	016CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-22.10	-26.69	-27.95	-25.58		ppb
Potassium	39-2	9.90	9.44	7.93	9.09	11.33	ppb
Rhodium	103-2				99		%
Rhodium	103-1				102		%
Scandium	45-1				101		%
Scandium	45-2				99		%
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	0.23	0.59	0.60	0.47	44.99	ppb
Selenium	82-1	0.49	0.35	-0.11	0.25	126.96	ppb
Silicon	28-1	-1.77	-1.88	-1.70	-1.78		ppb
Silver	107-1	0.03	0.02	0.03	0.03	11.63	ppb
Silver	109-1	0.04	0.02	0.03	0.03	33.04	ppb
Sodium	23-2	21.26	21.50	22.43	21.73	2.83	ppb
Strontium	86-1	-0.03	-0.03	-0.02	-0.03		ppb
Strontium	88-1	0.02	0.02	0.02	0.02	11.10	ppb
Sulfur	34-1	-787.92	-768.81	-748.31	-768.35		ppb
Terbium	159-1				101		%
Terbium	159-2				101		%
Thallium	203-1	0.07	0.08	0.06	0.07	16.23	ppb
Thallium	205-1	0.06	0.06	0.06	0.06	2.85	ppb
Tin	118-1	0.07	0.05	0.08	0.07	22.42	ppb
Titanium	47-1	0.01	0.05	0.03	0.03	66.47	ppb
Uranium	238-1	0.02	0.02	0.02	0.02	5.69	ppb
Vanadium	51-2	0.02	0.03	0.02	0.02	12.95	ppb
Yttrium	89-2				99		%
Yttrium	89-1				102		%
Zinc	66-2	-0.15	-0.15	-0.03	-0.11		ppb
Zirconium	90-1	0.03	0.04	0.03	0.03	7.46	ppb
Zirconium	91-1	0.05	0.03	0.04	0.04	17.19	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90341BL	Instrumnet Name :	P7
Client Sample ID :	PBS008	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:51:28	DataFile Name :	017CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.45	0.67	1.19	0.77	49.63	ppb
Antimony	121-1	0.08	0.08	0.10	0.09	15.60	ppb
Arsenic	75-2	0.02	0.02	0.01	0.01	50.45	ppb
Barium	135-1	0.04	0.01	0.01	0.02	87.48	ppb
Barium	137-1	0.02	0.02	0.01	0.02	10.25	ppb
Beryllium	9-1	0.05	0.05	0.06	0.05	14.72	ppb
Bismuth	209-1				100		%
Bismuth	209-2				99		%
Boron	10-1	6.10	5.29	5.12	5.50	9.52	ppb
Boron	11-1	5.64	5.85	5.60	5.70	2.42	ppb
Cadmium	111-1	0.01	0.01	0.02	0.02	43.15	ppb
Cadmium	106-1	0.05	0.15	0.26	0.16	66.66	ppb
Cadmium	108-1	0.04	0.01	0.01	0.02	59.86	ppb
Calcium	43-1	3.62	2.51	-0.28	1.95	103.03	ppb
Calcium	44-1	-0.40	-0.49	-0.54	-0.48		ppb
Chromium	52-2	0.21	0.19	0.17	0.19	12.77	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00		ppb
Copper	63-2	-0.59	-0.54	-0.55	-0.56		ppb
Holmium	165-2				100		%
Holmium	165-1				100		%
Indium	115-1				100		%
Indium	115-2				98		%
Iron	56-2	1.05	1.05	0.99	1.03	3.01	ppb
Iron	57-2	1.41	0.96	1.38	1.25	20.36	ppb
Lead	206-1	0.02	0.03	0.02	0.02	30.54	ppb
Lead	207-1	0.04	0.04	0.04	0.04	3.92	ppb
Lead	208-1	0.03	0.03	0.03	0.03	9.80	ppb
Lithium	6-1				99		%
Magnesium	24-2	1.01	1.86	1.20	1.36	32.82	ppb
Manganese	55-2	0.00	-0.01	0.00	0.00		ppb
Molybdenum	94-1	0.03	0.01	0.02	0.02	50.65	ppb
Molybdenum	95-1	0.04	0.03	0.04	0.04	13.29	ppb
Molybdenum	96-1	0.03	0.04	0.04	0.03	18.28	ppb
Molybdenum	97-1	0.03	0.05	0.05	0.05	25.21	ppb
Molybdenum	98-1	0.05	0.05	0.03	0.04	19.54	ppb
Nickel	60-2	-0.06	-0.04	-0.03	-0.05		ppb

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90341BL	Instrumnet Name :	P7
Client Sample ID :	PBS008	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:51:28	DataFile Name :	017CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-32.38	-26.05	-32.64	-30.36		ppb
Potassium	39-2	3.97	5.27	2.86	4.03	29.95	ppb
Rhodium	103-2				98		%
Rhodium	103-1				99		%
Scandium	45-1				99		%
Scandium	45-2				97		%
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	0.19	-0.23	0.28	0.08	347.87	ppb
Selenium	82-1	0.21	0.16	0.77	0.38	88.32	ppb
Silicon	28-1	-2.35	-2.07	-2.17	-2.19		ppb
Silver	109-1	0.00	0.00	0.01	0.01	43.07	ppb
Silver	107-1	0.01	0.00	0.01	0.01	69.56	ppb
Sodium	23-2	14.37	14.23	15.84	14.81	6.02	ppb
Strontium	86-1	0.00	0.00	0.02	0.01	224.57	ppb
Strontium	88-1	0.00	0.00	0.00	0.00	31.64	ppb
Sulfur	34-1	-660.49	-618.02	-725.44	-667.98		ppb
Terbium	159-1				99		%
Terbium	159-2				99		%
Thallium	203-1	0.03	0.03	0.02	0.03	9.09	ppb
Thallium	205-1	0.02	0.02	0.02	0.02	8.04	ppb
Tin	118-1	0.04	0.05	0.05	0.05	7.60	ppb
Titanium	47-1	-0.01	-0.01	-0.01	-0.01		ppb
Uranium	238-1	0.00	0.00	0.00	0.00	52.87	ppb
Vanadium	51-2	0.00	0.01	0.00	0.00	74.61	ppb
Yttrium	89-2				98		%
Yttrium	89-1				99		%
Zinc	66-2	-0.24	-0.28	-0.28	-0.27		ppb
Zirconium	90-1	0.01	0.02	0.01	0.01	15.09	ppb
Zirconium	91-1	0.01	0.01	0.00	0.01	84.70	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90341BS	Instrumnet Name :	P7
Client Sample ID :	LCS008	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:54:31	DataFile Name :	018LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	40.45	36.27	37.11	37.94	5.83	ppb
Antimony	121-1	3.80	3.76	3.90	3.82	1.97	ppb
Arsenic	75-2	2.15	1.95	2.16	2.09	5.70	ppb
Barium	135-1	19.50	19.14	19.01	19.21	1.31	ppb
Barium	137-1	19.80	18.99	19.48	19.42	2.09	ppb
Beryllium	9-1	2.07	2.13	1.94	2.05	4.79	ppb
Bismuth	209-1				101		%
Bismuth	209-2				100		%
Boron	10-1	21.48	22.72	22.68	22.29	3.17	ppb
Boron	11-1	20.73	22.57	21.44	21.58	4.32	ppb
Cadmium	106-1	2.43	2.49	1.29	2.07	32.87	ppb
Cadmium	108-1	1.84	1.91	2.13	1.96	7.88	ppb
Cadmium	111-1	2.05	2.02	1.94	2.00	2.99	ppb
Calcium	43-1	930.87	934.29	940.55	935.24	0.53	ppb
Calcium	44-1	944.00	935.03	933.87	937.63	0.59	ppb
Chromium	52-2	4.29	4.28	4.33	4.30	0.62	ppb
Cobalt	59-2	1.98	2.01	1.99	1.99	0.80	ppb
Copper	63-2	3.60	3.44	3.54	3.52	2.29	ppb
Holmium	165-1				101		%
Holmium	165-2				101		%
Indium	115-2				99		%
Indium	115-1				100		%
Iron	56-2	421.16	421.80	428.68	423.88	0.98	ppb
Iron	57-2	425.50	415.12	416.14	418.92	1.37	ppb
Lead	206-1	1.85	1.87	1.83	1.85	0.96	ppb
Lead	207-1	1.83	1.79	1.84	1.82	1.63	ppb
Lead	208-1	1.83	1.82	1.84	1.83	0.76	ppb
Lithium	6-1				100		%
Magnesium	24-2	919.42	924.10	921.61	921.71	0.25	ppb
Manganese	55-2	2.05	2.03	2.01	2.03	1.20	ppb
Molybdenum	94-1	4.25	4.18	4.24	4.22	0.94	ppb
Molybdenum	95-1	9.57	9.69	9.78	9.68	1.11	ppb
Molybdenum	96-1	8.56	8.26	8.43	8.42	1.79	ppb
Molybdenum	97-1	9.90	9.50	9.45	9.62	2.60	ppb
Molybdenum	98-1	9.58	9.47	9.55	9.54	0.58	ppb
Nickel	60-2	2.14	2.02	2.15	2.10	3.37	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90341BS	Instrumnet Name :	P7
Client Sample ID :	LCS008	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:54:31	DataFile Name :	018LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	66.14	80.57	60.89	69.20	14.73	ppb
Potassium	39-2	919.88	924.77	931.66	925.44	0.64	ppb
Rhodium	103-2				99		%
Rhodium	103-1				100		%
Scandium	45-1				99		%
Scandium	45-2				99		%
Selenium	77-2	10.53	11.53	13.69	11.92	13.56	ppb
Selenium	78-2	8.59	10.08	10.82	9.83	11.55	ppb
Selenium	82-1	11.65	11.25	8.78	10.56	14.69	ppb
Silicon	28-1	18.60	18.58	18.88	18.69	0.90	ppb
Silver	109-1	2.41	2.31	2.29	2.34	2.76	ppb
Silver	107-1	2.40	2.42	2.49	2.44	1.94	ppb
Sodium	23-2	934.86	935.00	949.11	939.65	0.87	ppb
Strontium	86-1	1.90	1.87	1.94	1.90	1.71	ppb
Strontium	88-1	1.98	1.97	1.93	1.96	1.17	ppb
Sulfur	34-1	-697.57	-565.16	-677.27	-646.67		ppb
Terbium	159-1				100		%
Terbium	159-2				102		%
Thallium	203-1	1.94	1.95	1.93	1.94	0.60	ppb
Thallium	205-1	1.93	2.00	1.95	1.96	1.84	ppb
Tin	118-1	9.73	9.67	9.81	9.74	0.68	ppb
Titanium	47-1	9.59	9.34	9.22	9.38	2.00	ppb
Uranium	238-1	1.71	1.75	1.75	1.74	1.19	ppb
Vanadium	51-2	9.85	9.90	10.01	9.92	0.80	ppb
Yttrium	89-2				99		%
Yttrium	89-1				99		%
Zinc	66-2	3.96	3.84	4.06	3.95	2.81	ppb
Zirconium	90-1	1.81	1.77	1.81	1.80	1.32	ppb
Zirconium	91-1	1.70	1.72	1.64	1.69	2.32	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90375BL	Instrumnet Name :	P7
Client Sample ID :	PBW007	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:57:35	DataFile Name :	019CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.28	0.37	0.36	0.33	14.77	ppb
Antimony	121-1	0.03	0.04	0.03	0.03	20.87	ppb
Arsenic	75-2	0.00	0.02	0.00	0.01	129.23	ppb
Barium	135-1	-0.01	0.00	0.00	0.00		ppb
Barium	137-1	0.00	0.01	0.01	0.01	83.25	ppb
Beryllium	9-1	0.04	0.02	0.04	0.03	31.99	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Boron	10-1	3.39	3.71	3.70	3.60	4.96	ppb
Boron	11-1	3.52	3.45	3.30	3.42	3.40	ppb
Cadmium	111-1	0.01	-0.03	-0.02	-0.01		ppb
Cadmium	106-1	-0.05	-0.41	-0.25	-0.24		ppb
Cadmium	108-1	0.01	0.04	0.04	0.03	44.93	ppb
Calcium	43-1	-2.75	2.15	2.09	0.49	568.24	ppb
Calcium	44-1	-0.15	-0.92	-1.91	-0.99		ppb
Chromium	52-2	0.17	0.19	0.17	0.18	7.18	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00		ppb
Copper	63-2	-0.61	-0.61	-0.60	-0.60		ppb
Holmium	165-1				100		%
Holmium	165-2				101		%
Indium	115-2				99		%
Indium	115-1				101		%
Iron	56-2	0.59	0.60	0.51	0.57	8.01	ppb
Iron	57-2	0.47	0.88	0.48	0.61	38.17	ppb
Lead	206-1	0.03	0.01	0.02	0.02	48.52	ppb
Lead	207-1	0.02	0.03	0.03	0.02	14.55	ppb
Lead	208-1	0.02	0.02	0.02	0.02	14.38	ppb
Lithium	6-1				99		%
Magnesium	24-2	1.21	1.35	1.58	1.38	13.53	ppb
Manganese	55-2	-0.01	-0.01	0.00	-0.01		ppb
Molybdenum	94-1	0.02	0.02	0.02	0.02	12.35	ppb
Molybdenum	95-1	0.01	0.02	0.02	0.02	23.38	ppb
Molybdenum	96-1	0.01	0.02	0.02	0.02	23.52	ppb
Molybdenum	97-1	0.01	0.01	0.01	0.01	36.44	ppb
Molybdenum	98-1	0.02	0.01	0.02	0.02	13.23	ppb
Nickel	60-2	-0.03	-0.04	-0.04	-0.04		ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90375BL	Instrumnet Name :	P7
Client Sample ID :	PBW007	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:57:35	DataFile Name :	019CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-39.09	-38.74	-35.88	-37.90		ppb
Potassium	39-2	-2.15	-1.99	-2.79	-2.31		ppb
Rhodium	103-1				99		%
Rhodium	103-2				98		%
Scandium	45-1				98		%
Scandium	45-2				98		%
Selenium	82-1	0.40	0.07	1.48	0.65	113.30	ppb
Selenium	77-2	0.00	0.00	0.00	0.00	N/A	ppb
Selenium	78-2	0.17	0.32	0.39	0.29	39.00	ppb
Silicon	28-1	-2.03	-1.75	-2.25	-2.01		ppb
Silver	109-1	0.00	0.00	0.00	0.00		ppb
Silver	107-1	-0.01	0.00	-0.01	0.00		ppb
Sodium	23-2	10.18	12.26	10.25	10.90	10.82	ppb
Strontium	86-1	-0.01	0.01	-0.05	-0.01		ppb
Strontium	88-1	0.00	0.00	0.00	0.00	89.71	ppb
Sulfur	34-1	-676.63	-546.81	-610.97	-611.47		ppb
Terbium	159-1				99		%
Terbium	159-2				101		%
Thallium	203-1	0.02	0.02	0.01	0.01	19.75	ppb
Thallium	205-1	0.01	0.02	0.02	0.02	7.26	ppb
Tin	118-1	0.03	0.04	0.02	0.03	17.76	ppb
Titanium	47-1	-0.03	-0.01	-0.01	-0.02		ppb
Uranium	238-1	0.00	0.00	0.00	0.00		ppb
Vanadium	51-2	0.00	0.00	0.00	0.00	477.64	ppb
Yttrium	89-1				99		%
Yttrium	89-2				99		%
Zinc	66-2	-0.29	-0.22	-0.32	-0.28		ppb
Zirconium	90-1	0.01	0.01	0.02	0.01	50.35	ppb
Zirconium	91-1	0.01	0.01	0.00	0.01	59.66	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90375BS	Instrumnet Name :	P7
Client Sample ID :	LCS007	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:00:39	DataFile Name :	020LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	38.22	35.59	37.91	37.24	3.87	ppb
Antimony	121-1	3.81	3.86	3.90	3.86	1.13	ppb
Arsenic	75-2	1.84	1.95	1.78	1.86	4.66	ppb
Barium	135-1	19.55	19.27	19.27	19.36	0.83	ppb
Barium	137-1	19.81	19.88	19.45	19.71	1.17	ppb
Beryllium	9-1	2.02	2.03	2.01	2.02	0.48	ppb
Bismuth	209-1				100		%
Bismuth	209-2				100		%
Boron	10-1	19.34	19.41	21.14	19.96	5.12	ppb
Boron	11-1	18.45	20.26	20.78	19.83	6.15	ppb
Cadmium	106-1	1.89	2.27	1.56	1.91	18.50	ppb
Cadmium	108-1	2.23	2.35	2.12	2.23	5.17	ppb
Cadmium	111-1	2.00	1.95	1.99	1.98	1.09	ppb
Calcium	43-1	927.46	934.50	939.01	933.66	0.62	ppb
Calcium	44-1	949.23	933.90	940.87	941.33	0.82	ppb
Chromium	52-2	4.30	4.26	4.11	4.22	2.39	ppb
Cobalt	59-2	1.97	2.03	2.01	2.01	1.62	ppb
Copper	63-2	3.42	3.45	3.35	3.41	1.48	ppb
Holmium	165-1				100		%
Holmium	165-2				102		%
Indium	115-2				100		%
Indium	115-1				100		%
Iron	56-2	423.67	423.76	422.85	423.43	0.12	ppb
Iron	57-2	414.16	430.76	424.25	423.06	1.98	ppb
Lead	206-1	1.88	1.82	1.85	1.85	1.77	ppb
Lead	207-1	1.86	1.84	1.86	1.85	0.68	ppb
Lead	208-1	1.85	1.85	1.85	1.85	0.14	ppb
Lithium	6-1				98		%
Magnesium	24-2	906.11	915.06	904.28	908.49	0.64	ppb
Manganese	55-2	1.84	2.09	2.08	2.00	7.28	ppb
Molybdenum	97-1	9.75	9.53	9.51	9.60	1.40	ppb
Molybdenum	98-1	9.33	9.35	9.66	9.45	1.96	ppb
Molybdenum	94-1	4.20	4.19	4.19	4.19	0.10	ppb
Molybdenum	95-1	9.56	9.74	10.10	9.80	2.80	ppb
Molybdenum	96-1	8.67	8.37	8.46	8.50	1.80	ppb
Nickel	60-2	2.13	2.15	2.10	2.13	1.27	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90375BS	Instrumnet Name :	P7
Client Sample ID :	LCS007	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:00:39	DataFile Name :	020LCSE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	74.97	70.45	63.25	69.55	8.50	ppb
Potassium	39-2	917.78	915.54	914.04	915.79	0.21	ppb
Rhodium	103-1				99		%
Rhodium	103-2				100		%
Scandium	45-2				99		%
Scandium	45-1				98		%
Selenium	82-1	10.11	11.16	10.68	10.65	4.93	ppb
Selenium	77-2	7.88	11.44	13.21	10.85	25.02	ppb
Selenium	78-2	11.07	10.78	11.94	11.26	5.35	ppb
Silicon	28-1	19.34	17.94	19.03	18.77	3.92	ppb
Silver	107-1	2.42	2.41	2.37	2.40	1.09	ppb
Silver	109-1	2.31	2.33	2.31	2.32	0.57	ppb
Sodium	23-2	928.68	929.06	916.04	924.59	0.80	ppb
Strontium	86-1	1.91	1.85	1.98	1.91	3.60	ppb
Strontium	88-1	1.97	1.92	1.96	1.95	1.32	ppb
Sulfur	34-1	-804.69	-882.28	-778.99	-821.99		ppb
Terbium	159-1				100		%
Terbium	159-2				102		%
Thallium	203-1	2.00	1.91	1.92	1.94	2.37	ppb
Thallium	205-1	1.98	1.92	1.95	1.95	1.45	ppb
Tin	118-1	9.80	9.89	9.74	9.81	0.78	ppb
Titanium	47-1	9.35	9.22	9.56	9.38	1.82	ppb
Uranium	238-1	1.75	1.71	1.75	1.74	1.40	ppb
Vanadium	51-2	9.89	9.95	9.82	9.89	0.67	ppb
Yttrium	89-2				100		%
Yttrium	89-1				99		%
Zinc	66-2	3.78	3.80	3.60	3.73	2.88	ppb
Zirconium	90-1	1.83	1.76	1.76	1.78	2.24	ppb
Zirconium	91-1	1.76	1.75	1.79	1.77	1.14	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-01	Instrumnet Name :	P7
Client Sample ID :	MH4002	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:03:42	DataFile Name :	021SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4.97	3.65	3.50	4.04	20.07	ppb
Antimony	121-1	0.70	0.69	0.65	0.68	4.17	ppb
Arsenic	75-2	0.59	0.58	0.59	0.59	0.95	ppb
Barium	135-1	68.89	69.60	68.91	69.13	0.58	ppb
Barium	137-1	68.50	69.13	69.34	68.99	0.64	ppb
Beryllium	9-1	0.03	0.02	0.02	0.02	24.19	ppb
Bismuth	209-1				107		%
Bismuth	209-2				104		%
Boron	10-1	68.38	70.93	74.23	71.18	4.13	ppb
Boron	11-1	68.28	70.51	73.71	70.84	3.86	ppb
Cadmium	108-1	0.01	0.03	0.01	0.02	71.40	ppb
Cadmium	111-1	0.03	0.04	0.03	0.03	27.22	ppb
Cadmium	106-1	-0.36	0.01	-0.13	-0.16		ppb
Calcium	43-1	132353.37	132496.52	132956.24	132602.05	0.24	ppb
Calcium	44-1	131404.07	132350.41	132559.64	132104.71	0.47	ppb
Chromium	52-2	1.06	1.08	1.12	1.09	2.75	ppb
Cobalt	59-2	0.04	0.02	0.03	0.03	17.22	ppb
Copper	63-2	7.41	7.36	7.40	7.39	0.35	ppb
Holmium	165-2				112		%
Holmium	165-1				114		%
Indium	115-1				112		%
Indium	115-2				108		%
Iron	56-2	405.88	396.15	402.94	401.65	1.24	ppb
Iron	57-2	411.93	413.98	404.17	410.03	1.26	ppb
Lead	206-1	0.72	0.73	0.72	0.72	0.65	ppb
Lead	207-1	0.67	0.67	0.66	0.67	1.25	ppb
Lead	208-1	0.69	0.70	0.70	0.70	1.38	ppb
Lithium	6-1				112		%
Magnesium	24-2	46316.77	45995.73	46871.97	46394.82	0.96	ppb
Manganese	55-2	9.27	9.39	9.57	9.41	1.61	ppb
Molybdenum	94-1	0.15	0.16	0.17	0.16	7.74	ppb
Molybdenum	95-1	0.39	0.36	0.42	0.39	8.31	ppb
Molybdenum	96-1	0.31	0.33	0.36	0.34	7.70	ppb
Molybdenum	97-1	0.43	0.41	0.41	0.42	2.82	ppb
Molybdenum	98-1	0.40	0.39	0.38	0.39	2.45	ppb
Nickel	60-2	0.27	0.25	0.23	0.25	8.19	ppb

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-01	Instrumnet Name :	P7
Client Sample ID :	MH4002	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:03:42	DataFile Name :	021SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-26.73	-29.42	-16.26	-24.14		ppb
Potassium	39-2	2288.93	2306.54	2326.48	2307.31	0.81	ppb
Rhodium	103-1				107		%
Rhodium	103-2				106		%
Scandium	45-2				110		%
Scandium	45-1				115		%
Selenium	82-1	1.16	0.93	1.69	1.26	30.92	ppb
Selenium	77-2	0.40	0.40	0.40	0.40	1.02	ppb
Selenium	78-2	0.50	1.16	0.02	0.56	102.12	ppb
Silicon	28-1	7775.67	7819.64	7915.00	7836.77	0.91	ppb
Silver	107-1	0.16	0.21	0.24	0.20	19.38	ppb
Silver	109-1	0.17	0.19	0.19	0.18	5.47	ppb
Sodium	23-2	121932.91	121097.57	122867.72	121966.07	0.73	ppb
Strontium	86-1	1049.08	1062.36	1073.42	1061.62	1.15	ppb
Strontium	88-1	1046.27	1056.49	1071.33	1058.03	1.19	ppb
Sulfur	34-1	27295.45	27735.38	27796.35	27609.06	0.99	ppb
Terbium	159-1				113		%
Terbium	159-2				111		%
Thallium	203-1	0.12	0.15	0.17	0.15	17.01	ppb
Thallium	205-1	0.12	0.15	0.18	0.15	20.35	ppb
Tin	118-1	0.17	0.17	0.17	0.17	1.61	ppb
Titanium	47-1	0.35	0.37	0.34	0.35	4.60	ppb
Uranium	238-1	1.22	1.24	1.30	1.25	3.04	ppb
Vanadium	51-2	1.64	1.55	1.57	1.59	2.79	ppb
Yttrium	89-1				113		%
Yttrium	89-2				110		%
Zinc	66-2	144.54	146.38	145.69	145.54	0.64	ppb
Zirconium	90-1	0.05	0.03	0.03	0.04	19.20	ppb
Zirconium	91-1	0.05	0.04	0.03	0.04	27.15	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-02	Instrumnet Name :	P7
Client Sample ID :	MH4002D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:06:43	DataFile Name :	022SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	3.53	3.40	4.01	3.65	8.87	ppb
Antimony	121-1	0.42	0.43	0.41	0.42	2.33	ppb
Arsenic	75-2	0.63	0.69	0.60	0.64	7.04	ppb
Barium	137-1	70.59	70.49	71.07	70.72	0.44	ppb
Barium	135-1	70.92	69.18	70.03	70.04	1.24	ppb
Beryllium	9-1	0.01	0.03	0.02	0.02	64.43	ppb
Bismuth	209-1				107		%
Bismuth	209-2				103		%
Boron	10-1	72.73	74.94	73.61	73.76	1.51	ppb
Boron	11-1	70.03	72.05	74.78	72.28	3.30	ppb
Cadmium	111-1	0.04	0.04	0.01	0.03	45.54	ppb
Cadmium	106-1	-0.03	0.08	-0.34	-0.10		ppb
Cadmium	108-1	0.01	0.07	0.15	0.07	92.23	ppb
Calcium	43-1	134133.90	134592.02	136223.62	134983.18	0.81	ppb
Calcium	44-1	133793.82	134727.98	134387.09	134302.96	0.35	ppb
Chromium	52-2	1.16	1.15	1.08	1.13	3.79	ppb
Cobalt	59-2	0.03	0.03	0.02	0.03	11.55	ppb
Copper	63-2	7.61	7.70	7.73	7.68	0.79	ppb
Holmium	165-1				113		%
Holmium	165-2				110		%
Indium	115-2				107		%
Indium	115-1				111		%
Iron	56-2	409.00	406.75	407.16	407.64	0.29	ppb
Iron	57-2	417.90	417.52	421.96	419.13	0.59	ppb
Lead	206-1	0.72	0.65	0.68	0.69	4.63	ppb
Lead	207-1	0.61	0.67	0.63	0.63	4.86	ppb
Lead	208-1	0.67	0.66	0.66	0.67	0.62	ppb
Lithium	6-1				112		%
Magnesium	24-2	46960.31	46785.90	46655.05	46800.42	0.33	ppb
Manganese	55-2	9.29	9.53	9.54	9.45	1.48	ppb
Molybdenum	94-1	0.15	0.17	0.15	0.16	5.78	ppb
Molybdenum	95-1	0.37	0.42	0.39	0.39	5.63	ppb
Molybdenum	96-1	0.33	0.36	0.34	0.34	4.89	ppb
Molybdenum	97-1	0.38	0.40	0.40	0.40	3.46	ppb
Molybdenum	98-1	0.39	0.41	0.38	0.39	4.08	ppb
Nickel	60-2	0.25	0.23	0.23	0.24	5.28	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-02	Instrumnet Name :	P7
Client Sample ID :	MH4002D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:06:43	DataFile Name :	022SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-40.31	-24.51	-21.68	-28.83		ppb
Potassium	39-2	2310.79	2308.49	2294.37	2304.55	0.39	ppb
Rhodium	103-2				104		%
Rhodium	103-1				106		%
Scandium	45-1				112		%
Scandium	45-2				108		%
Selenium	77-2	0.00	1.22	0.00	0.41	173.21	ppb
Selenium	78-2	0.69	1.49	0.50	0.89	58.91	ppb
Selenium	82-1	0.85	1.51	1.40	1.25	28.42	ppb
Silicon	28-1	7864.15	7938.94	7987.70	7930.26	0.78	ppb
Silver	109-1	0.19	0.22	0.23	0.21	8.56	ppb
Silver	107-1	0.18	0.23	0.24	0.21	14.31	ppb
Sodium	23-2	123757.07	123191.02	123407.34	123451.81	0.23	ppb
Strontium	86-1	1064.07	1077.99	1076.68	1072.91	0.72	ppb
Strontium	88-1	1052.28	1074.72	1060.34	1062.45	1.07	ppb
Sulfur	34-1	27820.13	28495.24	27926.48	28080.62	1.29	ppb
Terbium	159-2				110		%
Terbium	159-1				112		%
Thallium	203-1	0.05	0.06	0.06	0.06	9.18	ppb
Thallium	205-1	0.05	0.07	0.07	0.06	22.98	ppb
Tin	118-1	0.11	0.12	0.18	0.14	28.18	ppb
Titanium	47-1	0.35	0.38	0.36	0.36	5.33	ppb
Uranium	238-1	1.30	1.29	1.29	1.29	0.65	ppb
Vanadium	51-2	1.64	1.60	1.64	1.63	1.40	ppb
Yttrium	89-2				108		%
Yttrium	89-1				112		%
Zinc	66-2	147.07	147.70	146.84	147.20	0.30	ppb
Zirconium	90-1	0.03	0.03	0.03	0.03	14.32	ppb
Zirconium	91-1	0.03	0.03	0.02	0.03	26.87	ppb

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-01LX5	Instrumnet Name :	P7
Client Sample ID :	MH4002L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:09:45	DataFile Name :	023SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	0.92	0.70	0.83	0.82	14.08	ppb
Antimony	121-1	0.04	0.05	0.05	0.05	8.15	ppb
Arsenic	75-2	0.09	0.11	0.12	0.11	12.72	ppb
Barium	135-1	13.89	13.75	14.08	13.91	1.17	ppb
Barium	137-1	13.77	13.89	13.94	13.87	0.63	ppb
Beryllium	9-1	0.03	0.03	0.02	0.03	9.37	ppb
Bismuth	209-1				102		%
Bismuth	209-2				102		%
Boron	10-1	19.30	19.31	18.78	19.13	1.57	ppb
Boron	11-1	20.03	19.48	19.06	19.52	2.49	ppb
Cadmium	111-1	0.03	0.02	0.01	0.02	37.65	ppb
Cadmium	106-1	0.18	0.17	0.12	0.16	22.87	ppb
Cadmium	108-1	-0.03	-0.03	-0.01	-0.02		ppb
Calcium	43-1	26245.15	26145.20	26315.45	26235.27	0.33	ppb
Calcium	44-1	26242.98	26211.99	26246.55	26233.84	0.07	ppb
Chromium	52-2	0.38	0.37	0.37	0.37	2.59	ppb
Cobalt	59-2	0.00	0.00	0.00	0.00	577.62	ppb
Copper	63-2	1.35	1.31	1.21	1.29	5.63	ppb
Holmium	165-2				105		%
Holmium	165-1				104		%
Indium	115-1				104		%
Indium	115-2				102		%
Iron	56-2	81.21	81.52	80.08	80.94	0.94	ppb
Iron	57-2	80.64	81.57	84.36	82.19	2.36	ppb
Lead	206-1	0.07	0.07	0.08	0.07	7.12	ppb
Lead	207-1	0.06	0.08	0.06	0.06	21.52	ppb
Lead	208-1	0.07	0.08	0.07	0.07	8.35	ppb
Lithium	6-1				101		%
Magnesium	24-2	9270.17	9217.58	9220.90	9236.22	0.32	ppb
Manganese	55-2	1.90	1.82	1.87	1.86	2.06	ppb
Molybdenum	94-1	0.03	0.02	0.03	0.03	16.56	ppb
Molybdenum	95-1	0.08	0.08	0.09	0.09	8.21	ppb
Molybdenum	96-1	0.10	0.07	0.07	0.08	15.78	ppb
Molybdenum	97-1	0.09	0.07	0.10	0.08	15.19	ppb
Molybdenum	98-1	0.09	0.09	0.09	0.09	1.24	ppb
Nickel	60-2	0.00	0.02	-0.01	0.00	274.34	ppb

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-01LX5	Instrumnet Name :	P7
Client Sample ID :	MH4002L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:09:45	DataFile Name :	023SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-27.18	-47.09	-27.63	-33.96		ppb
Potassium	39-2	449.71	451.44	442.28	447.81	1.09	ppb
Rhodium	103-2				101		%
Rhodium	103-1				101		%
Scandium	45-1				103		%
Scandium	45-2				102		%
Selenium	77-2	0.00	0.86	0.42	0.43	100.52	ppb
Selenium	78-2	0.14	0.10	-0.49	-0.08		ppb
Selenium	82-1	0.80	0.88	0.53	0.74	24.83	ppb
Silicon	28-1	1537.93	1536.02	1543.31	1539.09	0.25	ppb
Silver	109-1	0.03	0.04	0.04	0.04	9.37	ppb
Silver	107-1	0.03	0.05	0.03	0.04	18.56	ppb
Sodium	23-2	24074.04	23995.76	23819.69	23963.16	0.54	ppb
Strontium	86-1	202.74	202.60	204.71	203.35	0.58	ppb
Strontium	88-1	207.59	207.98	208.64	208.07	0.25	ppb
Sulfur	34-1	6309.78	6369.60	6433.14	6370.84	0.97	ppb
Terbium	159-1				103		%
Terbium	159-2				105		%
Thallium	203-1	0.01	0.01	0.01	0.01	21.10	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	20.94	ppb
Tin	118-1	0.05	0.04	0.03	0.04	34.29	ppb
Titanium	47-1	0.06	0.03	0.03	0.04	45.45	ppb
Uranium	238-1	0.24	0.24	0.25	0.24	1.99	ppb
Vanadium	51-2	0.31	0.36	0.33	0.33	7.57	ppb
Yttrium	89-2				103		%
Yttrium	89-1				104		%
Zinc	66-2	29.59	30.03	29.14	29.59	1.50	ppb
Zirconium	90-1	0.01	0.02	0.01	0.01	32.92	ppb
Zirconium	91-1	0.01	0.00	0.01	0.01	97.10	ppb

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-03	Instrumnet Name :	P7
Client Sample ID :	MH4002S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:12:48	DataFile Name :	024SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2017.64	1981.08	1992.90	1997.21	0.93	ppb
Antimony	121-1	110.89	109.75	113.51	111.38	1.73	ppb
Arsenic	75-2	45.38	45.68	45.97	45.68	0.64	ppb
Barium	135-1	2285.04	2281.51	2345.62	2304.05	1.56	ppb
Barium	137-1	2279.65	2282.91	2347.81	2303.45	1.67	ppb
Beryllium	9-1	56.32	54.86	55.11	55.43	1.40	ppb
Bismuth	209-2				103		%
Bismuth	209-1				107		%
Boron	10-1	65.05	69.37	70.20	68.21	4.06	ppb
Boron	11-1	66.65	68.42	68.95	68.01	1.77	ppb
Cadmium	111-1	54.35	53.40	55.31	54.35	1.76	ppb
Cadmium	106-1	47.39	47.76	44.33	46.49	4.05	ppb
Cadmium	108-1	50.19	49.71	50.41	50.10	0.72	ppb
Calcium	43-1	134813.39	134977.19	136131.88	135307.49	0.53	ppb
Calcium	44-1	134061.81	133543.67	135091.86	134232.45	0.59	ppb
Chromium	52-2	223.78	223.72	224.40	223.97	0.17	ppb
Cobalt	59-2	581.49	577.08	576.38	578.32	0.48	ppb
Copper	63-2	291.14	288.72	293.27	291.04	0.78	ppb
Holmium	165-2				110		%
Holmium	165-1				112		%
Indium	115-1				110		%
Indium	115-2				105		%
Iron	56-2	1536.84	1541.73	1538.45	1539.01	0.16	ppb
Iron	57-2	1541.89	1530.56	1549.84	1540.76	0.63	ppb
Lead	206-1	22.74	21.94	22.44	22.37	1.82	ppb
Lead	207-1	22.79	22.25	22.99	22.68	1.69	ppb
Lead	208-1	22.71	22.16	22.67	22.51	1.35	ppb
Lithium	6-1				114		%
Magnesium	24-2	46509.42	46492.99	46318.87	46440.43	0.23	ppb
Manganese	55-2	573.89	570.60	572.11	572.20	0.29	ppb
Molybdenum	94-1	0.26	0.24	0.24	0.25	3.10	ppb
Molybdenum	95-1	0.73	0.75	0.72	0.73	2.34	ppb
Molybdenum	96-1	0.59	0.66	0.65	0.63	5.89	ppb
Molybdenum	97-1	0.70	0.70	0.74	0.71	3.11	ppb
Molybdenum	98-1	0.70	0.69	0.72	0.70	2.30	ppb
Nickel	60-2	570.81	565.67	571.74	569.40	0.57	ppb

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LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-03	Instrumnet Name :	P7
Client Sample ID :	MH4002S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:12:48	DataFile Name :	024SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-40.03	-29.86	-32.55	-34.15		ppb
Potassium	39-2	2292.46	2286.17	2275.72	2284.78	0.37	ppb
Rhodium	103-1				105		%
Rhodium	103-2				103		%
Scandium	45-1				111		%
Scandium	45-2				105		%
Selenium	82-1	116.79	115.04	119.03	116.95	1.71	ppb
Selenium	77-2	116.78	119.73	127.77	121.43	4.68	ppb
Selenium	78-2	113.62	118.78	120.27	117.56	2.97	ppb
Silicon	28-1	7889.53	7829.39	7848.30	7855.74	0.39	ppb
Silver	109-1	54.01	54.41	54.98	54.47	0.89	ppb
Silver	107-1	55.11	55.07	56.19	55.46	1.15	ppb
Sodium	23-2	123657.35	122567.81	122806.68	123010.61	0.47	ppb
Strontium	86-1	1067.33	1058.54	1099.72	1075.20	2.02	ppb
Strontium	88-1	1060.60	1051.30	1098.44	1070.11	2.33	ppb
Sulfur	34-1	27872.91	27691.48	27902.85	27822.41	0.41	ppb
Terbium	159-2				110		%
Terbium	159-1				111		%
Thallium	203-1	54.89	54.27	55.27	54.81	0.92	ppb
Thallium	205-1	56.03	54.69	56.44	55.72	1.64	ppb
Tin	118-1	0.16	0.20	0.18	0.18	11.50	ppb
Titanium	47-1	0.37	0.40	0.50	0.42	16.53	ppb
Uranium	238-1	1.29	1.29	1.33	1.30	1.85	ppb
Vanadium	51-2	575.20	578.57	582.43	578.73	0.62	ppb
Yttrium	89-1				111		%
Yttrium	89-2				107		%
Zinc	66-2	716.42	716.46	723.56	718.81	0.57	ppb
Zirconium	90-1	0.03	0.03	0.03	0.03	11.58	ppb
Zirconium	91-1	0.07	0.05	0.05	0.06	20.08	ppb

Reviewed By:jaswal
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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-10	Instrumnet Name :	P7
Client Sample ID :	MH4113	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:15:47	DataFile Name :	025SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	31.71	36.91	31.04	33.22	9.68	ppb
Antimony	121-1	0.63	0.59	0.53	0.58	8.77	ppb
Arsenic	75-2	1.77	1.74	1.79	1.77	1.42	ppb
Barium	135-1	72.74	72.33	71.58	72.21	0.82	ppb
Barium	137-1	73.48	73.77	72.70	73.32	0.76	ppb
Beryllium	9-1	0.03	0.03	0.04	0.03	12.78	ppb
Bismuth	209-1				107		%
Bismuth	209-2				101		%
Boron	10-1	99.80	107.45	108.33	105.19	4.46	ppb
Boron	11-1	98.78	105.39	105.87	103.35	3.83	ppb
Cadmium	111-1	0.06	0.10	0.08	0.08	24.11	ppb
Cadmium	106-1	-0.41	-0.20	-0.04	-0.21		ppb
Cadmium	108-1	0.07	0.01	0.15	0.08	91.29	ppb
Calcium	43-1	150821.53	149440.09	148944.22	149735.28	0.65	ppb
Calcium	44-1	149805.10	147863.30	147683.71	148450.70	0.79	ppb
Chromium	52-2	0.63	0.65	0.64	0.64	1.01	ppb
Cobalt	59-2	0.12	0.10	0.08	0.10	18.28	ppb
Copper	63-2	1.55	1.64	1.63	1.61	2.74	ppb
Holmium	165-2				109		%
Holmium	165-1				112		%
Indium	115-1				108		%
Indium	115-2				102		%
Iron	56-2	55.24	54.13	59.15	56.17	4.69	ppb
Iron	57-2	70.38	70.44	70.97	70.60	0.46	ppb
Lead	206-1	0.33	0.32	0.32	0.32	2.16	ppb
Lead	207-1	0.29	0.32	0.33	0.31	7.16	ppb
Lead	208-1	0.30	0.32	0.31	0.31	3.13	ppb
Lithium	6-1				116		%
Magnesium	24-2	61594.30	60780.78	60333.20	60902.76	1.05	ppb
Manganese	55-2	11.73	11.43	11.45	11.53	1.47	ppb
Molybdenum	94-1	0.15	0.17	0.18	0.17	8.24	ppb
Molybdenum	95-1	0.37	0.34	0.39	0.37	6.15	ppb
Molybdenum	96-1	0.32	0.34	0.31	0.32	4.37	ppb
Molybdenum	97-1	0.31	0.40	0.37	0.36	12.70	ppb
Molybdenum	98-1	0.37	0.34	0.37	0.36	4.29	ppb
Nickel	60-2	0.69	0.67	0.69	0.68	1.31	ppb

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-10	Instrumnet Name :	P7
Client Sample ID :	MH4113	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:15:47	DataFile Name :	025SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-9.19	-30.44	-19.90	-19.84		ppb
Potassium	39-2	2651.11	2629.64	2600.98	2627.25	0.96	ppb
Rhodium	103-2				100		%
Rhodium	103-1				105		%
Scandium	45-1				108		%
Scandium	45-2				102		%
Selenium	77-2	1.28	2.97	2.12	2.12	39.90	ppb
Selenium	78-2	2.01	1.24	1.24	1.50	29.81	ppb
Selenium	82-1	2.12	2.24	1.03	1.80	37.15	ppb
Silicon	28-1	8129.63	8092.18	8009.79	8077.20	0.76	ppb
Silver	109-1	0.13	0.12	0.16	0.14	12.33	ppb
Silver	107-1	0.12	0.14	0.16	0.14	14.31	ppb
Sodium	23-2	68259.69	67797.85	67010.93	67689.49	0.93	ppb
Strontium	86-1	1113.08	1112.78	1117.98	1114.61	0.26	ppb
Strontium	88-1	1101.56	1099.73	1096.68	1099.32	0.22	ppb
Sulfur	34-1	31547.46	31154.52	30980.13	31227.37	0.93	ppb
Terbium	159-1				111		%
Terbium	159-2				108		%
Thallium	203-1	0.02	0.02	0.03	0.03	33.06	ppb
Thallium	205-1	0.02	0.02	0.02	0.02	12.75	ppb
Tin	118-1	0.11	0.13	0.14	0.13	12.06	ppb
Titanium	47-1	1.32	1.25	1.30	1.29	2.74	ppb
Uranium	238-1	2.10	2.12	2.12	2.11	0.45	ppb
Vanadium	51-2	5.04	5.16	5.02	5.07	1.44	ppb
Yttrium	89-2				103		%
Yttrium	89-1				110		%
Zinc	66-2	8.67	9.14	8.68	8.83	3.02	ppb
Zirconium	90-1	0.06	0.07	0.06	0.06	5.10	ppb
Zirconium	91-1	0.04	0.05	0.07	0.05	28.58	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-16	Instrumnet Name :	P7
Client Sample ID :	MH4113D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:18:47	DataFile Name :	026SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	34.90	33.60	36.97	35.16	4.84	ppb
Antimony	121-1	0.59	0.60	0.61	0.60	1.24	ppb
Arsenic	75-2	1.75	1.74	1.70	1.73	1.57	ppb
Barium	135-1	72.05	72.24	72.37	72.22	0.23	ppb
Barium	137-1	72.08	72.75	73.36	72.73	0.88	ppb
Beryllium	9-1	0.01	0.03	0.01	0.02	55.33	ppb
Bismuth	209-1				109		%
Bismuth	209-2				103		%
Boron	10-1	103.92	106.06	108.33	106.11	2.08	ppb
Boron	11-1	101.93	105.34	106.85	104.71	2.41	ppb
Cadmium	111-1	0.09	0.07	0.14	0.10	35.91	ppb
Cadmium	106-1	-0.04	-0.35	0.77	0.13	456.03	ppb
Cadmium	108-1	0.03	0.11	0.07	0.07	57.61	ppb
Calcium	44-1	148489.03	149969.56	148915.24	149124.61	0.51	ppb
Calcium	43-1	149899.53	148691.43	148684.45	149091.80	0.47	ppb
Chromium	52-2	0.57	0.59	0.55	0.57	3.44	ppb
Cobalt	59-2	0.08	0.08	0.08	0.08	2.95	ppb
Copper	63-2	1.53	1.54	1.48	1.52	2.32	ppb
Holmium	165-2				110		%
Holmium	165-1				113		%
Indium	115-1				109		%
Indium	115-2				103		%
Iron	56-2	55.73	57.18	54.23	55.71	2.65	ppb
Iron	57-2	68.64	71.47	73.61	71.24	3.50	ppb
Lead	206-1	0.29	0.30	0.26	0.28	6.26	ppb
Lead	207-1	0.25	0.28	0.27	0.27	6.96	ppb
Lead	208-1	0.27	0.29	0.26	0.28	4.47	ppb
Lithium	6-1				117		%
Magnesium	24-2	61205.44	61605.34	61124.71	61311.83	0.42	ppb
Manganese	55-2	11.79	11.65	11.56	11.67	0.98	ppb
Molybdenum	94-1	0.14	0.16	0.14	0.15	7.24	ppb
Molybdenum	95-1	0.34	0.35	0.41	0.37	10.02	ppb
Molybdenum	96-1	0.31	0.32	0.36	0.33	7.10	ppb
Molybdenum	97-1	0.33	0.34	0.34	0.34	1.68	ppb
Molybdenum	98-1	0.39	0.33	0.37	0.36	8.89	ppb
Nickel	60-2	0.67	0.66	0.61	0.65	4.50	ppb

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-16	Instrumnet Name :	P7
Client Sample ID :	MH4113D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:18:47	DataFile Name :	026SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-9.11	-9.95	-30.31	-16.46		ppb
Potassium	39-2	2635.78	2642.12	2598.06	2625.32	0.91	ppb
Rhodium	103-1				105		%
Rhodium	103-2				101		%
Scandium	45-1				108		%
Scandium	45-2				101		%
Selenium	77-2	0.84	2.11	1.28	1.41	46.11	ppb
Selenium	78-2	0.91	0.88	0.42	0.74	37.79	ppb
Selenium	82-1	2.49	1.87	1.63	2.00	22.35	ppb
Silicon	28-1	8043.25	8106.20	8035.03	8061.50	0.48	ppb
Silver	109-1	0.10	0.11	0.13	0.11	15.19	ppb
Silver	107-1	0.10	0.13	0.13	0.12	15.87	ppb
Sodium	23-2	68186.74	68665.15	67594.61	68148.83	0.79	ppb
Strontium	86-1	1123.40	1114.69	1121.07	1119.72	0.40	ppb
Strontium	88-1	1110.28	1105.78	1113.89	1109.98	0.37	ppb
Sulfur	34-1	31642.64	31668.56	31301.78	31537.66	0.65	ppb
Terbium	159-2				111		%
Terbium	159-1				112		%
Thallium	203-1	0.01	0.01	0.01	0.01	6.90	ppb
Thallium	205-1	0.01	0.02	0.01	0.01	39.89	ppb
Tin	118-1	0.08	0.08	0.08	0.08	1.62	ppb
Titanium	47-1	1.51	1.45	1.39	1.45	4.13	ppb
Uranium	238-1	2.14	2.14	2.16	2.15	0.32	ppb
Vanadium	51-2	5.12	5.11	5.02	5.08	1.10	ppb
Yttrium	89-2				104		%
Yttrium	89-1				110		%
Zinc	66-2	6.76	7.23	7.10	7.03	3.45	ppb
Zirconium	90-1	0.06	0.06	0.07	0.06	10.03	ppb
Zirconium	91-1	0.05	0.06	0.06	0.06	8.14	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-10LX5	Instrumnet Name :	P7
Client Sample ID :	MH4113L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:21:48	DataFile Name :	027SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	6.53	6.32	5.11	5.99	12.76	ppb
Antimony	121-1	0.08	0.06	0.08	0.07	10.74	ppb
Arsenic	75-2	0.32	0.31	0.27	0.30	8.48	ppb
Barium	135-1	13.84	14.12	13.99	13.99	0.99	ppb
Barium	137-1	14.15	14.49	14.60	14.41	1.63	ppb
Beryllium	9-1	0.02	0.01	0.01	0.01	51.78	ppb
Bismuth	209-1				105		%
Bismuth	209-2				100		%
Boron	10-1	30.17	30.56	29.62	30.12	1.57	ppb
Boron	11-1	27.98	28.21	28.25	28.15	0.52	ppb
Cadmium	111-1	0.05	0.04	0.03	0.04	34.97	ppb
Cadmium	106-1	0.59	0.27	0.23	0.36	54.39	ppb
Cadmium	108-1	0.03	0.01	0.01	0.02	62.36	ppb
Calcium	43-1	29806.29	29597.33	29447.38	29617.00	0.61	ppb
Calcium	44-1	29719.16	29886.99	29635.40	29747.19	0.43	ppb
Chromium	52-2	0.25	0.27	0.29	0.27	7.31	ppb
Cobalt	59-2	0.01	0.01	0.01	0.01	17.30	ppb
Copper	63-2	0.16	0.16	0.11	0.15	21.32	ppb
Holmium	165-2				104		%
Holmium	165-1				106		%
Indium	115-1				103		%
Indium	115-2				99		%
Iron	56-2	11.30	10.98	10.90	11.06	1.87	ppb
Iron	57-2	14.09	14.68	12.14	13.64	9.75	ppb
Lead	206-1	0.01	0.01	0.01	0.01	22.27	ppb
Lead	207-1	0.00	-0.01	0.01	0.00		ppb
Lead	208-1	0.01	0.00	0.00	0.00	224.09	ppb
Lithium	6-1				106		%
Magnesium	24-2	12666.96	12481.01	12444.80	12530.92	0.95	ppb
Manganese	55-2	2.41	2.31	2.28	2.33	3.07	ppb
Molybdenum	94-1	0.02	0.03	0.04	0.03	29.01	ppb
Molybdenum	95-1	0.07	0.09	0.06	0.07	19.18	ppb
Molybdenum	96-1	0.07	0.06	0.07	0.07	7.09	ppb
Molybdenum	97-1	0.08	0.08	0.09	0.08	5.50	ppb
Molybdenum	98-1	0.08	0.07	0.08	0.07	5.91	ppb
Nickel	60-2	0.11	0.10	0.09	0.10	10.12	ppb

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-10LX5	Instrumnet Name :	P7
Client Sample ID :	MH4113L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:21:48	DataFile Name :	027SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-28.74	-28.65	-32.04	-29.81		ppb
Potassium	39-2	540.10	524.76	514.28	526.38	2.47	ppb
Rhodium	103-2				98		%
Rhodium	103-1				100		%
Scandium	45-1				99		%
Scandium	45-2				95		%
Selenium	77-2	0.88	0.89	0.45	0.74	34.17	ppb
Selenium	78-2	-0.64	0.26	0.05	-0.11		ppb
Selenium	82-1	0.58	0.81	1.62	1.00	54.75	ppb
Silicon	28-1	1601.35	1608.55	1576.90	1595.60	1.04	ppb
Silver	109-1	0.01	0.01	0.03	0.02	42.18	ppb
Silver	107-1	0.02	0.02	0.02	0.02	17.90	ppb
Sodium	23-2	13756.46	13659.48	13650.33	13688.76	0.43	ppb
Strontium	86-1	218.87	218.47	218.56	218.63	0.10	ppb
Strontium	88-1	223.37	222.54	223.69	223.20	0.27	ppb
Sulfur	34-1	7542.96	7692.55	7378.95	7538.15	2.08	ppb
Terbium	159-1				105		%
Terbium	159-2				103		%
Thallium	203-1	0.00	0.00	0.00	0.00	143.16	ppb
Thallium	205-1	0.00	0.00	0.00	0.00	363.74	ppb
Tin	118-1	0.03	0.04	0.04	0.04	19.87	ppb
Titanium	47-1	0.25	0.31	0.19	0.25	23.79	ppb
Uranium	238-1	0.41	0.40	0.42	0.41	2.32	ppb
Vanadium	51-2	1.00	1.03	0.98	1.00	2.46	ppb
Yttrium	89-2				99		%
Yttrium	89-1				102		%
Zinc	66-2	1.37	1.57	1.25	1.40	11.36	ppb
Zirconium	90-1	0.01	0.01	0.01	0.01	18.93	ppb
Zirconium	91-1	0.02	0.01	0.03	0.02	58.13	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-17	Instrumnet Name :	P7
Client Sample ID :	MH4113S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:24:49	DataFile Name :	028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2045.14	2024.37	2050.94	2040.15	0.68	ppb
Antimony	121-1	109.32	109.25	108.90	109.16	0.21	ppb
Arsenic	75-2	45.74	46.21	46.85	46.27	1.20	ppb
Barium	135-1	2270.88	2258.80	2279.44	2269.71	0.46	ppb
Barium	137-1	2242.57	2240.90	2276.34	2253.27	0.89	ppb
Beryllium	9-1	52.65	52.16	50.10	51.64	2.62	ppb
Bismuth	209-2				101		%
Bismuth	209-1				107		%
Boron	10-1	101.25	109.27	109.11	106.54	4.31	ppb
Boron	11-1	100.11	104.27	105.26	103.21	2.65	ppb
Cadmium	106-1	44.90	44.64	46.02	45.19	1.63	ppb
Cadmium	108-1	47.71	49.86	48.81	48.79	2.21	ppb
Cadmium	111-1	53.34	53.42	52.99	53.25	0.43	ppb
Calcium	43-1	153153.63	155433.48	152802.74	153796.61	0.93	ppb
Calcium	44-1	151956.16	154089.72	153140.80	153062.23	0.70	ppb
Chromium	52-2	227.39	225.56	226.24	226.40	0.41	ppb
Cobalt	59-2	587.93	577.13	590.45	585.17	1.21	ppb
Copper	63-2	293.07	290.31	289.96	291.11	0.58	ppb
Holmium	165-1				111		%
Holmium	165-2				107		%
Indium	115-1				105		%
Indium	115-2				100		%
Iron	56-2	1203.54	1200.79	1203.90	1202.75	0.14	ppb
Iron	57-2	1189.68	1200.68	1208.02	1199.46	0.77	ppb
Lead	208-1	21.73	21.90	22.25	21.96	1.20	ppb
Lead	206-1	21.68	22.05	22.25	21.99	1.32	ppb
Lead	207-1	22.01	21.78	22.33	22.04	1.25	ppb
Lithium	6-1				116		%
Magnesium	24-2	62893.14	61783.82	62790.39	62489.12	0.98	ppb
Manganese	55-2	585.97	583.95	583.15	584.35	0.25	ppb
Molybdenum	94-1	0.26	0.24	0.24	0.25	4.00	ppb
Molybdenum	95-1	0.65	0.69	0.73	0.69	5.54	ppb
Molybdenum	96-1	0.53	0.61	0.59	0.58	7.24	ppb
Molybdenum	97-1	0.65	0.69	0.71	0.69	4.70	ppb
Molybdenum	98-1	0.66	0.69	0.62	0.66	5.44	ppb
Nickel	60-2	580.75	577.87	582.07	580.23	0.37	ppb

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-17	Instrumnet Name :	P7
Client Sample ID :	MH4113S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:24:49	DataFile Name :	028SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-14.71	-30.78	-6.63	-17.37		ppb
Potassium	39-2	2665.45	2646.97	2665.07	2659.16	0.40	ppb
Rhodium	103-1				101		%
Rhodium	103-2				98		%
Scandium	45-2				97		%
Scandium	45-1				103		%
Selenium	77-2	113.47	120.03	116.20	116.56	2.83	ppb
Selenium	78-2	116.68	115.12	115.53	115.78	0.70	ppb
Selenium	82-1	111.71	112.41	118.29	114.14	3.17	ppb
Silicon	28-1	8193.88	8306.53	8267.33	8255.91	0.69	ppb
Silver	109-1	53.00	53.11	52.35	52.82	0.78	ppb
Silver	107-1	53.46	53.49	53.59	53.51	0.12	ppb
Sodium	23-2	69580.75	68803.71	69476.87	69287.11	0.61	ppb
Strontium	86-1	1137.99	1151.13	1152.86	1147.33	0.71	ppb
Strontium	88-1	1121.25	1135.26	1140.54	1132.35	0.88	ppb
Sulfur	34-1	32887.55	32922.27	32566.96	32792.26	0.60	ppb
Terbium	159-2				107		%
Terbium	159-1				110		%
Thallium	203-1	54.84	55.27	55.16	55.09	0.41	ppb
Thallium	205-1	55.23	55.57	56.22	55.67	0.91	ppb
Tin	118-1	0.12	0.14	0.13	0.13	8.64	ppb
Titanium	47-1	1.54	1.47	1.63	1.55	5.20	ppb
Uranium	238-1	2.17	2.19	2.22	2.19	1.19	ppb
Vanadium	51-2	584.71	577.86	588.14	583.57	0.90	ppb
Yttrium	89-2				100		%
Yttrium	89-1				106		%
Zinc	66-2	588.65	582.72	591.92	587.76	0.79	ppb
Zirconium	90-1	0.06	0.08	0.06	0.06	16.14	ppb
Zirconium	91-1	0.08	0.09	0.08	0.08	8.83	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-11	Instrumnet Name :	P7
Client Sample ID :	MH4116	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:27:47	DataFile Name :	029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	170.23	161.07	160.65	163.98	3.30	ppb
Antimony	121-1	0.77	0.78	0.79	0.78	1.21	ppb
Arsenic	75-2	1.22	1.08	1.22	1.17	6.84	ppb
Barium	135-1	103.90	106.39	104.78	105.02	1.20	ppb
Barium	137-1	105.62	107.63	104.96	106.07	1.31	ppb
Beryllium	9-1	0.03	0.02	0.03	0.03	24.11	ppb
Bismuth	209-1				110		%
Bismuth	209-2				102		%
Boron	10-1	105.78	113.28	112.38	110.48	3.71	ppb
Boron	11-1	102.00	109.97	111.00	107.65	4.58	ppb
Cadmium	111-1	0.13	0.15	0.11	0.13	14.56	ppb
Cadmium	106-1	0.28	0.15	-0.06	0.12	143.92	ppb
Cadmium	108-1	0.12	0.19	0.15	0.15	20.79	ppb
Calcium	43-1	159404.85	158476.88	158893.64	158925.13	0.29	ppb
Calcium	44-1	158555.39	159309.57	158516.99	158793.98	0.28	ppb
Chromium	52-2	0.81	0.83	0.81	0.82	1.15	ppb
Cobalt	59-2	0.20	0.21	0.20	0.20	2.59	ppb
Copper	63-2	3.14	3.14	3.30	3.19	2.79	ppb
Holmium	165-2				108		%
Holmium	165-1				114		%
Indium	115-1				108		%
Indium	115-2				101		%
Iron	56-2	303.71	295.44	302.36	300.50	1.48	ppb
Iron	57-2	319.03	303.70	319.73	314.15	2.88	ppb
Lead	206-1	7.41	7.40	7.63	7.48	1.76	ppb
Lead	207-1	7.02	7.09	7.20	7.10	1.29	ppb
Lead	208-1	7.25	7.36	7.46	7.36	1.44	ppb
Lithium	6-1				119		%
Magnesium	24-2	61139.68	60449.05	61678.69	61089.14	1.01	ppb
Manganese	55-2	9.32	9.12	9.83	9.43	3.88	ppb
Molybdenum	94-1	0.26	0.23	0.24	0.24	5.97	ppb
Molybdenum	95-1	0.49	0.52	0.50	0.50	2.30	ppb
Molybdenum	96-1	0.47	0.45	0.42	0.45	5.64	ppb
Molybdenum	97-1	0.55	0.49	0.51	0.52	6.59	ppb
Molybdenum	98-1	0.52	0.50	0.48	0.50	3.46	ppb
Nickel	60-2	0.67	0.77	0.71	0.72	6.96	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-11	Instrumnet Name :	P7
Client Sample ID :	MH4116	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:27:47	DataFile Name :	029SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	1.09	23.66	42.29	22.35	92.32	ppb
Potassium	39-2	2126.19	2084.76	2149.83	2120.26	1.55	ppb
Rhodium	103-2				99		%
Rhodium	103-1				104		%
Scandium	45-1				105		%
Scandium	45-2				97		%
Selenium	77-2	2.17	1.73	2.60	2.17	20.07	ppb
Selenium	78-2	2.25	2.38	1.04	1.89	39.07	ppb
Selenium	82-1	2.77	2.37	1.39	2.17	32.63	ppb
Silicon	28-1	8420.24	8586.85	8482.44	8496.51	0.99	ppb
Silver	109-1	0.11	0.12	0.14	0.12	15.31	ppb
Silver	107-1	0.11	0.13	0.14	0.13	10.44	ppb
Sodium	23-2	71385.25	70379.84	71865.67	71210.25	1.06	ppb
Strontium	86-1	1189.94	1196.79	1191.14	1192.62	0.31	ppb
Strontium	88-1	1174.67	1198.29	1189.87	1187.61	1.01	ppb
Sulfur	34-1	31383.15	31419.28	31439.42	31413.95	0.09	ppb
Terbium	159-1				112		%
Terbium	159-2				108		%
Thallium	203-1	0.03	0.03	0.03	0.03	17.85	ppb
Thallium	205-1	0.03	0.03	0.03	0.03	8.65	ppb
Tin	118-1	0.08	0.09	0.09	0.09	10.11	ppb
Titanium	47-1	5.95	5.96	5.94	5.95	0.14	ppb
Uranium	238-1	2.42	2.48	2.50	2.47	1.66	ppb
Vanadium	51-2	5.61	5.59	5.60	5.60	0.18	ppb
Yttrium	89-2				101		%
Yttrium	89-1				108		%
Zinc	66-2	15.34	14.93	15.01	15.09	1.45	ppb
Zirconium	90-1	0.12	0.12	0.14	0.13	9.44	ppb
Zirconium	91-1	0.10	0.12	0.13	0.11	9.85	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-12	Instrumnet Name :	P7
Client Sample ID :	MH4202	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:30:48	DataFile Name :	030SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	30.36	31.38	30.58	30.77	1.74	ppb
Antimony	121-1	0.86	0.83	0.82	0.84	2.62	ppb
Arsenic	75-2	1.36	1.44	1.36	1.39	3.38	ppb
Barium	135-1	72.72	72.42	70.57	71.90	1.62	ppb
Barium	137-1	72.46	73.40	72.02	72.63	0.97	ppb
Beryllium	9-1	0.02	0.03	0.01	0.02	39.66	ppb
Bismuth	209-1				111		%
Bismuth	209-2				103		%
Boron	10-1	101.87	106.29	103.19	103.78	2.18	ppb
Boron	11-1	96.23	101.36	102.66	100.09	3.40	ppb
Cadmium	111-1	0.08	0.04	0.07	0.06	36.04	ppb
Cadmium	106-1	0.49	-0.21	0.05	0.11	319.17	ppb
Cadmium	108-1	0.15	0.05	0.03	0.07	84.29	ppb
Calcium	43-1	149046.48	148450.90	148609.94	148702.44	0.21	ppb
Calcium	44-1	148307.95	146610.15	148042.17	147653.42	0.62	ppb
Chromium	52-2	0.40	0.39	0.38	0.39	2.26	ppb
Cobalt	59-2	0.07	0.05	0.07	0.06	14.44	ppb
Copper	63-2	1.54	1.45	1.45	1.48	3.33	ppb
Holmium	165-2				110		%
Holmium	165-1				113		%
Indium	115-1				109		%
Indium	115-2				102		%
Iron	56-2	60.92	60.25	59.80	60.32	0.94	ppb
Iron	57-2	77.88	74.24	72.76	74.96	3.52	ppb
Lead	206-1	0.43	0.41	0.41	0.41	2.87	ppb
Lead	207-1	0.39	0.38	0.36	0.38	3.99	ppb
Lead	208-1	0.41	0.40	0.38	0.40	4.75	ppb
Lithium	6-1				119		%
Magnesium	24-2	57982.29	57552.53	57157.75	57564.19	0.72	ppb
Manganese	55-2	1.71	1.55	1.75	1.67	6.19	ppb
Molybdenum	94-1	0.24	0.25	0.25	0.25	2.71	ppb
Molybdenum	95-1	0.67	0.68	0.60	0.65	6.34	ppb
Molybdenum	96-1	0.56	0.56	0.58	0.57	1.71	ppb
Molybdenum	97-1	0.67	0.65	0.67	0.66	1.24	ppb
Molybdenum	98-1	0.62	0.62	0.64	0.63	1.27	ppb
Nickel	60-2	0.61	0.55	0.56	0.57	5.19	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-12	Instrumnet Name :	P7
Client Sample ID :	MH4202	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:30:48	DataFile Name :	030SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	18.07	-10.77	1.83	3.04	475.36	ppb
Potassium	39-2	2135.83	2120.49	2081.39	2112.57	1.33	ppb
Rhodium	103-2				101		%
Rhodium	103-1				103		%
Scandium	45-1				104		%
Scandium	45-2				98		%
Selenium	77-2	2.99	2.99	2.56	2.85	8.73	ppb
Selenium	78-2	2.81	2.24	3.35	2.80	19.90	ppb
Selenium	82-1	4.00	4.58	3.91	4.17	8.77	ppb
Silicon	28-1	7613.41	7574.97	7599.85	7596.08	0.26	ppb
Silver	109-1	0.08	0.07	0.11	0.09	18.59	ppb
Silver	107-1	0.08	0.09	0.09	0.09	5.31	ppb
Sodium	23-2	64747.86	64272.06	63658.86	64226.26	0.85	ppb
Strontium	86-1	1073.49	1092.59	1072.72	1079.60	1.04	ppb
Strontium	88-1	1064.70	1086.30	1064.31	1071.77	1.17	ppb
Sulfur	34-1	32773.46	32569.14	32412.32	32584.98	0.56	ppb
Terbium	159-1				112		%
Terbium	159-2				110		%
Thallium	203-1	0.02	0.01	0.01	0.01	26.21	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	15.69	ppb
Tin	118-1	0.05	0.07	0.05	0.06	12.80	ppb
Titanium	47-1	1.57	1.44	1.28	1.43	10.05	ppb
Uranium	238-1	3.05	3.06	3.04	3.05	0.28	ppb
Vanadium	51-2	5.96	5.80	5.92	5.89	1.45	ppb
Yttrium	89-2				103		%
Yttrium	89-1				108		%
Zinc	66-2	6.03	5.96	5.95	5.98	0.74	ppb
Zirconium	90-1	0.06	0.05	0.05	0.06	11.11	ppb
Zirconium	91-1	0.05	0.08	0.04	0.06	35.06	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-13	Instrumnet Name :	P7
Client Sample ID :	MH4211	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:33:49	DataFile Name :	031SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	62.42	65.91	64.16	64.16	2.72	ppb
Antimony	121-1	0.94	0.90	0.85	0.90	4.95	ppb
Arsenic	75-2	3.55	3.41	3.59	3.52	2.74	ppb
Barium	135-1	59.97	59.48	59.97	59.81	0.47	ppb
Barium	137-1	59.55	58.89	59.52	59.32	0.63	ppb
Beryllium	9-1	0.02	0.01	0.01	0.01	38.06	ppb
Bismuth	209-1				114		%
Bismuth	209-2				104		%
Boron	10-1	82.27	81.22	82.32	81.94	0.76	ppb
Boron	11-1	77.18	78.53	84.08	79.93	4.58	ppb
Cadmium	111-1	0.00	0.02	0.04	0.02	102.16	ppb
Cadmium	106-1	-0.31	-0.01	0.03	-0.10		ppb
Cadmium	108-1	0.03	0.09	-0.01	0.03	140.07	ppb
Calcium	43-1	140366.84	141227.86	138378.65	139991.12	1.04	ppb
Calcium	44-1	138594.67	138767.13	138473.22	138611.67	0.11	ppb
Chromium	52-2	0.66	0.72	0.71	0.69	4.65	ppb
Cobalt	59-2	0.08	0.08	0.06	0.07	15.16	ppb
Copper	63-2	1.52	1.64	1.60	1.59	3.68	ppb
Holmium	165-2				109		%
Holmium	165-1				115		%
Indium	115-1				110		%
Indium	115-2				102		%
Iron	56-2	123.46	125.67	124.65	124.59	0.89	ppb
Iron	57-2	136.95	136.01	145.54	139.50	3.76	ppb
Lead	206-1	1.41	1.37	1.35	1.37	2.16	ppb
Lead	207-1	1.33	1.25	1.31	1.29	3.25	ppb
Lead	208-1	1.36	1.31	1.34	1.33	1.98	ppb
Lithium	6-1				121		%
Magnesium	24-2	49620.52	50162.38	49781.68	49854.86	0.56	ppb
Manganese	55-2	16.40	16.93	16.47	16.60	1.72	ppb
Molybdenum	94-1	0.22	0.27	0.24	0.25	10.01	ppb
Molybdenum	95-1	0.66	0.64	0.68	0.66	3.14	ppb
Molybdenum	96-1	0.55	0.53	0.62	0.57	8.45	ppb
Molybdenum	97-1	0.63	0.63	0.63	0.63	0.44	ppb
Molybdenum	98-1	0.67	0.62	0.65	0.65	3.81	ppb
Nickel	60-2	0.33	0.40	0.32	0.35	12.19	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-13	Instrumnet Name :	P7
Client Sample ID :	MH4211	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:33:49	DataFile Name :	031SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-24.51	-32.16	-27.40	-28.02		ppb
Potassium	39-2	1741.96	1762.48	1749.16	1751.20	0.59	ppb
Rhodium	103-1				105		%
Rhodium	103-2				101		%
Scandium	45-1				105		%
Scandium	45-2				96		%
Selenium	82-1	2.47	1.41	1.82	1.90	28.34	ppb
Selenium	77-2	3.01	1.71	2.61	2.44	27.17	ppb
Selenium	78-2	0.38	0.86	0.13	0.45	81.47	ppb
Silicon	28-1	8515.51	8422.63	8378.00	8438.72	0.83	ppb
Silver	109-1	0.08	0.10	0.10	0.09	12.90	ppb
Silver	107-1	0.08	0.08	0.10	0.09	11.32	ppb
Sodium	23-2	50945.71	51173.46	50852.75	50990.64	0.32	ppb
Strontium	86-1	1049.69	1048.48	1072.88	1057.01	1.30	ppb
Strontium	88-1	1042.34	1041.59	1074.03	1052.65	1.76	ppb
Sulfur	34-1	32350.19	32542.71	31620.39	32171.10	1.51	ppb
Terbium	159-1				114		%
Terbium	159-2				110		%
Thallium	203-1	0.01	0.01	0.00	0.01	43.24	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	25.80	ppb
Tin	118-1	0.07	0.07	0.05	0.06	14.27	ppb
Titanium	47-1	2.72	2.40	2.60	2.57	6.35	ppb
Uranium	238-1	2.44	2.43	2.48	2.45	1.09	ppb
Vanadium	51-2	2.17	2.25	2.12	2.18	3.03	ppb
Yttrium	89-2				102		%
Yttrium	89-1				109		%
Zinc	66-2	7.98	8.22	7.81	8.00	2.56	ppb
Zirconium	90-1	0.06	0.06	0.05	0.05	8.93	ppb
Zirconium	91-1	0.05	0.04	0.06	0.05	21.16	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-14	Instrumnet Name :	P7
Client Sample ID :	MH4217	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:36:49	DataFile Name :	032SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2.41	2.17	2.11	2.23	7.15	ppb
Antimony	121-1	0.87	0.80	0.77	0.81	6.09	ppb
Arsenic	75-2	2.01	2.01	1.94	1.99	2.02	ppb
Barium	135-1	70.57	71.16	70.57	70.76	0.48	ppb
Barium	137-1	71.65	72.36	71.50	71.83	0.64	ppb
Beryllium	9-1	0.02	0.01	0.00	0.01	83.03	ppb
Bismuth	209-1				112		%
Bismuth	209-2				104		%
Boron	11-1	97.71	98.64	103.40	99.92	3.05	ppb
Boron	10-1	96.98	102.87	104.02	101.29	3.73	ppb
Cadmium	106-1	0.12	-0.18	-0.18	-0.08		ppb
Cadmium	108-1	-0.01	0.03	0.05	0.02	136.17	ppb
Cadmium	111-1	0.05	0.03	0.03	0.04	25.54	ppb
Calcium	43-1	147623.54	145689.10	146713.36	146675.33	0.66	ppb
Calcium	44-1	146066.61	144638.45	145637.47	145447.51	0.50	ppb
Chromium	52-2	0.48	0.49	0.47	0.48	2.25	ppb
Cobalt	59-2	0.02	0.02	0.03	0.02	20.00	ppb
Copper	63-2	1.15	1.16	1.23	1.18	3.90	ppb
Holmium	165-2				110		%
Holmium	165-1				115		%
Indium	115-1				109		%
Indium	115-2				102		%
Iron	56-2	24.48	24.55	24.66	24.56	0.37	ppb
Iron	57-2	40.06	37.96	38.21	38.74	2.97	ppb
Lead	206-1	-0.03	-0.04	-0.04	-0.04		ppb
Lead	207-1	-0.03	-0.03	-0.03	-0.03		ppb
Lead	208-1	-0.03	-0.03	-0.04	-0.04		ppb
Lithium	6-1				121		%
Magnesium	24-2	58259.71	58346.84	58265.73	58290.76	0.08	ppb
Manganese	55-2	6.40	6.40	6.42	6.41	0.18	ppb
Molybdenum	94-1	0.21	0.20	0.20	0.20	1.97	ppb
Molybdenum	95-1	0.52	0.53	0.58	0.54	5.82	ppb
Molybdenum	96-1	0.49	0.47	0.49	0.48	2.20	ppb
Molybdenum	97-1	0.52	0.57	0.56	0.55	5.06	ppb
Molybdenum	98-1	0.56	0.56	0.56	0.56	0.87	ppb
Nickel	60-2	0.43	0.44	0.44	0.44	0.74	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-14	Instrumnet Name :	P7
Client Sample ID :	MH4217	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:36:49	DataFile Name :	032SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-35.71	-35.79	-23.07	-31.52		ppb
Potassium	39-2	2337.75	2315.31	2299.78	2317.61	0.82	ppb
Rhodium	103-2				101		%
Rhodium	103-1				105		%
Scandium	45-1				105		%
Scandium	45-2				98		%
Selenium	77-2	2.15	1.72	1.30	1.72	24.65	ppb
Selenium	78-2	2.06	0.45	0.40	0.97	97.59	ppb
Selenium	82-1	2.90	2.30	2.62	2.61	11.39	ppb
Silicon	28-1	7812.79	7748.42	7857.18	7806.13	0.70	ppb
Silver	107-1	0.08	0.07	0.09	0.08	10.14	ppb
Silver	109-1	0.07	0.08	0.09	0.08	12.45	ppb
Sodium	23-2	63696.76	64015.69	63740.49	63817.65	0.27	ppb
Strontium	86-1	1084.56	1080.13	1079.68	1081.46	0.25	ppb
Strontium	88-1	1084.91	1075.02	1080.89	1080.27	0.46	ppb
Sulfur	34-1	31834.51	31800.03	31981.50	31872.01	0.30	ppb
Terbium	159-1				114		%
Terbium	159-2				111		%
Thallium	203-1	0.00	0.00	0.00	0.00		ppb
Thallium	205-1	0.01	0.00	0.00	0.01	44.51	ppb
Tin	118-1	0.03	0.04	0.04	0.04	14.59	ppb
Titanium	47-1	0.42	0.26	0.43	0.37	25.36	ppb
Uranium	238-1	2.39	2.41	2.43	2.41	0.80	ppb
Vanadium	51-2	5.12	5.11	5.05	5.09	0.73	ppb
Yttrium	89-2				102		%
Yttrium	89-1				109		%
Zinc	66-2	4.40	4.29	4.09	4.26	3.70	ppb
Zirconium	90-1	0.04	0.05	0.03	0.04	20.08	ppb
Zirconium	91-1	0.06	0.04	0.04	0.05	18.88	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-15	Instrumnet Name :	P7
Client Sample ID :	MH4218	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:39:51	DataFile Name :	033SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	6.54	5.16	4.74	5.48	17.17	ppb
Antimony	121-1	0.98	0.90	0.93	0.94	4.70	ppb
Arsenic	75-2	2.67	2.46	2.29	2.47	7.76	ppb
Barium	135-1	69.75	69.34	70.00	69.70	0.48	ppb
Barium	137-1	70.79	69.91	71.30	70.67	0.99	ppb
Beryllium	9-1	0.02	0.00	0.00	0.00	241.20	ppb
Bismuth	209-2				102		%
Bismuth	209-1				110		%
Boron	10-1	103.90	106.58	108.20	106.22	2.05	ppb
Boron	11-1	102.31	104.82	106.95	104.69	2.22	ppb
Cadmium	106-1	-0.30	-0.22	-0.28	-0.27		ppb
Cadmium	108-1	0.11	0.01	0.07	0.06	79.26	ppb
Cadmium	111-1	0.02	0.03	0.02	0.02	34.92	ppb
Calcium	43-1	153826.86	150559.36	149578.76	151321.66	1.47	ppb
Calcium	44-1	153749.51	150904.83	149316.27	151323.54	1.48	ppb
Chromium	52-2	0.54	0.55	0.53	0.54	2.10	ppb
Cobalt	59-2	0.06	0.05	0.06	0.06	13.10	ppb
Copper	63-2	1.38	1.33	1.44	1.38	3.93	ppb
Holmium	165-2				109		%
Holmium	165-1				113		%
Indium	115-1				107		%
Indium	115-2				100		%
Iron	56-2	24.30	24.08	24.28	24.22	0.51	ppb
Iron	57-2	40.58	43.43	36.10	40.04	9.22	ppb
Lead	206-1	0.11	0.11	0.13	0.12	10.67	ppb
Lead	207-1	0.11	0.09	0.11	0.11	10.66	ppb
Lead	208-1	0.11	0.11	0.12	0.11	6.16	ppb
Lithium	6-1				119		%
Magnesium	24-2	58255.46	58215.19	58843.88	58438.17	0.60	ppb
Manganese	55-2	6.03	5.95	6.06	6.01	0.97	ppb
Molybdenum	94-1	0.30	0.33	0.28	0.30	6.91	ppb
Molybdenum	95-1	0.83	0.88	0.82	0.84	3.99	ppb
Molybdenum	96-1	0.72	0.70	0.72	0.71	1.33	ppb
Molybdenum	97-1	0.90	0.81	0.74	0.82	9.43	ppb
Molybdenum	98-1	0.84	0.85	0.80	0.83	3.50	ppb
Nickel	60-2	0.52	0.47	0.50	0.49	5.29	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-15	Instrumnet Name :	P7
Client Sample ID :	MH4218	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:39:51	DataFile Name :	033SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-1.70	-11.29	-17.37	-10.12		ppb
Potassium	39-2	2283.36	2298.54	2297.28	2293.06	0.37	ppb
Rhodium	103-2				99		%
Rhodium	103-1				102		%
Scandium	45-1				103		%
Scandium	45-2				96		%
Selenium	82-1	2.71	3.10	3.03	2.95	7.08	ppb
Selenium	77-2	3.50	1.76	1.75	2.34	43.18	ppb
Selenium	78-2	1.78	1.51	2.21	1.84	19.21	ppb
Silicon	28-1	7781.61	7553.85	7586.15	7640.53	1.61	ppb
Silver	109-1	0.07	0.08	0.10	0.08	15.10	ppb
Silver	107-1	0.07	0.07	0.09	0.08	18.56	ppb
Sodium	23-2	64308.30	64462.91	65117.71	64629.64	0.66	ppb
Strontium	86-1	1106.75	1108.39	1096.91	1104.02	0.56	ppb
Strontium	88-1	1111.64	1109.56	1110.80	1110.67	0.09	ppb
Sulfur	34-1	34573.47	33614.78	33347.21	33845.15	1.91	ppb
Terbium	159-2				108		%
Terbium	159-1				111		%
Thallium	203-1	0.00	0.01	0.01	0.01	106.47	ppb
Thallium	205-1	0.01	0.01	0.01	0.01	14.47	ppb
Tin	118-1	0.05	0.06	0.07	0.06	15.39	ppb
Titanium	47-1	0.45	0.56	0.52	0.51	11.27	ppb
Uranium	238-1	3.26	3.28	3.32	3.29	0.92	ppb
Vanadium	51-2	5.19	5.21	5.30	5.24	1.18	ppb
Yttrium	89-1				106		%
Yttrium	89-2				100		%
Zinc	66-2	5.59	5.42	5.70	5.57	2.55	ppb
Zirconium	90-1	0.05	0.05	0.05	0.05	7.28	ppb
Zirconium	91-1	0.05	0.04	0.04	0.04	11.24	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04	Instrumnet Name :	P7
Client Sample ID :	MH4025	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:44:10	DataFile Name :	034SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10384.98	10512.32	10490.70	10462.67	0.65	ppb
Antimony	121-1	4.88	4.68	4.65	4.74	2.55	ppb
Arsenic	75-2	43.39	42.78	43.13	43.10	0.71	ppb
Barium	135-1	389.41	392.89	390.76	391.02	0.45	ppb
Barium	137-1	397.23	400.59	396.46	398.10	0.55	ppb
Beryllium	9-1	0.67	0.74	0.75	0.72	6.23	ppb
Bismuth	209-2				98		%
Bismuth	209-1				105		%
Boron	10-1	68.80	69.86	71.98	70.22	2.31	ppb
Boron	11-1	67.12	66.68	68.45	67.42	1.37	ppb
Cadmium	111-1	3.21	3.11	3.13	3.15	1.67	ppb
Cadmium	106-1	4.72	4.12	3.40	4.08	16.18	ppb
Cadmium	108-1	3.30	4.10	3.23	3.54	13.63	ppb
Calcium	43-1	202409.49	201503.29	202334.07	202082.29	0.25	ppb
Calcium	44-1	202929.05	201446.83	203021.43	202465.77	0.44	ppb
Chromium	52-2	25.01	24.80	25.07	24.96	0.56	ppb
Cobalt	59-2	9.13	9.29	9.33	9.25	1.11	ppb
Copper	63-2	91.90	92.81	93.09	92.60	0.67	ppb
Holmium	165-2				101		%
Holmium	165-1				105		%
Indium	115-1				100		%
Indium	115-2				93		%
Iron	56-2	18156.51	18213.07	18311.39	18226.99	0.43	ppb
Iron	57-2	17935.42	17995.54	18090.21	18007.06	0.43	ppb
Lead	206-1	550.11	547.74	563.07	553.64	1.49	ppb
Lead	207-1	518.95	512.28	531.95	521.06	1.92	ppb
Lead	208-1	534.63	529.36	542.94	535.64	1.28	ppb
Lithium	6-1				108		%
Magnesium	24-2	19603.47	19601.94	19684.14	19629.85	0.24	ppb
Manganese	55-2	1028.42	1037.54	1047.19	1037.72	0.90	ppb
Molybdenum	94-1	2.48	2.59	2.52	2.53	2.36	ppb
Molybdenum	95-1	1.05	1.07	1.03	1.05	1.74	ppb
Molybdenum	96-1	1.48	1.47	1.46	1.47	0.88	ppb
Molybdenum	97-1	1.04	1.14	1.08	1.09	4.51	ppb
Molybdenum	98-1	1.04	1.04	1.02	1.03	1.27	ppb
Nickel	60-2	19.67	19.72	19.98	19.79	0.86	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04	Instrumnet Name :	P7
Client Sample ID :	MH4025	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:44:10	DataFile Name :	034SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	3530.71	3692.33	3783.73	3668.92	3.49	ppb
Potassium	39-2	3645.47	3666.63	3678.21	3663.44	0.45	ppb
Rhodium	103-2				92		%
Rhodium	103-1				95		%
Scandium	45-1				95		%
Scandium	45-2				89		%
Selenium	77-2	11.10	7.41	9.76	9.42	19.85	ppb
Selenium	78-2	1.80	2.14	2.95	2.30	25.67	ppb
Selenium	82-1	1.29	2.25	2.45	2.00	30.96	ppb
Silicon	28-1	1444.72	932.74	966.61	1114.69	25.69	ppb
Silver	109-1	1.29	1.23	1.27	1.27	2.29	ppb
Silver	107-1	1.24	1.24	1.29	1.26	2.56	ppb
Sodium	23-2	1004.20	1007.97	1020.72	1010.96	0.86	ppb
Strontium	86-1	622.62	629.75	626.47	626.28	0.57	ppb
Strontium	88-1	617.95	626.59	623.32	622.62	0.70	ppb
Sulfur	34-1	1740.77	1690.93	1682.14	1704.61	1.85	ppb
Terbium	159-2				101		%
Terbium	159-1				104		%
Thallium	203-1	0.47	0.47	0.46	0.47	0.96	ppb
Thallium	205-1	0.49	0.49	0.50	0.49	1.17	ppb
Tin	118-1	11.68	11.63	11.35	11.56	1.53	ppb
Titanium	47-1	233.53	232.49	233.48	233.17	0.25	ppb
Uranium	238-1	1.53	1.49	1.56	1.53	2.60	ppb
Vanadium	51-2	26.26	26.36	26.29	26.30	0.20	ppb
Yttrium	89-2				107		%
Yttrium	89-1				113		%
Zinc	66-2	616.15	618.76	624.39	619.77	0.68	ppb
Zirconium	90-1	3.32	3.27	3.26	3.28	1.02	ppb
Zirconium	91-1	3.19	3.17	3.19	3.18	0.33	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 15:47:17	DataFile Name :	035SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	5448.72	5557.47	5479.85	5495.35	1.02	ppb
Antimony	121-1	2.25	2.36	2.35	2.32	2.62	ppb
Arsenic	75-2	24.22	24.53	23.91	24.22	1.27	ppb
Barium	135-1	203.09	203.56	204.10	203.58	0.25	ppb
Barium	137-1	205.34	204.53	205.12	205.00	0.20	ppb
Beryllium	9-1	0.33	0.35	0.33	0.34	3.73	ppb
Bismuth	209-1				106		%
Bismuth	209-2				99		%
Boron	10-1	38.34	38.19	39.54	38.69	1.92	ppb
Boron	11-1	36.78	37.93	39.08	37.93	3.03	ppb
Cadmium	111-1	1.63	1.58	1.61	1.61	1.30	ppb
Cadmium	106-1	1.83	1.99	1.54	1.79	12.58	ppb
Cadmium	108-1	1.55	1.75	1.82	1.71	8.18	ppb
Calcium	43-1	107328.82	106416.13	109031.37	107592.10	1.23	ppb
Calcium	44-1	105739.37	106216.74	107030.96	106329.02	0.61	ppb
Chromium	52-2	13.00	13.08	13.22	13.10	0.86	ppb
Cobalt	59-2	4.86	4.84	4.88	4.86	0.38	ppb
Copper	63-2	47.89	48.98	48.42	48.43	1.12	ppb
Holmium	165-2				102		%
Holmium	165-1				106		%
Indium	115-1				100		%
Indium	115-2				94		%
Iron	56-2	9491.15	9660.60	9574.98	9575.58	0.88	ppb
Iron	57-2	9443.83	9565.37	9506.83	9505.34	0.64	ppb
Lead	206-1	288.13	281.83	294.79	288.25	2.25	ppb
Lead	207-1	270.77	263.96	274.26	269.66	1.94	ppb
Lead	208-1	277.86	272.78	282.59	277.74	1.77	ppb
Lithium	6-1				107		%
Magnesium	24-2	10308.53	10465.72	10476.54	10416.93	0.90	ppb
Manganese	55-2	526.24	533.59	529.97	529.94	0.69	ppb
Molybdenum	94-1	1.44	1.36	1.40	1.40	2.79	ppb
Molybdenum	95-1	0.59	0.63	0.64	0.62	4.07	ppb
Molybdenum	96-1	0.80	0.87	0.78	0.81	5.75	ppb
Molybdenum	97-1	0.62	0.61	0.53	0.59	9.00	ppb
Molybdenum	98-1	0.62	0.62	0.59	0.61	2.98	ppb
Nickel	60-2	10.27	10.20	10.16	10.21	0.56	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 15:47:17	DataFile Name :	035SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	1821.63	1876.22	1888.57	1862.14	1.91	ppb
Potassium	39-2	1885.74	1929.06	1921.63	1912.15	1.21	ppb
Rhodium	103-2				94		%
Rhodium	103-1				96		%
Scandium	45-1				95		%
Scandium	45-2				91		%
Selenium	77-2	4.70	4.35	5.59	4.88	13.05	ppb
Selenium	78-2	0.71	0.91	1.15	0.92	23.89	ppb
Selenium	82-1	2.05	0.83	0.87	1.25	55.45	ppb
Silicon	28-1	507.34	514.06	486.12	502.51	2.90	ppb
Silver	109-1	0.63	0.61	0.65	0.63	3.27	ppb
Silver	107-1	0.63	0.65	0.64	0.64	1.22	ppb
Sodium	23-2	530.37	534.59	534.83	533.26	0.47	ppb
Strontium	86-1	338.10	337.67	345.86	340.54	1.35	ppb
Strontium	88-1	344.28	345.22	342.84	344.11	0.35	ppb
Sulfur	34-1	760.21	671.98	707.77	713.32	6.22	ppb
Terbium	159-1				104		%
Terbium	159-2				102		%
Thallium	203-1	0.25	0.24	0.24	0.24	0.92	ppb
Thallium	205-1	0.24	0.22	0.26	0.24	7.07	ppb
Tin	118-1	6.08	6.11	5.99	6.06	1.03	ppb
Titanium	47-1	121.34	121.94	124.86	122.71	1.53	ppb
Uranium	238-1	0.79	0.74	0.80	0.78	3.86	ppb
Vanadium	51-2	13.46	13.92	13.65	13.68	1.71	ppb
Yttrium	89-2				102		%
Yttrium	89-1				107		%
Zinc	66-2	329.84	335.05	333.34	332.74	0.80	ppb
Zirconium	90-1	1.79	1.81	1.79	1.80	0.59	ppb
Zirconium	91-1	1.80	1.80	1.79	1.80	0.47	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-05	Instrumnet Name :	P7
Client Sample ID :	MH4025D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:50:19	DataFile Name :	036SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10289.95	10336.43	10531.21	10385.86	1.23	ppb
Antimony	121-1	4.61	4.49	4.51	4.54	1.45	ppb
Arsenic	75-2	42.67	42.68	42.59	42.65	0.12	ppb
Barium	137-1	390.74	386.67	397.83	391.75	1.44	ppb
Barium	135-1	388.12	381.06	394.87	388.02	1.78	ppb
Beryllium	9-1	0.72	0.64	0.63	0.66	7.40	ppb
Bismuth	209-1				107		%
Bismuth	209-2				99		%
Boron	10-1	65.42	70.80	70.09	68.77	4.25	ppb
Boron	11-1	64.75	67.76	69.28	67.26	3.43	ppb
Cadmium	106-1	4.06	3.46	3.43	3.65	9.81	ppb
Cadmium	108-1	3.56	3.33	3.25	3.38	4.80	ppb
Cadmium	111-1	3.13	3.06	3.33	3.17	4.33	ppb
Calcium	43-1	201956.24	199282.19	203918.08	201718.84	1.15	ppb
Calcium	44-1	199249.20	198816.13	200748.35	199604.56	0.51	ppb
Chromium	52-2	24.86	24.76	25.16	24.92	0.84	ppb
Cobalt	59-2	9.27	9.27	9.53	9.36	1.60	ppb
Copper	63-2	91.58	91.61	92.78	91.99	0.74	ppb
Holmium	165-2				103		%
Holmium	165-1				107		%
Indium	115-2				95		%
Indium	115-1				100		%
Iron	56-2	18221.91	18283.71	18316.48	18274.03	0.26	ppb
Iron	57-2	18040.37	17966.12	18138.26	18048.25	0.48	ppb
Lead	206-1	540.80	552.55	553.51	548.95	1.29	ppb
Lead	207-1	503.08	515.36	511.14	509.86	1.22	ppb
Lead	208-1	521.48	533.72	530.54	528.58	1.20	ppb
Lithium	6-1				110		%
Magnesium	24-2	19449.21	19495.72	19825.70	19590.21	1.05	ppb
Manganese	55-2	1036.51	1028.94	1050.24	1038.56	1.04	ppb
Molybdenum	94-1	2.48	2.56	2.55	2.53	1.62	ppb
Molybdenum	95-1	1.10	1.06	1.06	1.08	2.23	ppb
Molybdenum	96-1	1.38	1.50	1.39	1.42	4.70	ppb
Molybdenum	97-1	1.04	1.12	1.07	1.08	3.47	ppb
Molybdenum	98-1	1.00	1.03	1.02	1.02	1.14	ppb
Nickel	60-2	19.39	19.50	19.58	19.49	0.48	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-05	Instrumnet Name :	P7
Client Sample ID :	MH4025D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:50:19	DataFile Name :	036SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	3517.44	3547.14	3579.25	3547.94	0.87	ppb
Potassium	39-2	3627.75	3663.52	3709.62	3666.96	1.12	ppb
Rhodium	103-1				96		%
Rhodium	103-2				94		%
Scandium	45-1				97		%
Scandium	45-2				91		%
Selenium	82-1	1.88	1.76	1.85	1.83	3.39	ppb
Selenium	77-2	9.21	11.29	12.95	11.15	16.78	ppb
Selenium	78-2	1.96	1.59	2.46	2.01	21.83	ppb
Silicon	28-1	1107.01	959.56	1046.92	1037.83	7.14	ppb
Silver	109-1	1.24	1.22	1.23	1.23	0.74	ppb
Silver	107-1	1.26	1.19	1.25	1.23	3.11	ppb
Sodium	23-2	988.19	998.51	1005.90	997.53	0.89	ppb
Strontium	86-1	612.70	622.64	627.96	621.10	1.25	ppb
Strontium	88-1	611.57	618.40	621.91	617.30	0.85	ppb
Sulfur	34-1	1413.12	1299.94	1452.31	1388.45	5.70	ppb
Terbium	159-1				106		%
Terbium	159-2				103		%
Thallium	203-1	0.44	0.46	0.48	0.46	4.18	ppb
Thallium	205-1	0.47	0.46	0.47	0.47	1.35	ppb
Tin	118-1	11.23	11.30	11.35	11.29	0.57	ppb
Titanium	47-1	231.33	230.59	235.30	232.41	1.09	ppb
Uranium	238-1	1.51	1.52	1.52	1.52	0.45	ppb
Vanadium	51-2	25.95	26.59	26.35	26.30	1.23	ppb
Yttrium	89-1				115		%
Yttrium	89-2				109		%
Zinc	66-2	613.83	612.31	624.93	617.02	1.12	ppb
Zirconium	90-1	3.17	3.24	3.20	3.20	1.01	ppb
Zirconium	91-1	3.10	3.15	3.34	3.20	3.90	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-05DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025D	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 15:53:18	DataFile Name :	037SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	5506.41	5507.17	5568.01	5527.20	0.64	ppb
Antimony	121-1	2.28	2.28	2.42	2.33	3.47	ppb
Arsenic	75-2	23.98	24.28	24.20	24.15	0.66	ppb
Barium	135-1	198.61	208.01	207.22	204.61	2.55	ppb
Barium	137-1	201.36	209.60	209.43	206.80	2.28	ppb
Beryllium	9-1	0.40	0.35	0.37	0.37	6.72	ppb
Bismuth	209-2				99		%
Bismuth	209-1				106		%
Boron	10-1	38.67	41.11	38.71	39.50	3.53	ppb
Boron	11-1	37.25	38.86	39.35	38.49	2.86	ppb
Cadmium	106-1	1.93	2.28	2.64	2.28	15.66	ppb
Cadmium	108-1	1.33	2.16	1.61	1.70	24.71	ppb
Cadmium	111-1	1.69	1.69	1.73	1.70	1.44	ppb
Calcium	43-1	104273.97	107919.77	109117.86	107103.87	2.36	ppb
Calcium	44-1	103811.79	106936.41	107083.27	105943.82	1.74	ppb
Chromium	52-2	13.35	13.15	13.29	13.27	0.77	ppb
Cobalt	59-2	4.89	4.89	5.00	4.92	1.28	ppb
Copper	63-2	48.86	49.35	49.59	49.27	0.76	ppb
Holmium	165-1				106		%
Holmium	165-2				101		%
Indium	115-2				94		%
Indium	115-1				101		%
Iron	56-2	9564.32	9582.03	9696.09	9614.14	0.74	ppb
Iron	57-2	9492.77	9451.18	9568.83	9504.26	0.63	ppb
Lead	208-1	271.95	286.47	281.77	280.06	2.65	ppb
Lead	206-1	283.72	293.95	293.70	290.46	2.01	ppb
Lead	207-1	264.73	278.28	271.73	271.58	2.49	ppb
Lithium	6-1				108		%
Magnesium	24-2	10399.11	10387.77	10453.64	10413.51	0.34	ppb
Manganese	55-2	528.82	532.39	540.12	533.78	1.08	ppb
Molybdenum	94-1	1.33	1.45	1.38	1.38	4.25	ppb
Molybdenum	95-1	0.56	0.63	0.63	0.61	7.22	ppb
Molybdenum	96-1	0.88	0.85	0.80	0.84	4.51	ppb
Molybdenum	97-1	0.60	0.57	0.59	0.59	2.61	ppb
Molybdenum	98-1	0.57	0.61	0.55	0.58	5.44	ppb
Nickel	60-2	10.09	10.08	10.35	10.17	1.48	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-05DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025D	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 15:53:18	DataFile Name :	037SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	1811.84	1828.75	1854.38	1831.66	1.17	ppb
Potassium	39-2	1925.39	1915.81	1955.27	1932.16	1.07	ppb
Rhodium	103-1				98		%
Rhodium	103-2				94		%
Scandium	45-1				96		%
Scandium	45-2				91		%
Selenium	82-1	1.66	1.71	1.73	1.70	2.07	ppb
Selenium	77-2	6.42	6.02	6.91	6.45	6.91	ppb
Selenium	78-2	0.85	0.80	1.87	1.17	51.31	ppb
Silicon	28-1	576.87	526.06	575.50	559.48	5.17	ppb
Silver	107-1	0.64	0.66	0.66	0.65	2.34	ppb
Silver	109-1	0.60	0.63	0.65	0.62	3.57	ppb
Sodium	23-2	533.68	531.59	535.40	533.56	0.36	ppb
Strontium	86-1	341.62	343.86	343.08	342.85	0.33	ppb
Strontium	88-1	335.84	351.84	349.57	345.75	2.50	ppb
Sulfur	34-1	294.96	538.49	644.52	492.66	36.38	ppb
Terbium	159-2				101		%
Terbium	159-1				105		%
Thallium	203-1	0.21	0.25	0.25	0.24	9.49	ppb
Thallium	205-1	0.23	0.23	0.25	0.24	3.25	ppb
Tin	118-1	5.88	6.22	6.03	6.04	2.83	ppb
Titanium	47-1	120.54	123.15	126.79	123.49	2.54	ppb
Uranium	238-1	0.77	0.81	0.77	0.78	2.85	ppb
Vanadium	51-2	13.91	13.75	13.93	13.86	0.70	ppb
Yttrium	89-1				107		%
Yttrium	89-2				102		%
Zinc	66-2	333.95	330.86	334.59	333.13	0.60	ppb
Zirconium	90-1	1.76	1.82	1.84	1.81	2.50	ppb
Zirconium	91-1	1.64	1.72	1.70	1.68	2.45	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04LX5	Instrumnet Name :	P7
Client Sample ID :	MH4025L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:56:18	DataFile Name :	038SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2062.99	2065.29	2080.32	2069.54	0.45	ppb
Antimony	121-1	0.82	0.84	0.85	0.84	2.24	ppb
Arsenic	75-2	9.46	9.50	9.57	9.51	0.60	ppb
Barium	135-1	75.35	76.23	76.68	76.09	0.89	ppb
Barium	137-1	76.63	77.51	77.29	77.14	0.59	ppb
Beryllium	9-1	0.15	0.14	0.16	0.15	8.62	ppb
Bismuth	209-2				101		%
Bismuth	209-1				105		%
Boron	10-1	15.63	19.59	17.19	17.47	11.42	ppb
Boron	11-1	15.77	16.03	17.31	16.37	5.04	ppb
Cadmium	106-1	0.37	0.23	1.22	0.60	89.01	ppb
Cadmium	108-1	0.66	0.58	0.79	0.67	15.80	ppb
Cadmium	111-1	0.60	0.59	0.71	0.63	10.41	ppb
Calcium	43-1	39881.45	39789.05	40156.04	39942.18	0.48	ppb
Calcium	44-1	39580.43	39301.57	39841.89	39574.63	0.68	ppb
Chromium	52-2	4.95	5.03	4.98	4.99	0.79	ppb
Cobalt	59-2	1.77	1.78	1.85	1.80	2.51	ppb
Copper	63-2	17.74	17.91	18.13	17.93	1.11	ppb
Holmium	165-2				103		%
Holmium	165-1				105		%
Indium	115-1				102		%
Indium	115-2				97		%
Iron	56-2	3534.00	3553.56	3549.52	3545.69	0.29	ppb
Iron	57-2	3493.75	3510.44	3479.44	3494.54	0.44	ppb
Lead	206-1	103.81	104.33	105.91	104.69	1.05	ppb
Lead	207-1	99.50	99.32	100.26	99.70	0.50	ppb
Lead	208-1	102.63	102.91	103.83	103.12	0.61	ppb
Lithium	6-1				106		%
Magnesium	24-2	3817.47	3819.34	3839.93	3825.58	0.33	ppb
Manganese	55-2	195.61	197.17	198.21	196.99	0.67	ppb
Molybdenum	94-1	0.57	0.56	0.59	0.57	2.38	ppb
Molybdenum	95-1	0.24	0.26	0.21	0.24	10.09	ppb
Molybdenum	96-1	0.30	0.31	0.33	0.31	4.72	ppb
Molybdenum	97-1	0.22	0.25	0.24	0.24	5.66	ppb
Molybdenum	98-1	0.22	0.23	0.24	0.23	4.27	ppb
Nickel	60-2	3.72	3.77	3.82	3.77	1.39	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04LX5	Instrumnet Name :	P7
Client Sample ID :	MH4025L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:56:18	DataFile Name :	038SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	671.98	628.39	691.50	663.95	4.87	ppb
Potassium	39-2	708.57	711.46	710.22	710.08	0.20	ppb
Rhodium	103-2				98		%
Rhodium	103-1				99		%
Scandium	45-1				97		%
Scandium	45-2				93		%
Selenium	77-2	3.52	3.09	2.62	3.08	14.58	ppb
Selenium	82-1	0.49	0.22	0.85	0.52	60.90	ppb
Selenium	78-2	0.44	0.52	0.13	0.36	56.14	ppb
Silicon	28-1	189.18	182.05	190.41	187.21	2.41	ppb
Silver	107-1	0.23	0.26	0.24	0.24	5.06	ppb
Silver	109-1	0.24	0.24	0.23	0.24	2.22	ppb
Sodium	23-2	201.23	205.15	202.81	203.06	0.97	ppb
Strontium	86-1	130.95	132.76	131.33	131.68	0.72	ppb
Strontium	88-1	133.86	134.60	133.96	134.14	0.30	ppb
Sulfur	34-1	-104.18	-95.04	-96.34	-98.52		ppb
Terbium	159-1				104		%
Terbium	159-2				103		%
Thallium	203-1	0.10	0.08	0.09	0.09	12.06	ppb
Thallium	205-1	0.09	0.10	0.09	0.09	3.46	ppb
Tin	118-1	2.25	2.29	2.31	2.29	1.33	ppb
Titanium	47-1	45.08	44.42	45.56	45.02	1.27	ppb
Uranium	238-1	0.29	0.31	0.29	0.30	4.30	ppb
Vanadium	51-2	5.19	5.07	5.11	5.12	1.12	ppb
Yttrium	89-2				100		%
Yttrium	89-1				103		%
Zinc	66-2	124.46	125.48	125.18	125.04	0.42	ppb
Zirconium	90-1	0.69	0.70	0.67	0.69	1.70	ppb
Zirconium	91-1	0.73	0.71	0.71	0.72	1.72	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04LDLX10	Instrumnet Name :	P7
Client Sample ID :	MH4025L	Dilution Factor :	10
Date & Time Acquired ::	2016-05-06 15:59:20	DataFile Name :	039SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1301.76	1316.61	1300.08	1306.15	0.70	ppb
Antimony	121-1	0.53	0.52	0.47	0.51	5.89	ppb
Arsenic	75-2	5.73	5.90	6.02	5.89	2.48	ppb
Barium	135-1	48.65	48.74	49.72	49.04	1.21	ppb
Barium	137-1	49.02	48.56	49.03	48.87	0.55	ppb
Beryllium	9-1	0.12	0.09	0.08	0.09	20.40	ppb
Bismuth	209-1				105		%
Bismuth	209-2				101		%
Boron	10-1	11.81	10.95	11.94	11.57	4.65	ppb
Boron	11-1	11.07	10.81	11.66	11.18	3.91	ppb
Cadmium	106-1	1.09	-0.18	0.36	0.42	149.20	ppb
Cadmium	108-1	0.37	0.25	0.37	0.33	21.96	ppb
Cadmium	111-1	0.46	0.37	0.39	0.40	11.58	ppb
Calcium	43-1	24721.62	24947.38	25165.55	24944.85	0.89	ppb
Calcium	44-1	24764.87	25121.55	25299.99	25062.14	1.09	ppb
Chromium	52-2	3.04	3.21	3.22	3.16	3.16	ppb
Cobalt	59-2	1.13	1.15	1.17	1.15	1.78	ppb
Copper	63-2	11.03	11.27	11.14	11.14	1.08	ppb
Holmium	165-2				102		%
Holmium	165-1				104		%
Indium	115-1				100		%
Indium	115-2				97		%
Iron	56-2	2236.57	2244.04	2260.76	2247.13	0.55	ppb
Iron	57-2	2204.80	2227.04	2209.69	2213.84	0.53	ppb
Lead	206-1	66.21	65.75	65.52	65.83	0.53	ppb
Lead	207-1	62.96	62.59	62.27	62.61	0.55	ppb
Lead	208-1	64.33	64.33	63.90	64.19	0.39	ppb
Lithium	6-1				106		%
Magnesium	24-2	2417.50	2400.70	2407.97	2408.72	0.35	ppb
Manganese	55-2	124.18	125.77	125.45	125.14	0.67	ppb
Molybdenum	94-1	0.35	0.39	0.39	0.38	5.74	ppb
Molybdenum	95-1	0.13	0.16	0.15	0.14	11.25	ppb
Molybdenum	96-1	0.18	0.20	0.23	0.20	12.81	ppb
Molybdenum	97-1	0.10	0.13	0.13	0.12	12.68	ppb
Molybdenum	98-1	0.16	0.14	0.17	0.16	12.24	ppb
Nickel	60-2	2.33	2.37	2.34	2.34	0.81	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04LDLX10	Instrumnet Name :	P7
Client Sample ID :	MH4025L	Dilution Factor :	10
Date & Time Acquired ::	2016-05-06 15:59:20	DataFile Name :	039SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	433.92	440.40	416.00	430.11	2.94	ppb
Potassium	39-2	436.19	445.47	443.30	441.65	1.10	ppb
Rhodium	103-2				98		%
Rhodium	103-1				98		%
Scandium	45-1				96		%
Scandium	45-2				93		%
Selenium	77-2	0.44	2.23	0.89	1.19	78.44	ppb
Selenium	78-2	0.59	-0.25	1.05	0.47	141.78	ppb
Selenium	82-1	0.44	0.40	0.90	0.58	47.57	ppb
Silicon	28-1	125.42	124.35	127.11	125.63	1.11	ppb
Silver	107-1	0.15	0.17	0.14	0.15	7.32	ppb
Silver	109-1	0.14	0.14	0.14	0.14	3.32	ppb
Sodium	23-2	129.23	129.56	129.21	129.34	0.15	ppb
Strontium	86-1	83.78	85.20	83.49	84.15	1.09	ppb
Strontium	88-1	84.95	86.86	86.30	86.04	1.14	ppb
Sulfur	34-1	-64.65	-59.95	-2.91	-42.51		ppb
Terbium	159-1				103		%
Terbium	159-2				102		%
Thallium	203-1	0.05	0.05	0.05	0.05	2.34	ppb
Thallium	205-1	0.05	0.06	0.06	0.06	7.30	ppb
Tin	118-1	1.47	1.44	1.50	1.47	2.08	ppb
Titanium	47-1	29.07	28.49	29.49	29.02	1.74	ppb
Uranium	238-1	0.19	0.18	0.17	0.18	5.01	ppb
Vanadium	51-2	3.21	3.29	3.15	3.22	2.07	ppb
Yttrium	89-2				99		%
Yttrium	89-1				102		%
Zinc	66-2	77.47	79.29	79.88	78.88	1.60	ppb
Zirconium	90-1	0.45	0.46	0.48	0.46	3.05	ppb
Zirconium	91-1	0.43	0.51	0.49	0.48	8.02	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-06	Instrumnet Name :	P7
Client Sample ID :	MH4025S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:02:22	DataFile Name :	040SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10858.37	10987.88	10958.49	10934.92	0.62	ppb
Antimony	121-1	24.86	24.36	24.62	24.61	1.01	ppb
Arsenic	75-2	51.09	49.73	50.02	50.28	1.42	ppb
Barium	135-1	797.11	793.27	814.43	801.60	1.41	ppb
Barium	137-1	794.22	791.63	799.44	795.09	0.50	ppb
Beryllium	9-1	10.41	10.46	10.36	10.41	0.49	ppb
Bismuth	209-1				108		%
Bismuth	209-2				99		%
Boron	10-1	64.05	67.63	69.45	67.04	4.10	ppb
Boron	11-1	61.67	63.06	65.25	63.33	2.85	ppb
Cadmium	111-1	13.11	12.55	13.08	12.91	2.43	ppb
Cadmium	106-1	12.85	10.98	12.22	12.02	7.91	ppb
Cadmium	108-1	12.38	11.79	12.52	12.23	3.18	ppb
Calcium	43-1	203687.19	200326.47	201648.64	201887.44	0.84	ppb
Calcium	44-1	200529.96	200262.08	201603.26	200798.44	0.35	ppb
Chromium	52-2	67.81	68.36	68.36	68.17	0.47	ppb
Cobalt	59-2	119.79	119.64	120.79	120.07	0.52	ppb
Copper	63-2	147.88	148.71	148.80	148.47	0.34	ppb
Holmium	165-2				104		%
Holmium	165-1				108		%
Indium	115-1				103		%
Indium	115-2				94		%
Iron	56-2	18431.42	18553.16	18616.39	18533.66	0.51	ppb
Iron	57-2	18232.57	18372.83	18328.44	18311.28	0.39	ppb
Lead	206-1	552.81	558.21	552.86	554.63	0.56	ppb
Lead	207-1	518.43	514.54	518.79	517.25	0.46	ppb
Lead	208-1	535.48	534.53	534.92	534.97	0.09	ppb
Lithium	6-1				112		%
Magnesium	24-2	19661.03	19828.56	19787.60	19759.06	0.44	ppb
Manganese	55-2	1136.54	1158.70	1140.37	1145.20	1.03	ppb
Molybdenum	94-1	2.51	2.48	2.62	2.54	2.93	ppb
Molybdenum	95-1	1.08	1.13	1.13	1.11	2.71	ppb
Molybdenum	96-1	1.57	1.52	1.54	1.55	1.71	ppb
Molybdenum	97-1	1.14	1.08	1.12	1.11	2.75	ppb
Molybdenum	98-1	1.10	1.14	1.12	1.12	1.74	ppb
Nickel	60-2	130.27	130.04	131.62	130.64	0.65	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-06	Instrumnet Name :	P7
Client Sample ID :	MH4025S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:02:22	DataFile Name :	040SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	3621.56	3606.12	3653.64	3627.11	0.67	ppb
Potassium	39-2	3659.20	3726.10	3707.64	3697.65	0.93	ppb
Rhodium	103-2				95		%
Rhodium	103-1				99		%
Scandium	45-1				99		%
Scandium	45-2				92		%
Selenium	77-2	31.58	31.98	28.55	30.70	6.10	ppb
Selenium	78-2	20.99	21.25	21.66	21.30	1.58	ppb
Selenium	82-1	18.15	20.78	20.39	19.77	7.18	ppb
Silicon	28-1	938.92	1022.23	963.31	974.82	4.39	ppb
Silver	109-1	11.27	10.94	11.09	11.10	1.50	ppb
Silver	107-1	11.21	11.13	11.25	11.20	0.56	ppb
Sodium	23-2	993.59	1022.06	1007.66	1007.77	1.41	ppb
Strontium	86-1	617.37	627.98	619.01	621.45	0.92	ppb
Strontium	88-1	603.64	622.06	618.50	614.73	1.59	ppb
Sulfur	34-1	1549.51	1360.73	1424.32	1444.85	6.65	ppb
Terbium	159-1				108		%
Terbium	159-2				103		%
Thallium	203-1	10.49	10.49	10.46	10.48	0.16	ppb
Thallium	205-1	10.46	10.50	10.60	10.52	0.68	ppb
Tin	118-1	11.44	11.31	11.45	11.40	0.70	ppb
Titanium	47-1	231.01	235.36	234.76	233.71	1.01	ppb
Uranium	238-1	1.51	1.51	1.50	1.51	0.36	ppb
Vanadium	51-2	133.88	134.04	134.84	134.25	0.38	ppb
Yttrium	89-2				109		%
Yttrium	89-1				118		%
Zinc	66-2	727.41	735.08	737.42	733.30	0.71	ppb
Zirconium	90-1	3.11	3.26	3.16	3.17	2.37	ppb
Zirconium	91-1	3.13	3.13	3.18	3.15	0.94	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-06DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025S	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:05:19	DataFile Name :	041SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	5272.84	5364.08	5398.45	5345.12	1.21	ppb
Antimony	121-1	12.27	12.15	12.25	12.23	0.54	ppb
Arsenic	75-2	27.09	26.96	26.38	26.81	1.41	ppb
Barium	135-1	391.68	393.54	392.01	392.41	0.25	ppb
Barium	137-1	404.60	397.72	396.78	399.70	1.07	ppb
Beryllium	9-1	5.23	5.27	5.12	5.21	1.56	ppb
Bismuth	209-2				101		%
Bismuth	209-1				107		%
Boron	10-1	34.56	36.24	36.20	35.66	2.68	ppb
Boron	11-1	34.00	34.35	35.31	34.55	1.95	ppb
Cadmium	106-1	6.86	6.43	5.14	6.14	14.56	ppb
Cadmium	108-1	6.61	6.10	6.26	6.32	4.18	ppb
Cadmium	111-1	6.62	6.62	6.48	6.57	1.22	ppb
Calcium	43-1	100639.29	102558.59	103209.04	102135.64	1.31	ppb
Calcium	44-1	99958.54	101085.45	101460.37	100834.78	0.78	ppb
Chromium	52-2	32.67	33.63	33.37	33.22	1.51	ppb
Cobalt	59-2	57.55	59.38	59.66	58.86	1.95	ppb
Copper	63-2	71.87	73.99	73.64	73.17	1.56	ppb
Holmium	165-2				104		%
Holmium	165-1				108		%
Indium	115-1				103		%
Indium	115-2				98		%
Iron	57-2	8766.36	9111.06	9061.41	8979.61	2.08	ppb
Iron	56-2	8889.52	9169.30	9126.24	9061.69	1.66	ppb
Lead	206-1	276.36	275.45	287.15	279.65	2.33	ppb
Lead	207-1	260.20	258.53	264.58	261.10	1.20	ppb
Lead	208-1	268.63	267.44	271.45	269.17	0.76	ppb
Lithium	6-1				110		%
Magnesium	24-2	9664.74	9921.17	9740.01	9775.31	1.35	ppb
Manganese	55-2	542.49	557.49	553.94	551.30	1.42	ppb
Molybdenum	94-1	1.33	1.36	1.36	1.35	1.49	ppb
Molybdenum	95-1	0.62	0.57	0.55	0.58	6.17	ppb
Molybdenum	96-1	0.78	0.74	0.81	0.78	4.25	ppb
Molybdenum	97-1	0.59	0.58	0.67	0.61	8.67	ppb
Molybdenum	98-1	0.59	0.59	0.57	0.58	1.64	ppb
Nickel	60-2	63.69	65.33	65.36	64.80	1.47	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-06DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025S	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:05:19	DataFile Name :	041SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	1591.22	1790.97	1716.23	1699.47	5.94	ppb
Potassium	39-2	1765.41	1813.35	1800.18	1792.98	1.38	ppb
Rhodium	103-2				98		%
Rhodium	103-1				99		%
Scandium	45-1				98		%
Scandium	45-2				94		%
Selenium	82-1	9.71	11.26	10.83	10.60	7.56	ppb
Selenium	77-2	13.29	14.26	14.74	14.10	5.25	ppb
Selenium	78-2	10.31	12.15	10.56	11.01	9.06	ppb
Silicon	28-1	517.59	536.16	559.21	537.66	3.88	ppb
Silver	107-1	5.75	5.64	5.71	5.70	0.99	ppb
Silver	109-1	5.66	5.61	5.57	5.61	0.79	ppb
Sodium	23-2	491.89	509.93	505.05	502.29	1.86	ppb
Strontium	86-1	321.21	319.33	326.78	322.44	1.20	ppb
Strontium	88-1	327.92	324.81	328.78	327.17	0.64	ppb
Sulfur	34-1	401.17	428.61	508.99	446.26	12.56	ppb
Terbium	159-2				104		%
Terbium	159-1				107		%
Thallium	203-1	5.20	5.15	5.15	5.17	0.52	ppb
Thallium	205-1	5.17	5.24	5.36	5.26	1.85	ppb
Tin	118-1	5.59	5.81	5.69	5.69	1.89	ppb
Titanium	47-1	115.41	115.25	118.57	116.41	1.61	ppb
Uranium	238-1	0.75	0.74	0.74	0.74	1.29	ppb
Vanadium	51-2	63.42	66.42	65.25	65.03	2.33	ppb
Yttrium	89-1				110		%
Yttrium	89-2				105		%
Zinc	66-2	360.26	366.98	364.62	363.96	0.94	ppb
Zirconium	90-1	1.74	1.63	1.70	1.69	3.05	ppb
Zirconium	91-1	1.61	1.60	1.71	1.64	3.48	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-07	Instrumnet Name :	P7
Client Sample ID :	MH4028	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:08:19	DataFile Name :	042SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	7717.76	8006.63	7795.28	7839.89	1.91	ppb
Antimony	121-1	2.15	2.09	2.17	2.14	1.78	ppb
Arsenic	75-2	14.54	14.14	14.01	14.23	1.94	ppb
Barium	135-1	218.18	219.98	218.55	218.91	0.43	ppb
Barium	137-1	219.78	219.76	219.48	219.67	0.08	ppb
Beryllium	9-1	0.61	0.65	0.60	0.62	4.46	ppb
Bismuth	209-1				109		%
Bismuth	209-2				101		%
Boron	10-1	37.44	35.23	40.04	37.57	6.40	ppb
Boron	11-1	35.15	35.69	35.67	35.50	0.87	ppb
Cadmium	108-1	2.85	3.01	2.74	2.87	4.81	ppb
Cadmium	111-1	1.97	2.00	2.00	1.99	0.78	ppb
Cadmium	106-1	2.59	3.67	3.68	3.31	19.02	ppb
Calcium	43-1	186268.01	184431.35	185142.89	185280.75	0.50	ppb
Calcium	44-1	185486.02	184330.38	185754.47	185190.29	0.41	ppb
Chromium	52-2	17.37	17.73	17.58	17.56	1.04	ppb
Cobalt	59-2	8.99	9.26	9.20	9.15	1.55	ppb
Copper	63-2	64.81	67.00	65.64	65.81	1.68	ppb
Holmium	165-2				104		%
Holmium	165-1				109		%
Indium	115-1				104		%
Indium	115-2				97		%
Iron	56-2	16767.17	17370.58	17030.87	17056.21	1.77	ppb
Iron	57-2	16665.47	17226.73	16803.29	16898.50	1.73	ppb
Lead	206-1	245.97	242.50	239.52	242.66	1.33	ppb
Lead	207-1	230.10	228.06	227.89	228.68	0.54	ppb
Lead	208-1	235.52	235.54	234.04	235.04	0.37	ppb
Lithium	6-1				111		%
Magnesium	24-2	11341.04	11684.62	11470.26	11498.64	1.51	ppb
Manganese	55-2	685.98	707.77	694.64	696.13	1.58	ppb
Molybdenum	94-1	3.42	3.29	3.53	3.41	3.57	ppb
Molybdenum	95-1	0.57	0.62	0.58	0.59	4.27	ppb
Molybdenum	96-1	1.25	1.33	1.30	1.29	3.00	ppb
Molybdenum	97-1	0.61	0.57	0.59	0.59	4.00	ppb
Molybdenum	98-1	0.61	0.53	0.59	0.58	6.94	ppb
Nickel	60-2	17.69	18.69	18.52	18.30	2.91	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-07	Instrumnet Name :	P7
Client Sample ID :	MH4028	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:08:19	DataFile Name :	042SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	2189.84	2321.78	2129.17	2213.59	4.45	ppb
Potassium	39-2	2702.74	2782.32	2716.59	2733.88	1.56	ppb
Rhodium	103-1				100		%
Rhodium	103-2				97		%
Scandium	45-2				95		%
Scandium	45-1				101		%
Selenium	82-1	2.77	2.76	3.18	2.90	8.30	ppb
Selenium	77-2	12.00	10.32	15.25	12.52	20.01	ppb
Selenium	78-2	2.74	2.70	3.93	3.12	22.47	ppb
Silicon	28-1	824.32	896.70	937.36	886.13	6.46	ppb
Silver	107-1	0.68	0.70	0.74	0.71	4.32	ppb
Silver	109-1	0.71	0.70	0.67	0.69	3.07	ppb
Sodium	23-2	659.00	670.59	659.24	662.94	1.00	ppb
Strontium	86-1	439.13	430.59	437.75	435.82	1.05	ppb
Strontium	88-1	435.78	428.81	435.76	433.45	0.93	ppb
Sulfur	34-1	1854.57	1694.10	1762.59	1770.42	4.55	ppb
Terbium	159-1				107		%
Terbium	159-2				105		%
Thallium	203-1	0.40	0.37	0.41	0.39	4.75	ppb
Thallium	205-1	0.39	0.39	0.39	0.39	0.48	ppb
Tin	118-1	2.76	2.71	2.89	2.79	3.35	ppb
Titanium	47-1	202.64	203.16	201.90	202.57	0.31	ppb
Uranium	238-1	1.38	1.40	1.39	1.39	0.85	ppb
Vanadium	51-2	25.73	26.22	25.60	25.85	1.25	ppb
Yttrium	89-1				118		%
Yttrium	89-2				110		%
Zinc	66-2	273.71	278.75	276.91	276.46	0.92	ppb
Zirconium	90-1	4.73	4.66	4.73	4.71	0.83	ppb
Zirconium	91-1	4.65	4.71	4.69	4.68	0.65	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-07DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4028	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:11:18	DataFile Name :	043SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4130.92	4170.86	4065.46	4122.42	1.29	ppb
Antimony	121-1	0.97	1.04	1.02	1.01	3.24	ppb
Arsenic	75-2	7.43	7.26	8.07	7.59	5.60	ppb
Barium	135-1	111.80	110.83	112.33	111.65	0.68	ppb
Barium	137-1	113.46	111.64	113.76	112.95	1.02	ppb
Beryllium	9-1	0.35	0.38	0.26	0.33	18.79	ppb
Bismuth	209-1				107		%
Bismuth	209-2				101		%
Boron	10-1	22.09	21.06	23.10	22.08	4.61	ppb
Boron	11-1	19.24	19.71	20.16	19.70	2.34	ppb
Cadmium	111-1	1.01	1.03	1.09	1.04	4.10	ppb
Cadmium	106-1	1.74	1.70	2.52	1.99	23.17	ppb
Cadmium	108-1	1.28	1.10	1.35	1.25	10.36	ppb
Calcium	43-1	97349.74	96696.89	97755.01	97267.21	0.55	ppb
Calcium	44-1	95864.06	95838.59	97362.47	96355.04	0.91	ppb
Chromium	52-2	9.01	8.86	9.16	9.01	1.65	ppb
Cobalt	59-2	4.73	4.67	4.65	4.68	0.89	ppb
Copper	63-2	33.37	34.03	34.01	33.80	1.11	ppb
Holmium	165-2				105		%
Holmium	165-1				107		%
Indium	115-1				104		%
Indium	115-2				98		%
Iron	56-2	8790.61	8845.24	8654.51	8763.45	1.12	ppb
Iron	57-2	8635.04	8712.19	8641.31	8662.85	0.49	ppb
Lead	206-1	122.06	118.74	120.90	120.57	1.40	ppb
Lead	207-1	116.68	112.92	115.89	115.16	1.72	ppb
Lead	208-1	120.33	116.82	120.16	119.10	1.66	ppb
Lithium	6-1				109		%
Magnesium	24-2	5870.52	5963.42	5917.75	5917.23	0.79	ppb
Manganese	55-2	356.36	358.50	356.19	357.02	0.36	ppb
Molybdenum	94-1	1.85	1.82	1.95	1.87	3.66	ppb
Molybdenum	95-1	0.31	0.35	0.31	0.32	5.80	ppb
Molybdenum	96-1	0.74	0.76	0.67	0.72	6.98	ppb
Molybdenum	97-1	0.34	0.31	0.27	0.31	11.37	ppb
Molybdenum	98-1	0.34	0.29	0.36	0.33	10.76	ppb
Nickel	60-2	9.64	10.21	9.65	9.84	3.32	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-07DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4028	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:11:18	DataFile Name :	043SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	1209.75	1086.88	1036.59	1111.07	8.02	ppb
Potassium	39-2	1397.86	1414.51	1404.36	1405.58	0.60	ppb
Rhodium	103-2				99		%
Rhodium	103-1				100		%
Scandium	45-1				99		%
Scandium	45-2				95		%
Selenium	77-2	5.45	6.29	9.24	6.99	28.50	ppb
Selenium	78-2	1.54	1.54	2.03	1.71	16.53	ppb
Selenium	82-1	1.83	0.65	1.34	1.27	46.62	ppb
Silicon	28-1	440.91	505.53	515.65	487.36	8.32	ppb
Silver	109-1	0.35	0.35	0.34	0.34	2.12	ppb
Silver	107-1	0.34	0.38	0.36	0.36	6.03	ppb
Sodium	23-2	328.25	342.46	338.37	336.36	2.18	ppb
Strontium	86-1	232.59	229.75	233.23	231.86	0.80	ppb
Strontium	88-1	234.92	233.09	235.85	234.62	0.60	ppb
Sulfur	34-1	793.77	800.13	934.19	842.70	9.41	ppb
Terbium	159-1				106		%
Terbium	159-2				105		%
Thallium	203-1	0.20	0.20	0.19	0.20	4.47	ppb
Thallium	205-1	0.19	0.20	0.20	0.20	2.01	ppb
Tin	118-1	1.44	1.48	1.51	1.48	2.43	ppb
Titanium	47-1	104.17	106.77	106.58	105.84	1.37	ppb
Uranium	238-1	0.73	0.68	0.71	0.71	3.05	ppb
Vanadium	51-2	12.86	13.34	13.13	13.11	1.84	ppb
Yttrium	89-2				104		%
Yttrium	89-1				109		%
Zinc	66-2	143.95	144.56	144.20	144.24	0.21	ppb
Zirconium	90-1	2.56	2.57	2.61	2.58	0.96	ppb
Zirconium	91-1	2.57	2.55	2.61	2.58	1.16	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-08	Instrumnet Name :	P7
Client Sample ID :	MH4029	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:14:19	DataFile Name :	044SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4493.66	4518.35	4568.09	4526.70	0.84	ppb
Antimony	121-1	1.85	1.76	1.77	1.79	2.97	ppb
Arsenic	75-2	7.79	7.60	7.69	7.69	1.25	ppb
Barium	135-1	150.77	150.25	151.91	150.98	0.56	ppb
Barium	137-1	152.12	151.91	151.85	151.96	0.09	ppb
Beryllium	9-1	0.46	0.44	0.47	0.46	3.10	ppb
Bismuth	209-1				109		%
Bismuth	209-2				100		%
Boron	10-1	42.25	41.97	44.55	42.92	3.30	ppb
Boron	11-1	41.59	42.26	42.93	42.26	1.58	ppb
Cadmium	111-1	1.49	1.40	1.33	1.40	6.00	ppb
Cadmium	106-1	2.46	2.20	1.97	2.21	11.15	ppb
Cadmium	108-1	1.67	1.80	1.94	1.80	7.68	ppb
Calcium	43-1	103186.57	103095.84	103151.81	103144.74	0.04	ppb
Calcium	44-1	102290.92	102248.52	103122.06	102553.84	0.48	ppb
Chromium	52-2	13.26	12.86	13.44	13.19	2.23	ppb
Cobalt	59-2	5.11	5.14	5.24	5.16	1.38	ppb
Copper	63-2	64.65	64.00	64.87	64.51	0.70	ppb
Holmium	165-2				103		%
Holmium	165-1				108		%
Indium	115-1				103		%
Indium	115-2				96		%
Iron	56-2	8944.11	8934.78	9176.45	9018.44	1.52	ppb
Iron	57-2	8878.65	8853.73	9040.64	8924.34	1.14	ppb
Lead	206-1	142.87	145.12	142.77	143.59	0.93	ppb
Lead	207-1	133.86	135.31	134.06	134.41	0.59	ppb
Lead	208-1	139.38	140.74	139.94	140.02	0.49	ppb
Lithium	6-1				110		%
Magnesium	24-2	8843.82	8888.88	9065.38	8932.69	1.31	ppb
Manganese	55-2	384.69	383.32	391.05	386.35	1.07	ppb
Molybdenum	94-1	2.10	2.12	2.16	2.13	1.56	ppb
Molybdenum	95-1	1.08	1.14	1.16	1.13	3.78	ppb
Molybdenum	96-1	1.42	1.41	1.38	1.40	1.50	ppb
Molybdenum	97-1	1.14	1.12	1.04	1.10	4.78	ppb
Molybdenum	98-1	1.07	1.08	1.02	1.06	3.18	ppb
Nickel	60-2	12.42	12.25	12.38	12.35	0.73	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-08	Instrumnet Name :	P7
Client Sample ID :	MH4029	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:14:19	DataFile Name :	044SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	1809.51	1792.22	1713.88	1771.87	2.88	ppb
Potassium	39-2	1957.82	1954.81	1968.30	1960.31	0.36	ppb
Rhodium	103-2				96		%
Rhodium	103-1				101		%
Scandium	45-1				100		%
Scandium	45-2				93		%
Selenium	77-2	5.04	6.77	5.99	5.93	14.61	ppb
Selenium	78-2	1.00	1.65	1.97	1.54	31.97	ppb
Selenium	82-1	2.48	2.29	1.50	2.09	24.71	ppb
Silicon	28-1	2498.49	1085.21	1111.52	1565.07	51.66	ppb
Silver	109-1	0.33	0.34	0.35	0.34	2.86	ppb
Silver	107-1	0.33	0.32	0.36	0.34	5.68	ppb
Sodium	23-2	721.28	719.60	732.57	724.48	0.97	ppb
Strontium	86-1	314.98	309.87	309.07	311.31	1.03	ppb
Strontium	88-1	319.61	315.79	316.59	317.33	0.63	ppb
Sulfur	34-1	1906.74	2011.88	2013.81	1977.47	3.10	ppb
Terbium	159-1				107		%
Terbium	159-2				102		%
Thallium	203-1	0.19	0.19	0.19	0.19	1.64	ppb
Thallium	205-1	0.19	0.19	0.19	0.19	0.35	ppb
Tin	118-1	1.89	1.93	1.92	1.91	1.29	ppb
Titanium	47-1	120.65	118.45	121.67	120.26	1.37	ppb
Uranium	238-1	1.14	1.20	1.18	1.17	2.46	ppb
Vanadium	51-2	14.85	15.00	15.22	15.03	1.24	ppb
Yttrium	89-2				103		%
Yttrium	89-1				112		%
Zinc	66-2	226.83	227.72	231.83	228.79	1.17	ppb
Zirconium	90-1	2.65	2.59	2.69	2.65	1.82	ppb
Zirconium	91-1	2.70	2.59	2.70	2.67	2.36	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-08DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4029	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:17:21	DataFile Name :	045SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2371.79	2301.57	2293.29	2322.22	1.86	ppb
Antimony	121-1	0.83	0.85	0.87	0.85	2.45	ppb
Arsenic	75-2	3.97	3.73	3.79	3.83	3.26	ppb
Barium	135-1	77.07	76.53	76.30	76.63	0.51	ppb
Barium	137-1	77.96	77.28	77.09	77.45	0.59	ppb
Beryllium	9-1	0.25	0.17	0.23	0.21	18.90	ppb
Bismuth	209-1				106		%
Bismuth	209-2				100		%
Boron	10-1	24.56	23.56	26.84	24.99	6.73	ppb
Boron	11-1	23.05	24.38	24.67	24.03	3.59	ppb
Cadmium	111-1	0.74	0.69	0.72	0.72	3.59	ppb
Cadmium	106-1	1.02	1.10	1.05	1.06	3.46	ppb
Cadmium	108-1	0.80	0.88	0.84	0.84	4.78	ppb
Calcium	43-1	52746.98	53330.87	52156.97	52744.94	1.11	ppb
Calcium	44-1	52539.26	52675.58	51090.16	52101.67	1.69	ppb
Chromium	52-2	6.83	6.80	6.67	6.77	1.30	ppb
Cobalt	59-2	2.64	2.65	2.59	2.63	1.16	ppb
Copper	63-2	33.14	32.27	32.83	32.74	1.35	ppb
Holmium	165-2				102		%
Holmium	165-1				106		%
Indium	115-1				102		%
Indium	115-2				97		%
Iron	56-2	4636.17	4536.85	4583.89	4585.64	1.08	ppb
Iron	57-2	4583.75	4529.04	4534.57	4549.12	0.66	ppb
Lead	206-1	72.32	72.24	73.33	72.63	0.84	ppb
Lead	207-1	67.53	67.29	68.67	67.83	1.08	ppb
Lead	208-1	69.48	70.14	70.61	70.08	0.81	ppb
Lithium	6-1				108		%
Magnesium	24-2	4636.26	4584.18	4568.27	4596.24	0.77	ppb
Manganese	55-2	197.00	193.87	196.34	195.74	0.84	ppb
Molybdenum	94-1	1.10	1.14	1.11	1.12	1.78	ppb
Molybdenum	95-1	0.59	0.56	0.64	0.60	6.70	ppb
Molybdenum	96-1	0.72	0.75	0.70	0.72	3.49	ppb
Molybdenum	97-1	0.60	0.60	0.55	0.58	5.10	ppb
Molybdenum	98-1	0.61	0.57	0.55	0.58	4.99	ppb
Nickel	60-2	6.25	6.26	6.23	6.25	0.19	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-08DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4029	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:17:21	DataFile Name :	045SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	927.43	830.68	912.49	890.20	5.85	ppb
Potassium	39-2	1006.76	978.50	976.14	987.14	1.73	ppb
Rhodium	103-2				98		%
Rhodium	103-1				101		%
Scandium	45-1				99		%
Scandium	45-2				93		%
Selenium	77-2	1.30	2.64	1.74	1.89	36.02	ppb
Selenium	78-2	1.75	0.15	1.41	1.10	76.12	ppb
Selenium	82-1	0.79	2.30	1.18	1.42	54.93	ppb
Silicon	28-1	563.54	559.13	542.64	555.10	1.98	ppb
Silver	109-1	0.15	0.16	0.17	0.16	6.53	ppb
Silver	107-1	0.16	0.18	0.15	0.17	8.98	ppb
Sodium	23-2	381.45	370.48	370.19	374.04	1.72	ppb
Strontium	86-1	166.05	167.58	163.41	165.68	1.27	ppb
Strontium	88-1	168.86	171.38	166.28	168.84	1.51	ppb
Sulfur	34-1	736.20	905.04	661.60	767.61	16.25	ppb
Terbium	159-1				105		%
Terbium	159-2				103		%
Thallium	203-1	0.09	0.09	0.10	0.09	10.70	ppb
Thallium	205-1	0.09	0.11	0.10	0.10	5.91	ppb
Tin	118-1	0.96	1.03	0.98	0.99	3.44	ppb
Titanium	47-1	61.60	61.81	60.73	61.38	0.93	ppb
Uranium	238-1	0.59	0.60	0.60	0.60	1.23	ppb
Vanadium	51-2	7.58	7.40	7.53	7.50	1.24	ppb
Yttrium	89-2				100		%
Yttrium	89-1				106		%
Zinc	66-2	120.20	115.56	116.97	117.58	2.02	ppb
Zirconium	90-1	1.40	1.42	1.40	1.41	0.98	ppb
Zirconium	91-1	1.34	1.47	1.47	1.43	5.15	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-09	Instrumnet Name :	P7
Client Sample ID :	MH4030	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:20:23	DataFile Name :	046SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	4435.68	4487.57	4513.14	4478.80	0.88	ppb
Antimony	121-1	1.70	1.68	1.56	1.65	4.70	ppb
Arsenic	75-2	6.26	6.52	6.34	6.38	2.09	ppb
Barium	135-1	136.13	136.09	136.98	136.40	0.37	ppb
Barium	137-1	137.24	136.34	137.85	137.14	0.56	ppb
Beryllium	9-1	0.31	0.35	0.33	0.33	5.90	ppb
Bismuth	209-1				108		%
Bismuth	209-2				100		%
Boron	10-1	38.10	36.98	37.79	37.62	1.54	ppb
Boron	11-1	34.85	38.00	37.67	36.84	4.70	ppb
Cadmium	111-1	1.35	1.41	1.28	1.35	5.09	ppb
Cadmium	106-1	1.42	2.74	1.79	1.98	34.14	ppb
Cadmium	108-1	1.74	2.00	1.70	1.82	8.94	ppb
Calcium	43-1	92791.01	91028.80	91070.81	91630.21	1.10	ppb
Calcium	44-1	93251.38	90258.93	91223.99	91578.10	1.67	ppb
Chromium	52-2	14.13	14.47	14.45	14.35	1.34	ppb
Cobalt	59-2	4.67	4.76	4.79	4.74	1.38	ppb
Copper	63-2	70.39	71.16	72.69	71.41	1.64	ppb
Holmium	165-2				103		%
Holmium	165-1				107		%
Indium	115-1				102		%
Indium	115-2				96		%
Iron	56-2	8753.18	8821.71	8987.29	8854.06	1.36	ppb
Iron	57-2	8694.10	8720.97	8925.23	8780.10	1.44	ppb
Lead	206-1	142.34	141.85	141.25	141.81	0.38	ppb
Lead	207-1	133.27	132.49	132.06	132.61	0.46	ppb
Lead	208-1	139.51	137.93	138.55	138.67	0.57	ppb
Lithium	6-1				109		%
Magnesium	24-2	8414.59	8392.50	8461.85	8422.98	0.42	ppb
Manganese	55-2	299.11	303.37	307.45	303.31	1.38	ppb
Molybdenum	94-1	2.22	2.34	2.22	2.26	3.09	ppb
Molybdenum	95-1	1.24	1.21	1.28	1.24	2.66	ppb
Molybdenum	96-1	1.50	1.44	1.44	1.46	2.19	ppb
Molybdenum	97-1	1.20	1.18	1.12	1.17	3.48	ppb
Molybdenum	98-1	1.23	1.25	1.22	1.23	1.39	ppb
Nickel	60-2	12.01	11.91	12.07	12.00	0.66	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-09	Instrumnet Name :	P7
Client Sample ID :	MH4030	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:20:23	DataFile Name :	046SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	1731.51	1785.72	1703.10	1740.11	2.41	ppb
Potassium	39-2	1769.19	1766.97	1810.84	1782.33	1.39	ppb
Rhodium	103-2				97		%
Rhodium	103-1				99		%
Scandium	45-1				98		%
Scandium	45-2				92		%
Selenium	77-2	7.12	5.97	10.72	7.94	31.25	ppb
Selenium	78-2	2.22	1.68	1.91	1.94	14.20	ppb
Selenium	82-1	1.90	1.59	2.21	1.90	16.39	ppb
Silicon	28-1	1078.26	1053.30	1117.24	1082.93	2.98	ppb
Silver	109-1	0.31	0.33	0.34	0.33	3.95	ppb
Silver	107-1	0.32	0.33	0.34	0.33	3.41	ppb
Sodium	23-2	734.18	739.59	752.51	742.09	1.27	ppb
Strontium	86-1	274.97	275.41	271.90	274.09	0.70	ppb
Strontium	88-1	280.01	280.61	273.39	278.00	1.44	ppb
Sulfur	34-1	2535.26	2331.40	2510.52	2459.06	4.52	ppb
Terbium	159-1				105		%
Terbium	159-2				103		%
Thallium	203-1	0.18	0.16	0.19	0.17	9.51	ppb
Thallium	205-1	0.20	0.19	0.18	0.19	4.14	ppb
Tin	118-1	1.98	1.79	1.84	1.87	5.21	ppb
Titanium	47-1	132.04	129.98	131.04	131.02	0.79	ppb
Uranium	238-1	2.39	2.34	2.31	2.35	1.76	ppb
Vanadium	51-2	15.53	15.49	15.80	15.60	1.08	ppb
Yttrium	89-2				103		%
Yttrium	89-1				109		%
Zinc	66-2	233.64	238.15	244.47	238.75	2.28	ppb
Zirconium	90-1	2.58	2.61	2.62	2.61	0.73	ppb
Zirconium	91-1	2.92	2.56	2.61	2.69	7.19	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-09DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4030	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:23:25	DataFile Name :	047SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	2324.96	2307.66	2294.36	2308.99	0.66	ppb
Antimony	121-1	0.81	0.78	0.81	0.80	2.00	ppb
Arsenic	75-2	3.48	3.47	3.62	3.52	2.35	ppb
Barium	135-1	70.92	70.81	70.98	70.91	0.12	ppb
Barium	137-1	70.77	71.73	70.64	71.05	0.84	ppb
Beryllium	9-1	0.21	0.18	0.22	0.20	10.66	ppb
Bismuth	209-1				104		%
Bismuth	209-2				99		%
Boron	10-1	21.04	21.45	22.21	21.57	2.75	ppb
Boron	11-1	20.71	20.74	21.65	21.03	2.54	ppb
Cadmium	111-1	0.63	0.72	0.77	0.71	9.83	ppb
Cadmium	106-1	0.97	0.93	1.35	1.08	21.43	ppb
Cadmium	108-1	0.69	0.97	0.60	0.75	25.92	ppb
Calcium	43-1	47480.81	48118.45	47727.72	47775.66	0.67	ppb
Calcium	44-1	47345.45	47733.54	47884.55	47654.51	0.58	ppb
Chromium	52-2	7.62	7.59	7.55	7.59	0.43	ppb
Cobalt	59-2	2.50	2.46	2.42	2.46	1.50	ppb
Copper	63-2	37.00	37.06	37.01	37.02	0.09	ppb
Holmium	165-2				101		%
Holmium	165-1				103		%
Indium	115-1				101		%
Indium	115-2				96		%
Iron	56-2	4719.25	4647.52	4826.08	4730.95	1.90	ppb
Iron	57-2	4713.89	4666.06	4754.17	4711.37	0.94	ppb
Lead	206-1	73.93	73.55	73.63	73.70	0.27	ppb
Lead	207-1	70.05	69.24	68.83	69.37	0.90	ppb
Lead	208-1	71.52	71.30	71.10	71.31	0.30	ppb
Lithium	6-1				105		%
Magnesium	24-2	4318.78	4260.59	4305.07	4294.81	0.71	ppb
Manganese	55-2	155.59	154.67	156.63	155.63	0.63	ppb
Molybdenum	94-1	1.19	1.27	1.16	1.21	4.57	ppb
Molybdenum	95-1	0.71	0.76	0.68	0.72	5.77	ppb
Molybdenum	96-1	0.83	0.80	0.82	0.82	1.86	ppb
Molybdenum	97-1	0.69	0.62	0.64	0.65	5.35	ppb
Molybdenum	98-1	0.69	0.66	0.68	0.68	2.41	ppb
Nickel	60-2	6.49	6.14	6.57	6.40	3.58	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-09DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4030	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:23:25	DataFile Name :	047SMPL.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	893.04	847.28	948.60	896.31	5.66	ppb
Potassium	39-2	917.94	893.41	915.09	908.81	1.48	ppb
Rhodium	103-2				96		%
Rhodium	103-1				98		%
Scandium	45-1				96		%
Scandium	45-2				92		%
Selenium	77-2	7.06	1.76	2.65	3.82	74.15	ppb
Selenium	78-2	0.30	1.45	0.88	0.88	65.28	ppb
Selenium	82-1	0.49	1.25	2.33	1.35	68.15	ppb
Silicon	28-1	546.88	556.38	569.57	557.61	2.04	ppb
Silver	109-1	0.15	0.18	0.16	0.17	8.19	ppb
Silver	107-1	0.15	0.17	0.15	0.16	8.45	ppb
Sodium	23-2	385.87	379.57	382.56	382.66	0.82	ppb
Strontium	86-1	146.37	146.81	142.86	145.35	1.49	ppb
Strontium	88-1	150.74	150.32	148.25	149.77	0.89	ppb
Sulfur	34-1	1083.59	1187.75	1049.59	1106.98	6.50	ppb
Terbium	159-1				103		%
Terbium	159-2				102		%
Thallium	203-1	0.09	0.11	0.10	0.10	7.19	ppb
Thallium	205-1	0.10	0.10	0.10	0.10	4.24	ppb
Tin	118-1	1.04	1.04	1.01	1.03	2.13	ppb
Titanium	47-1	68.19	68.48	68.19	68.29	0.24	ppb
Uranium	238-1	1.19	1.21	1.23	1.21	1.38	ppb
Vanadium	51-2	7.99	7.92	7.97	7.96	0.51	ppb
Yttrium	89-2				99		%
Yttrium	89-1				104		%
Zinc	66-2	123.48	120.59	121.87	121.98	1.19	ppb
Zirconium	90-1	1.42	1.40	1.41	1.41	0.69	ppb
Zirconium	91-1	1.63	1.38	1.42	1.48	9.03	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCV082	Instrumnet Name :	P7
Client Sample ID :	CCV082	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:26:27	DataFile Name :	048CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	10321.89	10199.83	10231.72	10251.15	0.62	ppb
Antimony	121-1	518.33	511.55	511.70	513.86	0.75	ppb
Arsenic	75-2	509.66	514.52	515.08	513.09	0.58	ppb
Barium	135-1	2558.88	2563.92	2546.95	2556.58	0.34	ppb
Barium	137-1	2543.62	2552.89	2528.66	2541.73	0.48	ppb
Beryllium	9-1	512.56	511.62	518.91	514.36	0.77	ppb
Bismuth	209-1				100		%
Bismuth	209-2				95		%
Boron	10-1	473.88	484.65	495.80	484.78	2.26	ppb
Boron	11-1	471.12	476.73	488.95	478.93	1.90	ppb
Cadmium	111-1	505.08	505.00	501.16	503.75	0.44	ppb
Cadmium	106-1	510.79	516.80	503.58	510.39	1.30	ppb
Cadmium	108-1	510.79	515.68	501.56	509.34	1.41	ppb
Calcium	43-1	50043.14	50117.02	49431.43	49863.86	0.75	ppb
Calcium	44-1	49035.23	49334.09	49222.46	49197.26	0.31	ppb
Chromium	52-2	531.31	526.57	522.62	526.83	0.83	ppb
Cobalt	59-2	531.32	526.92	535.81	531.35	0.84	ppb
Copper	63-2	1076.84	1058.66	1070.56	1068.68	0.86	ppb
Holmium	165-2				100		%
Holmium	165-1				101		%
Indium	115-1				95		%
Indium	115-2				90		%
Iron	56-2	25890.27	25684.11	25929.53	25834.64	0.51	ppb
Iron	57-2	26303.25	25840.30	26577.47	26240.34	1.42	ppb
Lead	206-1	506.98	508.13	508.03	507.71	0.13	ppb
Lead	207-1	501.76	498.25	502.58	500.86	0.46	ppb
Lead	208-1	504.33	500.15	506.15	503.54	0.61	ppb
Lithium	6-1				101		%
Magnesium	24-2	48082.82	47763.83	47573.28	47806.64	0.54	ppb
Manganese	55-2	1053.11	1054.49	1046.92	1051.51	0.38	ppb
Molybdenum	94-1	512.16	516.91	511.39	513.49	0.58	ppb
Molybdenum	95-1	515.88	519.83	514.39	516.70	0.54	ppb
Molybdenum	96-1	515.97	514.06	511.70	513.91	0.42	ppb
Molybdenum	97-1	511.09	510.38	508.99	510.16	0.21	ppb
Molybdenum	98-1	509.09	514.62	500.68	508.13	1.38	ppb
Nickel	60-2	527.52	525.67	532.86	528.68	0.71	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCV082	Instrumnet Name :	P7
Client Sample ID :	CCV082	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:26:27	DataFile Name :	048CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	10193.05	10312.31	10364.71	10290.02	0.85	ppb
Potassium	39-2	23950.56	24119.19	24027.63	24032.46	0.35	ppb
Rhodium	103-2				93		%
Rhodium	103-1				94		%
Scandium	45-1				97		%
Scandium	45-2				94		%
Selenium	77-2	523.83	514.18	510.24	516.08	1.36	ppb
Selenium	78-2	517.20	511.25	518.95	515.80	0.78	ppb
Selenium	82-1	519.05	501.34	497.39	505.93	2.28	ppb
Silicon	28-1	498.38	499.69	503.63	500.57	0.55	ppb
Silver	109-1	510.31	514.06	517.46	513.95	0.70	ppb
Silver	107-1	517.04	520.53	516.17	517.92	0.45	ppb
Sodium	23-2	48824.30	48581.52	49051.70	48819.17	0.48	ppb
Strontium	86-1	516.16	507.27	512.56	512.00	0.87	ppb
Strontium	88-1	510.01	507.08	507.59	508.22	0.31	ppb
Sulfur	34-1	10784.40	10744.50	10506.87	10678.59	1.41	ppb
Terbium	159-1				101		%
Terbium	159-2				100		%
Thallium	203-1	510.23	516.32	513.72	513.43	0.60	ppb
Thallium	205-1	504.20	509.18	509.26	507.55	0.57	ppb
Tin	118-1	517.65	514.79	509.82	514.09	0.77	ppb
Titanium	47-1	492.81	502.45	495.88	497.04	0.99	ppb
Uranium	238-1	486.83	491.76	493.06	490.55	0.67	ppb
Vanadium	51-2	526.85	528.05	522.63	525.84	0.54	ppb
Yttrium	89-2				95		%
Yttrium	89-1				98		%
Zinc	66-2	1060.37	1051.42	1065.25	1059.01	0.66	ppb
Zirconium	90-1	499.08	508.49	500.96	502.84	0.99	ppb
Zirconium	91-1	511.30	518.89	500.77	510.32	1.78	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCB082	Instrumnet Name :	P7
Client Sample ID :	CCB082	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:29:18	DataFile Name :	049CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-2	1.53	1.14	0.66	1.11	39.35	ppb
Antimony	121-1	0.30	0.32	0.31	0.31	2.46	ppb
Arsenic	75-2	0.06	0.06	0.04	0.05	18.99	ppb
Barium	135-1	0.17	0.17	0.13	0.16	14.60	ppb
Barium	137-1	0.19	0.11	0.16	0.15	27.68	ppb
Beryllium	9-1	0.07	0.09	0.05	0.07	27.46	ppb
Bismuth	209-1				102		%
Bismuth	209-2				98		%
Boron	10-1	17.33	15.73	16.70	16.59	4.86	ppb
Boron	11-1	18.78	16.63	15.88	17.10	8.81	ppb
Cadmium	111-1	0.03	0.06	0.00	0.03	105.08	ppb
Cadmium	106-1	-0.14	0.13	-0.59	-0.20		ppb
Cadmium	108-1	0.01	0.04	-0.01	0.01	154.87	ppb
Calcium	43-1	4.86	9.92	0.79	5.19	88.12	ppb
Calcium	44-1	2.78	1.70	1.82	2.10	28.28	ppb
Chromium	52-2	0.15	0.17	0.18	0.17	11.50	ppb
Cobalt	59-2	0.02	0.03	0.03	0.02	10.15	ppb
Copper	63-2	-0.44	-0.43	-0.42	-0.43		ppb
Holmium	165-2				100		%
Holmium	165-1				101		%
Indium	115-1				99		%
Indium	115-2				95		%
Iron	56-2	1.61	1.71	1.56	1.63	4.50	ppb
Iron	57-2	1.76	1.07	2.35	1.73	37.12	ppb
Lead	206-1	0.02	0.03	0.05	0.03	57.69	ppb
Lead	207-1	0.03	0.05	0.04	0.04	21.95	ppb
Lead	208-1	0.02	0.03	0.04	0.03	33.14	ppb
Lithium	6-1				100		%
Magnesium	24-2	3.31	2.37	2.90	2.86	16.34	ppb
Manganese	55-2	0.06	0.08	0.05	0.06	29.79	ppb
Molybdenum	94-1	0.07	0.07	0.06	0.07	11.72	ppb
Molybdenum	95-1	0.07	0.07	0.07	0.07	2.59	ppb
Molybdenum	96-1	0.09	0.07	0.07	0.08	11.54	ppb
Molybdenum	97-1	0.07	0.08	0.06	0.07	9.29	ppb
Molybdenum	98-1	0.10	0.08	0.08	0.09	10.26	ppb
Nickel	60-2	-0.05	-0.03	-0.04	-0.04		ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCB082	Instrumnet Name :	P7
Client Sample ID :	CCB082	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:29:18	DataFile Name :	049CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Phosphorus	31-2	-44.65	-27.76	-31.06	-34.49		ppb
Potassium	39-2	-2.78	-4.00	-3.24	-3.34		ppb
Rhodium	103-2				96		%
Rhodium	103-1				96		%
Scandium	45-1				94		%
Scandium	45-2				92		%
Selenium	77-2	0.46	0.00	0.00	0.15	173.21	ppb
Selenium	78-2	0.43	-0.31	-0.30	-0.06		ppb
Selenium	82-1	0.64	0.40	0.21	0.41	51.68	ppb
Silicon	28-1	-3.31	-3.44	-3.66	-3.47		ppb
Silver	109-1	0.04	0.04	0.03	0.04	8.93	ppb
Silver	107-1	0.04	0.03	0.03	0.03	17.73	ppb
Sodium	23-2	7.53	7.76	6.51	7.26	9.12	ppb
Strontium	86-1	0.02	-0.02	0.00	0.00	373021.25	ppb
Strontium	88-1	0.05	0.03	0.03	0.04	22.54	ppb
Sulfur	34-1	-659.32	-512.62	-578.08	-583.34		ppb
Terbium	159-1				100		%
Terbium	159-2				100		%
Thallium	203-1	0.06	0.06	0.06	0.06	3.47	ppb
Thallium	205-1	0.07	0.06	0.06	0.06	8.99	ppb
Tin	118-1	0.13	0.13	0.14	0.13	3.16	ppb
Titanium	47-1	0.00	-0.01	-0.02	-0.01		ppb
Uranium	238-1	0.04	0.03	0.03	0.03	12.78	ppb
Vanadium	51-2	0.01	0.03	0.02	0.02	41.24	ppb
Yttrium	89-2				94		%
Yttrium	89-1				97		%
Zinc	66-2	-0.11	-0.13	-0.14	-0.12		ppb
Zirconium	90-1	0.06	0.05	0.06	0.06	9.63	ppb
Zirconium	91-1	0.07	0.06	0.05	0.06	11.60	ppb

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S00	Instrumnet Name :	P7
Client Sample ID :	S00	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:44:28	DataFile Name :	002CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	42	50	42	44	10.82	cps
Antimony	121-1	100	150	125	125	20.00	cps
Arsenic	75-2	2	2	0	1	86.60	cps
Barium	135-1	42	25	58	42	40.00	cps
Barium	137-1	42	58	67	56	22.91	cps
Beryllium	9-1	11	17	22	17	33.33	cps
Bismuth	209-1	2587225	2571541	2663398	2607388	1.88	cps
Bismuth	209-2	1451221	1454304	1451163	1452229	0.12	cps
Boron	10-1	158	100	142	133	22.54	cps
Boron	11-1	592	767	692	683	12.85	cps
Cadmium	108-1	13	4	0	6	114.53	cps
Cadmium	111-1	651	625	578	618	6.05	cps
Cadmium	106-1	925	892	825	881	5.78	cps
Calcium	43-1	358	375	325	353	7.22	cps
Calcium	44-1	13540	14091	12848	13493	4.62	cps
Chromium	52-2	540	603	743	629	16.54	cps
Cobalt	59-2	87	50	80	72	27.04	cps
Copper	63-2	3477	3644	3837	3653	4.93	cps
Holmium	165-2	1946378	1969707	1942756	1952947	0.75	cps
Holmium	165-1	3882690	3948829	4026211	3952577	1.82	cps
Indium	115-1	3060196	3047111	3126176	3077828	1.38	cps
Indium	115-2	579051	582389	577243	579561	0.45	cps
Iron	56-2	3328	3328	3895	3517	9.30	cps
Iron	57-2	61	72	94	76	22.36	cps
Lead	206-1	883	933	872	896	3.63	cps
Lead	207-1	689	694	845	743	11.88	cps
Lead	208-1	3595	3439	3645	3560	3.01	cps
Lithium	6-1	264977	265863	271189	267343	1.26	cps
Magnesium	24-2	267	275	200	247	16.63	cps
Manganese	55-2	67	103	90	87	21.42	cps
Molybdenum	94-1	58	58	125	81	47.78	cps
Molybdenum	95-1	0	8	0	3	173.21	cps
Molybdenum	96-1	33	33	33	33	0.02	cps
Molybdenum	97-1	25	25	33	28	17.31	cps
Molybdenum	98-1	8	17	8	11	43.34	cps
Nickel	60-2	160	153	167	160	4.17	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S00	Instrumnet Name :	P7
Client Sample ID :	S00	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:44:28	DataFile Name :	002CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	167	200	125	164	22.93	cps
Potassium	39-2	22501	21967	22693	22387	1.68	cps
Rhodium	103-1	2937562	2927597	3032748	2965969	1.96	cps
Rhodium	103-2	1462574	1471696	1468820	1467697	0.32	cps
Scandium	45-2	93872	94278	92886	93679	0.76	cps
Scandium	45-1	2061766	2066587	2081689	2070014	0.50	cps
Selenium	82-1	-58	8	-167	-72	-122.29	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	63	59	56	59	6.24	cps
Silicon	28-1	220463	221460	222177	221367	0.39	cps
Silver	107-1	183	192	208	194	6.55	cps
Silver	109-1	208	192	150	183	16.39	cps
Sodium	23-2	11338	11130	11405	11291	1.27	cps
Strontium	86-1	775	608	700	694	12.02	cps
Strontium	88-1	133	133	158	142	10.19	cps
Sulfur	34-1	331712	333568	327478	330919	0.94	cps
Terbium	159-1	4013244	4055005	4140424	4069558	1.59	cps
Terbium	159-2	1909715	1972315	1934784	1938938	1.62	cps
Thallium	203-1	92	67	83	81	15.80	cps
Thallium	205-1	158	175	142	158	10.53	cps
Tin	118-1	558	517	458	511	9.83	cps
Titanium	47-1	133	125	142	133	6.25	cps
Uranium	238-1	83	67	42	64	32.83	cps
Vanadium	51-2	23	20	7	17	52.90	cps
Yttrium	89-1	3315712	3346793	3384702	3349069	1.03	cps
Yttrium	89-2	468257	476824	473570	472883	0.91	cps
Zinc	66-2	140	293	310	248	37.82	cps
Zirconium	90-1	292	217	233	247	15.93	cps
Zirconium	91-1	58	75	42	58	28.57	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S02	Instrumnet Name :	P7
Client Sample ID :	S02	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:51:12	DataFile Name :	004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	2100	2242	2434	2259	7.41	cps
Antimony	121-1	22127	21684	21542	21784	1.40	cps
Arsenic	75-2	419	341	463	407	15.18	cps
Barium	135-1	27161	27353	27712	27409	1.02	cps
Barium	137-1	45718	46947	47022	46563	1.57	cps
Beryllium	9-1	1439	1461	1539	1480	3.55	cps
Bismuth	209-1	2625069	2611906	2629248	2622074	0.35	cps
Bismuth	209-2	1437656	1467111	1465690	1456819	1.14	cps
Boron	10-1	2125	2025	2392	2181	8.69	cps
Boron	11-1	10229	10004	10796	10343	3.95	cps
Cadmium	106-1	1242	1267	1125	1211	6.24	cps
Cadmium	108-1	225	188	204	206	9.14	cps
Cadmium	111-1	3487	3289	3407	3395	2.93	cps
Calcium	43-1	17578	17653	17544	17592	0.32	cps
Calcium	44-1	292899	295467	293867	294078	0.44	cps
Chromium	52-2	8929	8659	8796	8795	1.54	cps
Cobalt	59-2	6255	6632	6401	6429	2.95	cps
Copper	63-2	12409	12352	11735	12165	3.07	cps
Holmium	165-1	3949260	3993534	3991179	3977991	0.63	cps
Holmium	165-2	1920885	1956712	1951912	1943169	1.00	cps
Indium	115-2	572790	586592	582559	580647	1.22	cps
Indium	115-1	3102719	3121684	3081378	3101927	0.65	cps
Iron	56-2	160455	160665	155817	158979	1.72	cps
Iron	57-2	4101	3940	3923	3988	2.46	cps
Lead	206-1	9765	9954	9626	9782	1.68	cps
Lead	207-1	8887	8458	8720	8688	2.48	cps
Lead	208-1	39696	39073	38334	39034	1.75	cps
Lithium	6-1	268322	272486	271006	270605	0.78	cps
Magnesium	24-2	134624	134801	131961	133795	1.19	cps
Manganese	55-2	2137	2090	2207	2145	2.74	cps
Molybdenum	94-1	23036	22711	23420	23056	1.54	cps
Molybdenum	95-1	29106	29415	28813	29111	1.03	cps
Molybdenum	96-1	32004	32388	31093	31828	2.09	cps
Molybdenum	97-1	18621	18304	18671	18532	1.08	cps
Molybdenum	98-1	47162	46142	46903	46736	1.13	cps
Nickel	60-2	1990	1797	1763	1850	6.62	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S02	Instrumnet Name :	P7
Client Sample ID :	S02	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:51:12	DataFile Name :	004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	400	442	433	425	5.19	cps
Potassium	39-2	150177	147451	144600	147409	1.89	cps
Rhodium	103-1	3018026	2980712	2971072	2989937	0.83	cps
Rhodium	103-2	1444521	1469794	1478328	1464214	1.20	cps
Scandium	45-2	92158	93499	94191	93283	1.11	cps
Scandium	45-1	2056144	2058452	2061229	2058608	0.12	cps
Selenium	82-1	1042	942	975	986	5.16	cps
Selenium	77-2	37	50	43	43	15.38	cps
Selenium	78-2	200	202	220	207	5.43	cps
Silicon	28-1	293902	289894	293971	292589	0.80	cps
Silver	107-1	15117	14683	14933	14911	1.46	cps
Silver	109-1	14299	13941	13499	13913	2.88	cps
Sodium	23-2	265087	265247	259982	263439	1.14	cps
Strontium	86-1	4276	4476	4668	4473	4.38	cps
Strontium	88-1	32095	32471	32922	32496	1.27	cps
Sulfur	34-1	331655	329708	326670	329344	0.76	cps
Terbium	159-2	1934754	1963770	1945371	1947965	0.75	cps
Terbium	159-1	4031829	4070394	4025089	4042437	0.60	cps
Thallium	203-1	11280	11239	11948	11489	3.46	cps
Thallium	205-1	27998	27864	28239	28034	0.68	cps
Tin	118-1	47080	47089	45859	46676	1.52	cps
Titanium	47-1	8386	8586	8503	8492	1.18	cps
Uranium	238-1	38258	38650	38692	38533	0.62	cps
Vanadium	51-2	16026	16493	15702	16073	2.47	cps
Yttrium	89-2	471472	478960	477023	475818	0.82	cps
Yttrium	89-1	3378466	3378890	3392487	3383281	0.24	cps
Zinc	66-2	1323	1360	1303	1329	2.16	cps
Zirconium	90-1	17929	17444	17903	17759	1.53	cps
Zirconium	91-1	4443	3976	4117	4179	5.73	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S03	Instrumnet Name :	P7
Client Sample ID :	S03	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:54:32	DataFile Name :	005CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	120298	119862	107998	116052	6.01	cps
Antimony	121-1	575015	571087	576622	574241	0.50	cps
Arsenic	75-2	22783	22000	20824	21869	4.51	cps
Barium	135-1	713821	715684	702057	710521	1.04	cps
Barium	137-1	1222205	1226607	1222649	1223820	0.20	cps
Beryllium	9-1	76582	77196	78603	77460	1.34	cps
Bismuth	209-2	1455589	1457631	1453722	1455647	0.13	cps
Bismuth	209-1	2604318	2621719	2592824	2606287	0.56	cps
Boron	10-1	10554	10087	10871	10504	3.75	cps
Boron	11-1	49357	51614	50644	50538	2.24	cps
Cadmium	106-1	15601	16544	16494	16213	3.27	cps
Cadmium	108-1	10475	10296	10346	10372	0.89	cps
Cadmium	111-1	142550	143917	141734	142734	0.77	cps
Calcium	43-1	178497	175740	174559	176265	1.15	cps
Calcium	44-1	2907538	2901056	2888546	2899047	0.33	cps
Chromium	52-2	224146	217556	202857	214853	5.07	cps
Cobalt	59-2	370518	360803	341870	357730	4.07	cps
Copper	63-2	543046	529648	498544	523746	4.36	cps
Holmium	165-2	1942627	1945737	1969390	1952585	0.75	cps
Holmium	165-1	3989421	3935221	3941146	3955263	0.75	cps
Indium	115-1	3052308	3068749	3055165	3058740	0.29	cps
Indium	115-2	578415	579724	579128	579089	0.11	cps
Iron	56-2	9123024	8849473	8234635	8735711	5.21	cps
Iron	57-2	223728	219043	204618	215796	4.62	cps
Lead	206-1	469472	470035	468705	469404	0.14	cps
Lead	207-1	419201	415449	418464	417705	0.48	cps
Lead	208-1	1885525	1892253	1888255	1888678	0.18	cps
Lithium	6-1	271403	271587	272488	271826	0.21	cps
Magnesium	24-2	1455231	1429987	1333267	1406162	4.58	cps
Manganese	55-2	238631	233219	218836	230229	4.44	cps
Molybdenum	94-1	538236	537216	537867	537773	0.10	cps
Molybdenum	95-1	293317	295066	295672	294685	0.41	cps
Molybdenum	96-1	375011	373942	374157	374370	0.15	cps
Molybdenum	97-1	183271	180521	182604	182132	0.79	cps
Molybdenum	98-1	466690	471244	470896	469610	0.54	cps
Nickel	60-2	99112	98655	91205	96324	4.61	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S03	Instrumnet Name :	P7
Client Sample ID :	S03	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:54:32	DataFile Name :	005CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	5985	5651	5426	5687	4.94	cps
Potassium	39-2	655638	649059	627327	644008	2.30	cps
Rhodium	103-1	2958980	2932102	2942539	2944540	0.46	cps
Rhodium	103-2	1458573	1465675	1472190	1465479	0.46	cps
Scandium	45-1	2084218	2042848	2023052	2050039	1.52	cps
Scandium	45-2	93080	93979	94164	93741	0.62	cps
Selenium	82-1	10955	10988	10905	10949	0.38	cps
Selenium	77-2	457	493	417	456	8.42	cps
Selenium	78-2	1626	1635	1480	1580	5.52	cps
Silicon	28-1	587565	587478	588765	587936	0.12	cps
Silver	107-1	706310	704322	707048	705893	0.20	cps
Silver	109-1	680989	680188	678756	679978	0.17	cps
Sodium	23-2	2730379	2686035	2584717	2667044	2.80	cps
Strontium	86-1	189940	187609	188741	188763	0.62	cps
Strontium	88-1	1653341	1652090	1673946	1659793	0.74	cps
Sulfur	34-1	380047	388610	388173	385610	1.25	cps
Terbium	159-2	1961528	1949990	1977609	1963042	0.71	cps
Terbium	159-1	4082271	4077516	4012808	4057532	0.96	cps
Thallium	203-1	566761	564040	563949	564916	0.28	cps
Thallium	205-1	1373057	1365887	1380494	1373146	0.53	cps
Tin	118-1	476256	470136	473880	473424	0.65	cps
Titanium	47-1	87677	89764	85791	87744	2.26	cps
Uranium	238-1	2017979	2046741	2033628	2032783	0.71	cps
Vanadium	51-2	182151	180857	167853	176954	4.47	cps
Yttrium	89-1	3377282	3365540	3326832	3356551	0.79	cps
Yttrium	89-2	477478	473539	470287	473768	0.76	cps
Zinc	66-2	71330	69139	65490	68653	4.30	cps
Zirconium	90-1	1004210	1008187	998851	1003749	0.47	cps
Zirconium	91-1	228148	226387	227548	227361	0.39	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S04	Instrumnet Name :	P7
Client Sample ID :	S04	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:58:08	DataFile Name :	006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	264262	262078	261920	262753	0.50	cps
Antimony	121-1	1425564	1428027	1439510	1431034	0.52	cps
Arsenic	75-2	50121	49835	49400	49785	0.73	cps
Barium	135-1	1780662	1783051	1804011	1789241	0.72	cps
Barium	137-1	3021669	3031738	3014602	3022669	0.28	cps
Beryllium	9-1	190941	190289	191003	190744	0.21	cps
Bismuth	209-1	2607798	2537307	2535653	2560253	1.61	cps
Bismuth	209-2	1431928	1447500	1433046	1437491	0.60	cps
Boron	10-1	25155	25764	26340	25753	2.30	cps
Boron	11-1	120025	126108	128829	124987	3.61	cps
Cadmium	111-1	350717	349227	350414	350119	0.23	cps
Cadmium	106-1	38654	38587	39523	38921	1.34	cps
Cadmium	108-1	24822	25528	25715	25355	1.86	cps
Calcium	43-1	438941	439959	438397	439099	0.18	cps
Calcium	44-1	7121280	7167423	7191683	7160129	0.50	cps
Chromium	52-2	483313	484490	480970	482924	0.37	cps
Cobalt	59-2	803265	801031	791538	798612	0.78	cps
Copper	63-2	1168301	1158693	1159401	1162132	0.46	cps
Holmium	165-2	1978256	2020418	1953156	1983943	1.71	cps
Holmium	165-1	3935575	3858635	3847028	3880412	1.24	cps
Indium	115-1	2990626	2999496	2958934	2983019	0.71	cps
Indium	115-2	566132	567256	556902	563430	1.01	cps
Iron	56-2	19410672	19410304	19173200	19331392	0.71	cps
Iron	57-2	485015	481060	479298	481791	0.61	cps
Lead	206-1	1166369	1167520	1170590	1168160	0.19	cps
Lead	207-1	1047340	1054413	1051940	1051231	0.34	cps
Lead	208-1	4722912	4752304	4777148	4750788	0.57	cps
Lithium	6-1	270418	271189	264656	268754	1.33	cps
Magnesium	24-2	3347265	3351670	3337696	3345544	0.21	cps
Manganese	55-2	513859	510404	507299	510521	0.64	cps
Molybdenum	94-1	1328211	1336781	1321601	1328864	0.57	cps
Molybdenum	95-1	726921	722295	726539	725252	0.35	cps
Molybdenum	96-1	930452	924598	932101	929050	0.42	cps
Molybdenum	97-1	455350	457390	457666	456802	0.28	cps
Molybdenum	98-1	1164502	1170890	1168892	1168094	0.28	cps
Nickel	60-2	216063	214346	211508	213972	1.08	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S04	Instrumnet Name :	P7
Client Sample ID :	S04	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 13:58:08	DataFile Name :	006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	14708	14516	14399	14541	1.07	cps
Potassium	39-2	1628294	1614582	1594899	1612592	1.04	cps
Rhodium	103-2	1433391	1443926	1420998	1432772	0.80	cps
Rhodium	103-1	2904010	2857621	2796385	2852672	1.89	cps
Scandium	45-1	2034159	1982150	1978709	1998339	1.55	cps
Scandium	45-2	92017	92208	91239	91822	0.56	cps
Selenium	77-2	927	990	997	971	3.98	cps
Selenium	78-2	3480	3478	3469	3476	0.17	cps
Selenium	82-1	23721	23612	24038	23790	0.93	cps
Silicon	28-1	1112482	1107793	1073037	1097771	1.96	cps
Silver	109-1	1686155	1706123	1698818	1697032	0.60	cps
Silver	107-1	1737365	1749950	1742019	1743111	0.37	cps
Sodium	23-2	6337619	6327646	6287189	6317484	0.42	cps
Strontium	86-1	468247	471614	470455	470105	0.36	cps
Strontium	88-1	4069109	4079248	4075014	4074457	0.12	cps
Sulfur	34-1	454927	455501	447365	452598	1.00	cps
Terbium	159-1	4075215	3998215	3906460	3993297	2.12	cps
Terbium	159-2	1983958	1992917	1951992	1976289	1.09	cps
Thallium	203-1	1401274	1411733	1408138	1407048	0.38	cps
Thallium	205-1	3416190	3448271	3441495	3435318	0.49	cps
Tin	118-1	1194009	1184191	1196250	1191483	0.54	cps
Titanium	47-1	215503	216313	211832	214550	1.11	cps
Uranium	238-1	5195806	5073068	5097953	5122276	1.27	cps
Vanadium	51-2	397961	398563	397061	397862	0.19	cps
Yttrium	89-2	462644	469074	459133	463617	1.09	cps
Yttrium	89-1	3318593	3279796	3207136	3268508	1.73	cps
Zinc	66-2	153560	151379	151879	152273	0.75	cps
Zirconium	90-1	2527011	2557448	2542482	2542314	0.60	cps
Zirconium	91-1	558719	563047	553842	558536	0.82	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S05	Instrumnet Name :	P7
Client Sample ID :	S05	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:01:19	DataFile Name :	007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	503507	509170	507625	506767	0.58	cps
Antimony	121-1	2830914	2845648	2808158	2828240	0.67	cps
Arsenic	75-2	96011	96340	96723	96358	0.37	cps
Barium	135-1	3512142	3484722	3524783	3507215	0.58	cps
Barium	137-1	5921021	5956078	5942653	5939917	0.30	cps
Beryllium	9-1	370385	372216	371171	371257	0.25	cps
Bismuth	209-2	1415154	1410495	1401848	1409166	0.48	cps
Bismuth	209-1	2572488	2597216	2620086	2596596	0.92	cps
Boron	10-1	48738	49900	50627	49755	1.92	cps
Boron	11-1	239968	247595	254877	247480	3.01	cps
Cadmium	106-1	75284	74345	76306	75312	1.30	cps
Cadmium	108-1	49520	48972	50122	49538	1.16	cps
Cadmium	111-1	688476	675914	684753	683047	0.94	cps
Calcium	43-1	843070	849079	843726	845292	0.39	cps
Calcium	44-1	13813969	13840161	13754117	13802749	0.32	cps
Chromium	52-2	935251	930529	934695	933492	0.28	cps
Cobalt	59-2	1516942	1563981	1549280	1543401	1.56	cps
Copper	63-2	2275307	2282715	2282820	2280280	0.19	cps
Holmium	165-2	1935874	1921693	1923429	1926998	0.40	cps
Holmium	165-1	3935121	3978190	3955241	3956184	0.54	cps
Indium	115-1	3016096	2916818	2941323	2958079	1.75	cps
Indium	115-2	539629	541429	545711	542256	0.58	cps
Iron	56-2	37354351	37583236	37616015	37517867	0.38	cps
Iron	57-2	933816	935410	931180	933469	0.23	cps
Lead	206-1	2406594	2407289	2436447	2416777	0.71	cps
Lead	207-1	2080046	2106157	2118360	2101521	0.93	cps
Lead	208-1	9461990	9573065	9666502	9567186	1.07	cps
Lithium	6-1	274390	271364	273518	273091	0.57	cps
Magnesium	24-2	6459439	6394454	6442169	6432021	0.52	cps
Manganese	55-2	995186	990748	998321	994752	0.38	cps
Molybdenum	94-1	2639191	2686921	2671857	2665990	0.92	cps
Molybdenum	95-1	1429239	1440334	1420373	1429982	0.70	cps
Molybdenum	96-1	1827860	1839391	1830354	1832535	0.33	cps
Molybdenum	97-1	885554	888193	891226	888324	0.32	cps
Molybdenum	98-1	2350878	2362566	2363595	2359013	0.30	cps
Nickel	60-2	412261	411602	410908	411590	0.16	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S05	Instrumnet Name :	P7
Client Sample ID :	S05	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:01:19	DataFile Name :	007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	26875	26116	27484	26825	2.56	cps
Potassium	39-2	3055349	3077428	3079545	3070774	0.44	cps
Rhodium	103-2	1385319	1391451	1391466	1389412	0.26	cps
Rhodium	103-1	2806444	2849878	2824677	2827000	0.77	cps
Scandium	45-2	89851	89901	90035	89929	0.11	cps
Scandium	45-1	1992260	1994211	1959867	1982113	0.97	cps
Selenium	82-1	44287	44396	46728	45137	3.06	cps
Selenium	77-2	1930	1954	1810	1898	4.05	cps
Selenium	78-2	6709	6527	6774	6670	1.91	cps
Silicon	28-1	1816992	1837950	1812272	1822405	0.75	cps
Silver	109-1	3351641	3324406	3347089	3341046	0.44	cps
Silver	107-1	3399096	3406813	3390044	3398651	0.25	cps
Sodium	23-2	12234784	12048313	12181208	12154768	0.79	cps
Strontium	86-1	920647	913910	929233	921263	0.83	cps
Strontium	88-1	7960052	7994982	7961844	7972293	0.25	cps
Sulfur	34-1	561768	561177	560064	561003	0.15	cps
Terbium	159-2	1927285	1949414	1952987	1943229	0.72	cps
Terbium	159-1	4036028	4041088	4056030	4044382	0.26	cps
Thallium	203-1	2861866	2882328	2854287	2866161	0.51	cps
Thallium	205-1	6816570	6835348	6817504	6823141	0.16	cps
Tin	118-1	2370341	2354894	2391769	2372335	0.78	cps
Titanium	47-1	418965	414076	417736	416925	0.61	cps
Uranium	238-1	10254111	10300182	10362568	10305620	0.53	cps
Vanadium	51-2	774408	773486	768639	772177	0.40	cps
Yttrium	89-2	451584	452964	452893	452481	0.17	cps
Yttrium	89-1	3276915	3289801	3265361	3277359	0.37	cps
Zinc	66-2	293634	293709	295638	294327	0.39	cps
Zirconium	90-1	4964590	4947298	4973616	4961834	0.27	cps
Zirconium	91-1	1097607	1097968	1105785	1100453	0.42	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S06	Instrumnet Name :	P7
Client Sample ID :	S06	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:04:22	DataFile Name :	008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	989173	991913	1001964	994350	0.68	cps
Antimony	121-1	5600361	5622081	5648063	5623502	0.42	cps
Arsenic	75-2	187797	190113	188736	188882	0.62	cps
Barium	135-1	6849692	6987821	6942725	6926746	1.02	cps
Barium	137-1	11710850	11818042	11846140	11791677	0.61	cps
Beryllium	9-1	729122	733302	737011	733145	0.54	cps
Bismuth	209-1	2543841	2536810	2581129	2553927	0.93	cps
Bismuth	209-2	1395147	1394531	1389182	1392953	0.24	cps
Boron	10-1	95945	99929	104869	100248	4.46	cps
Boron	11-1	478996	486477	500759	488744	2.26	cps
Cadmium	108-1	98107	97000	96601	97236	0.80	cps
Cadmium	111-1	1339148	1345960	1328484	1337864	0.66	cps
Cadmium	106-1	145212	146619	143007	144946	1.26	cps
Calcium	43-1	1689397	1708697	1701171	1699755	0.57	cps
Calcium	44-1	27520293	27537310	27313788	27457130	0.45	cps
Chromium	52-2	1874460	1855038	1854828	1861442	0.61	cps
Cobalt	59-2	3028652	3021844	3043022	3031172	0.36	cps
Copper	63-2	4380771	4432482	4388085	4400446	0.64	cps
Holmium	165-2	1925517	1961722	1956688	1947976	1.01	cps
Holmium	165-1	4033131	3867910	3971292	3957444	2.11	cps
Indium	115-1	2912825	2825812	2828661	2855766	1.73	cps
Indium	115-2	521087	526935	522668	523563	0.58	cps
Iron	56-2	74106871	73921832	74082643	74037116	0.14	cps
Iron	57-2	1860013	1864689	1890028	1871576	0.86	cps
Lead	206-1	4823742	4780518	4743777	4782679	0.84	cps
Lead	207-1	4145993	4236244	4174960	4185733	1.10	cps
Lead	208-1	18788973	19167349	18926263	18960862	1.01	cps
Lithium	6-1	272100	266725	267535	268787	1.08	cps
Magnesium	24-2	12740910	12543722	12520689	12601774	0.96	cps
Manganese	55-2	1999810	1957867	1977236	1978304	1.06	cps
Molybdenum	94-1	5256170	5294222	5298792	5283061	0.44	cps
Molybdenum	95-1	2838791	2827150	2883382	2849774	1.04	cps
Molybdenum	96-1	3638874	3612491	3647025	3632796	0.50	cps
Molybdenum	97-1	1816851	1810111	1812137	1813033	0.19	cps
Molybdenum	98-1	4592006	4709592	4641531	4647710	1.27	cps
Nickel	60-2	797413	802176	796612	798734	0.38	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S06	Instrumnet Name :	P7
Client Sample ID :	S06	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:04:22	DataFile Name :	008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	53447	54266	52702	53472	1.46	cps
Potassium	39-2	6002233	6003175	5993955	5999787	0.08	cps
Rhodium	103-2	1367936	1359576	1370425	1365979	0.42	cps
Rhodium	103-1	2809221	2754963	2707863	2757349	1.84	cps
Scandium	45-1	1980855	1921648	1936511	1946338	1.58	cps
Scandium	45-2	90109	89267	90159	89845	0.56	cps
Selenium	77-2	3701	3761	3811	3757	1.47	cps
Selenium	78-2	12480	12733	13056	12756	2.26	cps
Selenium	82-1	89958	88608	89480	89349	0.77	cps
Silicon	28-1	3312448	3301125	3276522	3296698	0.56	cps
Silver	107-1	6617161	6665340	6642684	6641729	0.36	cps
Silver	109-1	6560138	6552877	6451873	6521630	0.93	cps
Sodium	23-2	23939922	23918891	23970245	23943019	0.11	cps
Strontium	86-1	1863289	1876050	1867004	1868781	0.35	cps
Strontium	88-1	15821037	15741347	15779060	15780481	0.25	cps
Sulfur	34-1	819000	813489	810279	814256	0.54	cps
Terbium	159-1	4118404	3998314	4015458	4044059	1.61	cps
Terbium	159-2	1919677	1952139	1945135	1938984	0.88	cps
Thallium	203-1	5636128	5639715	5678614	5651486	0.42	cps
Thallium	205-1	13435973	13615178	13662182	13571111	0.88	cps
Tin	118-1	4666415	4616874	4706644	4663311	0.96	cps
Titanium	47-1	819524	820361	824677	821521	0.34	cps
Uranium	238-1	20360253	20802422	20785625	20649433	1.21	cps
Vanadium	51-2	1542781	1530751	1533343	1535625	0.41	cps
Yttrium	89-2	452490	452984	447148	450874	0.72	cps
Yttrium	89-1	3275987	3161590	3208053	3215210	1.79	cps
Zinc	66-2	564512	575862	570319	570231	1.00	cps
Zirconium	90-1	9839262	9836000	9832777	9836013	0.03	cps
Zirconium	91-1	2218311	2232532	2201394	2217412	0.70	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S07	Instrumnet Name :	P7
Client Sample ID :	S07	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:07:21	DataFile Name :	009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1978405	1961918	1957033	1965785	0.57	cps
Antimony	121-1	10910903	10995812	10969242	10958652	0.40	cps
Arsenic	75-2	366668	363785	364710	365054	0.40	cps
Barium	135-1	13584421	13606212	13596964	13595865	0.08	cps
Barium	137-1	23229344	23160177	23241671	23210397	0.19	cps
Beryllium	9-1	1388968	1409027	1404579	1400858	0.75	cps
Bismuth	209-2	1355148	1363795	1363117	1360687	0.35	cps
Bismuth	209-1	2516781	2521966	2529684	2522810	0.26	cps
Boron	10-1	196299	199726	202833	199619	1.64	cps
Boron	11-1	963337	989403	1003449	985396	2.07	cps
Cadmium	111-1	2612374	2631016	2628948	2624113	0.39	cps
Cadmium	106-1	278318	276338	277547	277401	0.36	cps
Cadmium	108-1	186791	186075	187650	186839	0.42	cps
Calcium	43-1	3210870	3249037	3247530	3235812	0.67	cps
Calcium	44-1	52171101	53103186	53258060	52844115	1.11	cps
Chromium	52-2	3609105	3631661	3653674	3631480	0.61	cps
Cobalt	59-2	5771163	5852094	5787895	5803717	0.74	cps
Copper	63-2	8440762	8443849	8374902	8419838	0.46	cps
Holmium	165-2	1925573	1950602	1943116	1939764	0.66	cps
Holmium	165-1	3871934	3928621	3928080	3909545	0.83	cps
Indium	115-1	2728572	2756725	2732589	2739296	0.56	cps
Indium	115-2	487735	492278	492733	490915	0.56	cps
Iron	56-2	143794914	142951648	142854337	143200300	0.36	cps
Iron	57-2	3601643	3646364	3619686	3622564	0.62	cps
Lead	207-1	8117087	8043431	8204614	8121711	0.99	cps
Lead	208-1	36958638	36855421	37209807	37007956	0.49	cps
Lead	206-1	9202371	9224562	9228643	9218525	0.15	cps
Lithium	6-1	265967	263205	263553	264242	0.57	cps
Magnesium	24-2	24666618	24962969	24615477	24748355	0.76	cps
Manganese	55-2	3802695	3789222	3814268	3802062	0.33	cps
Molybdenum	94-1	10212070	10174923	10275013	10220669	0.50	cps
Molybdenum	95-1	5469234	5465228	5517692	5484051	0.53	cps
Molybdenum	96-1	7009757	7100640	7095733	7068710	0.72	cps
Molybdenum	97-1	3521305	3516329	3520971	3519535	0.08	cps
Molybdenum	98-1	9023424	9132215	9124246	9093295	0.67	cps
Nickel	60-2	1518258	1528160	1525613	1524010	0.34	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S07	Instrumnet Name :	P7
Client Sample ID :	S07	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:07:21	DataFile Name :	009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	104691	103718	103038	103816	0.80	cps
Potassium	39-2	11652990	11658417	11622124	11644510	0.17	cps
Rhodium	103-2	1317338	1333228	1320464	1323677	0.64	cps
Rhodium	103-1	2688530	2678932	2691149	2686204	0.24	cps
Scandium	45-1	1892270	1939689	1912151	1914703	1.24	cps
Scandium	45-2	90471	91916	89525	90637	1.33	cps
Selenium	77-2	7002	7139	7058	7066	0.97	cps
Selenium	78-2	24335	23712	24315	24121	1.47	cps
Selenium	82-1	167786	170822	170520	169709	0.99	cps
Silicon	28-1	5914438	6044300	5999651	5986129	1.10	cps
Silver	107-1	12774988	12621895	12763478	12720120	0.67	cps
Silver	109-1	12436569	12363754	12481248	12427190	0.48	cps
Sodium	23-2	46844553	46841217	46850158	46845309	0.01	cps
Strontium	86-1	3552795	3588632	3545078	3562168	0.65	cps
Strontium	88-1	30610989	30713088	30749391	30691156	0.23	cps
Sulfur	34-1	1141493	1161088	1155654	1152745	0.88	cps
Terbium	159-1	3989130	4037086	3996100	4007439	0.65	cps
Terbium	159-2	1919927	1921986	1930930	1924281	0.30	cps
Thallium	203-1	10959867	10949881	10940513	10950087	0.09	cps
Thallium	205-1	26232648	26695306	26636999	26521651	0.95	cps
Tin	118-1	9036927	9159284	9096824	9097678	0.67	cps
Titanium	47-1	1565954	1608409	1590613	1588325	1.34	cps
Uranium	238-1	41091213	40873977	40870267	40945152	0.31	cps
Vanadium	51-2	2957761	2998481	2999687	2985310	0.80	cps
Yttrium	89-2	444080	447631	442475	444729	0.59	cps
Yttrium	89-1	3161146	3188832	3210273	3186750	0.77	cps
Zinc	66-2	1079385	1083096	1075939	1079473	0.33	cps
Zirconium	90-1	19030226	19273039	19091936	19131734	0.66	cps
Zirconium	91-1	4247025	4290180	4318986	4285397	0.85	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S08	Instrumnet Name :	P7
Client Sample ID :	S08	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:10:21	DataFile Name :	010CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	11428763	11606323	11832671	11622585	1.74	cps
Antimony	121-1	14958	15200	15618	15259	2.19	cps
Arsenic	75-2	217	170	178	188	13.21	cps
Barium	135-1	4659	4584	4418	4554	2.72	cps
Barium	137-1	7894	8061	7953	7969	1.06	cps
Beryllium	9-1	306	300	200	269	22.12	cps
Bismuth	209-1	2187585	2214433	2188923	2196980	0.69	cps
Bismuth	209-2	1256283	1268349	1278966	1267866	0.90	cps
Boron	10-1	9787	9262	7861	8970	11.10	cps
Boron	11-1	47250	43848	39561	43553	8.85	cps
Cadmium	106-1	1183	1042	792	1006	19.72	cps
Cadmium	108-1	92	58	88	79	22.95	cps
Cadmium	111-1	1193	1172	930	1099	13.29	cps
Calcium	43-1	16630306	16726885	16811732	16722974	0.54	cps
Calcium	44-1	272317814	274622798	276329365	274423326	0.73	cps
Chromium	52-2	46831	46707	46082	46540	0.86	cps
Cobalt	59-2	5354	5654	5738	5582	3.61	cps
Copper	63-2	18088	19376	18846	18770	3.45	cps
Holmium	165-1	3713400	3725317	3783630	3740782	1.00	cps
Holmium	165-2	1958518	1982225	1993821	1978188	0.91	cps
Indium	115-2	542991	554600	552193	549928	1.11	cps
Indium	115-1	2715870	2741722	2729481	2729024	0.47	cps
Iron	56-2	768702639	788699240	798013729	785138536	1.91	cps
Iron	57-2	19151478	19766110	19846858	19588149	1.94	cps
Lead	206-1	42424	42044	42630	42366	0.70	cps
Lead	207-1	35682	35960	34785	35476	1.73	cps
Lead	208-1	165844	167666	165371	166293	0.73	cps
Lithium	6-1	238516	236768	237188	237491	0.38	cps
Magnesium	24-2	142682112	146491091	148333970	145835724	1.98	cps
Manganese	55-2	13513	13476	13653	13548	0.69	cps
Molybdenum	94-1	9278	9687	9379	9448	2.25	cps
Molybdenum	95-1	13707	14241	14174	14041	2.07	cps
Molybdenum	96-1	19698	20666	19581	19981	2.98	cps
Molybdenum	97-1	8511	8411	8119	8347	2.44	cps
Molybdenum	98-1	22018	21968	21959	21982	0.14	cps
Nickel	60-2	11351	11074	11608	11345	2.35	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	S08	Instrumnet Name :	P7
Client Sample ID :	S08	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:10:21	DataFile Name :	010CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	142	175	200	172	16.99	cps
Potassium	39-2	66908781	68103560	69341087	68117809	1.79	cps
Rhodium	103-2	1280871	1297244	1294036	1290717	0.67	cps
Rhodium	103-1	2471793	2500168	2454199	2475387	0.94	cps
Scandium	45-1	1923377	1934408	1951085	1936290	0.72	cps
Scandium	45-2	95281	95395	98397	96358	1.83	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	70	91	69	77	16.11	cps
Selenium	82-1	200	83	242	175	46.90	cps
Silicon	28-1	299987	301845	306217	302683	1.06	cps
Silver	107-1	10229	11313	10846	10796	5.04	cps
Silver	109-1	10746	10112	10246	10368	3.22	cps
Sodium	23-2	264109331	271608156	277111223	270942903	2.41	cps
Strontium	86-1	117176	119528	120066	118923	1.29	cps
Strontium	88-1	1013261	1033267	1032199	1026242	1.10	cps
Sulfur	34-1	303654	307320	316089	309021	2.07	cps
Terbium	159-1	3831969	3803241	3848732	3827981	0.60	cps
Terbium	159-2	1907415	1961403	1989722	1952847	2.14	cps
Thallium	203-1	4409	4593	4351	4451	2.83	cps
Thallium	205-1	10830	9971	10671	10491	4.36	cps
Tin	118-1	9429	9270	9712	9470	2.36	cps
Titanium	47-1	1650	2034	3516	2400	41.06	cps
Uranium	238-1	3167	2892	3176	3078	5.24	cps
Vanadium	51-2	887	837	927	883	5.11	cps
Yttrium	89-2	470008	477396	480197	475867	1.11	cps
Yttrium	89-1	3109906	3172828	3113636	3132124	1.13	cps
Zinc	66-2	11772	11772	11558	11700	1.05	cps
Zirconium	90-1	3234	3517	2767	3173	11.94	cps
Zirconium	91-1	725	667	758	717	6.47	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICV	Instrumnet Name :	P7
Client Sample ID :	ICV	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:15:27	DataFile Name :	011ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	58097	57469	57277	57614	0.74	cps
Antimony	121-1	2315881	2329733	2317876	2321163	0.32	cps
Arsenic	75-2	83698	82227	82332	82752	0.99	cps
Barium	135-1	284315	287145	279795	283752	1.31	cps
Barium	137-1	484108	487298	488335	486580	0.45	cps
Beryllium	9-1	147213	149232	150148	148864	1.01	cps
Bismuth	209-1	2633178	2634930	2656935	2641681	0.50	cps
Bismuth	209-2	1491758	1481182	1483204	1485381	0.38	cps
Boron	10-1	123828	124248	126794	124957	1.28	cps
Boron	11-1	618211	626905	633037	626051	1.19	cps
Cadmium	106-1	25808	26685	25440	25978	2.46	cps
Cadmium	108-1	19080	19134	18784	18999	0.99	cps
Cadmium	111-1	280765	280109	280539	280471	0.12	cps
Calcium	43-1	73626	71598	71859	72361	1.52	cps
Calcium	44-1	1195829	1192878	1214610	1201106	0.98	cps
Chromium	52-2	398009	396106	397935	397350	0.27	cps
Cobalt	59-2	670508	667341	667123	668324	0.28	cps
Copper	63-2	488355	483080	485578	485671	0.54	cps
Holmium	165-2	2054641	2046070	2044890	2048534	0.26	cps
Holmium	165-1	4078344	4004588	4020684	4034539	0.96	cps
Indium	115-1	3110866	3082211	3098232	3097103	0.46	cps
Indium	115-2	585822	576936	573453	578737	1.10	cps
Iron	56-2	3338497	3301682	3316144	3318774	0.56	cps
Iron	57-2	81431	80856	80883	81056	0.40	cps
Lead	206-1	1925623	1952607	1932195	1936809	0.73	cps
Lead	207-1	1601973	1623644	1609704	1611774	0.68	cps
Lead	208-1	7516273	7613327	7551196	7560265	0.65	cps
Lithium	6-1	268695	268024	265583	267434	0.61	cps
Magnesium	24-2	348631	344781	344853	346089	0.64	cps
Manganese	55-2	216084	213289	215265	214879	0.67	cps
Molybdenum	97-1	1918718	1904107	1929226	1917350	0.66	cps
Molybdenum	98-1	4920276	4886088	4905999	4904121	0.35	cps
Molybdenum	94-1	1732657	1742343	1735891	1736964	0.28	cps
Molybdenum	95-1	3016737	2969013	2984184	2989978	0.82	cps
Molybdenum	96-1	3205967	3215023	3218586	3213192	0.20	cps
Nickel	60-2	180802	178030	179197	179343	0.78	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICV	Instrumnet Name :	P7
Client Sample ID :	ICV	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:15:27	DataFile Name :	011ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	200	92	108	133	43.75	cps
Potassium	39-2	567062	556289	560368	561240	0.97	cps
Rhodium	103-1	3110907	3059930	3060768	3077202	0.95	cps
Rhodium	103-2	1519222	1526102	1484538	1509954	1.48	cps
Scandium	45-2	100260	99720	100317	100099	0.33	cps
Scandium	45-1	2189626	2179873	2158272	2175924	0.74	cps
Selenium	82-1	37843	38621	37902	38122	1.14	cps
Selenium	77-2	1770	1690	1603	1688	4.94	cps
Selenium	78-2	5762	5642	5749	5718	1.16	cps
Silicon	28-1	3454947	3444685	3446657	3448763	0.16	cps
Silver	107-1	1393542	1392797	1393740	1393360	0.04	cps
Silver	109-1	1352251	1336119	1337350	1341907	0.67	cps
Sodium	23-2	1156364	1136404	1125795	1139521	1.36	cps
Strontium	86-1	9495	9837	9720	9684	1.79	cps
Strontium	88-1	77443	79010	77569	78007	1.12	cps
Sulfur	34-1	333851	332300	332638	332930	0.24	cps
Terbium	159-1	4132037	4137436	4129114	4132862	0.10	cps
Terbium	159-2	2045838	2042268	2012127	2033411	0.91	cps
Thallium	203-1	2359643	2316016	2310768	2328809	1.15	cps
Thallium	205-1	5589804	5577305	5533624	5566911	0.53	cps
Tin	118-1	4681390	4651924	4661028	4664781	0.32	cps
Titanium	47-1	833333	845723	843510	840855	0.79	cps
Uranium	238-1	492	442	350	428	16.79	cps
Vanadium	51-2	331993	333259	331373	332208	0.29	cps
Yttrium	89-1	3502869	3495439	3497146	3498485	0.11	cps
Yttrium	89-2	498964	492835	491227	494342	0.83	cps
Zinc	66-2	126139	125252	124956	125449	0.49	cps
Zirconium	90-1	6368	5668	5284	5774	9.52	cps
Zirconium	91-1	1734	1759	1417	1636	11.64	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICB	Instrumnet Name :	P7
Client Sample ID :	ICB	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:34:55	DataFile Name :	012CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	33	108	67	69	54.12	cps
Antimony	121-1	842	683	758	761	10.41	cps
Arsenic	75-2	6	9	4	6	45.85	cps
Barium	135-1	100	58	50	69	38.57	cps
Barium	137-1	33	92	75	67	45.07	cps
Beryllium	9-1	67	83	72	74	11.46	cps
Bismuth	209-1	2633864	2561870	2633355	2609696	1.59	cps
Bismuth	209-2	1501870	1468055	1486640	1485521	1.14	cps
Boron	10-1	858	692	767	772	10.81	cps
Boron	11-1	4026	4151	3884	4020	3.32	cps
Cadmium	111-1	659	690	619	656	5.38	cps
Cadmium	106-1	933	983	875	931	5.83	cps
Cadmium	108-1	4	4	8	6	43.22	cps
Calcium	43-1	342	267	458	356	27.17	cps
Calcium	44-1	13440	12322	12581	12781	4.58	cps
Chromium	52-2	433	493	563	497	13.10	cps
Cobalt	59-2	57	100	73	77	28.51	cps
Copper	63-2	1010	1090	967	1022	6.12	cps
Holmium	165-2	2030444	1985638	2003310	2006464	1.12	cps
Holmium	165-1	3984646	3928223	3980732	3964534	0.79	cps
Indium	115-1	3113192	3090546	3177505	3127081	1.44	cps
Indium	115-2	599821	589929	597475	595742	0.87	cps
Iron	56-2	4529	4551	4729	4603	2.38	cps
Iron	57-2	128	94	61	94	35.30	cps
Lead	206-1	1006	1022	983	1004	1.94	cps
Lead	207-1	756	856	850	820	6.85	cps
Lead	208-1	3861	4084	3873	3939	3.18	cps
Lithium	6-1	268537	262581	270264	267127	1.51	cps
Magnesium	24-2	583	600	633	606	4.20	cps
Manganese	55-2	63	57	77	66	15.54	cps
Molybdenum	94-1	142	125	158	142	11.76	cps
Molybdenum	95-1	83	50	75	69	24.98	cps
Molybdenum	96-1	175	83	100	119	40.88	cps
Molybdenum	97-1	33	50	50	44	21.66	cps
Molybdenum	98-1	92	42	75	69	36.66	cps
Nickel	60-2	87	70	73	77	11.51	cps

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICB	Instrumnet Name :	P7
Client Sample ID :	ICB	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:34:55	DataFile Name :	012CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	100	83	175	119	40.88	cps
Potassium	39-2	23945	22643	23645	23411	2.91	cps
Rhodium	103-1	3024083	2931138	3036950	2997390	1.93	cps
Rhodium	103-2	1519856	1481145	1496933	1499311	1.30	cps
Scandium	45-2	99847	95482	97609	97646	2.24	cps
Scandium	45-1	2088188	2059832	2125393	2091138	1.57	cps
Selenium	82-1	8	267	67	114	118.97	cps
Selenium	77-2	0	3	0	1	173.21	cps
Selenium	78-2	87	61	65	71	19.75	cps
Silicon	28-1	213998	213590	212068	213219	0.48	cps
Silver	109-1	183	133	117	144	24.02	cps
Silver	107-1	158	217	150	175	20.76	cps
Sodium	23-2	15851	15467	16009	15776	1.77	cps
Strontium	86-1	608	642	625	625	2.67	cps
Strontium	88-1	200	175	158	178	11.80	cps
Sulfur	34-1	329322	332389	335177	332296	0.88	cps
Terbium	159-1	4106505	4070154	4077658	4084772	0.47	cps
Terbium	159-2	2024786	1978044	2009169	2004000	1.19	cps
Thallium	203-1	225	225	208	219	4.39	cps
Thallium	205-1	592	567	567	575	2.51	cps
Tin	118-1	642	667	592	633	6.03	cps
Titanium	47-1	125	83	75	94	28.37	cps
Uranium	238-1	75	100	75	83	17.32	cps
Vanadium	51-2	13	23	13	17	34.65	cps
Yttrium	89-2	491911	479338	493252	488167	1.57	cps
Yttrium	89-1	3449360	3372931	3399364	3407218	1.14	cps
Zinc	66-2	153	173	193	173	11.54	cps
Zirconium	90-1	192	358	208	253	36.31	cps
Zirconium	91-1	42	100	33	58	62.28	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICSA	Instrumnet Name :	P7
Client Sample ID :	ICSA	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:37:59	DataFile Name :	013ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	10109837	10252096	10339178	10233704	1.13	cps
Antimony	121-1	14458	14408	14608	14491	0.72	cps
Arsenic	75-2	135	131	133	133	1.39	cps
Barium	135-1	4793	4451	4743	4662	3.96	cps
Barium	137-1	7953	7586	7944	7828	2.68	cps
Beryllium	9-1	483	344	433	420	16.73	cps
Bismuth	209-1	2491011	2465585	2453215	2469937	0.78	cps
Bismuth	209-2	1356901	1373763	1371254	1367306	0.67	cps
Boron	10-1	875	867	958	900	5.63	cps
Boron	11-1	4442	4126	4051	4206	4.94	cps
Cadmium	111-1	1828	1746	1985	1853	6.54	cps
Cadmium	106-1	1000	833	933	922	9.10	cps
Cadmium	108-1	2579	2321	2271	2391	6.92	cps
Calcium	43-1	3372842	3351941	3367112	3363965	0.32	cps
Calcium	44-1	54662885	55366126	55208901	55079304	0.67	cps
Chromium	52-2	76404	77036	76165	76535	0.59	cps
Cobalt	59-2	7445	7302	7595	7448	1.97	cps
Copper	63-2	36526	36653	36225	36468	0.60	cps
Holmium	165-2	1957653	2014561	2001140	1991118	1.49	cps
Holmium	165-1	4002631	3970264	3895635	3956177	1.39	cps
Indium	115-1	2951771	3010697	2938122	2966863	1.30	cps
Indium	115-2	562854	561966	560476	561766	0.21	cps
Iron	56-2	301256807	306231751	308600329	305362962	1.23	cps
Iron	57-2	7555906	7627039	7713825	7632257	1.04	cps
Lead	206-1	42552	41794	42452	42266	0.97	cps
Lead	207-1	32758	32819	31928	32501	1.53	cps
Lead	208-1	154640	155122	154319	154694	0.26	cps
Lithium	6-1	261350	260125	258584	260020	0.53	cps
Magnesium	24-2	25815848	26317250	26379124	26170741	1.18	cps
Manganese	55-2	16503	16249	16549	16434	0.98	cps
Molybdenum	94-1	6322858	6293576	6389713	6335382	0.78	cps
Molybdenum	95-1	11070495	10912311	11061293	11014700	0.81	cps
Molybdenum	96-1	11794757	11724794	11801684	11773745	0.36	cps
Molybdenum	97-1	7021559	6957919	7021012	7000163	0.52	cps
Molybdenum	98-1	18258357	18025030	18186688	18156692	0.66	cps
Nickel	60-2	8943	8796	9186	8975	2.20	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICSA	Instrumnet Name :	P7
Client Sample ID :	ICSA	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:37:59	DataFile Name :	013ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	545266	546721	554122	548703	0.87	cps
Potassium	39-2	24602225	25095953	25115905	24938027	1.17	cps
Rhodium	103-2	1362874	1375842	1371845	1370187	0.48	cps
Rhodium	103-1	2771006	2745543	2752868	2756472	0.48	cps
Scandium	45-1	1996613	2064048	2018137	2026266	1.70	cps
Scandium	45-2	91527	92986	93194	92569	0.98	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	57	57	61	59	3.64	cps
Selenium	82-1	42	58	-142	-14	-798.95	cps
Silicon	28-1	361137	361210	369445	363931	1.31	cps
Silver	109-1	1083	1417	1267	1256	13.30	cps
Silver	107-1	1142	1142	1225	1170	4.12	cps
Sodium	23-2	49187245	49767359	50608298	49854301	1.43	cps
Strontium	86-1	124782	125721	124905	125136	0.41	cps
Strontium	88-1	1075645	1076274	1085585	1079168	0.52	cps
Sulfur	34-1	4550035	4578600	4501009	4543215	0.86	cps
Terbium	159-1	4028372	4035494	3989741	4017869	0.61	cps
Terbium	159-2	1970652	2002483	2015108	1996081	1.15	cps
Thallium	203-1	917	858	1058	945	10.89	cps
Thallium	205-1	2017	2675	2525	2406	14.34	cps
Tin	118-1	2167	2334	2059	2186	6.34	cps
Titanium	47-1	3270983	3323390	3269327	3287900	0.94	cps
Uranium	238-1	758	758	717	745	3.23	cps
Vanadium	51-2	467	520	533	507	6.96	cps
Yttrium	89-2	467246	467667	470387	468433	0.36	cps
Yttrium	89-1	3281286	3297014	3281977	3286759	0.27	cps
Zinc	66-2	7269	6998	6998	7088	2.20	cps
Zirconium	90-1	967	950	900	939	3.70	cps
Zirconium	91-1	233	150	158	181	25.42	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICSAB	Instrumnet Name :	P7
Client Sample ID :	ICSAB	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:41:01	DataFile Name :	014ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	10500126	10512939	10504414	10505826	0.06	cps
Antimony	121-1	236112	235290	237552	236318	0.48	cps
Arsenic	75-2	8134	8017	7737	7963	2.56	cps
Barium	135-1	61922	61110	61814	61615	0.72	cps
Barium	137-1	105475	104324	103719	104506	0.85	cps
Beryllium	9-1	29635	29585	29824	29681	0.43	cps
Bismuth	209-2	1392962	1403097	1410014	1402024	0.61	cps
Bismuth	209-1	2527151	2546801	2532636	2535529	0.40	cps
Boron	10-1	850	867	733	817	8.90	cps
Boron	11-1	4184	4317	3959	4153	4.36	cps
Cadmium	108-1	5776	6222	5806	5935	4.20	cps
Cadmium	111-1	52827	54871	52535	53411	2.38	cps
Cadmium	106-1	5335	5360	5460	5385	1.23	cps
Calcium	43-1	3469455	3452896	3501287	3474546	0.71	cps
Calcium	44-1	56641264	56546180	57350595	56846013	0.77	cps
Chromium	52-2	163930	164478	163343	163917	0.35	cps
Cobalt	59-2	133185	135515	132948	133883	1.06	cps
Copper	63-2	126477	126739	128875	127364	1.03	cps
Holmium	165-1	4026388	4062138	4057318	4048615	0.48	cps
Holmium	165-2	2058279	2069995	2078237	2068837	0.48	cps
Indium	115-2	580534	587691	586413	584879	0.65	cps
Indium	115-1	3161920	3136004	3127083	3141669	0.58	cps
Iron	56-2	310090607	311654674	313634740	311793340	0.57	cps
Iron	57-2	7851201	7852975	7816291	7840156	0.26	cps
Lead	206-1	224874	225286	222455	224205	0.68	cps
Lead	207-1	185374	186044	185413	185610	0.20	cps
Lead	208-1	862982	862278	862633	862631	0.04	cps
Lithium	6-1	261427	263004	261498	261976	0.34	cps
Magnesium	24-2	26816890	26978575	27156843	26984103	0.63	cps
Manganese	55-2	57994	58516	58265	58258	0.45	cps
Molybdenum	94-1	6493119	6513111	6474162	6493464	0.30	cps
Molybdenum	95-1	11410017	11271683	11388123	11356608	0.65	cps
Molybdenum	96-1	12267881	12048068	12213144	12176365	0.94	cps
Molybdenum	97-1	7253589	7153522	7202274	7203128	0.69	cps
Molybdenum	98-1	18412006	18478283	18584976	18491755	0.47	cps
Nickel	60-2	44347	45056	44738	44714	0.79	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	ICSAB	Instrumnet Name :	P7
Client Sample ID :	ICSAB	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:41:01	DataFile Name :	014ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	561518	568274	553424	561072	1.33	cps
Potassium	39-2	25756397	25696746	25575933	25676359	0.36	cps
Rhodium	103-2	1415939	1418917	1428389	1421082	0.46	cps
Rhodium	103-1	2863143	2852717	2876703	2864188	0.42	cps
Scandium	45-1	2134746	2090198	2114142	2113028	1.06	cps
Scandium	45-2	96442	96864	96274	96527	0.32	cps
Selenium	82-1	3434	3184	3801	3473	8.93	cps
Selenium	77-2	157	173	153	161	6.65	cps
Selenium	78-2	554	591	593	579	3.79	cps
Silicon	28-1	388103	387761	392432	389432	0.67	cps
Silver	107-1	251153	251208	255117	252493	0.90	cps
Silver	109-1	243123	245149	244538	244270	0.43	cps
Sodium	23-2	50882998	51560338	51277146	51240161	0.66	cps
Strontium	86-1	126831	128193	129994	128339	1.24	cps
Strontium	88-1	1105266	1113978	1109113	1109453	0.39	cps
Sulfur	34-1	4745766	4670664	4747170	4721200	0.93	cps
Terbium	159-1	4176372	4155235	4166752	4166120	0.25	cps
Terbium	159-2	2042924	2040638	2049894	2044486	0.24	cps
Thallium	203-1	218160	218222	218536	218306	0.09	cps
Thallium	205-1	529225	531949	533886	531687	0.44	cps
Tin	118-1	2017	2142	1967	2042	4.42	cps
Titanium	47-1	3336492	3347471	3418602	3367522	1.32	cps
Uranium	238-1	1292	1375	1283	1317	3.85	cps
Vanadium	51-2	63814	63536	64179	63843	0.50	cps
Yttrium	89-1	3468561	3456040	3443549	3456050	0.36	cps
Yttrium	89-2	485436	491693	490164	489098	0.67	cps
Zinc	66-2	18438	18979	19440	18953	2.64	cps
Zirconium	90-1	958	925	1075	986	7.99	cps
Zirconium	91-1	200	333	250	261	25.80	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCV081	Instrumnet Name :	P7
Client Sample ID :	CCV081	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:44:03	DataFile Name :	015CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1071256	1072926	1076421	1073534	0.25	cps
Antimony	121-1	5901209	5872634	5869756	5881200	0.30	cps
Arsenic	75-2	200597	201741	201831	201390	0.34	cps
Barium	135-1	7212499	7254926	7225453	7230960	0.30	cps
Barium	137-1	12357138	12427919	12351932	12378996	0.34	cps
Beryllium	9-1	747305	742664	741187	743719	0.43	cps
Bismuth	209-1	2567374	2602306	2614853	2594844	0.95	cps
Bismuth	209-2	1395375	1425977	1404611	1408655	1.11	cps
Boron	10-1	94955	98319	101968	98414	3.56	cps
Boron	11-1	472703	487373	505460	488512	3.36	cps
Cadmium	111-1	1383502	1383899	1381134	1382845	0.11	cps
Cadmium	106-1	149305	149229	149971	149502	0.27	cps
Cadmium	108-1	100835	100403	101313	100850	0.45	cps
Calcium	43-1	1855702	1822141	1843391	1840411	0.92	cps
Calcium	44-1	29737689	29641026	29639632	29672782	0.19	cps
Chromium	52-2	2030712	2052738	2010387	2031279	1.04	cps
Cobalt	59-2	3252379	3240977	3275671	3256342	0.54	cps
Copper	63-2	4738804	4754476	4705182	4732821	0.53	cps
Holmium	165-1	4059684	4064957	4069158	4064600	0.12	cps
Holmium	165-2	2016332	2035686	1992381	2014800	1.08	cps
Indium	115-2	546744	562303	550356	553134	1.47	cps
Indium	115-1	3007369	3044974	3034685	3029009	0.64	cps
Iron	56-2	79914768	79596985	79326824	79612859	0.37	cps
Iron	57-2	2021661	2047696	2015753	2028370	0.84	cps
Lead	206-1	4801164	4816196	4793557	4803639	0.24	cps
Lead	207-1	4190399	4199740	4199858	4196666	0.13	cps
Lead	208-1	18967490	19218515	19052061	19079356	0.67	cps
Lithium	6-1	264459	262915	265338	264237	0.46	cps
Magnesium	24-2	13875503	13841568	13977439	13898170	0.51	cps
Manganese	55-2	2131818	2123451	2142536	2132602	0.45	cps
Molybdenum	94-1	5598982	5585581	5571473	5585345	0.25	cps
Molybdenum	95-1	3033891	3039265	3036717	3036625	0.09	cps
Molybdenum	96-1	3838732	3857910	3847450	3848031	0.25	cps
Molybdenum	97-1	1924490	1928059	1911634	1921394	0.45	cps
Molybdenum	98-1	4972715	4928021	4907752	4936163	0.67	cps
Nickel	60-2	853460	848330	851396	851062	0.30	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCV081	Instrumnet Name :	P7
Client Sample ID :	CCV081	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:44:03	DataFile Name :	015CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	56934	57587	57646	57389	0.69	cps
Potassium	39-2	6622348	6622737	6649931	6631672	0.24	cps
Rhodium	103-2	1405858	1446068	1424857	1425594	1.41	cps
Rhodium	103-1	2933842	2936095	2938274	2936070	0.08	cps
Scandium	45-1	2127974	2144558	2140504	2137679	0.40	cps
Scandium	45-2	95609	99650	97438	97566	2.07	cps
Selenium	77-2	4027	4021	4107	4052	1.19	cps
Selenium	78-2	13916	13692	13894	13834	0.89	cps
Selenium	82-1	93069	93052	94269	93463	0.75	cps
Silicon	28-1	3647018	3556241	3556666	3586641	1.46	cps
Silver	109-1	6809357	6764958	6815685	6796667	0.41	cps
Silver	107-1	7008847	6923370	6995661	6975959	0.66	cps
Sodium	23-2	26188329	26220624	26430018	26279657	0.50	cps
Strontium	86-1	1978240	1986193	2007094	1990509	0.75	cps
Strontium	88-1	16892437	16997989	16861790	16917405	0.42	cps
Sulfur	34-1	855018	843482	836984	845161	1.08	cps
Terbium	159-1	4138090	4176710	4193975	4169592	0.69	cps
Terbium	159-2	1984122	2017975	1986042	1996047	0.95	cps
Thallium	203-1	5781758	5737199	5723590	5747516	0.53	cps
Thallium	205-1	13713867	13828320	13635351	13725846	0.71	cps
Tin	118-1	4922607	4876156	4938604	4912456	0.66	cps
Titanium	47-1	873661	875787	877205	875551	0.20	cps
Uranium	238-1	20432232	20685750	20445892	20521292	0.69	cps
Vanadium	51-2	1657754	1679982	1654857	1664197	0.83	cps
Yttrium	89-2	475560	481658	471778	476332	1.05	cps
Yttrium	89-1	3406932	3446834	3478261	3444009	1.04	cps
Zinc	66-2	597632	602561	602927	601040	0.49	cps
Zirconium	90-1	10360496	10370739	10452663	10394633	0.49	cps
Zirconium	91-1	2368926	2363651	2407150	2379909	1.00	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCB081	Instrumnet Name :	P7
Client Sample ID :	CCB081	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:46:52	DataFile Name :	016CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	158	292	233	228	29.34	cps
Antimony	121-1	3751	3842	3617	3737	3.03	cps
Arsenic	75-2	22	37	15	25	45.84	cps
Barium	135-1	250	258	267	258	3.23	cps
Barium	137-1	633	450	392	492	25.65	cps
Beryllium	9-1	89	106	144	113	25.24	cps
Bismuth	209-1	2674372	2665150	2668796	2669439	0.17	cps
Bismuth	209-2	1430342	1450292	1437509	1439381	0.70	cps
Boron	10-1	4793	4242	3801	4279	11.62	cps
Boron	11-1	22075	20256	18562	20298	8.66	cps
Cadmium	106-1	900	900	825	875	4.95	cps
Cadmium	108-1	17	13	17	15	15.76	cps
Cadmium	111-1	743	680	645	689	7.24	cps
Calcium	43-1	467	442	500	469	6.23	cps
Calcium	44-1	15008	15100	15359	15156	1.20	cps
Chromium	52-2	717	717	597	677	10.24	cps
Cobalt	59-2	143	187	177	169	13.43	cps
Copper	63-2	1600	1663	1707	1657	3.24	cps
Holmium	165-1	4025194	3985862	4033208	4014755	0.63	cps
Holmium	165-2	1948721	1956477	1939381	1948193	0.44	cps
Indium	115-2	573633	577613	568578	573275	0.79	cps
Indium	115-1	3148535	3138950	3143784	3143756	0.15	cps
Iron	56-2	12795	12539	12133	12489	2.67	cps
Iron	57-2	311	339	439	363	18.52	cps
Lead	206-1	1267	1411	1406	1361	6.01	cps
Lead	207-1	1133	1167	1145	1148	1.48	cps
Lead	208-1	5234	5645	5640	5506	4.28	cps
Lithium	6-1	262749	266101	262122	263657	0.81	cps
Magnesium	24-2	1383	1175	1358	1306	8.71	cps
Manganese	55-2	113	180	157	150	22.55	cps
Molybdenum	94-1	533	742	717	664	17.14	cps
Molybdenum	95-1	692	717	650	686	4.91	cps
Molybdenum	96-1	792	742	775	769	3.31	cps
Molybdenum	97-1	450	558	417	475	15.59	cps
Molybdenum	98-1	1208	1033	1275	1172	10.65	cps
Nickel	60-2	120	93	120	111	13.85	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCB081	Instrumnet Name :	P7
Client Sample ID :	CCB081	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:46:52	DataFile Name :	016CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	175	150	142	156	11.15	cps
Potassium	39-2	24880	24705	24045	24543	1.79	cps
Rhodium	103-2	1454791	1456953	1438250	1449998	0.71	cps
Rhodium	103-1	3046590	3004310	2987314	3012738	1.01	cps
Scandium	45-1	2104499	2087617	2066033	2086050	0.92	cps
Scandium	45-2	93228	93020	92010	92752	0.70	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	65	74	74	71	7.53	cps
Selenium	82-1	17	-8	-92	-28	-204.23	cps
Silicon	28-1	213633	211238	210199	211690	0.83	cps
Silver	107-1	542	500	583	542	7.69	cps
Silver	109-1	650	417	558	542	21.70	cps
Sodium	23-2	22342	22418	22651	22470	0.72	cps
Strontium	86-1	608	575	625	603	4.22	cps
Strontium	88-1	733	717	833	761	8.29	cps
Sulfur	34-1	298442	296965	294868	296758	0.61	cps
Terbium	159-1	4094628	4097442	4119538	4103869	0.33	cps
Terbium	159-2	1973674	1964947	1936905	1958509	0.98	cps
Thallium	203-1	908	983	733	875	14.66	cps
Thallium	205-1	1992	1892	1909	1931	2.78	cps
Tin	118-1	1192	1017	1317	1175	12.83	cps
Titanium	47-1	150	217	192	186	18.10	cps
Uranium	238-1	925	833	858	872	5.43	cps
Vanadium	51-2	93	100	80	91	11.18	cps
Yttrium	89-2	470479	469953	468237	469556	0.25	cps
Yttrium	89-1	3434658	3405640	3377687	3405995	0.84	cps
Zinc	66-2	160	160	227	182	21.12	cps
Zirconium	90-1	917	992	892	933	5.58	cps
Zirconium	91-1	283	217	242	247	13.62	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90341BL	Instrumnet Name :	P7
Client Sample ID :	PBS008	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:51:28	DataFile Name :	017CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	92	117	175	128	33.47	cps
Antimony	121-1	975	1075	1283	1111	14.16	cps
Arsenic	75-2	9	7	4	7	41.70	cps
Barium	135-1	158	67	75	100	50.69	cps
Barium	137-1	133	142	125	133	6.25	cps
Beryllium	9-1	89	83	106	93	12.49	cps
Bismuth	209-1	2633071	2599560	2555868	2596166	1.49	cps
Bismuth	209-2	1425945	1436745	1437005	1433232	0.44	cps
Boron	10-1	1342	1175	1150	1222	8.53	cps
Boron	11-1	6185	6360	6160	6235	1.75	cps
Cadmium	111-1	643	650	680	658	2.99	cps
Cadmium	106-1	883	925	950	920	3.66	cps
Cadmium	108-1	13	8	8	10	24.77	cps
Calcium	43-1	475	433	342	417	16.37	cps
Calcium	44-1	13056	12939	13131	13042	0.74	cps
Chromium	52-2	1397	1303	1233	1311	6.25	cps
Cobalt	59-2	50	80	70	67	22.91	cps
Copper	63-2	1030	1213	1183	1142	8.61	cps
Holmium	165-2	1940468	1962523	1940003	1947665	0.66	cps
Holmium	165-1	3965809	3941002	3953284	3953365	0.31	cps
Indium	115-1	3067959	3088631	3065301	3073963	0.42	cps
Indium	115-2	565544	568695	570203	568147	0.42	cps
Iron	56-2	6513	6513	6424	6483	0.79	cps
Iron	57-2	178	144	178	167	11.55	cps
Lead	206-1	1067	1195	1111	1124	5.77	cps
Lead	207-1	1078	1061	1067	1069	0.79	cps
Lead	208-1	4706	4845	4784	4778	1.46	cps
Lithium	6-1	263832	262418	264557	263602	0.41	cps
Magnesium	24-2	517	750	575	614	19.78	cps
Manganese	55-2	83	67	83	78	12.37	cps
Molybdenum	94-1	425	208	258	297	38.17	cps
Molybdenum	95-1	258	200	208	222	14.20	cps
Molybdenum	96-1	233	317	292	281	15.24	cps
Molybdenum	97-1	150	217	225	197	20.84	cps
Molybdenum	98-1	483	442	325	417	19.70	cps
Nickel	60-2	67	87	103	86	21.46	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90341BL	Instrumnet Name :	P7
Client Sample ID :	PBS008	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:51:28	DataFile Name :	017CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	117	150	117	128	15.06	cps
Potassium	39-2	22726	23085	22701	22838	0.94	cps
Rhodium	103-2	1433342	1432451	1441092	1435628	0.33	cps
Rhodium	103-1	2962542	2909427	2928823	2933597	0.92	cps
Scandium	45-1	2038589	2027626	2062464	2042893	0.87	cps
Scandium	45-2	90840	90947	91893	91226	0.64	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	63	52	65	60	11.71	cps
Selenium	82-1	-33	-42	67	-3	-2173.99	cps
Silicon	28-1	203342	203988	206864	204731	0.92	cps
Silver	109-1	242	233	292	256	12.34	cps
Silver	107-1	350	217	350	306	25.19	cps
Sodium	23-2	18262	18212	19230	18568	3.09	cps
Strontium	86-1	692	675	758	708	6.23	cps
Strontium	88-1	225	292	292	269	14.29	cps
Sulfur	34-1	295068	295461	295443	295324	0.08	cps
Terbium	159-1	4011707	4068889	4048592	4043063	0.72	cps
Terbium	159-2	1915101	1933090	1938514	1928902	0.64	cps
Thallium	203-1	375	408	350	378	7.75	cps
Thallium	205-1	833	808	717	786	7.81	cps
Tin	118-1	883	958	933	925	4.13	cps
Titanium	47-1	117	117	108	114	4.22	cps
Uranium	238-1	192	192	100	161	32.85	cps
Vanadium	51-2	20	33	23	26	27.15	cps
Yttrium	89-2	463340	460799	460929	461689	0.31	cps
Yttrium	89-1	3353503	3294389	3295258	3314383	1.02	cps
Zinc	66-2	107	87	87	93	12.37	cps
Zirconium	90-1	500	550	475	508	7.51	cps
Zirconium	91-1	117	117	58	97	34.64	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90341BS	Instrumnet Name :	P7
Client Sample ID :	LCS008	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:54:31	DataFile Name :	018LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4576	4092	4167	4279	6.08	cps
Antimony	121-1	42649	42624	43586	42953	1.28	cps
Arsenic	75-2	839	754	839	811	6.07	cps
Barium	135-1	54173	53713	52533	53473	1.58	cps
Barium	137-1	93808	90906	91786	92167	1.61	cps
Beryllium	9-1	2995	3028	2789	2937	4.40	cps
Bismuth	209-1	2640754	2637830	2636741	2638441	0.08	cps
Bismuth	209-2	1446485	1450200	1445195	1447294	0.18	cps
Boron	10-1	4476	4659	4701	4612	2.60	cps
Boron	11-1	21324	22826	21958	22036	3.42	cps
Cadmium	106-1	1575	1608	1242	1475	13.75	cps
Cadmium	108-1	358	375	413	382	7.27	cps
Cadmium	111-1	6124	6106	5782	6004	3.21	cps
Calcium	43-1	33146	33397	33506	33350	0.55	cps
Calcium	44-1	558908	555892	553349	556050	0.50	cps
Chromium	52-2	16816	16716	16830	16788	0.37	cps
Cobalt	59-2	12055	12199	12015	12090	0.80	cps
Copper	63-2	19466	18699	19063	19076	2.01	cps
Holmium	165-1	4025349	3943147	3963587	3977361	1.08	cps
Holmium	165-2	1980471	1979504	1964532	1974836	0.45	cps
Indium	115-2	576847	572889	575058	574932	0.34	cps
Indium	115-1	3060298	3075027	3115273	3083533	0.92	cps
Iron	56-2	1283421	1280709	1295607	1286579	0.62	cps
Iron	57-2	32358	31456	31390	31735	1.71	cps
Lead	206-1	18830	19003	18652	18829	0.93	cps
Lead	207-1	16333	15977	16466	16258	1.56	cps
Lead	208-1	74856	74021	75034	74637	0.72	cps
Lithium	6-1	268865	264940	267865	267224	0.76	cps
Magnesium	24-2	258806	259179	257304	258429	0.38	cps
Manganese	55-2	4161	4101	4031	4097	1.59	cps
Molybdenum	94-1	45307	45381	45456	45381	0.16	cps
Molybdenum	95-1	54714	56479	56279	55824	1.73	cps
Molybdenum	96-1	62973	61943	62345	62420	0.83	cps
Molybdenum	97-1	36239	35420	34785	35481	2.05	cps
Molybdenum	98-1	90478	91200	90763	90814	0.40	cps
Nickel	60-2	3574	3374	3561	3503	3.19	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90341BS	Instrumnet Name :	P7
Client Sample ID :	LCS008	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:54:31	DataFile Name :	018LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	650	725	617	664	8.36	cps
Potassium	39-2	263976	264298	264892	264389	0.18	cps
Rhodium	103-2	1465336	1448745	1452980	1455687	0.59	cps
Rhodium	103-1	2969856	3001019	2948606	2973161	0.89	cps
Scandium	45-1	2041348	2049338	2042439	2044375	0.21	cps
Scandium	45-2	93328	92989	92567	92961	0.41	cps
Selenium	77-2	80	87	103	90	13.36	cps
Selenium	78-2	281	317	337	312	9.01	cps
Selenium	82-1	2000	1967	1500	1822	15.34	cps
Silicon	28-1	334730	335933	336679	335781	0.29	cps
Silver	109-1	31052	30008	29381	30147	2.80	cps
Silver	107-1	31653	32138	32614	32135	1.50	cps
Sodium	23-2	500071	498326	503380	500592	0.51	cps
Strontium	86-1	7761	7786	7928	7825	1.15	cps
Strontium	88-1	63207	64161	62211	63193	1.54	cps
Sulfur	34-1	293727	301115	294837	296560	1.34	cps
Terbium	159-1	4077189	4118360	4054383	4083311	0.79	cps
Terbium	159-2	1995855	1947290	1977698	1973614	1.24	cps
Thallium	203-1	22445	22537	22261	22414	0.63	cps
Thallium	205-1	53793	55702	54362	54619	1.79	cps
Tin	118-1	91078	91422	91229	91243	0.19	cps
Titanium	47-1	16435	16076	15817	16109	1.92	cps
Uranium	238-1	73358	74933	74623	74305	1.12	cps
Vanadium	51-2	30615	30649	30843	30702	0.40	cps
Yttrium	89-2	471974	467172	468963	469370	0.52	cps
Yttrium	89-1	3299402	3363281	3319619	3327434	0.98	cps
Zinc	66-2	2487	2410	2524	2474	2.34	cps
Zirconium	90-1	36339	36155	36447	36314	0.41	cps
Zirconium	91-1	7636	7878	7436	7650	2.89	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90375BL	Instrumnet Name :	P7
Client Sample ID :	PBW007	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:57:35	DataFile Name :	019CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	75	83	83	81	5.98	cps
Antimony	121-1	425	542	425	464	14.52	cps
Arsenic	75-2	2	7	2	4	86.68	cps
Barium	135-1	17	42	42	33	43.30	cps
Barium	137-1	58	83	100	81	26.03	cps
Beryllium	9-1	72	44	67	61	24.05	cps
Bismuth	209-1	2647584	2600578	2597370	2615177	1.07	cps
Bismuth	209-2	1449947	1441680	1450221	1447283	0.34	cps
Boron	10-1	808	858	867	845	3.74	cps
Boron	11-1	4134	4009	3901	4015	2.91	cps
Cadmium	111-1	634	537	555	576	8.96	cps
Cadmium	106-1	867	750	800	806	7.27	cps
Cadmium	108-1	8	13	13	11	21.67	cps
Calcium	43-1	250	417	417	361	26.65	cps
Calcium	44-1	13165	12564	12064	12598	4.38	cps
Chromium	52-2	1277	1313	1243	1278	2.74	cps
Cobalt	59-2	83	60	63	69	18.32	cps
Copper	63-2	970	950	970	963	1.20	cps
Holmium	165-1	3972364	3909574	3924597	3935512	0.83	cps
Holmium	165-2	1997126	1964121	1979468	1980238	0.83	cps
Indium	115-2	577676	570842	566171	571563	1.01	cps
Indium	115-1	3110455	3100426	3088682	3099854	0.35	cps
Iron	56-2	5262	5179	5018	5153	2.41	cps
Iron	57-2	111	139	111	120	13.32	cps
Lead	206-1	1156	978	1056	1063	8.38	cps
Lead	207-1	922	956	956	945	2.04	cps
Lead	208-1	4289	4184	4367	4280	2.15	cps
Lithium	6-1	264969	261199	264246	263472	0.76	cps
Magnesium	24-2	583	608	683	625	8.33	cps
Manganese	55-2	70	67	83	73	12.02	cps
Molybdenum	94-1	325	275	275	292	9.90	cps
Molybdenum	95-1	75	117	108	100	22.05	cps
Molybdenum	96-1	133	175	192	167	18.03	cps
Molybdenum	97-1	75	50	58	61	20.83	cps
Molybdenum	98-1	175	150	192	172	12.18	cps
Nickel	60-2	107	93	97	99	7.02	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90375BL	Instrumnet Name :	P7
Client Sample ID :	PBW007	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 14:57:35	DataFile Name :	019CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	83	83	100	89	10.82	cps
Potassium	39-2	21625	21199	21358	21394	1.01	cps
Rhodium	103-1	2950157	2942403	2937771	2943444	0.21	cps
Rhodium	103-2	1446525	1447584	1441812	1445307	0.21	cps
Scandium	45-1	2033009	2007337	2018095	2019480	0.64	cps
Scandium	45-2	92832	90829	92393	92018	1.14	cps
Selenium	82-1	0	-58	192	44	294.32	cps
Selenium	77-2	0	0	0	0	0.00	cps
Selenium	78-2	63	67	69	66	4.29	cps
Silicon	28-1	204770	203890	201863	203508	0.73	cps
Silver	109-1	133	183	125	147	21.43	cps
Silver	107-1	108	183	100	131	35.16	cps
Sodium	23-2	16485	17185	16443	16704	2.50	cps
Strontium	86-1	675	742	508	642	18.73	cps
Strontium	88-1	175	225	150	183	20.83	cps
Sulfur	34-1	293506	295791	294399	294565	0.39	cps
Terbium	159-1	4072052	3994355	4018360	4028255	0.99	cps
Terbium	159-2	1980550	1951960	1959064	1963858	0.76	cps
Thallium	203-1	275	258	208	247	14.03	cps
Thallium	205-1	550	600	575	575	4.35	cps
Tin	118-1	783	825	733	781	5.88	cps
Titanium	47-1	75	108	117	100	22.05	cps
Uranium	238-1	67	67	58	64	7.53	cps
Vanadium	51-2	23	20	10	18	39.03	cps
Yttrium	89-1	3360853	3316630	3302313	3326599	0.92	cps
Yttrium	89-2	467778	467029	466405	467070	0.15	cps
Zinc	66-2	83	117	63	88	30.70	cps
Zirconium	90-1	458	350	558	456	22.87	cps
Zirconium	91-1	100	92	67	86	20.14	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90375BS	Instrumnet Name :	P7
Client Sample ID :	LCS007	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:00:39	DataFile Name :	020LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4342	3992	4284	4206	4.46	cps
Antimony	121-1	42482	43042	43753	43092	1.48	cps
Arsenic	75-2	720	761	694	725	4.63	cps
Barium	135-1	53880	53194	53479	53518	0.64	cps
Barium	137-1	93104	93540	92037	92894	0.83	cps
Beryllium	9-1	2817	2861	2845	2841	0.79	cps
Bismuth	209-1	2615445	2621044	2621376	2619289	0.13	cps
Bismuth	209-2	1457968	1459389	1458196	1458518	0.05	cps
Boron	10-1	3909	3967	4326	4067	5.55	cps
Boron	11-1	18428	20390	20974	19931	6.69	cps
Cadmium	106-1	1408	1517	1325	1417	6.78	cps
Cadmium	108-1	429	454	413	432	4.85	cps
Cadmium	111-1	5920	5820	5940	5893	1.09	cps
Calcium	43-1	32645	33531	32988	33055	1.35	cps
Calcium	44-1	555451	557332	549673	554152	0.72	cps
Chromium	52-2	16903	16553	16099	16518	2.44	cps
Cobalt	59-2	12065	12292	12249	12202	0.99	cps
Copper	63-2	18766	18639	18358	18588	1.12	cps
Holmium	165-1	3930788	3952643	3946054	3943162	0.28	cps
Holmium	165-2	1990316	1968250	2010009	1989525	1.05	cps
Indium	115-2	582379	578809	576449	579212	0.52	cps
Indium	115-1	3056882	3105942	3049599	3070808	1.00	cps
Iron	56-2	1295747	1278874	1286338	1286986	0.66	cps
Iron	57-2	31612	32442	32208	32087	1.33	cps
Lead	206-1	18981	18391	18714	18695	1.58	cps
Lead	207-1	16433	16299	16500	16411	0.62	cps
Lead	208-1	74761	74824	74734	74773	0.06	cps
Lithium	6-1	259924	262848	263819	262197	0.77	cps
Magnesium	24-2	255990	255101	254111	255067	0.37	cps
Manganese	55-2	3741	4197	4211	4050	6.61	cps
Molybdenum	97-1	35980	35370	34434	35261	2.21	cps
Molybdenum	98-1	88835	89631	90277	89581	0.81	cps
Molybdenum	94-1	45114	45298	44203	44872	1.31	cps
Molybdenum	95-1	55141	56480	57149	56257	1.82	cps
Molybdenum	96-1	64279	62454	61542	62758	2.22	cps
Nickel	60-2	3574	3557	3501	3544	1.08	cps

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	PB90375BS	Instrumnet Name :	P7
Client Sample ID :	LCS007	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:00:39	DataFile Name :	020LCSE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	700	667	633	667	5.00	cps
Potassium	39-2	264381	260304	261990	262225	0.78	cps
Rhodium	103-1	2925616	2958686	2942686	2942329	0.56	cps
Rhodium	103-2	1465193	1488330	1464813	1472778	0.91	cps
Scandium	45-2	93667	92430	93167	93088	0.67	cps
Scandium	45-1	2017805	2057081	2014126	2029670	1.17	cps
Selenium	82-1	1742	1942	1809	1831	5.56	cps
Selenium	77-2	60	87	100	82	24.77	cps
Selenium	78-2	346	337	367	350	4.33	cps
Silicon	28-1	335434	333126	332929	333830	0.42	cps
Silver	107-1	31611	31561	31194	31455	0.73	cps
Silver	109-1	29473	29832	29749	29685	0.63	cps
Sodium	23-2	498643	492253	489387	493427	0.96	cps
Strontium	86-1	7852	7661	7978	7830	2.04	cps
Strontium	88-1	63567	62395	62110	62691	1.23	cps
Sulfur	34-1	285370	287254	286039	286221	0.33	cps
Terbium	159-1	4043859	4049497	4071823	4055060	0.36	cps
Terbium	159-2	1985377	1958850	1982637	1975621	0.74	cps
Thallium	203-1	22854	21952	22036	22281	2.24	cps
Thallium	205-1	54664	53224	54028	53972	1.34	cps
Tin	118-1	90977	91900	90985	91287	0.58	cps
Titanium	47-1	15842	15943	16176	15987	1.07	cps
Uranium	238-1	74347	72629	74313	73763	1.33	cps
Vanadium	51-2	30846	30625	30462	30644	0.63	cps
Yttrium	89-2	472837	470620	470248	471235	0.30	cps
Yttrium	89-1	3327621	3347898	3265065	3313528	1.30	cps
Zinc	66-2	2397	2374	2284	2351	2.55	cps
Zirconium	90-1	36882	35729	34819	35810	2.89	cps
Zirconium	91-1	7986	7986	7961	7978	0.18	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-01	Instrumnet Name :	P7
Client Sample ID :	MH4002	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:03:42	DataFile Name :	021SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	667	500	475	547	19.04	cps
Antimony	121-1	9087	8820	8178	8695	5.37	cps
Arsenic	75-2	257	252	252	254	1.26	cps
Barium	135-1	218526	217876	212857	216420	1.43	cps
Barium	137-1	370547	369068	365219	368278	0.75	cps
Beryllium	9-1	61	44	56	54	15.80	cps
Bismuth	209-1	2824410	2817402	2715258	2785690	2.19	cps
Bismuth	209-2	1514024	1503982	1504332	1507446	0.38	cps
Boron	10-1	15550	16109	16668	16109	3.47	cps
Boron	11-1	76510	78914	81553	78992	3.19	cps
Cadmium	108-1	8	13	8	10	24.77	cps
Cadmium	111-1	789	833	783	802	3.42	cps
Cadmium	106-1	892	1000	942	945	5.74	cps
Calcium	43-1	5537070	5447796	5376988	5453951	1.47	cps
Calcium	44-1	90185404	89273706	87947510	89135540	1.26	cps
Chromium	52-2	5121	5201	5271	5198	1.44	cps
Cobalt	59-2	317	247	293	286	12.48	cps
Copper	63-2	40205	39804	39437	39815	0.97	cps
Holmium	165-2	2194854	2196097	2179801	2190250	0.41	cps
Holmium	165-1	4557813	4520482	4402143	4493479	1.81	cps
Indium	115-1	3463417	3472260	3383888	3439855	1.41	cps
Indium	115-2	626810	624678	621698	624395	0.41	cps
Iron	56-2	1372188	1333808	1337399	1347798	1.57	cps
Iron	57-2	34753	34780	33478	34337	2.17	cps
Lead	206-1	8442	8514	8136	8364	2.40	cps
Lead	207-1	6952	6924	6552	6809	3.28	cps
Lead	208-1	32327	32911	31760	32333	1.78	cps
Lithium	6-1	299541	299256	295964	298253	0.67	cps
Magnesium	24-2	14449149	14289421	14355449	14364673	0.56	cps
Manganese	55-2	20491	20665	20768	20641	0.68	cps
Molybdenum	94-1	1909	2000	2134	2014	5.62	cps
Molybdenum	95-1	2600	2342	2709	2550	7.39	cps
Molybdenum	96-1	2725	2859	3059	2881	5.83	cps
Molybdenum	97-1	1867	1759	1717	1781	4.35	cps
Molybdenum	98-1	4384	4201	4034	4206	4.16	cps
Nickel	60-2	657	620	573	617	6.77	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-01	Instrumnet Name :	P7
Client Sample ID :	MH4002	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:03:42	DataFile Name :	021SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	167	150	225	181	21.81	cps
Potassium	39-2	691816	694053	689932	691934	0.30	cps
Rhodium	103-1	3202007	3221602	3134369	3185993	1.44	cps
Rhodium	103-2	1560653	1554494	1541621	1552256	0.63	cps
Scandium	45-2	103529	103099	101639	102756	0.96	cps
Scandium	45-1	2423618	2381966	2342878	2382821	1.69	cps
Selenium	82-1	158	108	258	175	43.64	cps
Selenium	77-2	3	3	3	3	0.00	cps
Selenium	78-2	80	98	65	81	20.65	cps
Silicon	28-1	58050383	57373916	57117568	57513955	0.84	cps
Silver	107-1	2650	3284	3726	3220	16.79	cps
Silver	109-1	2742	2900	2950	2864	3.80	cps
Sodium	23-2	70737597	69961383	69978754	70225911	0.63	cps
Strontium	86-1	4552737	4547167	4498884	4532929	0.65	cps
Strontium	88-1	38984624	38825755	38551755	38787378	0.56	cps
Sulfur	34-1	1908658	1899950	1872057	1893555	1.01	cps
Terbium	159-1	4657094	4595832	4534386	4595771	1.34	cps
Terbium	159-2	2189270	2147897	2133438	2156868	1.34	cps
Thallium	203-1	1592	1917	2125	1878	14.31	cps
Thallium	205-1	3784	4734	5418	4646	17.66	cps
Tin	118-1	2392	2325	2350	2356	1.43	cps
Titanium	47-1	858	892	817	856	4.39	cps
Uranium	238-1	56114	56649	57118	56627	0.89	cps
Vanadium	51-2	5661	5348	5338	5449	3.38	cps
Yttrium	89-1	3851055	3798257	3719222	3789512	1.75	cps
Yttrium	89-2	522172	519862	512094	518042	1.02	cps
Zinc	66-2	91035	91810	90086	90977	0.95	cps
Zirconium	90-1	1342	1050	1008	1133	16.03	cps
Zirconium	91-1	308	292	200	267	21.88	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-02	Instrumnet Name :	P7
Client Sample ID :	MH4002D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:06:43	DataFile Name :	022SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	475	458	533	489	8.06	cps
Antimony	121-1	5376	5510	5218	5368	2.72	cps
Arsenic	75-2	267	293	256	272	7.00	cps
Barium	137-1	372618	374767	374327	373904	0.30	cps
Barium	135-1	219532	215657	216300	217163	0.96	cps
Beryllium	9-1	28	61	44	44	37.49	cps
Bismuth	209-1	2797432	2773343	2764158	2778311	0.62	cps
Bismuth	209-2	1487438	1496273	1497439	1493717	0.37	cps
Boron	10-1	16535	17035	16676	16749	1.54	cps
Boron	11-1	78471	80723	83463	80886	3.09	cps
Cadmium	111-1	802	814	732	783	5.63	cps
Cadmium	106-1	975	1017	875	956	7.62	cps
Cadmium	108-1	8	21	38	22	65.86	cps
Calcium	43-1	5402069	5382820	5408871	5397920	0.25	cps
Calcium	44-1	88397327	88395344	87537367	88110012	0.56	cps
Chromium	52-2	5408	5358	5088	5284	3.26	cps
Cobalt	59-2	277	250	237	254	8.00	cps
Copper	63-2	40092	40483	40670	40415	0.73	cps
Holmium	165-1	4469476	4450661	4437529	4452555	0.36	cps
Holmium	165-2	2153291	2144214	2176445	2157983	0.77	cps
Indium	115-2	616753	617019	621029	618267	0.39	cps
Indium	115-1	3425693	3383275	3412561	3407176	0.64	cps
Iron	56-2	1345723	1337410	1340402	1341178	0.31	cps
Iron	57-2	34313	34257	34664	34411	0.64	cps
Lead	206-1	8342	7625	7886	7951	4.56	cps
Lead	207-1	6302	6785	6385	6491	3.98	cps
Lead	208-1	31399	30815	30759	30991	1.14	cps
Lithium	6-1	299631	299664	298618	299305	0.20	cps
Magnesium	24-2	14258039	14195211	14172929	14208727	0.31	cps
Manganese	55-2	19977	20471	20518	20322	1.47	cps
Molybdenum	94-1	1909	2092	1909	1970	5.37	cps
Molybdenum	95-1	2459	2709	2484	2550	5.40	cps
Molybdenum	96-1	2842	3075	2834	2917	4.70	cps
Molybdenum	97-1	1625	1709	1684	1672	2.56	cps
Molybdenum	98-1	4259	4384	4001	4215	4.64	cps
Nickel	60-2	603	570	563	579	3.70	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-02	Instrumnet Name :	P7
Client Sample ID :	MH4002D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:06:43	DataFile Name :	022SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	83	175	192	150	38.89	cps
Potassium	39-2	679511	678386	675213	677703	0.33	cps
Rhodium	103-2	1534795	1519129	1523748	1525890	0.53	cps
Rhodium	103-1	3148724	3180181	3133049	3153985	0.76	cps
Scandium	45-1	2333142	2316916	2300247	2316768	0.71	cps
Scandium	45-2	100760	100690	100813	100754	0.06	cps
Selenium	77-2	0	10	0	3	173.21	cps
Selenium	78-2	83	106	78	89	16.54	cps
Selenium	82-1	92	225	200	172	41.15	cps
Silicon	28-1	56516343	56654720	56591047	56587370	0.12	cps
Silver	109-1	2967	3351	3467	3262	8.02	cps
Silver	107-1	2825	3559	3642	3342	13.45	cps
Sodium	23-2	69875222	69507327	69715029	69699193	0.26	cps
Strontium	86-1	4546772	4553577	4502226	4534192	0.62	cps
Strontium	88-1	38605622	38978039	38069001	38550887	1.19	cps
Sulfur	34-1	1865553	1888543	1844875	1866324	1.17	cps
Terbium	159-2	2123285	2110391	2157290	2130322	1.14	cps
Terbium	159-1	4544452	4576637	4534157	4551749	0.49	cps
Thallium	203-1	725	808	842	792	7.59	cps
Thallium	205-1	1500	2117	2250	1956	20.46	cps
Tin	118-1	1742	1809	2459	2003	19.79	cps
Titanium	47-1	825	892	833	850	4.27	cps
Uranium	238-1	59001	57830	57654	58162	1.26	cps
Vanadium	51-2	5504	5374	5518	5466	1.45	cps
Yttrium	89-2	510023	509949	509981	509984	0.01	cps
Yttrium	89-1	3791834	3748498	3710727	3750353	1.08	cps
Zinc	66-2	90150	90468	90055	90224	0.24	cps
Zirconium	90-1	1042	1033	850	975	11.11	cps
Zirconium	91-1	225	225	158	203	18.98	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-01LX5	Instrumnet Name :	P7
Client Sample ID :	MH4002L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:09:45	DataFile Name :	023SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	150	125	142	139	9.17	cps
Antimony	121-1	642	708	733	694	6.82	cps
Arsenic	75-2	39	44	50	44	12.50	cps
Barium	135-1	39566	39356	40243	39722	1.17	cps
Barium	137-1	66911	67783	67958	67551	0.83	cps
Beryllium	9-1	56	56	50	54	5.98	cps
Bismuth	209-1	2651585	2625898	2667364	2648282	0.79	cps
Bismuth	209-2	1485013	1471666	1485093	1480591	0.52	cps
Boron	10-1	4067	4017	3967	4017	1.24	cps
Boron	11-1	20798	19981	19847	20209	2.55	cps
Cadmium	111-1	704	688	669	687	2.58	cps
Cadmium	106-1	958	958	942	953	1.01	cps
Cadmium	108-1	0	0	4	1	173.21	cps
Calcium	43-1	961759	959463	964659	961960	0.27	cps
Calcium	44-1	15782890	15786729	15790355	15786658	0.02	cps
Chromium	52-2	2107	2050	2094	2084	1.42	cps
Cobalt	59-2	57	103	73	78	30.41	cps
Copper	63-2	9743	9613	9256	9538	2.64	cps
Holmium	165-2	2050705	2027867	2074955	2051176	1.15	cps
Holmium	165-1	4109695	4055052	4155416	4106721	1.22	cps
Indium	115-1	3185677	3192540	3181984	3186734	0.17	cps
Indium	115-2	593222	592016	591134	592124	0.18	cps
Iron	56-2	253976	256986	254624	255195	0.62	cps
Iron	57-2	6285	6407	6679	6457	3.13	cps
Lead	206-1	1595	1545	1667	1602	3.84	cps
Lead	207-1	1233	1433	1256	1308	8.38	cps
Lead	208-1	6340	6551	6195	6362	2.81	cps
Lithium	6-1	271023	267478	271310	269937	0.79	cps
Magnesium	24-2	2645443	2651601	2674731	2657259	0.58	cps
Manganese	55-2	3904	3781	3904	3863	1.84	cps
Molybdenum	94-1	442	342	383	389	12.92	cps
Molybdenum	95-1	508	483	558	517	7.39	cps
Molybdenum	96-1	783	617	600	667	15.21	cps
Molybdenum	97-1	358	300	392	350	13.26	cps
Molybdenum	98-1	867	892	867	875	1.65	cps
Nickel	60-2	167	190	153	170	10.92	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-01LX5	Instrumnet Name :	P7
Client Sample ID :	MH4002L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:09:45	DataFile Name :	023SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	150	42	150	114	54.92	cps
Potassium	39-2	142514	144126	142847	143162	0.59	cps
Rhodium	103-2	1489650	1479650	1479159	1482820	0.40	cps
Rhodium	103-1	2993664	2999909	2977307	2990293	0.39	cps
Scandium	45-1	2122293	2125317	2123008	2123539	0.07	cps
Scandium	45-2	94697	95459	96257	95471	0.82	cps
Selenium	77-2	0	7	3	3	100.05	cps
Selenium	78-2	65	63	48	59	15.58	cps
Selenium	82-1	75	92	25	64	54.31	cps
Silicon	28-1	10236205	10238356	10274714	10249758	0.21	cps
Silver	109-1	633	667	725	675	6.87	cps
Silver	107-1	650	825	667	714	13.53	cps
Sodium	23-2	12783902	12844900	12857332	12828711	0.31	cps
Strontium	86-1	796029	798688	795197	796638	0.23	cps
Strontium	88-1	6992964	7034570	6953639	6993724	0.58	cps
Sulfur	34-1	647313	651159	653553	650675	0.48	cps
Terbium	159-1	4178804	4196788	4192415	4189336	0.22	cps
Terbium	159-2	2049582	2019685	2037978	2035749	0.74	cps
Thallium	203-1	158	175	200	178	11.80	cps
Thallium	205-1	417	325	375	372	12.33	cps
Tin	118-1	1033	917	775	908	14.24	cps
Titanium	47-1	250	192	192	211	15.95	cps
Uranium	238-1	10304	10321	10772	10466	2.53	cps
Vanadium	51-2	983	1150	1070	1068	7.81	cps
Yttrium	89-2	486528	480828	487639	484999	0.75	cps
Yttrium	89-1	3481635	3495676	3444644	3473985	0.76	cps
Zinc	66-2	17247	17641	17270	17386	1.27	cps
Zirconium	90-1	458	592	442	497	16.53	cps
Zirconium	91-1	117	58	100	92	32.77	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-03	Instrumnet Name :	P7
Client Sample ID :	MH4002S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:12:48	DataFile Name :	024SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	239392	235704	234724	236607	1.04	cps
Antimony	121-1	1398521	1378143	1388434	1388366	0.73	cps
Arsenic	75-2	18953	19066	19087	19035	0.38	cps
Barium	135-1	7141258	7099112	7109711	7116694	0.31	cps
Barium	137-1	12150066	12114343	12136287	12133565	0.15	cps
Beryllium	9-1	92005	90044	89384	90478	1.51	cps
Bismuth	209-2	1499600	1493034	1481606	1491414	0.61	cps
Bismuth	209-1	2788744	2822326	2751930	2787667	1.26	cps
Boron	10-1	15108	16176	16176	15820	3.90	cps
Boron	11-1	76259	78621	78286	77722	1.64	cps
Cadmium	111-1	164694	161109	162524	162776	1.11	cps
Cadmium	106-1	16160	16210	14725	15698	5.37	cps
Cadmium	108-1	10846	10696	10567	10703	1.31	cps
Calcium	43-1	5372842	5348093	5340039	5353658	0.32	cps
Calcium	44-1	87651146	86804789	86935069	87130335	0.52	cps
Chromium	52-2	894538	896762	890409	893903	0.36	cps
Cobalt	59-2	3734361	3716269	3674439	3708356	0.83	cps
Copper	63-2	1360816	1353247	1360694	1358252	0.32	cps
Holmium	165-2	2155395	2152417	2146017	2151276	0.22	cps
Holmium	165-1	4494161	4476363	4345035	4438520	1.84	cps
Indium	115-1	3396683	3402972	3360522	3386726	0.68	cps
Indium	115-2	611831	609921	607366	609706	0.37	cps
Iron	56-2	4949033	4978432	4917871	4948445	0.61	cps
Iron	57-2	123946	123375	123671	123664	0.23	cps
Lead	206-1	233974	228418	227828	230073	1.47	cps
Lead	207-1	206169	203709	205237	205038	0.61	cps
Lead	208-1	935234	923727	921123	926695	0.81	cps
Lithium	6-1	305761	307183	303556	305500	0.60	cps
Magnesium	24-2	13849286	13882519	13691417	13807741	0.74	cps
Manganese	55-2	1205086	1201467	1192535	1199696	0.54	cps
Molybdenum	94-1	3175	3000	2925	3034	4.23	cps
Molybdenum	95-1	4718	4893	4518	4709	3.99	cps
Molybdenum	96-1	4976	5568	5243	5262	5.63	cps
Molybdenum	97-1	2925	2950	2984	2953	0.99	cps
Molybdenum	98-1	7477	7377	7436	7430	0.68	cps
Nickel	60-2	964366	958309	958847	960507	0.35	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-03	Instrumnet Name :	P7
Client Sample ID :	MH4002S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:12:48	DataFile Name :	024SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	83	142	125	117	25.75	cps
Potassium	39-2	661330	661398	651858	658195	0.83	cps
Rhodium	103-1	3179018	3123796	3031177	3111330	2.40	cps
Rhodium	103-2	1533018	1516376	1502810	1517401	1.00	cps
Scandium	45-1	2308824	2295400	2272504	2292243	0.80	cps
Scandium	45-2	98820	99092	98095	98669	0.52	cps
Selenium	82-1	23504	23145	23087	23245	0.97	cps
Selenium	77-2	950	973	1033	986	4.36	cps
Selenium	78-2	3212	3352	3376	3313	2.69	cps
Silicon	28-1	56106964	55357445	54937078	55467162	1.07	cps
Silver	109-1	777948	780322	768027	775432	0.84	cps
Silver	107-1	811512	807424	802558	807165	0.56	cps
Sodium	23-2	68474795	68058464	67505206	68012822	0.72	cps
Strontium	86-1	4506732	4468687	4475228	4483549	0.45	cps
Strontium	88-1	38450415	38105253	38379254	38311641	0.48	cps
Sulfur	34-1	1848910	1828585	1821389	1832961	0.78	cps
Terbium	159-2	2159917	2128451	2134254	2140874	0.78	cps
Terbium	159-1	4588972	4568948	4450690	4536203	1.65	cps
Thallium	203-1	667622	668057	663341	666340	0.39	cps
Thallium	205-1	1646495	1626708	1636824	1636676	0.60	cps
Tin	118-1	2267	2692	2392	2450	8.92	cps
Titanium	47-1	858	917	1100	958	13.16	cps
Uranium	238-1	58483	58868	59395	58915	0.78	cps
Vanadium	51-2	1891094	1907390	1900814	1899766	0.43	cps
Yttrium	89-1	3746968	3746189	3611208	3701455	2.11	cps
Yttrium	89-2	505488	505148	502572	504403	0.32	cps
Zinc	66-2	429671	430877	430765	430438	0.15	cps
Zirconium	90-1	1017	875	867	920	9.17	cps
Zirconium	91-1	433	342	308	361	17.93	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-10	Instrumnet Name :	P7
Client Sample ID :	MH4113	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:15:47	DataFile Name :	025SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	3676	4277	3609	3854	9.55	cps
Antimony	121-1	7961	7427	6694	7361	8.64	cps
Arsenic	75-2	715	704	724	714	1.43	cps
Barium	135-1	224092	220641	220167	221633	0.97	cps
Barium	137-1	386032	383804	381349	383728	0.61	cps
Beryllium	9-1	67	67	78	70	9.11	cps
Bismuth	209-1	2814525	2771734	2754049	2780102	1.12	cps
Bismuth	209-2	1475615	1475980	1462169	1471254	0.53	cps
Boron	10-1	23561	25238	25439	24746	4.17	cps
Boron	11-1	114894	121972	122493	119786	3.54	cps
Cadmium	111-1	864	968	938	923	5.79	cps
Cadmium	106-1	850	908	967	908	6.42	cps
Cadmium	108-1	21	8	38	22	65.86	cps
Calcium	43-1	5814155	5751324	5706619	5757366	0.94	cps
Calcium	44-1	94738583	93355256	92825115	93639651	1.06	cps
Chromium	52-2	3084	3137	3124	3115	0.89	cps
Cobalt	59-2	827	703	597	709	16.24	cps
Copper	63-2	10714	11091	11064	10956	1.92	cps
Holmium	165-2	2136494	2136296	2121554	2131448	0.40	cps
Holmium	165-1	4421367	4472516	4381338	4425074	1.03	cps
Indium	115-1	3355450	3323903	3317802	3332385	0.61	cps
Indium	115-2	590280	593886	589198	591121	0.42	cps
Iron	56-2	175149	171915	187802	178289	4.71	cps
Iron	57-2	5535	5546	5596	5559	0.59	cps
Lead	206-1	4379	4206	4151	4245	2.80	cps
Lead	207-1	3417	3628	3734	3593	4.49	cps
Lead	208-1	16377	16888	16210	16491	2.14	cps
Lithium	6-1	311888	310465	310394	310916	0.27	cps
Magnesium	24-2	17701574	17489363	17388680	17526539	0.91	cps
Manganese	55-2	23860	23272	23352	23495	1.36	cps
Molybdenum	94-1	1884	2125	2192	2067	7.85	cps
Molybdenum	95-1	2342	2192	2467	2334	5.90	cps
Molybdenum	96-1	2659	2809	2567	2678	4.56	cps
Molybdenum	97-1	1308	1684	1550	1514	12.56	cps
Molybdenum	98-1	3892	3642	3926	3820	4.05	cps
Nickel	60-2	1280	1260	1290	1277	1.20	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-10	Instrumnet Name :	P7
Client Sample ID :	MH4113	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:15:47	DataFile Name :	025SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	250	133	192	192	30.43	cps
Potassium	39-2	734561	729698	723163	729141	0.78	cps
Rhodium	103-2	1471309	1467706	1473499	1470838	0.20	cps
Rhodium	103-1	3134997	3099591	3082186	3105591	0.87	cps
Scandium	45-1	2233297	2229583	2219617	2227499	0.32	cps
Scandium	45-2	95374	95492	95647	95504	0.14	cps
Selenium	77-2	10	23	17	17	39.99	cps
Selenium	78-2	115	94	94	101	11.62	cps
Selenium	82-1	342	367	125	278	47.84	cps
Silicon	28-1	55915997	55566939	54757728	55413555	1.07	cps
Silver	109-1	2117	1917	2409	2147	11.52	cps
Silver	107-1	1967	2275	2550	2264	12.89	cps
Sodium	23-2	36485754	36283744	35920790	36230096	0.79	cps
Strontium	86-1	4617081	4628746	4628169	4624665	0.14	cps
Strontium	88-1	39231680	39276289	38980110	39162693	0.41	cps
Sulfur	34-1	1977114	1953683	1936050	1955616	1.05	cps
Terbium	159-1	4522618	4478556	4515747	4505640	0.53	cps
Terbium	159-2	2083615	2113283	2113077	2103325	0.81	cps
Thallium	203-1	325	342	500	389	24.84	cps
Thallium	205-1	750	883	883	839	9.18	cps
Tin	118-1	1734	1909	2050	1897	8.36	cps
Titanium	47-1	2600	2467	2542	2536	2.64	cps
Uranium	238-1	95860	95206	94468	95178	0.73	cps
Vanadium	51-2	16022	16396	15986	16135	1.41	cps
Yttrium	89-2	487042	488351	488675	488023	0.18	cps
Yttrium	89-1	3680958	3691269	3673627	3681952	0.24	cps
Zinc	66-2	5268	5544	5288	5367	2.88	cps
Zirconium	90-1	1625	1775	1709	1703	4.41	cps
Zirconium	91-1	267	317	417	333	22.91	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-16	Instrumnet Name :	P7
Client Sample ID :	MH4113D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:18:47	DataFile Name :	026SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	4034	3826	4262	4040	5.40	cps
Antimony	121-1	7627	7669	7711	7669	0.54	cps
Arsenic	75-2	720	707	687	705	2.38	cps
Barium	135-1	225449	224408	223426	224427	0.45	cps
Barium	137-1	384640	385365	386224	385410	0.21	cps
Beryllium	9-1	39	72	44	52	34.44	cps
Bismuth	209-1	2899257	2841006	2815745	2852002	1.50	cps
Bismuth	209-2	1498378	1498284	1501681	1499448	0.13	cps
Boron	10-1	24721	25197	25739	25219	2.02	cps
Boron	11-1	119470	123292	125089	122617	2.34	cps
Cadmium	111-1	959	917	1114	997	10.40	cps
Cadmium	106-1	983	875	1225	1028	17.44	cps
Cadmium	108-1	13	29	21	21	40.01	cps
Calcium	44-1	93563656	94629519	94012123	94068433	0.57	cps
Calcium	43-1	5757522	5719168	5721807	5732833	0.37	cps
Chromium	52-2	2817	2867	2757	2814	1.96	cps
Cobalt	59-2	577	540	567	561	3.38	cps
Copper	63-2	10601	10477	10327	10468	1.31	cps
Holmium	165-2	2160324	2150498	2128693	2146505	0.75	cps
Holmium	165-1	4485295	4501756	4470858	4485970	0.34	cps
Indium	115-1	3355331	3361646	3341624	3352867	0.31	cps
Indium	115-2	601363	597620	596077	598353	0.45	cps
Iron	56-2	176348	178087	171344	175259	2.00	cps
Iron	57-2	5390	5523	5762	5559	3.39	cps
Lead	206-1	4040	4101	3701	3947	5.46	cps
Lead	207-1	3134	3401	3284	3273	4.09	cps
Lead	208-1	15615	15943	14793	15450	3.84	cps
Lithium	6-1	314343	313975	314067	314128	0.06	cps
Magnesium	24-2	17558931	17403413	17498697	17487014	0.45	cps
Manganese	55-2	23936	23292	23429	23552	1.44	cps
Molybdenum	94-1	1775	1984	1742	1834	7.14	cps
Molybdenum	95-1	2192	2259	2600	2350	9.32	cps
Molybdenum	96-1	2600	2684	2934	2739	6.33	cps
Molybdenum	97-1	1392	1425	1417	1411	1.23	cps
Molybdenum	98-1	4117	3451	3892	3820	8.88	cps
Nickel	60-2	1247	1223	1160	1210	3.71	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-16	Instrumnet Name :	P7
Client Sample ID :	MH4113D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:18:47	DataFile Name :	026SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	250	242	133	208	31.24	cps
Potassium	39-2	729162	719687	717534	722127	0.86	cps
Rhodium	103-1	3089301	3133027	3097935	3106754	0.75	cps
Rhodium	103-2	1488342	1478084	1484738	1483721	0.35	cps
Scandium	45-1	2225145	2228280	2229413	2227613	0.10	cps
Scandium	45-2	95207	93751	95005	94654	0.83	cps
Selenium	77-2	7	17	10	11	45.82	cps
Selenium	78-2	87	85	72	81	9.91	cps
Selenium	82-1	417	292	242	317	28.46	cps
Silicon	28-1	55122443	55630282	55171974	55308233	0.51	cps
Silver	109-1	1600	1809	2067	1825	12.81	cps
Silver	107-1	1625	2100	2050	1925	13.56	cps
Sodium	23-2	36382764	36077732	35990663	36150387	0.57	cps
Strontium	86-1	4671784	4622741	4604372	4632966	0.75	cps
Strontium	88-1	39643101	39373475	39279802	39432126	0.48	cps
Sulfur	34-1	1974768	1978878	1961082	1971576	0.47	cps
Terbium	159-2	2166795	2136515	2136906	2146739	0.81	cps
Terbium	159-1	4593858	4560223	4532095	4562059	0.68	cps
Thallium	203-1	233	225	242	233	3.57	cps
Thallium	205-1	375	633	517	508	25.45	cps
Tin	118-1	1392	1375	1392	1386	0.69	cps
Titanium	47-1	2950	2834	2734	2839	3.82	cps
Uranium	238-1	100672	98783	98372	99276	1.24	cps
Vanadium	51-2	16226	15942	15869	16012	1.18	cps
Yttrium	89-2	496014	490071	487324	491136	0.90	cps
Yttrium	89-1	3690352	3680149	3644677	3671726	0.65	cps
Zinc	66-2	4154	4357	4341	4284	2.64	cps
Zirconium	90-1	1583	1575	1800	1653	7.72	cps
Zirconium	91-1	325	350	367	347	6.04	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-10LX5	Instrumnet Name :	P7
Client Sample ID :	MH4113L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:21:48	DataFile Name :	027SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	742	717	592	683	11.76	cps
Antimony	121-1	1033	867	1017	972	9.44	cps
Arsenic	75-2	126	122	106	118	9.20	cps
Barium	135-1	40268	40937	40636	40613	0.82	cps
Barium	137-1	70162	71627	72281	71356	1.52	cps
Beryllium	9-1	50	28	39	39	28.57	cps
Bismuth	209-1	2755114	2695738	2738719	2729857	1.12	cps
Bismuth	209-2	1472442	1435893	1457960	1455432	1.26	cps
Boron	10-1	6585	6643	6418	6549	1.78	cps
Boron	11-1	30156	30289	30215	30220	0.22	cps
Cadmium	111-1	790	744	718	751	4.91	cps
Cadmium	106-1	1100	1000	992	1031	5.85	cps
Cadmium	108-1	13	8	8	10	24.77	cps
Calcium	43-1	1057149	1050044	1052128	1053107	0.35	cps
Calcium	44-1	17298001	17400660	17376528	17358397	0.31	cps
Chromium	52-2	1510	1563	1657	1577	4.71	cps
Cobalt	59-2	123	137	147	136	8.63	cps
Copper	63-2	4174	4151	3954	4093	2.95	cps
Holmium	165-2	2045155	2006567	2024293	2025338	0.95	cps
Holmium	165-1	4185728	4215664	4183164	4194852	0.43	cps
Indium	115-1	3189201	3136526	3144657	3156795	0.90	cps
Indium	115-2	574876	571046	568973	571632	0.52	cps
Iron	56-2	36178	35143	35137	35486	1.69	cps
Iron	57-2	1095	1133	956	1061	8.81	cps
Lead	206-1	1072	1006	1039	1039	3.21	cps
Lead	207-1	750	706	872	776	11.12	cps
Lead	208-1	4039	3567	3839	3815	6.21	cps
Lithium	6-1	284005	282977	281878	282954	0.38	cps
Magnesium	24-2	3406392	3344695	3355848	3368978	0.98	cps
Manganese	55-2	4657	4441	4411	4503	2.99	cps
Molybdenum	94-1	300	458	475	411	23.49	cps
Molybdenum	95-1	400	517	358	425	19.31	cps
Molybdenum	96-1	583	525	592	567	6.41	cps
Molybdenum	97-1	342	333	367	347	4.99	cps
Molybdenum	98-1	758	692	767	739	5.56	cps
Nickel	60-2	320	303	290	304	4.94	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-10LX5	Instrumnet Name :	P7
Client Sample ID :	MH4113L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:21:48	DataFile Name :	027SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	133	133	117	128	7.53	cps
Potassium	39-2	157007	152620	150934	153520	2.04	cps
Rhodium	103-2	1451381	1434794	1431350	1439175	0.74	cps
Rhodium	103-1	3011435	2943671	2933129	2962745	1.43	cps
Scandium	45-1	2054168	2054764	2069321	2059417	0.42	cps
Scandium	45-2	89240	88929	89485	89218	0.31	cps
Selenium	77-2	7	7	3	6	34.70	cps
Selenium	78-2	43	65	59	56	20.82	cps
Selenium	82-1	33	75	225	111	90.73	cps
Silicon	28-1	10307144	10355520	10227981	10296882	0.63	cps
Silver	109-1	383	358	542	428	23.24	cps
Silver	107-1	492	533	433	486	10.33	cps
Sodium	23-2	6888654	6816338	6854374	6853122	0.53	cps
Strontium	86-1	836977	841344	839157	839159	0.26	cps
Strontium	88-1	7329379	7353280	7369484	7350714	0.27	cps
Sulfur	34-1	684779	692045	682027	686284	0.75	cps
Terbium	159-1	4266121	4252106	4259391	4259206	0.16	cps
Terbium	159-2	2000358	1999189	1979132	1992893	0.60	cps
Thallium	203-1	92	83	133	103	26.06	cps
Thallium	205-1	242	158	142	181	29.67	cps
Tin	118-1	808	900	942	883	7.72	cps
Titanium	47-1	567	658	458	561	17.84	cps
Uranium	238-1	18305	17654	18764	18241	3.06	cps
Vanadium	51-2	2987	3067	2940	2998	2.14	cps
Yttrium	89-2	471585	465209	462310	466368	1.02	cps
Yttrium	89-1	3391254	3415122	3404929	3403768	0.35	cps
Zinc	66-2	977	1080	917	991	8.34	cps
Zirconium	90-1	475	433	517	475	8.77	cps
Zirconium	91-1	158	92	192	147	34.59	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-17	Instrumnet Name :	P7
Client Sample ID :	MH4113S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:24:49	DataFile Name :	028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	222097	220737	222346	221727	0.39	cps
Antimony	121-1	1352086	1345757	1345950	1347931	0.27	cps
Arsenic	75-2	18076	18054	18217	18116	0.49	cps
Barium	135-1	6959763	6894594	6981004	6945120	0.65	cps
Barium	137-1	11721295	11664918	11889297	11758503	0.99	cps
Beryllium	9-1	87087	86127	84021	85745	1.83	cps
Bismuth	209-2	1473777	1463325	1452668	1463257	0.72	cps
Bismuth	209-1	2800380	2794142	2763400	2785974	0.71	cps
Boron	10-1	23719	25547	25906	25058	4.68	cps
Boron	11-1	115547	120132	123148	119609	3.20	cps
Cadmium	106-1	15067	14925	15409	15134	1.64	cps
Cadmium	108-1	10112	10525	10337	10325	2.00	cps
Cadmium	111-1	158518	158107	157367	157997	0.37	cps
Calcium	43-1	5678916	5676787	5580353	5645352	1.00	cps
Calcium	44-1	92434260	92322546	91748175	92168327	0.40	cps
Chromium	52-2	831946	828614	826308	828956	0.34	cps
Cobalt	59-2	3455832	3406162	3464714	3442236	0.92	cps
Copper	63-2	1253753	1247037	1238385	1246392	0.62	cps
Holmium	165-1	4430387	4424683	4360965	4405345	0.87	cps
Holmium	165-2	2086404	2113610	2066506	2088840	1.13	cps
Indium	115-1	3297037	3220003	3218537	3245192	1.38	cps
Indium	115-2	585022	574207	573998	577742	1.09	cps
Iron	56-2	3548109	3554411	3543094	3548538	0.16	cps
Iron	57-2	87549	88717	88744	88337	0.77	cps
Lead	208-1	898784	903746	907986	903505	0.51	cps
Lead	206-1	223967	227276	226815	226019	0.79	cps
Lead	207-1	199964	197445	200185	199198	0.76	cps
Lithium	6-1	309533	309049	313848	310810	0.85	cps
Magnesium	24-2	17141208	16907425	17083916	17044183	0.71	cps
Manganese	55-2	1126189	1126881	1118861	1123977	0.40	cps
Molybdenum	94-1	3142	2875	2867	2962	5.28	cps
Molybdenum	95-1	4076	4201	4443	4240	4.40	cps
Molybdenum	96-1	4317	4859	4668	4615	5.95	cps
Molybdenum	97-1	2642	2750	2825	2739	3.37	cps
Molybdenum	98-1	6802	7027	6293	6707	5.60	cps
Nickel	60-2	898032	897216	898526	897925	0.07	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-17	Instrumnet Name :	P7
Client Sample ID :	MH4113S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:24:49	DataFile Name :	028SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	208	125	250	194	32.73	cps
Potassium	39-2	700269	698396	698974	699213	0.14	cps
Rhodium	103-1	3022396	3010387	2986863	3006549	0.60	cps
Rhodium	103-2	1452315	1435248	1437081	1441548	0.65	cps
Scandium	45-2	90448	90816	90293	90519	0.30	cps
Scandium	45-1	2148136	2115837	2115700	2126558	0.88	cps
Selenium	77-2	873	913	880	889	2.41	cps
Selenium	78-2	3119	3043	3039	3067	1.47	cps
Selenium	82-1	21701	21342	22427	21823	2.53	cps
Silicon	28-1	54207039	54122862	53865037	54064979	0.33	cps
Silver	109-1	748697	747127	738970	744932	0.70	cps
Silver	107-1	772035	769309	773311	771551	0.26	cps
Sodium	23-2	35270561	35018792	35157650	35149001	0.36	cps
Strontium	86-1	4639015	4586347	4585790	4603717	0.66	cps
Strontium	88-1	39244342	38835482	38952967	39010930	0.54	cps
Sulfur	34-1	1967911	1940011	1922602	1943508	1.18	cps
Terbium	159-2	2096987	2059742	2059090	2071940	1.05	cps
Terbium	159-1	4500227	4481915	4496998	4493047	0.22	cps
Thallium	203-1	669713	673532	664746	669330	0.66	cps
Thallium	205-1	1629898	1636194	1637239	1634443	0.24	cps
Tin	118-1	1817	2042	1909	1922	5.89	cps
Titanium	47-1	2900	2734	3017	2884	4.94	cps
Uranium	238-1	98438	99353	99471	99087	0.57	cps
Vanadium	51-2	1759500	1745947	1766781	1757409	0.60	cps
Yttrium	89-2	478270	472850	470609	473909	0.83	cps
Yttrium	89-1	3617494	3535618	3529895	3561002	1.38	cps
Zinc	66-2	323174	321222	324411	322936	0.50	cps
Zirconium	90-1	1617	1893	1458	1656	13.28	cps
Zirconium	91-1	442	500	450	464	6.80	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-11	Instrumnet Name :	P7
Client Sample ID :	MH4116	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:27:47	DataFile Name :	029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	18587	17886	17294	17923	3.61	cps
Antimony	121-1	9962	9845	10062	9957	1.09	cps
Arsenic	75-2	481	428	481	464	6.69	cps
Barium	135-1	327062	327629	325318	326669	0.37	cps
Barium	137-1	566975	565227	555761	562654	1.07	cps
Beryllium	9-1	72	56	78	69	16.88	cps
Bismuth	209-1	2922636	2850156	2817153	2863315	1.88	cps
Bismuth	209-2	1482338	1486531	1489607	1486158	0.25	cps
Boron	10-1	25756	27234	26766	26585	2.84	cps
Boron	11-1	122375	130265	130248	127629	3.57	cps
Cadmium	111-1	1091	1119	1017	1076	4.88	cps
Cadmium	106-1	1092	1025	967	1028	6.09	cps
Cadmium	108-1	33	46	38	39	16.37	cps
Calcium	43-1	6001983	5963340	5940404	5968575	0.52	cps
Calcium	44-1	97937525	98342204	97221000	97833576	0.58	cps
Chromium	52-2	3587	3707	3534	3609	2.46	cps
Cobalt	59-2	1233	1317	1253	1268	3.43	cps
Copper	63-2	16987	17274	17397	17219	1.22	cps
Holmium	165-2	2093771	2109899	2136150	2113273	1.01	cps
Holmium	165-1	4534919	4474539	4515618	4508359	0.68	cps
Indium	115-1	3364727	3342546	3305963	3337745	0.89	cps
Indium	115-2	583938	590275	586705	586973	0.54	cps
Iron	56-2	900841	891209	884133	892061	0.94	cps
Iron	57-2	23608	22857	23324	23263	1.63	cps
Lead	206-1	80560	78475	79961	79665	1.35	cps
Lead	207-1	67108	66137	66349	66531	0.77	cps
Lead	208-1	315463	312470	312835	313589	0.52	cps
Lithium	6-1	321793	317868	314885	318182	1.09	cps
Magnesium	24-2	16718215	16808586	16626285	16717696	0.55	cps
Manganese	55-2	18058	17975	18772	18268	2.40	cps
Molybdenum	94-1	3159	2792	2859	2937	6.65	cps
Molybdenum	95-1	3126	3226	3117	3156	1.91	cps
Molybdenum	96-1	3842	3676	3384	3634	6.39	cps
Molybdenum	97-1	2275	1975	2067	2106	7.30	cps
Molybdenum	98-1	5451	5176	5001	5210	4.36	cps
Nickel	60-2	1197	1373	1240	1270	7.25	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-11	Instrumnet Name :	P7
Client Sample ID :	MH4116	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:27:47	DataFile Name :	029SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	292	417	500	403	26.03	cps
Potassium	39-2	564822	563602	562762	563729	0.18	cps
Rhodium	103-2	1445206	1464956	1450825	1453662	0.70	cps
Rhodium	103-1	3080048	3072378	3057698	3070041	0.37	cps
Scandium	45-1	2181313	2179958	2165879	2175717	0.39	cps
Scandium	45-2	90746	92279	89458	90828	1.55	cps
Selenium	77-2	17	13	20	17	20.01	cps
Selenium	78-2	119	122	87	109	17.69	cps
Selenium	82-1	467	383	192	347	40.61	cps
Silicon	28-1	56558370	57637045	56571337	56922251	1.09	cps
Silver	109-1	1734	1942	2250	1975	13.16	cps
Silver	107-1	1892	2042	2250	2061	8.73	cps
Sodium	23-2	36304195	36397647	36029837	36243893	0.53	cps
Strontium	86-1	4905950	4868654	4825818	4866807	0.82	cps
Strontium	88-1	41582393	41854821	41390433	41609216	0.56	cps
Sulfur	34-1	1922853	1923470	1912049	1919457	0.33	cps
Terbium	159-1	4621572	4521233	4558314	4567040	1.11	cps
Terbium	159-2	2081647	2105914	2084497	2090686	0.63	cps
Thallium	203-1	425	408	517	450	12.96	cps
Thallium	205-1	1067	1175	1025	1089	7.11	cps
Tin	118-1	1383	1467	1542	1464	5.41	cps
Titanium	47-1	10946	10963	10863	10924	0.49	cps
Uranium	238-1	114644	114770	113971	114462	0.38	cps
Vanadium	51-2	16957	17184	16676	16939	1.50	cps
Yttrium	89-2	476534	478038	477291	477288	0.16	cps
Yttrium	89-1	3658679	3610074	3595273	3621342	0.92	cps
Zinc	66-2	8683	8599	8379	8554	1.83	cps
Zirconium	90-1	2875	2850	3276	3001	7.95	cps
Zirconium	91-1	575	625	675	625	8.00	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-12	Instrumnet Name :	P7
Client Sample ID :	MH4202	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:30:48	DataFile Name :	030SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	3376	3517	3426	3439	2.09	cps
Antimony	121-1	10905	10446	10479	10610	2.41	cps
Arsenic	75-2	544	580	548	557	3.47	cps
Barium	135-1	225308	223984	220228	223173	1.18	cps
Barium	137-1	382844	387133	383280	384419	0.61	cps
Beryllium	9-1	61	78	44	61	27.27	cps
Bismuth	209-1	2914622	2902216	2895244	2904027	0.34	cps
Bismuth	209-2	1499182	1509468	1498679	1502443	0.41	cps
Boron	10-1	24504	25689	24713	24969	2.53	cps
Boron	11-1	114078	120729	121132	118646	3.34	cps
Cadmium	111-1	940	805	893	879	7.77	cps
Cadmium	106-1	1142	917	1008	1022	11.07	cps
Cadmium	108-1	38	17	13	22	60.27	cps
Calcium	43-1	5554880	5561649	5520826	5545785	0.39	cps
Calcium	44-1	90676515	90107887	90223371	90335924	0.33	cps
Chromium	52-2	2090	2060	2044	2065	1.15	cps
Cobalt	59-2	483	390	483	452	11.92	cps
Copper	63-2	10187	9917	9883	9996	1.67	cps
Holmium	165-2	2139992	2161798	2133850	2145213	0.68	cps
Holmium	165-1	4527568	4427856	4493730	4483051	1.13	cps
Indium	115-1	3350822	3335292	3339161	3341758	0.24	cps
Indium	115-2	592512	594136	591412	592687	0.23	cps
Iron	56-2	184803	184393	182840	184012	0.56	cps
Iron	57-2	5862	5640	5523	5675	3.03	cps
Lead	206-1	5585	5323	5351	5420	2.65	cps
Lead	207-1	4523	4351	4212	4362	3.57	cps
Lead	208-1	21708	20924	19967	20866	4.18	cps
Lithium	6-1	317810	319433	316470	317905	0.47	cps
Magnesium	24-2	15973252	15992050	15866832	15944045	0.42	cps
Manganese	55-2	3407	3130	3510	3349	5.87	cps
Molybdenum	94-1	2925	2892	3050	2956	2.82	cps
Molybdenum	95-1	4259	4167	3784	4070	6.19	cps
Molybdenum	96-1	4576	4468	4676	4573	2.28	cps
Molybdenum	97-1	2725	2592	2692	2670	2.60	cps
Molybdenum	98-1	6502	6327	6585	6471	2.04	cps
Nickel	60-2	1103	1023	1043	1057	3.94	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-12	Instrumnet Name :	P7
Client Sample ID :	MH4202	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:30:48	DataFile Name :	030SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	383	233	300	306	24.60	cps
Potassium	39-2	571521	572485	561785	568597	1.04	cps
Rhodium	103-2	1472746	1479787	1479559	1477364	0.27	cps
Rhodium	103-1	3078424	3024051	3040136	3047537	0.92	cps
Scandium	45-1	2159115	2170418	2152182	2160572	0.43	cps
Scandium	45-2	91423	92214	92124	91921	0.47	cps
Selenium	77-2	23	23	20	22	8.65	cps
Selenium	78-2	135	120	150	135	10.96	cps
Selenium	82-1	708	800	683	731	8.41	cps
Silicon	28-1	50640691	50649907	50388570	50559723	0.29	cps
Silver	109-1	1375	1267	1725	1456	16.46	cps
Silver	107-1	1408	1525	1533	1489	4.69	cps
Sodium	23-2	33175544	33216787	32867825	33086719	0.58	cps
Strontium	86-1	4409457	4366126	4365457	4380347	0.58	cps
Strontium	88-1	37548915	37271311	37187358	37335862	0.51	cps
Sulfur	34-1	1972306	1972435	1948102	1964281	0.71	cps
Terbium	159-1	4548422	4540777	4581251	4556817	0.47	cps
Terbium	159-2	2127979	2160414	2109576	2132657	1.21	cps
Thallium	203-1	292	208	242	247	16.96	cps
Thallium	205-1	508	625	600	578	10.63	cps
Tin	118-1	1117	1250	1133	1167	6.23	cps
Titanium	47-1	2967	2742	2442	2717	9.70	cps
Uranium	238-1	144092	143747	142602	143480	0.54	cps
Vanadium	51-2	18145	17798	18155	18032	1.13	cps
Yttrium	89-2	484084	485520	485503	485036	0.17	cps
Yttrium	89-1	3645052	3546146	3611268	3600822	1.40	cps
Zinc	66-2	3587	3577	3571	3578	0.23	cps
Zirconium	90-1	1675	1425	1400	1500	10.14	cps
Zirconium	91-1	333	458	267	353	27.58	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-13	Instrumnet Name :	P7
Client Sample ID :	MH4211	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:33:49	DataFile Name :	031SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	6869	7160	6985	7005	2.10	cps
Antimony	121-1	12106	11672	10880	11552	5.38	cps
Arsenic	75-2	1413	1363	1413	1396	2.07	cps
Barium	135-1	190140	187860	188249	188750	0.65	cps
Barium	137-1	322008	317177	318639	319275	0.78	cps
Beryllium	9-1	50	33	44	43	19.93	cps
Bismuth	209-1	2981597	2999543	2919215	2966785	1.42	cps
Bismuth	209-2	1514447	1509885	1498356	1507563	0.55	cps
Boron	10-1	20214	20006	19864	20028	0.88	cps
Boron	11-1	93480	95316	99938	96245	3.46	cps
Cadmium	111-1	702	770	807	760	7.01	cps
Cadmium	106-1	908	1000	1008	972	5.71	cps
Cadmium	108-1	13	25	4	14	75.48	cps
Calcium	43-1	5323462	5278434	5217221	5273039	1.01	cps
Calcium	44-1	86229629	85084754	85647731	85654038	0.67	cps
Chromium	52-2	3030	3210	3184	3142	3.09	cps
Cobalt	59-2	550	523	423	499	13.39	cps
Copper	63-2	10100	10464	10314	10293	1.78	cps
Holmium	165-2	2143334	2131402	2116150	2130295	0.64	cps
Holmium	165-1	4585936	4644315	4465353	4565201	2.00	cps
Indium	115-1	3377479	3395561	3368839	3380626	0.40	cps
Indium	115-2	587576	594054	584416	588682	0.83	cps
Iron	56-2	369600	371541	369239	370127	0.33	cps
Iron	57-2	10215	10020	10738	10324	3.59	cps
Lead	206-1	16433	16105	15465	16001	3.08	cps
Lead	207-1	13618	12929	13179	13242	2.64	cps
Lead	208-1	63650	61719	61430	62266	1.94	cps
Lithium	6-1	324148	324901	318324	322458	1.12	cps
Magnesium	24-2	13619602	13598565	13520996	13579721	0.38	cps
Manganese	55-2	31831	32443	31631	31968	1.32	cps
Molybdenum	94-1	2784	3326	2867	2992	9.75	cps
Molybdenum	95-1	4293	4076	4226	4198	2.65	cps
Molybdenum	96-1	4626	4343	4976	4648	6.83	cps
Molybdenum	97-1	2625	2617	2534	2592	1.96	cps
Molybdenum	98-1	7194	6593	6643	6810	4.89	cps
Nickel	60-2	677	767	643	696	9.17	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-13	Instrumnet Name :	P7
Client Sample ID :	MH4211	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:33:49	DataFile Name :	031SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	158	117	142	139	15.10	cps
Potassium	39-2	468432	467852	465361	467215	0.35	cps
Rhodium	103-1	3127222	3132147	3082846	3114072	0.87	cps
Rhodium	103-2	1486000	1476548	1482671	1481740	0.32	cps
Scandium	45-1	2197105	2165240	2184192	2182179	0.73	cps
Scandium	45-2	91088	89965	90136	90396	0.67	cps
Selenium	82-1	417	200	275	297	37.02	cps
Selenium	77-2	23	13	20	19	26.96	cps
Selenium	78-2	70	83	63	72	14.28	cps
Silicon	28-1	57609747	56157522	56350120	56705796	1.39	cps
Silver	109-1	1383	1625	1709	1572	10.74	cps
Silver	107-1	1433	1450	1684	1522	9.18	cps
Sodium	23-2	26010182	25804277	25691328	25835262	0.63	cps
Strontium	86-1	4405457	4350146	4337640	4364414	0.83	cps
Strontium	88-1	37559845	37104526	37282360	37315577	0.61	cps
Sulfur	34-1	1985626	1966413	1937305	1963114	1.24	cps
Terbium	159-1	4654585	4636361	4608429	4633125	0.50	cps
Terbium	159-2	2153344	2161149	2108598	2141030	1.32	cps
Thallium	203-1	183	208	133	175	21.82	cps
Thallium	205-1	358	467	467	431	14.53	cps
Tin	118-1	1292	1333	1142	1256	8.03	cps
Titanium	47-1	5126	4468	4868	4820	6.88	cps
Uranium	238-1	118142	118103	117392	117879	0.36	cps
Vanadium	51-2	6588	6745	6365	6566	2.91	cps
Yttrium	89-2	481810	483607	475544	480320	0.88	cps
Yttrium	89-1	3724304	3681807	3587735	3664615	1.91	cps
Zinc	66-2	4647	4724	4511	4627	2.34	cps
Zirconium	90-1	1525	1542	1308	1458	8.93	cps
Zirconium	91-1	333	267	367	322	15.80	cps

Reviewed By:jaswal
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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-14	Instrumnet Name :	P7
Client Sample ID :	MH4217	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:36:49	DataFile Name :	032SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	308	283	275	289	6.00	cps
Antimony	121-1	11255	10346	9896	10499	6.60	cps
Arsenic	75-2	804	800	769	791	2.44	cps
Barium	135-1	224630	225686	221782	224033	0.90	cps
Barium	137-1	388925	391358	383211	387831	1.08	cps
Beryllium	9-1	50	39	22	37	37.75	cps
Bismuth	209-1	2953034	2933041	2883040	2923038	1.23	cps
Bismuth	209-2	1508498	1514549	1520276	1514441	0.39	cps
Boron	11-1	118024	119494	124996	120838	3.04	cps
Boron	10-1	23778	25289	25523	24863	3.81	cps
Cadmium	106-1	1050	950	942	981	6.15	cps
Cadmium	108-1	4	13	17	11	57.27	cps
Cadmium	111-1	865	806	806	826	4.15	cps
Calcium	43-1	5589301	5486311	5467803	5514472	1.19	cps
Calcium	44-1	90725837	89354329	89041908	89707358	1.00	cps
Chromium	52-2	2374	2427	2337	2379	1.90	cps
Cobalt	59-2	200	200	250	217	13.33	cps
Copper	63-2	8536	8613	8896	8682	2.19	cps
Holmium	165-2	2158958	2166412	2143356	2156242	0.55	cps
Holmium	165-1	4609283	4532918	4521311	4554504	1.05	cps
Indium	115-1	3372233	3383922	3348247	3368134	0.54	cps
Indium	115-2	589479	593238	588375	590364	0.43	cps
Iron	56-2	76410	76934	76931	76758	0.39	cps
Iron	57-2	3056	2911	2917	2961	2.76	cps
Lead	206-1	689	583	572	615	10.47	cps
Lead	207-1	561	583	533	559	4.48	cps
Lead	208-1	2628	2511	2206	2448	8.91	cps
Lithium	6-1	323866	324824	324254	324315	0.15	cps
Magnesium	24-2	16071495	16162657	16068528	16100893	0.33	cps
Manganese	55-2	12539	12589	12572	12567	0.20	cps
Molybdenum	94-1	2517	2475	2400	2464	2.40	cps
Molybdenum	95-1	3301	3351	3634	3428	5.25	cps
Molybdenum	96-1	4009	3859	3967	3945	1.96	cps
Molybdenum	97-1	2134	2342	2292	2256	4.82	cps
Molybdenum	98-1	5818	5918	5835	5857	0.91	cps
Nickel	60-2	833	847	840	840	0.79	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-14	Instrumnet Name :	P7
Client Sample ID :	MH4217	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:36:49	DataFile Name :	032SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	100	100	167	122	31.49	cps
Potassium	39-2	624334	621132	614372	619946	0.82	cps
Rhodium	103-2	1481830	1493160	1465112	1480034	0.95	cps
Rhodium	103-1	3127390	3079399	3100387	3102392	0.78	cps
Scandium	45-1	2193434	2181602	2159064	2178033	0.80	cps
Scandium	45-2	91548	91929	91521	91666	0.25	cps
Selenium	77-2	17	13	10	13	25.01	cps
Selenium	78-2	115	72	70	86	29.31	cps
Selenium	82-1	492	375	433	433	13.46	cps
Silicon	28-1	52786680	52071293	52253476	52370483	0.71	cps
Silver	107-1	1400	1283	1508	1397	8.05	cps
Silver	109-1	1200	1417	1450	1356	10.01	cps
Sodium	23-2	32681529	32982093	32694542	32786055	0.52	cps
Strontium	86-1	4465922	4448829	4403745	4439499	0.72	cps
Strontium	88-1	38356333	38016605	37852340	38075093	0.68	cps
Sulfur	34-1	1956301	1944019	1932944	1944421	0.60	cps
Terbium	159-1	4673181	4655992	4613959	4647711	0.66	cps
Terbium	159-2	2159768	2151131	2128742	2146547	0.75	cps
Thallium	203-1	83	75	108	89	19.52	cps
Thallium	205-1	417	275	317	336	21.66	cps
Tin	118-1	917	1025	958	967	5.65	cps
Titanium	47-1	900	617	917	811	20.79	cps
Uranium	238-1	114552	114443	113619	114205	0.45	cps
Vanadium	51-2	15612	15632	15392	15545	0.86	cps
Yttrium	89-2	482327	481727	478427	480827	0.44	cps
Yttrium	89-1	3654061	3654998	3619457	3642839	0.56	cps
Zinc	66-2	2687	2637	2514	2613	3.42	cps
Zirconium	90-1	1233	1358	983	1192	16.02	cps
Zirconium	91-1	342	275	258	292	15.12	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-15	Instrumnet Name :	P7
Client Sample ID :	MH4218	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:39:51	DataFile Name :	033SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	750	600	550	633	16.43	cps
Antimony	121-1	12473	11380	11589	11814	4.91	cps
Arsenic	75-2	1044	959	894	966	7.79	cps
Barium	135-1	216671	215433	213661	215255	0.70	cps
Barium	137-1	375010	370406	371093	372169	0.67	cps
Beryllium	9-1	50	17	17	28	69.27	cps
Bismuth	209-2	1485280	1487338	1481254	1484624	0.21	cps
Bismuth	209-1	2872303	2877240	2852251	2867265	0.46	cps
Boron	10-1	25105	25773	25923	25600	1.70	cps
Boron	11-1	121804	124888	126240	124311	1.83	cps
Cadmium	106-1	892	917	883	897	1.93	cps
Cadmium	108-1	29	8	21	19	53.95	cps
Cadmium	111-1	745	782	729	752	3.60	cps
Calcium	43-1	5641183	5615710	5496622	5584505	1.38	cps
Calcium	44-1	92497000	92337179	90014004	91616061	1.52	cps
Chromium	52-2	2564	2620	2517	2567	2.02	cps
Cobalt	59-2	443	363	437	414	10.71	cps
Copper	63-2	9366	9150	9520	9345	1.99	cps
Holmium	165-2	2131512	2104883	2142770	2126388	0.92	cps
Holmium	165-1	4505193	4505658	4422528	4477793	1.07	cps
Indium	115-1	3299609	3285136	3289500	3291415	0.23	cps
Indium	115-2	581371	578718	577645	579245	0.33	cps
Iron	56-2	74667	73941	73829	74146	0.61	cps
Iron	57-2	3045	3250	2689	2995	9.48	cps
Lead	206-1	2172	2150	2372	2232	5.48	cps
Lead	207-1	1856	1689	1867	1804	5.52	cps
Lead	208-1	8574	8596	9029	8733	2.94	cps
Lithium	6-1	319310	319613	316686	318536	0.51	cps
Magnesium	24-2	15811826	15787420	15809305	15802850	0.08	cps
Manganese	55-2	11628	11455	11558	11547	0.76	cps
Molybdenum	94-1	3567	3817	3376	3587	6.18	cps
Molybdenum	95-1	5076	5410	5093	5193	3.62	cps
Molybdenum	96-1	5693	5576	5785	5685	1.84	cps
Molybdenum	97-1	3559	3201	2992	3251	8.82	cps
Molybdenum	98-1	8586	8686	8228	8500	2.84	cps
Nickel	60-2	950	870	913	911	4.40	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-15	Instrumnet Name :	P7
Client Sample ID :	MH4218	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:39:51	DataFile Name :	033SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	275	225	192	231	18.19	cps
Potassium	39-2	600500	603835	597895	600744	0.50	cps
Rhodium	103-2	1447450	1442818	1451842	1447370	0.31	cps
Rhodium	103-1	3029332	3014159	3024376	3022623	0.26	cps
Scandium	45-1	2124525	2160827	2128869	2138074	0.93	cps
Scandium	45-2	90075	89998	89160	89745	0.57	cps
Selenium	82-1	442	517	508	489	8.41	cps
Selenium	77-2	27	13	13	18	43.33	cps
Selenium	78-2	106	98	117	107	8.73	cps
Silicon	28-1	50925205	50286126	49753273	50321535	1.17	cps
Silver	109-1	1217	1417	1550	1395	12.03	cps
Silver	107-1	1175	1300	1558	1345	14.54	cps
Sodium	23-2	32464453	32514723	32539028	32506068	0.12	cps
Strontium	86-1	4423826	4429882	4436373	4430027	0.14	cps
Strontium	88-1	38150593	38074735	38572743	38266023	0.70	cps
Sulfur	34-1	2028636	2015669	1972760	2005689	1.46	cps
Terbium	159-2	2100567	2090970	2106075	2099204	0.36	cps
Terbium	159-1	4560550	4561030	4480650	4534077	1.02	cps
Thallium	203-1	83	158	225	156	45.56	cps
Thallium	205-1	450	450	383	428	9.00	cps
Tin	118-1	1092	1208	1258	1186	7.21	cps
Titanium	47-1	925	1142	1067	1045	10.54	cps
Uranium	238-1	151769	152772	153407	152649	0.54	cps
Vanadium	51-2	15558	15628	15752	15646	0.63	cps
Yttrium	89-1	3547063	3546659	3589018	3560913	0.68	cps
Yttrium	89-2	473228	471232	473098	472520	0.24	cps
Zinc	66-2	3290	3197	3320	3269	1.97	cps
Zirconium	90-1	1400	1292	1267	1320	5.37	cps
Zirconium	91-1	283	258	242	261	8.03	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04	Instrumnet Name :	P7
Client Sample ID :	MH4025	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:44:10	DataFile Name :	034SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1050484	1056004	1047715	1051401	0.40	cps
Antimony	121-1	56800	54223	54599	55207	2.52	cps
Arsenic	75-2	18061	17794	18156	18004	1.04	cps
Barium	135-1	1121674	1124262	1133821	1126585	0.57	cps
Barium	137-1	1951303	1954934	1961813	1956016	0.27	cps
Beryllium	9-1	1050	1167	1183	1133	6.41	cps
Bismuth	209-2	1424747	1413420	1420249	1419472	0.40	cps
Bismuth	209-1	2751362	2761518	2721058	2744646	0.77	cps
Boron	10-1	15100	15308	15951	15453	2.87	cps
Boron	11-1	72592	72030	74768	73130	1.98	cps
Cadmium	111-1	9567	9238	9402	9403	1.75	cps
Cadmium	106-1	2309	2117	1934	2120	8.85	cps
Cadmium	108-1	663	817	654	711	12.87	cps
Calcium	43-1	6886823	6842246	6820774	6849948	0.49	cps
Calcium	44-1	113265878	112213228	112272482	112583862	0.53	cps
Chromium	52-2	85741	84460	84869	85023	0.77	cps
Cobalt	59-2	50082	50567	50503	50384	0.52	cps
Copper	63-2	368534	369547	368501	368861	0.16	cps
Holmium	165-2	1967697	1957759	1968970	1964809	0.31	cps
Holmium	165-1	4177504	4157904	4146949	4160785	0.37	cps
Indium	115-1	3102090	3060369	3067854	3076771	0.72	cps
Indium	115-2	534114	534420	541489	536675	0.78	cps
Iron	56-2	49820662	49629908	49608196	49686255	0.24	cps
Iron	57-2	1228628	1224213	1223510	1225450	0.23	cps
Lead	206-1	5561585	5558047	5629898	5583177	0.73	cps
Lead	207-1	4614797	4572361	4678287	4621815	1.15	cps
Lead	208-1	21635913	21501732	21730127	21622591	0.53	cps
Lithium	6-1	289074	288696	291993	289921	0.62	cps
Magnesium	24-2	4977547	4942707	4934625	4951626	0.46	cps
Manganese	55-2	1841308	1844783	1851126	1845739	0.27	cps
Molybdenum	94-1	30433	31478	30675	30862	1.77	cps
Molybdenum	95-1	6935	6935	6727	6866	1.75	cps
Molybdenum	96-1	12581	12339	12256	12392	1.36	cps
Molybdenum	97-1	4409	4759	4543	4570	3.87	cps
Molybdenum	98-1	11330	11171	10980	11160	1.57	cps
Nickel	60-2	28474	28348	28561	28461	0.38	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04	Instrumnet Name :	P7
Client Sample ID :	MH4025	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:44:10	DataFile Name :	034SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	17419	18078	18412	17970	2.81	cps
Potassium	39-2	884830	883689	881272	883264	0.21	cps
Rhodium	103-2	1350337	1353903	1352347	1352196	0.13	cps
Rhodium	103-1	2845058	2811401	2761125	2805861	1.51	cps
Scandium	45-1	1971145	1967193	1952968	1963768	0.49	cps
Scandium	45-2	84261	83678	83192	83711	0.64	cps
Selenium	77-2	90	60	80	77	19.92	cps
Selenium	78-2	113	122	146	127	13.53	cps
Selenium	82-1	183	375	417	325	38.29	cps
Silicon	28-1	8943791	5837239	5997888	6926306	25.25	cps
Silver	109-1	17320	16460	17219	17000	2.76	cps
Silver	107-1	17086	16852	17904	17281	3.19	cps
Sodium	23-2	484222	482638	485781	484213	0.32	cps
Strontium	86-1	2667059	2663809	2660295	2663721	0.13	cps
Strontium	88-1	22724502	22753898	22723451	22733950	0.08	cps
Sulfur	34-1	394136	391091	387868	391032	0.80	cps
Terbium	159-2	1937735	1983617	1960407	1960586	1.17	cps
Terbium	159-1	4229388	4201664	4260395	4230482	0.69	cps
Thallium	203-1	5735	5727	5568	5676	1.66	cps
Thallium	205-1	14275	14358	14417	14350	0.50	cps
Tin	118-1	113288	112044	110911	112081	1.06	cps
Titanium	47-1	383650	381189	380032	381624	0.48	cps
Uranium	238-1	68121	66522	69043	67896	1.88	cps
Vanadium	51-2	73626	73398	72769	73264	0.61	cps
Yttrium	89-2	503825	503418	509453	505565	0.67	cps
Yttrium	89-1	3800753	3753185	3767847	3773928	0.65	cps
Zinc	66-2	315122	314268	315285	314892	0.17	cps
Zirconium	90-1	76419	74251	74351	75007	1.63	cps
Zirconium	91-1	16427	16143	16310	16293	0.87	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 15:47:17	DataFile Name :	035SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	561508	559025	559464	559999	0.24	cps
Antimony	121-1	26518	27586	27703	27269	2.40	cps
Arsenic	75-2	9707	9644	9524	9625	0.97	cps
Barium	135-1	589498	585745	593223	589489	0.63	cps
Barium	137-1	1016437	1003681	1016749	1012289	0.74	cps
Beryllium	9-1	528	561	522	537	3.92	cps
Bismuth	209-1	2740826	2816183	2735180	2764063	1.64	cps
Bismuth	209-2	1451340	1431016	1448493	1443616	0.76	cps
Boron	10-1	8369	8386	8636	8464	1.77	cps
Boron	11-1	39603	41056	42077	40912	3.04	cps
Cadmium	111-1	5206	5045	5155	5135	1.61	cps
Cadmium	106-1	1467	1500	1383	1450	4.14	cps
Cadmium	108-1	317	354	371	347	7.99	cps
Calcium	43-1	3651400	3617958	3680508	3649955	0.86	cps
Calcium	44-1	59016449	59243630	59273228	59177769	0.24	cps
Chromium	52-2	45677	44848	46015	45514	1.32	cps
Cobalt	59-2	27162	26417	27018	26866	1.47	cps
Copper	63-2	197253	196844	197540	197213	0.18	cps
Holmium	165-2	1998757	1981153	2001245	1993718	0.55	cps
Holmium	165-1	4189420	4145755	4224264	4186480	0.94	cps
Indium	115-1	3108507	3075472	3074381	3086120	0.63	cps
Indium	115-2	547524	546438	542610	545524	0.47	cps
Iron	56-2	26532843	26360985	26518264	26470697	0.36	cps
Iron	57-2	659085	651610	657312	656002	0.60	cps
Lead	206-1	2902255	2916912	2963240	2927469	1.09	cps
Lead	207-1	2399018	2403028	2424883	2408976	0.58	cps
Lead	208-1	11203586	11301034	11370612	11291744	0.74	cps
Lithium	6-1	285395	287080	285677	286050	0.32	cps
Magnesium	24-2	2666609	2642558	2684866	2664678	0.80	cps
Manganese	55-2	959888	950034	957709	955877	0.54	cps
Molybdenum	94-1	16585	15826	16310	16240	2.37	cps
Molybdenum	95-1	3659	3909	4009	3859	4.67	cps
Molybdenum	96-1	6402	6969	6260	6544	5.74	cps
Molybdenum	97-1	2484	2475	2134	2364	8.45	cps
Molybdenum	98-1	6327	6427	6102	6285	2.65	cps
Nickel	60-2	15215	14748	14908	14957	1.59	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 15:47:17	DataFile Name :	035SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	9287	9328	9528	9381	1.38	cps
Potassium	39-2	476189	475025	480352	477189	0.59	cps
Rhodium	103-2	1389410	1386042	1381010	1385488	0.31	cps
Rhodium	103-1	2853011	2843633	2836748	2844464	0.29	cps
Scandium	45-1	1970855	1969552	1955549	1965319	0.43	cps
Scandium	45-2	85840	83789	85042	84890	1.22	cps
Selenium	77-2	37	33	43	38	13.48	cps
Selenium	78-2	80	83	91	85	6.69	cps
Selenium	82-1	317	83	92	164	80.77	cps
Silicon	28-1	3277083	3315488	3124343	3238971	3.12	cps
Silver	109-1	8670	8269	8903	8614	3.72	cps
Silver	107-1	8820	8953	8920	8898	0.78	cps
Sodium	23-2	265419	261057	265075	263850	0.92	cps
Strontium	86-1	1357400	1367405	1405139	1376648	1.83	cps
Strontium	88-1	11863155	11998404	11954856	11938805	0.58	cps
Sulfur	34-1	349644	345417	344570	346543	0.78	cps
Terbium	159-1	4261758	4224894	4267626	4251426	0.54	cps
Terbium	159-2	1983044	1956133	1973788	1970988	0.69	cps
Thallium	203-1	3042	3076	2992	3037	1.38	cps
Thallium	205-1	7027	6794	7569	7130	5.58	cps
Tin	118-1	59661	59444	58874	59326	0.68	cps
Titanium	47-1	199379	200233	203561	201058	1.10	cps
Uranium	238-1	34923	33987	35592	34834	2.31	cps
Vanadium	51-2	38450	38825	38631	38635	0.48	cps
Yttrium	89-2	485048	475850	481982	480960	0.97	cps
Yttrium	89-1	3561360	3592155	3603966	3585827	0.61	cps
Zinc	66-2	171958	170495	172165	171539	0.53	cps
Zirconium	90-1	38728	39481	39231	39147	0.98	cps
Zirconium	91-1	8737	8812	8770	8773	0.43	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-05	Instrumnet Name :	P7
Client Sample ID :	MH4025D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:50:19	DataFile Name :	036SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1054742	1056261	1064129	1058377	0.48	cps
Antimony	121-1	54431	54005	52985	53807	1.38	cps
Arsenic	75-2	18228	18121	18015	18121	0.59	cps
Barium	137-1	1945066	1962571	1970078	1959238	0.66	cps
Barium	135-1	1132880	1134109	1146596	1137862	0.67	cps
Beryllium	9-1	1139	1017	1000	1052	7.21	cps
Bismuth	209-1	2828470	2777060	2780233	2795254	1.03	cps
Bismuth	209-2	1457823	1434648	1442212	1444894	0.82	cps
Boron	10-1	14558	15725	15625	15303	4.23	cps
Boron	11-1	71001	74192	76108	73767	3.50	cps
Cadmium	106-1	2142	2000	1942	2028	5.07	cps
Cadmium	108-1	725	692	658	692	4.82	cps
Cadmium	111-1	9461	9465	9972	9633	3.05	cps
Calcium	43-1	6995014	6946555	6992775	6978115	0.39	cps
Calcium	44-1	113212823	113689432	112931048	113277768	0.34	cps
Chromium	52-2	86377	85748	86157	86094	0.37	cps
Cobalt	59-2	51510	51336	52189	51679	0.87	cps
Copper	63-2	372129	371102	371601	371611	0.14	cps
Holmium	165-2	2026738	2011749	2004287	2014258	0.57	cps
Holmium	165-1	4250154	4244516	4201094	4231921	0.63	cps
Indium	115-2	550824	547580	545908	548104	0.46	cps
Indium	115-1	3087209	3112063	3051814	3083696	0.98	cps
Iron	56-2	50666362	50682498	50205541	50518134	0.54	cps
Iron	57-2	1252285	1243312	1241187	1245594	0.47	cps
Lead	206-1	5620686	5638435	5654674	5637931	0.30	cps
Lead	207-1	4599087	4625731	4593072	4605963	0.38	cps
Lead	208-1	21695341	21801056	21695928	21730775	0.28	cps
Lithium	6-1	292972	292653	293696	293107	0.18	cps
Magnesium	24-2	5004185	5000790	5028559	5011178	0.30	cps
Manganese	55-2	1880515	1861080	1878347	1873314	0.57	cps
Molybdenum	94-1	30968	31921	31678	31522	1.57	cps
Molybdenum	95-1	7369	7119	7052	7180	2.33	cps
Molybdenum	96-1	11880	12931	11955	12256	4.78	cps
Molybdenum	97-1	4493	4809	4593	4632	3.50	cps
Molybdenum	98-1	11096	11355	11213	11222	1.15	cps
Nickel	60-2	28451	28525	28314	28430	0.38	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-05	Instrumnet Name :	P7
Client Sample ID :	MH4025D	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 15:50:19	DataFile Name :	036SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	17586	17678	17636	17633	0.26	cps
Potassium	39-2	892361	898200	899078	896546	0.41	cps
Rhodium	103-1	2867649	2838571	2847635	2851285	0.52	cps
Rhodium	103-2	1397983	1378918	1377546	1384816	0.82	cps
Scandium	45-1	2006604	2019441	1986664	2004236	0.82	cps
Scandium	45-2	85384	85123	84171	84893	0.75	cps
Selenium	82-1	308	283	300	297	4.28	cps
Selenium	77-2	77	93	107	92	16.30	cps
Selenium	78-2	120	109	133	121	9.96	cps
Silicon	28-1	7026559	6158357	6590621	6591846	6.59	cps
Silver	109-1	16827	16911	16644	16794	0.81	cps
Silver	107-1	17553	16886	17278	17239	1.95	cps
Sodium	23-2	483018	486460	484507	484662	0.36	cps
Strontium	86-1	2662138	2706269	2720467	2696291	1.13	cps
Strontium	88-1	22811909	23074869	23130088	23005622	0.74	cps
Sulfur	34-1	386109	383324	384062	384498	0.38	cps
Terbium	159-1	4285883	4369950	4263623	4306485	1.30	cps
Terbium	159-2	2003233	1986511	2004639	1998128	0.50	cps
Thallium	203-1	5568	5710	5943	5740	3.30	cps
Thallium	205-1	14167	13599	13941	13902	2.06	cps
Tin	118-1	110339	113253	111003	111532	1.37	cps
Titanium	47-1	386885	388107	389608	388200	0.35	cps
Uranium	238-1	69193	68221	68632	68682	0.71	cps
Vanadium	51-2	73726	75315	73817	74286	1.20	cps
Yttrium	89-1	3855170	3856531	3843951	3851884	0.18	cps
Yttrium	89-2	517072	513812	511948	514277	0.50	cps
Zinc	66-2	318121	316361	319268	317917	0.46	cps
Zirconium	90-1	74085	75616	74490	74730	1.06	cps
Zirconium	91-1	16218	16494	17404	16705	3.71	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-05DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025D	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 15:53:18	DataFile Name :	037SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	568893	565893	562439	565742	0.57	cps
Antimony	121-1	27469	26543	28037	27350	2.76	cps
Arsenic	75-2	9587	9668	9592	9616	0.47	cps
Barium	135-1	591031	597065	592706	593601	0.52	cps
Barium	137-1	1021896	1026004	1021587	1023163	0.24	cps
Beryllium	9-1	639	556	594	596	6.99	cps
Bismuth	209-2	1440308	1432675	1422709	1431897	0.62	cps
Bismuth	209-1	2827689	2738707	2745325	2770574	1.79	cps
Boron	10-1	8619	9070	8528	8739	3.32	cps
Boron	11-1	40948	42293	42711	41984	2.19	cps
Cadmium	106-1	1533	1584	1683	1600	4.77	cps
Cadmium	108-1	279	433	325	346	22.89	cps
Cadmium	111-1	5521	5323	5423	5422	1.83	cps
Calcium	43-1	3672573	3697859	3683283	3684572	0.34	cps
Calcium	44-1	59983960	60112862	59299866	59798896	0.73	cps
Chromium	52-2	47018	46082	45781	46294	1.39	cps
Cobalt	59-2	27402	27239	27379	27340	0.32	cps
Copper	63-2	201659	202581	200084	201441	0.63	cps
Holmium	165-1	4271721	4143853	4158711	4191429	1.67	cps
Holmium	165-2	1967467	1969013	1956924	1964468	0.33	cps
Indium	115-2	547151	546980	538774	544302	0.88	cps
Indium	115-1	3163712	3081005	3090752	3111823	1.45	cps
Iron	56-2	26805232	26709530	26568980	26694581	0.45	cps
Iron	57-2	664182	657693	654585	658820	0.74	cps
Lead	208-1	11312719	11541469	11379635	11411274	1.03	cps
Lead	206-1	2948413	2958555	2963240	2956736	0.26	cps
Lead	207-1	2419882	2463616	2411508	2431668	1.15	cps
Lithium	6-1	291443	288766	288014	289408	0.62	cps
Magnesium	24-2	2696867	2679346	2650599	2675604	0.87	cps
Manganese	55-2	967049	968302	965701	967017	0.13	cps
Molybdenum	94-1	15784	16610	16001	16132	2.66	cps
Molybdenum	95-1	3534	3892	3926	3784	5.74	cps
Molybdenum	96-1	7187	6710	6435	6777	5.61	cps
Molybdenum	97-1	2484	2284	2359	2375	4.25	cps
Molybdenum	98-1	5985	6210	5651	5949	4.72	cps
Nickel	60-2	14988	14898	15025	14970	0.44	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-05DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025D	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 15:53:18	DataFile Name :	037SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	9262	9295	9262	9273	0.21	cps
Potassium	39-2	487001	482059	483229	484096	0.53	cps
Rhodium	103-1	2981393	2863898	2887118	2910803	2.14	cps
Rhodium	103-2	1379286	1386623	1371110	1379007	0.56	cps
Scandium	45-1	2040352	1985003	1955472	1993609	2.16	cps
Scandium	45-2	86058	85593	84141	85264	1.17	cps
Selenium	82-1	250	250	258	253	1.91	cps
Selenium	77-2	50	47	53	50	6.66	cps
Selenium	78-2	83	81	109	91	17.00	cps
Silicon	28-1	3827683	3414540	3660193	3634139	5.72	cps
Silver	107-1	9128	9137	9153	9139	0.14	cps
Silver	109-1	8445	8478	8703	8542	1.65	cps
Sodium	23-2	267690	265238	262534	265154	0.97	cps
Strontium	86-1	1410740	1374085	1387312	1390713	1.33	cps
Strontium	88-1	11903371	12067365	12132221	12034319	0.98	cps
Sulfur	34-1	340146	342034	341713	341298	0.30	cps
Terbium	159-2	1949029	1986804	1945757	1960530	1.16	cps
Terbium	159-1	4369230	4214522	4199701	4261151	2.20	cps
Thallium	203-1	2684	3092	3034	2937	7.52	cps
Thallium	205-1	7044	6910	7261	7072	2.50	cps
Tin	118-1	59158	60347	58347	59284	1.70	cps
Titanium	47-1	205047	203798	206700	205181	0.71	cps
Uranium	238-1	35408	36035	34422	35288	2.30	cps
Vanadium	51-2	39827	39172	39012	39337	1.10	cps
Yttrium	89-1	3663257	3544843	3587054	3598385	1.67	cps
Yttrium	89-2	483872	481837	479668	481792	0.44	cps
Zinc	66-2	174542	171992	170981	172505	1.06	cps
Zirconium	90-1	39066	39246	40108	39473	1.41	cps
Zirconium	91-1	8169	8286	8286	8247	0.82	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04LX5	Instrumnet Name :	P7
Client Sample ID :	MH4025L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:56:18	DataFile Name :	038SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	217797	216734	218236	217589	0.35	cps
Antimony	121-1	9721	9946	10054	9907	1.72	cps
Arsenic	75-2	3684	3682	3752	3706	1.08	cps
Barium	135-1	219002	219828	220767	219866	0.40	cps
Barium	137-1	379812	381180	379460	380151	0.24	cps
Beryllium	9-1	244	228	267	246	7.92	cps
Bismuth	209-2	1469145	1462023	1467772	1466313	0.26	cps
Bismuth	209-1	2748438	2763092	2717933	2743154	0.84	cps
Boron	10-1	3484	4326	3809	3873	10.96	cps
Boron	11-1	17335	17594	18912	17947	4.71	cps
Cadmium	106-1	1033	983	1275	1097	14.22	cps
Cadmium	108-1	138	121	163	140	14.95	cps
Cadmium	111-1	2344	2283	2617	2415	7.35	cps
Calcium	43-1	1369280	1384891	1391048	1381740	0.81	cps
Calcium	44-1	22299020	22446427	22647169	22464205	0.78	cps
Chromium	52-2	18181	18352	18191	18242	0.52	cps
Cobalt	59-2	10170	10154	10571	10298	2.29	cps
Copper	63-2	76991	77246	78137	77458	0.78	cps
Holmium	165-2	2011838	2013759	2017446	2014347	0.14	cps
Holmium	165-1	4160325	4125536	4140493	4142118	0.42	cps
Indium	115-1	3113135	3124299	3147962	3128465	0.57	cps
Indium	115-2	563603	563705	566320	564543	0.27	cps
Iron	56-2	10121869	10116980	10101966	10113605	0.10	cps
Iron	57-2	249807	249497	247209	248838	0.57	cps
Lead	206-1	1049188	1060054	1058537	1055926	0.56	cps
Lead	207-1	884542	887645	881378	884522	0.35	cps
Lead	208-1	4151928	4185292	4153673	4163631	0.45	cps
Lithium	6-1	284384	284060	283676	284040	0.12	cps
Magnesium	24-2	1011675	1006113	1011185	1009658	0.31	cps
Manganese	55-2	365526	366238	368053	366606	0.36	cps
Molybdenum	94-1	6377	6302	6603	6427	2.44	cps
Molybdenum	95-1	1467	1542	1267	1425	9.98	cps
Molybdenum	96-1	2350	2425	2575	2450	4.68	cps
Molybdenum	97-1	883	983	933	933	5.36	cps
Molybdenum	98-1	2184	2300	2375	2286	4.23	cps
Nickel	60-2	5738	5778	5858	5791	1.06	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04LX5	Instrumnet Name :	P7
Client Sample ID :	MH4025L	Dilution Factor :	5
Date & Time Acquired ::	2016-05-06 15:56:18	DataFile Name :	038SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	3684	3442	3759	3628	4.56	cps
Potassium	39-2	196400	195937	195564	195967	0.21	cps
Rhodium	103-2	1425533	1424498	1446369	1432134	0.86	cps
Rhodium	103-1	2943147	2913011	2964125	2940094	0.87	cps
Scandium	45-1	1988683	2016025	2006485	2003731	0.69	cps
Scandium	45-2	87929	87403	87372	87568	0.36	cps
Selenium	77-2	27	23	20	23	14.29	cps
Selenium	82-1	17	-33	83	22	263.37	cps
Selenium	78-2	70	72	63	69	7.15	cps
Silicon	28-1	1366385	1341105	1386182	1364557	1.66	cps
Silver	107-1	3401	3684	3417	3501	4.54	cps
Silver	109-1	3459	3426	3301	3395	2.46	cps
Sodium	23-2	109732	110993	109809	110178	0.64	cps
Strontium	86-1	509672	515380	511040	512031	0.58	cps
Strontium	88-1	4467779	4480980	4470011	4472923	0.16	cps
Sulfur	34-1	313282	318013	316448	315914	0.76	cps
Terbium	159-1	4266699	4233532	4226552	4242261	0.51	cps
Terbium	159-2	1989447	1993963	1982975	1988795	0.28	cps
Thallium	203-1	1308	1050	1183	1181	10.94	cps
Thallium	205-1	2759	2959	2842	2853	3.52	cps
Tin	118-1	22485	22694	22853	22677	0.81	cps
Titanium	47-1	74824	74748	76298	75290	1.16	cps
Uranium	238-1	13015	13966	12690	13224	5.02	cps
Vanadium	51-2	15185	14768	14861	14938	1.47	cps
Yttrium	89-2	471439	468757	474515	471570	0.61	cps
Yttrium	89-1	3449489	3440727	3448798	3446338	0.14	cps
Zinc	66-2	66608	66752	66568	66642	0.15	cps
Zirconium	90-1	14641	14725	14291	14552	1.58	cps
Zirconium	91-1	3476	3367	3376	3406	1.77	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04LDLX10	Instrumnet Name :	P7
Client Sample ID :	MH4025L	Dilution Factor :	10
Date & Time Acquired ::	2016-05-06 15:59:20	DataFile Name :	039SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	137814	137562	136165	137180	0.65	cps
Antimony	121-1	6210	6052	5535	5932	5.95	cps
Arsenic	75-2	2224	2265	2315	2268	2.00	cps
Barium	135-1	138914	138182	141160	139419	1.11	cps
Barium	137-1	238668	234787	237375	236943	0.83	cps
Beryllium	9-1	194	150	139	161	18.25	cps
Bismuth	209-1	2733665	2732374	2753634	2739891	0.44	cps
Bismuth	209-2	1474767	1454436	1454846	1461350	0.80	cps
Boron	10-1	2659	2484	2675	2606	4.08	cps
Boron	11-1	12339	12105	12906	12450	3.31	cps
Cadmium	106-1	1225	850	1008	1028	18.32	cps
Cadmium	108-1	79	54	79	71	20.38	cps
Cadmium	111-1	1894	1632	1705	1744	7.75	cps
Calcium	43-1	854435	854265	857250	855316	0.20	cps
Calcium	44-1	14047752	14118181	14144417	14103450	0.35	cps
Chromium	52-2	11438	11872	11948	11753	2.34	cps
Cobalt	59-2	6535	6588	6695	6606	1.23	cps
Copper	63-2	49286	49631	49223	49380	0.44	cps
Holmium	165-2	2037568	1996184	1970841	2001531	1.68	cps
Holmium	165-1	4131296	4099226	4080135	4103552	0.63	cps
Indium	115-1	3072380	3085787	3108619	3088929	0.59	cps
Indium	115-2	571016	560627	558777	563474	1.17	cps
Iron	56-2	6424187	6361312	6424225	6403241	0.57	cps
Iron	57-2	158093	157598	156750	157480	0.43	cps
Lead	206-1	665853	660998	663811	663554	0.37	cps
Lead	207-1	556974	553413	554912	555100	0.32	cps
Lead	208-1	2589766	2588764	2591342	2589957	0.05	cps
Lithium	6-1	283370	284323	282214	283302	0.37	cps
Magnesium	24-2	642464	629655	633092	635070	1.04	cps
Manganese	55-2	232708	232605	232579	232631	0.03	cps
Molybdenum	94-1	3959	4293	4368	4206	5.17	cps
Molybdenum	95-1	758	933	875	856	10.41	cps
Molybdenum	96-1	1400	1533	1792	1575	12.64	cps
Molybdenum	97-1	425	508	533	489	11.60	cps
Molybdenum	98-1	1625	1325	1709	1553	12.98	cps
Nickel	60-2	3661	3667	3637	3655	0.43	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-04LDLX10	Instrumnet Name :	P7
Client Sample ID :	MH4025L	Dilution Factor :	10
Date & Time Acquired ::	2016-05-06 15:59:20	DataFile Name :	039SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	2484	2484	2367	2445	2.76	cps
Potassium	39-2	129326	129906	129688	129640	0.23	cps
Rhodium	103-2	1455978	1430553	1421769	1436100	1.24	cps
Rhodium	103-1	2890367	2910852	2920346	2907188	0.53	cps
Scandium	45-1	2001613	1983112	1972797	1985841	0.74	cps
Scandium	45-2	88164	87010	87222	87465	0.70	cps
Selenium	77-2	3	17	7	9	78.08	cps
Selenium	78-2	74	52	85	70	24.12	cps
Selenium	82-1	8	0	92	33	152.08	cps
Silicon	28-1	983918	968272	979951	977381	0.83	cps
Silver	107-1	2284	2417	2117	2273	6.62	cps
Silver	109-1	2092	2025	1959	2025	3.29	cps
Sodium	23-2	74460	73648	73656	73921	0.63	cps
Strontium	86-1	323675	323471	321935	323027	0.29	cps
Strontium	88-1	2812427	2826099	2851701	2830076	0.70	cps
Sulfur	34-1	317138	314421	315373	315644	0.44	cps
Terbium	159-1	4191215	4162030	4167418	4173554	0.37	cps
Terbium	159-2	2006272	1968124	1986341	1986912	0.96	cps
Thallium	203-1	692	683	717	697	2.49	cps
Thallium	205-1	1634	1842	1842	1772	6.79	cps
Tin	118-1	14625	14158	14750	14511	2.15	cps
Titanium	47-1	48615	47202	48606	48141	1.69	cps
Uranium	238-1	8487	7886	7786	8053	4.70	cps
Vanadium	51-2	9416	9530	9170	9372	1.97	cps
Yttrium	89-2	469459	464052	465100	466204	0.62	cps
Yttrium	89-1	3421624	3362590	3414974	3399729	0.95	cps
Zinc	66-2	41659	42077	42492	42076	0.99	cps
Zirconium	90-1	9522	9587	10081	9730	3.14	cps
Zirconium	91-1	2067	2359	2334	2253	7.18	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-06	Instrumnet Name :	P7
Client Sample ID :	MH4025S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:02:22	DataFile Name :	040SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1136387	1129239	1131819	1132482	0.32	cps
Antimony	121-1	298489	296635	295597	296907	0.49	cps
Arsenic	75-2	21872	21292	21282	21482	1.57	cps
Barium	135-1	2370631	2392574	2422306	2395170	1.08	cps
Barium	137-1	4028207	4071859	4054981	4051682	0.54	cps
Beryllium	9-1	16498	16693	16626	16606	0.60	cps
Bismuth	209-1	2817579	2823072	2814952	2818534	0.15	cps
Bismuth	209-2	1438478	1443181	1435946	1439201	0.26	cps
Boron	10-1	14416	15317	15817	15183	4.68	cps
Boron	11-1	68423	70431	73269	70708	3.44	cps
Cadmium	111-1	38310	37222	38209	37914	1.59	cps
Cadmium	106-1	4859	4351	4668	4626	5.55	cps
Cadmium	108-1	2550	2463	2579	2531	2.40	cps
Calcium	43-1	7235099	7112903	7112469	7153490	0.99	cps
Calcium	44-1	116849698	116647253	116651332	116716094	0.10	cps
Chromium	52-2	239520	237121	238290	238310	0.50	cps
Cobalt	59-2	678703	665663	675417	673261	1.01	cps
Copper	63-2	611459	603797	607185	607480	0.63	cps
Holmium	165-2	2032088	2022091	2028329	2027503	0.25	cps
Holmium	165-1	4285683	4306753	4261264	4284567	0.53	cps
Indium	115-1	3172433	3140850	3196544	3169942	0.88	cps
Indium	115-2	548809	543289	547213	546437	0.52	cps
Iron	56-2	52325591	51722959	52157335	52068628	0.60	cps
Iron	57-2	1292216	1278714	1281969	1284300	0.55	cps
Lead	206-1	5723422	5790553	5718520	5744165	0.70	cps
Lead	207-1	4721183	4694905	4720015	4712034	0.32	cps
Lead	208-1	22191776	22195600	22147831	22178402	0.12	cps
Lithium	6-1	296267	298293	300010	298190	0.63	cps
Magnesium	24-2	5164964	5115196	5130018	5136726	0.50	cps
Manganese	55-2	2105319	2107726	2084699	2099248	0.60	cps
Molybdenum	94-1	32580	31636	33268	32495	2.52	cps
Molybdenum	95-1	7502	7686	7702	7630	1.46	cps
Molybdenum	96-1	14117	13382	13499	13666	2.89	cps
Molybdenum	97-1	5101	4743	4909	4918	3.65	cps
Molybdenum	98-1	12706	12890	12548	12714	1.35	cps
Nickel	60-2	194269	190439	193707	192805	1.07	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-06	Instrumnet Name :	P7
Client Sample ID :	MH4025S	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:02:22	DataFile Name :	040SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	18479	18070	18396	18315	1.18	cps
Potassium	39-2	918827	918409	918505	918580	0.02	cps
Rhodium	103-2	1389264	1390265	1383465	1387664	0.26	cps
Rhodium	103-1	2970024	2915609	2924160	2936598	1.00	cps
Scandium	45-1	2057839	2057021	2043410	2052757	0.39	cps
Scandium	45-2	87178	85609	86034	86274	0.94	cps
Selenium	77-2	263	267	237	256	6.43	cps
Selenium	78-2	661	669	676	669	1.11	cps
Selenium	82-1	3843	4326	4226	4131	6.18	cps
Silicon	28-1	6145227	6668305	6254975	6356169	4.34	cps
Silver	109-1	154690	152252	152237	153060	0.92	cps
Silver	107-1	157298	158352	157888	157846	0.33	cps
Sodium	23-2	495803	500535	496081	497473	0.53	cps
Strontium	86-1	2794501	2787048	2736254	2772601	1.14	cps
Strontium	88-1	23456624	23700658	23470936	23542740	0.58	cps
Sulfur	34-1	402421	393332	393717	396490	1.30	cps
Terbium	159-1	4366907	4428637	4367212	4387585	0.81	cps
Terbium	159-2	2003309	2002473	2007680	2004487	0.14	cps
Thallium	203-1	129028	129171	128498	128899	0.27	cps
Thallium	205-1	310766	312537	314618	312640	0.62	cps
Tin	118-1	114531	114825	114656	114671	0.13	cps
Titanium	47-1	396205	403515	399809	399843	0.91	cps
Uranium	238-1	69034	69319	68632	68995	0.50	cps
Vanadium	51-2	388328	381792	385955	385358	0.86	cps
Yttrium	89-2	518195	518198	515023	517139	0.35	cps
Yttrium	89-1	4016248	3937875	3922117	3958747	1.27	cps
Zinc	66-2	384862	381914	385037	383937	0.46	cps
Zirconium	90-1	75584	77622	74973	76059	1.82	cps
Zirconium	91-1	17078	16719	16936	16911	1.07	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-06DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025S	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:05:19	DataFile Name :	041SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	570508	563992	568798	567766	0.60	cps
Antimony	121-1	145337	145422	146489	145750	0.44	cps
Arsenic	75-2	11164	11001	10719	10961	2.05	cps
Barium	135-1	1148266	1166155	1160759	1158393	0.79	cps
Barium	137-1	2022854	2009892	2003607	2012118	0.49	cps
Beryllium	9-1	8169	8414	8025	8202	2.40	cps
Bismuth	209-2	1484077	1458604	1455126	1465936	1.08	cps
Bismuth	209-1	2789987	2806606	2754238	2783610	0.96	cps
Boron	10-1	7727	8269	8119	8039	3.48	cps
Boron	11-1	37489	38675	39051	38405	2.12	cps
Cadmium	106-1	2992	2892	2500	2795	9.30	cps
Cadmium	108-1	1346	1254	1288	1296	3.58	cps
Cadmium	111-1	19402	19592	19190	19395	1.04	cps
Calcium	43-1	3554455	3609674	3583018	3582383	0.77	cps
Calcium	44-1	57919060	58368755	57786112	58024642	0.53	cps
Chromium	52-2	119606	119651	118979	119412	0.31	cps
Cobalt	59-2	337114	338023	340327	338488	0.49	cps
Copper	63-2	309013	309052	308269	308778	0.14	cps
Holmium	165-2	2031336	2022063	2034405	2029268	0.32	cps
Holmium	165-1	4260225	4271257	4314657	4282046	0.67	cps
Indium	115-1	3194866	3199302	3113651	3169273	1.52	cps
Indium	115-2	573844	564158	559392	565798	1.30	cps
Iron	57-2	642349	648754	646574	645893	0.50	cps
Iron	56-2	26091662	26152853	26084741	26109752	0.14	cps
Lead	206-1	2833639	2841149	2906529	2860439	1.40	cps
Lead	207-1	2346745	2345542	2355626	2349304	0.23	cps
Lead	208-1	11025540	11042264	10998531	11022111	0.20	cps
Lithium	6-1	291762	298024	292938	294241	1.13	cps
Magnesium	24-2	2624883	2618442	2576037	2606454	1.02	cps
Manganese	55-2	1038914	1037500	1033055	1036490	0.29	cps
Molybdenum	94-1	15868	16269	16051	16063	1.25	cps
Molybdenum	95-1	3934	3642	3434	3670	6.85	cps
Molybdenum	96-1	6443	6143	6585	6391	3.53	cps
Molybdenum	97-1	2425	2392	2742	2520	7.67	cps
Molybdenum	98-1	6193	6277	5985	6152	2.44	cps
Nickel	60-2	98279	97958	98206	98148	0.17	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-06DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4025S	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:05:19	DataFile Name :	041SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	8553	9320	8961	8945	4.29	cps
Potassium	39-2	469429	467993	465725	467716	0.40	cps
Rhodium	103-2	1442633	1427774	1434724	1435044	0.52	cps
Rhodium	103-1	2929011	2946741	2950953	2942235	0.40	cps
Scandium	45-1	2046042	2038946	2011136	2032041	0.91	cps
Scandium	45-2	90125	87581	87765	88490	1.60	cps
Selenium	82-1	1850	2159	2042	2017	7.72	cps
Selenium	77-2	107	113	117	112	4.54	cps
Selenium	78-2	344	391	346	361	7.27	cps
Silicon	28-1	3466404	3570491	3663942	3566946	2.77	cps
Silver	107-1	79590	78894	79833	79439	0.61	cps
Silver	109-1	76641	76800	76206	76549	0.40	cps
Sodium	23-2	259237	260770	258916	259641	0.38	cps
Strontium	86-1	1335247	1327381	1338122	1333584	0.42	cps
Strontium	88-1	11699172	11587524	11555055	11613917	0.65	cps
Sulfur	34-1	346091	346177	345173	345814	0.16	cps
Terbium	159-2	2031688	2001640	2008508	2013945	0.78	cps
Terbium	159-1	4304587	4350994	4347722	4334435	0.60	cps
Thallium	203-1	63335	63126	61978	62813	1.16	cps
Thallium	205-1	152203	155264	155839	154435	1.27	cps
Tin	118-1	55460	58188	56949	56866	2.40	cps
Titanium	47-1	196870	195926	198804	197200	0.74	cps
Uranium	238-1	34188	33536	33194	33639	1.50	cps
Vanadium	51-2	190165	193551	190546	191420	0.97	cps
Yttrium	89-1	3687313	3687184	3632393	3668963	0.86	cps
Yttrium	89-2	498794	493786	491812	494797	0.73	cps
Zinc	66-2	197171	195178	194331	195560	0.75	cps
Zirconium	90-1	38862	36615	37567	37681	2.99	cps
Zirconium	91-1	8103	8044	8436	8194	2.58	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-07	Instrumnet Name :	P7
Client Sample ID :	MH4028	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:08:19	DataFile Name :	042SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	833811	839816	829635	834421	0.61	cps
Antimony	121-1	25966	25407	26000	25791	1.29	cps
Arsenic	75-2	6224	6094	5975	6098	2.04	cps
Barium	135-1	648958	657975	647041	651325	0.90	cps
Barium	137-1	1114805	1120966	1108135	1114635	0.58	cps
Beryllium	9-1	978	1050	967	998	4.53	cps
Bismuth	209-1	2828032	2825357	2844675	2832688	0.37	cps
Bismuth	209-2	1478055	1470276	1457340	1468557	0.71	cps
Boron	10-1	8494	8036	9095	8542	6.22	cps
Boron	11-1	39353	40112	40020	39829	1.04	cps
Cadmium	111-1	6330	6434	6383	6382	0.82	cps
Cadmium	106-1	1734	2075	2059	1956	9.85	cps
Cadmium	108-1	592	629	567	596	5.28	cps
Calcium	43-1	6657167	6712821	6644533	6671507	0.54	cps
Calcium	44-1	108750686	110061894	109361915	109391498	0.60	cps
Chromium	52-2	63774	63198	63606	63526	0.47	cps
Cobalt	59-2	52634	52641	53046	52774	0.45	cps
Copper	63-2	278589	279519	277903	278671	0.29	cps
Holmium	165-2	2072920	2037789	2010559	2040423	1.53	cps
Holmium	165-1	4297589	4289972	4333970	4307177	0.55	cps
Indium	115-1	3170212	3267426	3202976	3213538	1.54	cps
Indium	115-2	560131	558347	559846	559441	0.17	cps
Iron	56-2	49138961	49424054	49167946	49243653	0.32	cps
Iron	57-2	1219313	1223653	1211075	1218014	0.52	cps
Lead	206-1	2556606	2518090	2504206	2526301	1.07	cps
Lead	207-1	2103663	2083031	2095697	2094130	0.50	cps
Lead	208-1	9799194	9790594	9794900	9794896	0.04	cps
Lithium	6-1	296511	297726	297178	297139	0.20	cps
Magnesium	24-2	3075645	3076493	3064330	3072156	0.22	cps
Manganese	55-2	1311798	1314020	1308547	1311455	0.21	cps
Molybdenum	94-1	43217	42499	44412	43376	2.23	cps
Molybdenum	95-1	3876	4293	3926	4031	5.65	cps
Molybdenum	96-1	10971	11897	11297	11388	4.12	cps
Molybdenum	97-1	2692	2542	2592	2609	2.93	cps
Molybdenum	98-1	6869	6118	6543	6510	5.78	cps
Nickel	60-2	27372	28060	28214	27882	1.61	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-07	Instrumnet Name :	P7
Client Sample ID :	MH4028	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:08:19	DataFile Name :	042SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	11647	11972	11163	11594	3.51	cps
Potassium	39-2	706206	705205	699138	703516	0.54	cps
Rhodium	103-2	1423609	1427128	1413832	1421523	0.48	cps
Rhodium	103-1	2974341	3020038	2922253	2972211	1.65	cps
Scandium	45-1	2070522	2108622	2079150	2086098	0.96	cps
Scandium	45-2	89994	87372	88653	88673	1.48	cps
Selenium	77-2	100	87	127	104	19.50	cps
Selenium	78-2	143	143	176	154	12.52	cps
Selenium	82-1	500	508	583	531	8.65	cps
Silicon	28-1	5455473	6023887	6198914	5892758	6.60	cps
Silver	109-1	9904	9829	9303	9679	3.38	cps
Silver	107-1	9745	10054	10529	10110	3.91	cps
Sodium	23-2	343118	338794	338126	340013	0.80	cps
Strontium	86-1	1938062	1941544	1920695	1933434	0.58	cps
Strontium	88-1	16508820	16597068	16412196	16506028	0.56	cps
Sulfur	34-1	419424	419362	416775	418520	0.36	cps
Terbium	159-1	4367190	4391697	4346904	4368597	0.51	cps
Terbium	159-2	2050422	2026629	2020660	2032570	0.77	cps
Thallium	203-1	4960	4684	5176	4940	4.99	cps
Thallium	205-1	11822	11722	11789	11778	0.43	cps
Tin	118-1	28079	27703	29223	28335	2.79	cps
Titanium	47-1	349716	357065	349886	352222	1.19	cps
Uranium	238-1	63205	64218	64218	63880	0.92	cps
Vanadium	51-2	77057	76219	75529	76268	1.00	cps
Yttrium	89-2	517921	521656	516031	518536	0.55	cps
Yttrium	89-1	3915457	4000303	3892654	3936138	1.44	cps
Zinc	66-2	149640	147953	149136	148910	0.58	cps
Zirconium	90-1	111902	112739	111331	111991	0.63	cps
Zirconium	91-1	24664	25517	24747	24976	1.88	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-07DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4028	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:11:18	DataFile Name :	043SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	445120	444519	434501	441380	1.35	cps
Antimony	121-1	11689	12389	12206	12095	3.00	cps
Arsenic	75-2	3036	2965	3287	3096	5.47	cps
Barium	135-1	328459	324612	328322	327131	0.67	cps
Barium	137-1	568453	557612	567032	564366	1.04	cps
Beryllium	9-1	561	611	422	532	18.41	cps
Bismuth	209-1	2763720	2839751	2770929	2791466	1.50	cps
Bismuth	209-2	1471234	1474904	1467577	1471238	0.25	cps
Boron	10-1	4951	4776	5184	4970	4.12	cps
Boron	11-1	21357	22083	22409	21950	2.45	cps
Cadmium	111-1	3514	3553	3725	3597	3.12	cps
Cadmium	106-1	1458	1442	1684	1528	8.83	cps
Cadmium	108-1	267	229	279	258	10.07	cps
Calcium	43-1	3487265	3441104	3413946	3447438	1.08	cps
Calcium	44-1	56338462	55953141	55783626	56025076	0.51	cps
Chromium	52-2	33308	32386	33548	33081	1.86	cps
Cobalt	59-2	27666	26985	26992	27214	1.44	cps
Copper	63-2	144767	145946	146275	145663	0.54	cps
Holmium	165-2	2051116	2078876	2032794	2054262	1.13	cps
Holmium	165-1	4256787	4252652	4210634	4240024	0.60	cps
Indium	115-1	3170502	3216195	3215717	3200805	0.82	cps
Indium	115-2	568690	570780	567567	569012	0.29	cps
Iron	56-2	25694878	25572439	25091164	25452827	1.25	cps
Iron	57-2	630116	628809	625440	628121	0.38	cps
Lead	206-1	1240333	1239822	1231759	1237305	0.39	cps
Lead	207-1	1042898	1037023	1038539	1039487	0.29	cps
Lead	208-1	4894434	4882667	4900261	4892454	0.18	cps
Lithium	6-1	289365	292361	290172	290633	0.53	cps
Magnesium	24-2	1587909	1595433	1587651	1590331	0.28	cps
Manganese	55-2	679683	676292	673811	676595	0.44	cps
Molybdenum	94-1	21977	21751	22827	22185	2.56	cps
Molybdenum	95-1	2000	2225	1975	2067	6.66	cps
Molybdenum	96-1	6093	6318	5410	5940	7.97	cps
Molybdenum	97-1	1425	1283	1125	1278	11.75	cps
Molybdenum	98-1	3617	3092	3734	3481	9.82	cps
Nickel	60-2	14948	15649	14838	15145	2.90	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-07DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4028	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:11:18	DataFile Name :	043SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	6543	5843	5601	5996	8.16	cps
Potassium	39-2	374629	374703	373207	374180	0.23	cps
Rhodium	103-2	1444682	1456321	1439555	1446853	0.59	cps
Rhodium	103-1	2962302	2980366	2977768	2973478	0.33	cps
Scandium	45-1	2075190	2061544	2023137	2053290	1.31	cps
Scandium	45-2	89753	88774	89023	89183	0.57	cps
Selenium	77-2	43	50	73	56	28.35	cps
Selenium	78-2	104	104	117	108	6.93	cps
Selenium	82-1	283	50	183	172	67.97	cps
Silicon	28-1	3027770	3416423	3415571	3286588	6.82	cps
Silver	109-1	4909	4901	4718	4843	2.24	cps
Silver	107-1	4909	5493	5151	5185	5.66	cps
Sodium	23-2	175878	181029	179498	178802	1.48	cps
Strontium	86-1	963374	958408	952542	958108	0.57	cps
Strontium	88-1	8349384	8342968	8265219	8319190	0.56	cps
Sulfur	34-1	369754	367625	367012	368130	0.39	cps
Terbium	159-1	4313334	4300061	4291238	4301545	0.26	cps
Terbium	159-2	2033484	2042697	2011496	2029226	0.79	cps
Thallium	203-1	2525	2559	2334	2473	4.91	cps
Thallium	205-1	5843	6218	5877	5979	3.47	cps
Tin	118-1	14733	15092	15359	15061	2.08	cps
Titanium	47-1	180238	183528	179792	181186	1.13	cps
Uranium	238-1	32609	31564	32100	32091	1.63	cps
Vanadium	51-2	38423	39429	38908	38920	1.29	cps
Yttrium	89-2	494292	493837	492963	493697	0.14	cps
Yttrium	89-1	3673282	3699400	3622003	3664895	1.07	cps
Zinc	66-2	78600	78074	78097	78257	0.38	cps
Zirconium	90-1	56956	57525	57169	57217	0.50	cps
Zirconium	91-1	12806	12815	12831	12817	0.10	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-08	Instrumnet Name :	P7
Client Sample ID :	MH4029	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:14:19	DataFile Name :	044SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	471124	473476	468501	471034	0.53	cps
Antimony	121-1	22227	21233	21275	21579	2.60	cps
Arsenic	75-2	3174	3073	3080	3109	1.83	cps
Barium	135-1	445305	446889	450802	447665	0.63	cps
Barium	137-1	766175	770523	768488	768395	0.28	cps
Beryllium	9-1	739	717	761	739	3.01	cps
Bismuth	209-1	2836744	2833063	2837727	2835844	0.09	cps
Bismuth	209-2	1447995	1448600	1448799	1448465	0.03	cps
Boron	10-1	9428	9470	10054	9651	3.62	cps
Boron	11-1	45753	46991	47776	46840	2.18	cps
Cadmium	111-1	4916	4670	4459	4682	4.88	cps
Cadmium	106-1	1684	1617	1542	1614	4.39	cps
Cadmium	108-1	346	375	404	375	7.78	cps
Calcium	43-1	3704934	3682228	3641183	3676115	0.88	cps
Calcium	44-1	60254472	59913060	59718845	59962126	0.45	cps
Chromium	52-2	47376	45968	46975	46773	1.55	cps
Cobalt	59-2	29069	29206	29183	29152	0.25	cps
Copper	63-2	269700	266876	264704	267093	0.94	cps
Holmium	165-2	1988211	2015774	2016241	2006742	0.80	cps
Holmium	165-1	4281085	4264536	4294825	4280149	0.35	cps
Indium	115-1	3182761	3167630	3200350	3183580	0.51	cps
Indium	115-2	558088	557410	551283	555593	0.67	cps
Iron	56-2	25437358	25398190	25529962	25455170	0.27	cps
Iron	57-2	630391	628309	627919	628873	0.21	cps
Lead	206-1	1489981	1511461	1489422	1496955	0.84	cps
Lead	207-1	1227892	1239614	1230156	1232554	0.50	cps
Lead	208-1	5818488	5867394	5844070	5843317	0.42	cps
Lithium	6-1	292175	295428	295736	294446	0.67	cps
Magnesium	24-2	2327425	2338117	2333793	2333112	0.23	cps
Manganese	55-2	713884	710986	709897	711589	0.29	cps
Molybdenum	94-1	25256	25808	26442	25835	2.30	cps
Molybdenum	95-1	6960	7444	7602	7336	4.56	cps
Molybdenum	96-1	11789	11880	11647	11772	1.00	cps
Molybdenum	97-1	4734	4709	4393	4612	4.13	cps
Molybdenum	98-1	11455	11680	11055	11397	2.78	cps
Nickel	60-2	18696	18428	18225	18450	1.28	cps

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Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-08	Instrumnet Name :	P7
Client Sample ID :	MH4029	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:14:19	DataFile Name :	044SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	9387	9295	8711	9131	4.01	cps
Potassium	39-2	502165	501177	493755	499032	0.92	cps
Rhodium	103-2	1426428	1411169	1407408	1415001	0.71	cps
Rhodium	103-1	2993066	3002811	2969112	2988330	0.58	cps
Scandium	45-1	2080019	2069091	2044917	2064676	0.87	cps
Scandium	45-2	87329	87286	85428	86681	1.25	cps
Selenium	77-2	40	53	47	47	14.28	cps
Selenium	78-2	89	106	113	102	12.03	cps
Selenium	82-1	417	383	225	342	29.97	cps
Silicon	28-1	16159365	7107051	7189023	10151813	51.25	cps
Silver	109-1	4676	4909	4951	4845	3.06	cps
Silver	107-1	4801	4718	5218	4912	5.46	cps
Sodium	23-2	363427	362425	360922	362258	0.35	cps
Strontium	86-1	1321422	1314854	1316812	1317696	0.26	cps
Strontium	88-1	11507614	11500377	11576464	11528151	0.36	cps
Sulfur	34-1	423843	426618	421724	424062	0.58	cps
Terbium	159-1	4336325	4366994	4357157	4353492	0.36	cps
Terbium	159-2	1972878	1983639	1988164	1981560	0.40	cps
Thallium	203-1	2409	2467	2400	2425	1.50	cps
Thallium	205-1	5918	5910	5885	5904	0.29	cps
Tin	118-1	19214	19815	19673	19567	1.60	cps
Titanium	47-1	209221	204329	207429	206993	1.20	cps
Uranium	238-1	52449	54925	54381	53919	2.41	cps
Vanadium	51-2	43166	43584	43284	43345	0.50	cps
Yttrium	89-2	493121	489416	484415	488984	0.89	cps
Yttrium	89-1	3721275	3763871	3779214	3754786	0.80	cps
Zinc	66-2	120378	120790	120347	120505	0.21	cps
Zirconium	90-1	59726	59173	61608	60169	2.12	cps
Zirconium	91-1	13649	13257	13874	13593	2.30	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-08DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4029	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:17:21	DataFile Name :	045SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	246889	243647	241579	244038	1.10	cps
Antimony	121-1	9804	10079	10296	10060	2.45	cps
Arsenic	75-2	1567	1452	1491	1503	3.89	cps
Barium	135-1	223341	222420	221283	222348	0.46	cps
Barium	137-1	385291	383057	381276	383208	0.52	cps
Beryllium	9-1	394	278	372	348	17.79	cps
Bismuth	209-1	2783169	2779511	2747574	2770084	0.71	cps
Bismuth	209-2	1453700	1444848	1446165	1448238	0.33	cps
Boron	10-1	5426	5243	5993	5554	7.04	cps
Boron	11-1	25155	26725	27217	26365	4.08	cps
Cadmium	111-1	2708	2576	2670	2651	2.56	cps
Cadmium	106-1	1225	1250	1233	1236	1.03	cps
Cadmium	108-1	167	183	175	175	4.76	cps
Calcium	43-1	1857958	1867221	1848814	1857998	0.50	cps
Calcium	44-1	30364774	30260388	29714636	30113266	1.16	cps
Chromium	52-2	24527	24814	24230	24524	1.19	cps
Cobalt	59-2	14924	15271	14861	15019	1.47	cps
Copper	63-2	138901	137619	139262	138594	0.62	cps
Holmium	165-2	2010068	1986052	2004081	2000067	0.63	cps
Holmium	165-1	4162889	4204941	4168803	4178878	0.54	cps
Indium	115-1	3152737	3166116	3140296	3153050	0.41	cps
Indium	115-2	559629	558269	560568	559488	0.21	cps
Iron	56-2	13091877	13028963	13099389	13073410	0.30	cps
Iron	57-2	323136	324700	323500	323779	0.25	cps
Lead	206-1	740388	738607	741116	740037	0.17	cps
Lead	207-1	608175	605190	610454	607940	0.43	cps
Lead	208-1	2847645	2870914	2856934	2858498	0.41	cps
Lithium	6-1	286098	287869	289795	287921	0.64	cps
Magnesium	24-2	1211429	1218157	1207970	1212519	0.43	cps
Manganese	55-2	362973	363287	366103	364121	0.47	cps
Molybdenum	94-1	12673	12965	12831	12823	1.14	cps
Molybdenum	95-1	3642	3392	3942	3659	7.53	cps
Molybdenum	96-1	5718	5876	5576	5724	2.62	cps
Molybdenum	97-1	2375	2359	2192	2309	4.39	cps
Molybdenum	98-1	6177	5726	5643	5849	4.91	cps
Nickel	60-2	9416	9580	9500	9499	0.86	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-08DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4029	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:17:21	DataFile Name :	045SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	4909	4501	4893	4768	4.85	cps
Potassium	39-2	266429	263939	262059	264142	0.83	cps
Rhodium	103-2	1436332	1428521	1433307	1432720	0.27	cps
Rhodium	103-1	3010104	2959179	2985668	2984984	0.85	cps
Scandium	45-1	2040369	2028095	2053290	2040585	0.62	cps
Scandium	45-2	86699	88171	87738	87536	0.86	cps
Selenium	77-2	10	20	13	14	35.26	cps
Selenium	78-2	106	63	96	88	25.38	cps
Selenium	82-1	75	358	150	194	75.50	cps
Silicon	28-1	3744270	3694341	3636375	3691662	1.46	cps
Silver	109-1	2259	2292	2517	2356	5.97	cps
Silver	107-1	2409	2700	2300	2470	8.38	cps
Sodium	23-2	195737	193641	192546	193974	0.84	cps
Strontium	86-1	662930	662193	656673	660599	0.52	cps
Strontium	88-1	5782702	5809025	5731727	5774485	0.68	cps
Sulfur	34-1	360849	366552	359613	362338	1.02	cps
Terbium	159-1	4254593	4266993	4257515	4259700	0.15	cps
Terbium	159-2	2005493	1956711	2012410	1991538	1.52	cps
Thallium	203-1	1167	1133	1342	1214	9.22	cps
Thallium	205-1	2925	3267	3059	3084	5.59	cps
Tin	118-1	9846	10529	10096	10157	3.41	cps
Titanium	47-1	104855	104578	104032	104488	0.40	cps
Uranium	238-1	26653	27229	26837	26907	1.09	cps
Vanadium	51-2	21890	21726	21983	21866	0.60	cps
Yttrium	89-2	477235	470616	475692	474514	0.73	cps
Yttrium	89-1	3539416	3503283	3562613	3535104	0.85	cps
Zinc	66-2	63437	62035	62480	62650	1.14	cps
Zirconium	90-1	30041	30291	30366	30233	0.56	cps
Zirconium	91-1	6485	7010	7152	6882	5.11	cps

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On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-09	Instrumnet Name :	P7
Client Sample ID :	MH4030	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:20:23	DataFile Name :	046SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	463797	465987	459015	462933	0.77	cps
Antimony	121-1	19965	20082	18504	19517	4.50	cps
Arsenic	75-2	2560	2621	2532	2571	1.77	cps
Barium	135-1	393937	400045	400536	398173	0.92	cps
Barium	137-1	677304	683463	687441	682736	0.75	cps
Beryllium	9-1	506	567	533	535	5.72	cps
Bismuth	209-1	2775119	2813437	2837525	2808694	1.12	cps
Bismuth	209-2	1467201	1444507	1446906	1452871	0.86	cps
Boron	10-1	8453	8211	8394	8353	1.51	cps
Boron	11-1	38166	41566	41240	40324	4.65	cps
Cadmium	111-1	4425	4664	4253	4447	4.64	cps
Cadmium	106-1	1342	1759	1467	1522	14.05	cps
Cadmium	108-1	354	413	350	372	9.39	cps
Calcium	43-1	3221257	3214429	3181404	3205696	0.66	cps
Calcium	44-1	53109769	52289870	52281730	52560456	0.91	cps
Chromium	52-2	50316	51162	50052	50510	1.15	cps
Cobalt	59-2	26481	26828	26451	26587	0.79	cps
Copper	63-2	292543	293672	293759	293325	0.23	cps
Holmium	165-2	2021335	2008085	2015932	2015118	0.33	cps
Holmium	165-1	4210722	4211220	4234169	4218704	0.32	cps
Indium	115-1	3124671	3155403	3160956	3147010	0.62	cps
Indium	115-2	562988	556461	554368	557939	0.81	cps
Iron	56-2	24827562	24849421	24795705	24824229	0.11	cps
Iron	57-2	615631	613277	614746	614551	0.19	cps
Lead	206-1	1452149	1467220	1473481	1464283	0.75	cps
Lead	207-1	1195896	1205407	1211748	1204351	0.66	cps
Lead	208-1	5697553	5710762	5785497	5731271	0.83	cps
Lithium	6-1	289984	290094	290326	290134	0.06	cps
Magnesium	24-2	2208526	2187545	2160310	2185460	1.11	cps
Manganese	55-2	553595	557615	553501	554904	0.42	cps
Molybdenum	94-1	25883	27562	26351	26598	3.26	cps
Molybdenum	95-1	7752	7627	8111	7830	3.21	cps
Molybdenum	96-1	12056	11730	11822	11869	1.41	cps
Molybdenum	97-1	4826	4776	4593	4732	2.60	cps
Molybdenum	98-1	12706	13048	12798	12851	1.38	cps
Nickel	60-2	18035	17761	17624	17807	1.17	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-09	Instrumnet Name :	P7
Client Sample ID :	MH4030	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:20:23	DataFile Name :	046SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	8970	9178	8586	8911	3.37	cps
Potassium	39-2	454571	450895	452094	452520	0.41	cps
Rhodium	103-2	1431398	1418998	1406778	1419058	0.87	cps
Rhodium	103-1	2907426	2932700	2926989	2922371	0.45	cps
Scandium	45-1	2011059	2045641	2023691	2026797	0.86	cps
Scandium	45-2	87094	86494	84717	86102	1.44	cps
Selenium	77-2	57	47	83	62	30.46	cps
Selenium	78-2	122	106	111	113	7.51	cps
Selenium	82-1	292	233	358	294	21.24	cps
Silicon	28-1	6864864	6826355	7149848	6947022	2.54	cps
Silver	109-1	4376	4651	4768	4598	4.38	cps
Silver	107-1	4568	4784	4926	4759	3.79	cps
Sodium	23-2	368746	368828	367379	368318	0.22	cps
Strontium	86-1	1116333	1129473	1124255	1123354	0.59	cps
Strontium	88-1	9755557	9875752	9700989	9777433	0.91	cps
Sulfur	34-1	438854	436812	440459	438708	0.42	cps
Terbium	159-1	4248888	4315876	4293278	4286014	0.80	cps
Terbium	159-2	1997298	1985758	2005168	1996075	0.49	cps
Thallium	203-1	2209	2009	2434	2217	9.59	cps
Thallium	205-1	5927	5877	5601	5802	3.02	cps
Tin	118-1	19740	18221	18538	18833	4.25	cps
Titanium	47-1	221370	221660	221082	221371	0.13	cps
Uranium	238-1	107710	106645	106426	106927	0.64	cps
Vanadium	51-2	45009	44584	44537	44710	0.58	cps
Yttrium	89-2	494322	485999	482877	487733	1.21	cps
Yttrium	89-1	3600888	3637425	3667401	3635238	0.92	cps
Zinc	66-2	123654	125168	125843	124888	0.90	cps
Zirconium	90-1	56381	57617	58203	57400	1.62	cps
Zirconium	91-1	14249	12639	12981	13290	6.38	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-09DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4030	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:23:25	DataFile Name :	047SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	242275	241570	235772	239872	1.49	cps
Antimony	121-1	9470	9012	9454	9312	2.79	cps
Arsenic	75-2	1352	1346	1402	1367	2.24	cps
Barium	135-1	202807	199852	203611	202090	0.98	cps
Barium	137-1	345097	345220	345561	345293	0.07	cps
Beryllium	9-1	322	289	356	322	10.34	cps
Bismuth	209-1	2708830	2717424	2720679	2715644	0.23	cps
Bismuth	209-2	1438311	1438205	1427073	1434530	0.45	cps
Boron	10-1	4543	4659	4843	4681	3.23	cps
Boron	11-1	22058	22234	23293	22529	2.97	cps
Cadmium	111-1	2385	2584	2774	2581	7.54	cps
Cadmium	106-1	1192	1167	1308	1222	6.19	cps
Cadmium	108-1	142	196	125	154	24.02	cps
Calcium	43-1	1636959	1641241	1639567	1639256	0.13	cps
Calcium	44-1	26782889	26714281	26990540	26829237	0.54	cps
Chromium	52-2	27309	27322	26704	27112	1.30	cps
Cobalt	59-2	14150	14020	13543	13905	2.30	cps
Copper	63-2	154842	155792	152724	154452	1.02	cps
Holmium	165-2	1965377	1978018	1966487	1969960	0.36	cps
Holmium	165-1	4047082	4089233	4120164	4085493	0.90	cps
Indium	115-1	3118169	3093732	3125671	3112524	0.54	cps
Indium	115-2	555453	555014	551216	553894	0.42	cps
Iron	56-2	13340811	13198014	13453521	13330782	0.96	cps
Iron	57-2	332667	330794	330856	331439	0.32	cps
Lead	206-1	736660	735205	736915	736260	0.13	cps
Lead	207-1	613995	608769	605917	609560	0.67	cps
Lead	208-1	2852758	2853186	2848295	2851413	0.09	cps
Lithium	6-1	278297	280181	281546	280008	0.58	cps
Magnesium	24-2	1129707	1119570	1110503	1119927	0.86	cps
Manganese	55-2	287014	286605	284912	286177	0.39	cps
Molybdenum	94-1	13215	14186	13323	13575	3.92	cps
Molybdenum	95-1	4201	4568	4184	4318	5.02	cps
Molybdenum	96-1	6410	6210	6468	6363	2.13	cps
Molybdenum	97-1	2634	2384	2550	2523	5.05	cps
Molybdenum	98-1	6794	6510	6869	6724	2.81	cps
Nickel	60-2	9780	9303	9763	9616	2.82	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	H2837-09DLX2	Instrumnet Name :	P7
Client Sample ID :	MH4030	Dilution Factor :	2
Date & Time Acquired ::	2016-05-06 16:23:25	DataFile Name :	047SMPL.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	4743	4534	4951	4743	4.39	cps
Potassium	39-2	245016	240113	240931	242020	1.09	cps
Rhodium	103-2	1410825	1417437	1411062	1413108	0.27	cps
Rhodium	103-1	2884163	2933266	2923688	2913706	0.89	cps
Scandium	45-1	1997013	1975710	1989850	1987524	0.55	cps
Scandium	45-2	86793	87188	85589	86523	0.96	cps
Selenium	77-2	53	13	20	29	74.19	cps
Selenium	78-2	67	96	81	81	18.18	cps
Selenium	82-1	17	158	367	181	97.50	cps
Silicon	28-1	3562679	3582225	3688373	3611092	1.87	cps
Silver	109-1	2225	2542	2342	2370	6.76	cps
Silver	107-1	2242	2509	2225	2325	6.84	cps
Sodium	23-2	198098	195921	193761	195927	1.11	cps
Strontium	86-1	566306	570949	568770	568675	0.41	cps
Strontium	88-1	5002288	5013978	5061980	5026082	0.63	cps
Sulfur	34-1	369132	369927	366253	368437	0.52	cps
Terbium	159-1	4197890	4143260	4211229	4184126	0.86	cps
Terbium	159-2	1983448	1972240	1959033	1971573	0.62	cps
Thallium	203-1	1192	1350	1217	1253	6.79	cps
Thallium	205-1	2950	2934	3159	3014	4.16	cps
Tin	118-1	10521	10379	10187	10363	1.62	cps
Titanium	47-1	113588	112846	113182	113205	0.33	cps
Uranium	238-1	52491	53444	54189	53374	1.59	cps
Vanadium	51-2	23098	22978	22721	22932	0.84	cps
Yttrium	89-2	469475	469691	468754	469307	0.10	cps
Yttrium	89-1	3429705	3447387	3529007	3468700	1.53	cps
Zinc	66-2	65235	64003	63491	64243	1.40	cps
Zirconium	90-1	29532	29281	30200	29671	1.60	cps
Zirconium	91-1	7629	6510	6852	6997	8.20	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCV082	Instrumnet Name :	P7
Client Sample ID :	CCV082	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:26:27	DataFile Name :	048CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	1097524	1087135	1081967	1088875	0.73	cps
Antimony	121-1	5827602	5786515	5773502	5795873	0.49	cps
Arsenic	75-2	189655	190608	191943	190736	0.60	cps
Barium	135-1	7129493	7187218	7121368	7146026	0.50	cps
Barium	137-1	12086213	12204464	12057697	12116125	0.64	cps
Beryllium	9-1	735111	735447	746916	739158	0.91	cps
Bismuth	209-1	2609006	2618357	2611847	2613070	0.18	cps
Bismuth	209-2	1387013	1385654	1387690	1386785	0.07	cps
Boron	10-1	95794	98192	100583	98190	2.44	cps
Boron	11-1	469094	475760	488587	477814	2.07	cps
Cadmium	111-1	1359274	1367380	1353517	1360057	0.51	cps
Cadmium	106-1	146633	149255	145089	146993	1.43	cps
Cadmium	108-1	98363	99911	96929	98401	1.52	cps
Calcium	43-1	1746753	1729927	1717533	1731404	0.85	cps
Calcium	44-1	28083551	27941223	28062113	28028962	0.27	cps
Chromium	52-2	1902787	1890326	1861396	1884836	1.13	cps
Cobalt	59-2	3058354	3040302	3067256	3055304	0.45	cps
Copper	63-2	4502035	4436644	4451251	4463310	0.77	cps
Holmium	165-2	1974353	1961265	1946874	1960831	0.70	cps
Holmium	165-1	4029428	3988703	4016229	4011453	0.52	cps
Indium	115-1	2902017	2953151	2902995	2919388	1.00	cps
Indium	115-2	526178	519149	525372	523567	0.73	cps
Iron	56-2	74675196	74257424	74378129	74436916	0.29	cps
Iron	57-2	1894007	1865114	1903253	1887458	1.05	cps
Lead	206-1	4860446	4888916	4875744	4875035	0.29	cps
Lead	207-1	4231137	4216618	4242648	4230135	0.31	cps
Lead	208-1	19353993	19262518	19444928	19353813	0.47	cps
Lithium	6-1	268463	269078	269438	268993	0.18	cps
Magnesium	24-2	12833107	12778402	12627458	12746322	0.84	cps
Manganese	55-2	1981985	1989329	1959522	1976945	0.79	cps
Molybdenum	94-1	5403661	5485551	5465967	5451726	0.78	cps
Molybdenum	95-1	2924095	2963599	2953723	2947139	0.70	cps
Molybdenum	96-1	3760200	3768092	3777795	3768696	0.23	cps
Molybdenum	97-1	1852732	1860963	1869242	1860979	0.44	cps
Molybdenum	98-1	4766515	4846417	4749008	4787313	1.08	cps
Nickel	60-2	798822	797917	802483	799741	0.30	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCV082	Instrumnet Name :	P7
Client Sample ID :	CCV082	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:26:27	DataFile Name :	048CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	52335	53070	52920	52775	0.74	cps
Potassium	39-2	5992814	6049267	5979048	6007043	0.62	cps
Rhodium	103-2	1373746	1358060	1378964	1370257	0.79	cps
Rhodium	103-1	2774160	2795871	2828921	2799651	0.98	cps
Scandium	45-1	2021868	1999441	2012643	2011318	0.56	cps
Scandium	45-2	88573	88784	88087	88481	0.40	cps
Selenium	77-2	3797	3711	3704	3737	1.39	cps
Selenium	78-2	12826	12622	12887	12779	1.09	cps
Selenium	82-1	91441	88834	88768	89681	1.70	cps
Silicon	28-1	3306301	3277710	3323636	3302549	0.70	cps
Silver	109-1	6551664	6640135	6666921	6619573	0.91	cps
Silver	107-1	6786494	6874033	6799052	6819860	0.69	cps
Sodium	23-2	24239196	24176296	24218448	24211313	0.13	cps
Strontium	86-1	1903247	1881392	1914666	1899768	0.89	cps
Strontium	88-1	16143430	16144150	16276757	16188112	0.47	cps
Sulfur	34-1	824701	813719	808095	815505	1.04	cps
Terbium	159-1	4091127	4116146	4105611	4104295	0.31	cps
Terbium	159-2	1928518	1947442	1917185	1931048	0.79	cps
Thallium	203-1	5804997	5895331	5851034	5850454	0.77	cps
Thallium	205-1	13860850	14048120	14015424	13974798	0.72	cps
Tin	118-1	4833156	4835817	4776876	4815283	0.69	cps
Titanium	47-1	830296	837147	831667	833037	0.44	cps
Uranium	238-1	20574651	20857202	20860718	20764190	0.79	cps
Vanadium	51-2	1552523	1559750	1531627	1547967	0.94	cps
Yttrium	89-2	450424	448408	451055	449963	0.31	cps
Yttrium	89-1	3271518	3290581	3314252	3292117	0.65	cps
Zinc	66-2	569892	566433	569375	568567	0.33	cps
Zirconium	90-1	9846350	10090449	10012623	9983141	1.25	cps
Zirconium	91-1	2260718	2307672	2243112	2270501	1.47	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCB082	Instrumnet Name :	P7
Client Sample ID :	CCB082	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:29:18	DataFile Name :	049CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-2	200	158	108	156	29.51	cps
Antimony	121-1	3501	3692	3651	3615	2.79	cps
Arsenic	75-2	22	24	17	21	18.35	cps
Barium	135-1	508	508	408	475	12.16	cps
Barium	137-1	958	567	825	783	25.42	cps
Beryllium	9-1	111	150	94	119	24.05	cps
Bismuth	209-1	2664570	2700733	2628099	2664468	1.36	cps
Bismuth	209-2	1421528	1415423	1422344	1419765	0.27	cps
Boron	10-1	3601	3317	3492	3470	4.12	cps
Boron	11-1	19188	17260	16418	17622	8.06	cps
Cadmium	111-1	698	770	621	697	10.71	cps
Cadmium	106-1	833	917	725	825	11.65	cps
Cadmium	108-1	8	13	4	8	49.98	cps
Calcium	43-1	492	658	358	503	29.90	cps
Calcium	44-1	14124	13490	13690	13768	2.35	cps
Chromium	52-2	1097	1177	1217	1163	5.25	cps
Cobalt	59-2	187	207	210	201	6.28	cps
Copper	63-2	1567	1597	1657	1607	2.85	cps
Holmium	165-2	1943640	1952026	1938059	1944575	0.36	cps
Holmium	165-1	3963244	3989057	4007109	3986470	0.55	cps
Indium	115-1	3025992	3028628	3091509	3048710	1.22	cps
Indium	115-2	553569	549620	554575	552588	0.47	cps
Iron	56-2	7802	8008	7585	7799	2.71	cps
Iron	57-2	194	144	233	191	23.36	cps
Lead	206-1	1067	1189	1383	1213	13.17	cps
Lead	207-1	1033	1206	1122	1120	7.69	cps
Lead	208-1	4384	4789	5045	4739	7.04	cps
Lithium	6-1	266052	269059	267498	267537	0.56	cps
Magnesium	24-2	1092	842	975	970	12.90	cps
Manganese	55-2	187	230	163	193	17.50	cps
Molybdenum	94-1	808	800	675	761	9.81	cps
Molybdenum	95-1	408	417	400	408	2.04	cps
Molybdenum	96-1	658	550	558	589	10.24	cps
Molybdenum	97-1	292	300	258	283	7.78	cps
Molybdenum	98-1	900	800	750	817	9.35	cps
Nickel	60-2	67	100	90	86	19.99	cps

Reviewed By:jaswal
On:5/11/2016 11:57:08 AM
Inst Id :P7

LB Number :	LB81457	Operator :	Jaswal
Lab Sample ID :	CCB082	Instrumnet Name :	P7
Client Sample ID :	CCB082	Dilution Factor :	1
Date & Time Acquired ::	2016-05-06 16:29:18	DataFile Name :	049CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Phosphorus	31-2	50	133	117	100	44.10	cps
Potassium	39-2	20031	19580	19714	19775	1.17	cps
Rhodium	103-2	1413181	1414016	1405501	1410899	0.33	cps
Rhodium	103-1	2858743	2849857	2856039	2854879	0.16	cps
Scandium	45-1	1933198	1927202	1946511	1935637	0.51	cps
Scandium	45-2	86652	85974	85753	86126	0.54	cps
Selenium	77-2	3	0	0	1	173.21	cps
Selenium	78-2	67	48	48	54	19.68	cps
Selenium	82-1	42	0	-33	3	1355.29	cps
Silicon	28-1	187124	185782	186301	186402	0.36	cps
Silver	109-1	642	667	600	636	5.30	cps
Silver	107-1	725	575	633	644	11.73	cps
Sodium	23-2	14099	14099	13465	13888	2.64	cps
Strontium	86-1	758	600	667	675	11.78	cps
Strontium	88-1	1575	1217	1092	1295	19.38	cps
Sulfur	34-1	279865	285498	285429	283597	1.14	cps
Terbium	159-1	4036802	4063828	4139835	4080155	1.31	cps
Terbium	159-2	1952819	1925508	1932918	1937082	0.73	cps
Thallium	203-1	750	808	758	772	4.08	cps
Thallium	205-1	2067	1900	1734	1900	8.77	cps
Tin	118-1	1734	1692	1800	1742	3.14	cps
Titanium	47-1	117	108	92	106	12.06	cps
Uranium	238-1	1592	1342	1258	1397	12.42	cps
Vanadium	51-2	57	110	77	81	33.21	cps
Yttrium	89-2	448481	444929	441906	445105	0.74	cps
Yttrium	89-1	3230520	3252129	3282342	3254997	0.80	cps
Zinc	66-2	173	160	157	163	5.40	cps
Zirconium	90-1	1425	1225	1367	1339	7.68	cps
Zirconium	91-1	342	342	292	325	8.88	cps

Sop ID:- MUM02-2 Metal ICP MS

MUM02-2 MS 2.5g

CHEMTECH

ICP MS
Soil/Sludge Preparation Sheet

PB90341

H2837

Balance ID:- M-JC-2

PrepBatch ID : PB90341

Batch# PB90341

SDG No : _____

ICP Digest Date: 05/06/16 Time : 9:00

Matrix : Solid

Sample Received By : [signature]

Final Volume : 50.0 ML

Acceptance Range: +/- 1% N/A

Balance Calibration Check(1.00)g 1.000g 1.000g

Dig Technician Signature: PB

Method : MUM02-2 MS

Supervisor Signature: [signature]

Hot Plate Temp : 1. (2.) 95°C 3.

Prep Code: CRI PB05/06/16

End time for hot Block 9:30

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	1.00ml	MP 33630
Spike Sol. B	1.00ml	MP 33631
		PB 05/06/16

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	4.00ml	MP 33482
1.4 HCL SOLN	10.0ml	MP 32323
PTFE Boiling Stones	—	M3584
		PB 05/06/16

Date / Time	Received By	Relinquished By	Location
05/06/16 10:00	[signature]	PB	ICPLab
	Analysis Group	Digestion Group	

CHEMTECH Soil/Sludge Sample Preparation Workshee PrepBatch ID : PB90341

Lab Sample	Client Sample ID	Weight	Color Before	Color After	Texture	Artifact	Comments	Prep Pos
H2837-04	MH4025	1.40	BR	Y	M	No	7	
H2837-05	MH4025D	1.34	BR	Y	M	No	7	
H2837-06	MH4025S	1.40	BR	Y	M	No	MP33631	
H2837-07	MH4028	1.42	BR	Y	M	No	7	
H2837-08	MH4029	1.44	BR	Y	M	No	7	
H2837-09	MH4030	1.35	BR	Y	M	No	7	
PB90341BL	~~PBS01~~ PBJ008	1.03	C	C	F	No	—	
PB90341BS	~~LCS01~~ LCS008	1.02	C	C	F	No	MP33630	

PB 05/06/16

* BL=Blank BS=Blank Spike TB=TCLP Blank
* COLOR: R=Red BU=Blue Y=Yellow GR=Green O=Orange V=Violet W=White C=Colorless BR=Brown GY=Grey BL=Black
* CLARITY: CL=Clear CD=Cloudy O=Opaque
* TEXTURE: F=Fine M=Medium C=Coarse

CHEMTECH Soil/Sludge Sample Preparation Workshee PrepBatch ID : PB90341

Lab Sample ID	Client Sample ID	Weight	Color Before	Color After	Texture	Artifact	Comments	Prep Pos
H2837-04	MH4025	1.40	Brown	Yellow	Medium	No		
H2837-05	MH4025D	1.39	Brown	Yellow	Medium	No		
H2837-06	MH4025S	1.40	Brown	Yellow	Medium	No		
H2837-07	MH4028	1.42	Brown	Yellow	Medium	No		
H2837-08	MH4029	1.44	Brown	Yellow	Medium	No		
H2837-09	MH4030	1.35	Brown	Yellow	Medium	No		
PB903418L	~~PBS01~~ PBS008	1.03	Colorless	Colorless	Fine	No		
PB90341BS	~~LCS01~~ LCS008	1.02	Colorless	Colorless	Fine	No		

PB 05/06/16

* BL=Blank BS=Blank Spike TB=TCLP Blank
* COLOR: R=Red BU=Blue Y=Yellow GR=Green O=Orange V=Violet W=White C=Colorless BR=Brown GY=Grey BL=Black
* CLARITY: CL=Clear CD=Cloudy O=Opaque
* TEXTURE: F=Fine M=Medium C=Coarse

SOP ID:- MIJM02-2 Metal ICP MJ

ICP MJ

CHEMTECH

Water Sample Preparation Sheet

PB90375

IJM02-2 MJ
200.8

H2837

PrepBatch ID :	**PB90375**	**Batch#**	**PB90375**
SDG No :		**ICP Digest Date:**	05/06/16 **Time :** 9:00
Matrix :	Water	**Sample Received By :**	
Method :	MIJM02-2 MJ	**Dig Technician Signature:**	PB
Initial Volume :	50 ML	**Supervisor Signature:**	
Final Volume :	50 ML	**Prep Code:**	~~CWI~~ PB 05/06/16
Hot Plate Temp :	(1) 95°C 2. 3.		

End time for Hot Block 11:00

Standared Name	MLS USED	STD REF. # FROM LOG
LCSW	0.50ml	MP 33629
Spike Sol. B	0.50ml	MP 33631
		PB 05/06/16

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	1.00ml	MP 33482
1:1 HCL	0.50ml	MP 33483
PH STRIPS BOX-0,2,5	—	M 3584
		PB 05/06/16

Date / Time	Received By	Relinquished By	Location
05/06/16		PB	ICP Lab
	Analysis Group	**Digestion Group**	
	JS		

CHEMTECH **Water Sample Preparation Sheet** **PrepBatch ID :** **PB90375**

Lab Sample ID	Customer Sample Number	Color Before	Color After	Clarity Before	Clarity After	PH	Comments	Prep Pos
H2837-01	MH4002	C	C	C	C	4		
H2837-02	MH4002D	C	C	C	C	4		
H2837-03	MH4002S	C	C	C	C	4	MP33631	
H2837-10	MH4113	C	V	C	C	4		
H2837-11	MH4116	C	C	C	C	4		
H2837-12	MH4202	C	C	C	C	4		
H2837-13	MH4211	C	C	C	C	4		
H2837-14	MH4217	C	C	C	C	4		
H2837-15	MH4218	C	C	C	C	4		
H2837-16	MH4113D	C	C	C	C	4		
H2837-17	MH4113S	C	C	C	C	4	MP 33631	
PB90375BL	~~PBW01~~ PBW007	C	C	C	C	4	—	
PB90375BS	~~LCS01~~ LCS002	C	C	C	C	4	MP 33629	

PB 051 of 116

* BL=Blank BS=Blank Spike TB=TCLP Blank
* COLOR: R=Red BU=Blue Y=Yellow GR=Green O=Orange V=Violet W=White C=Colorless BR=Brown GY=Grey BL=Black

CHEMTECH **Water Sample Preparation Sheet** **PrepBatch ID :** **PB90375**

Lab Sample	Customer Sample Number	Color Before	Color After	Clarity Before	Clarity After	PH	Comments	Prep Pos
H2837-01	MH4002	Colorless	Colorless	Clear	Clear	<2		
H2837-02	MH4002D	Colorless	Colorless	Clear	Clear	<2		
H2837-03	MH4002S	Colorless	Colorless	Clear	Clear	<2		
H2837-10	MH4113	Colorless	Colorless	Clear	Clear	<2		
H2837-11	MH4116	Colorless	Colorless	Clear	Clear	<2		
H2837-12	MH4202	Colorless	Colorless	Clear	Clear	<2		
H2837-13	MH4211	Colorless	Colorless	Clear	Clear	<2		
H2837-14	MH4217	Colorless	Colorless	Clear	Clear	<2		
H2837-15	MH4218	Colorless	Colorless	Clear	Clear	<2		
H2837-16	MH4113D	Colorless	Colorless	Clear	Clear	<2		
H2837-17	MH4113S	Colorless	Colorless	Clear	Clear	<2		
PB90375BL	~~PBW01~~ PBW002	Colorless	Colorless	Clear	Clear	<2		
PB90375BS	~~LCS01~~ LCS007	Colorless	Colorless	Clear	Clear	<2		

PB 05/06/16

* BL=Blank BS=Blank Spike TB=TCLP Blank
* COLOR: R=Red BU=Blue Y=Yellow GR=Green O=Orange V=Violet W=White C=Colorless BR=Brown GY=Grey BL=Black

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Prep Standard - Chemical Standard Summary

Order ID : H2837

Test : Metals CLP MS

Prepbatch ID : PB90375,PB90341,

Sequence ID/Qc Batch ID: LB81457,

Standard ID :
MP33602,MP33607,MP33612,MP33613,MP33614,MP33615,MP33616,MP33617,MP33618,MP33619,MP33620,MP33621,
MP33622,MP33623,MP33624,MP33626,MP33627,MP33628,MP33669,

Chemical ID :
M3045,M3295,M3297,M3298,M3304,M3305,M3306,M3307,M3316,M3321,M3322,M3323,M3325,M3326,M3327,M3328,M3
329,M3333,M3385,M3411,M3416,M3432,M3433,M3444,M3445,M3446,M3468,M3471,M3473,M3478,M3479,M3481,M3482,
M3495,M3498,M3502,M3523,M3532,M3535,M3541,m3562,m3584,M3585,M3588,M3590,mp32323,mp33482,mp33483,mp3
3629,mp33630,mp33631,W1152,

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP33602	05/06/2016	05/20/2016	jaswal

FROM 12.500ml of M3588 + 2462.500ml of W1152 + 25.000ml of M3590 = Final Quantity: 2500.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3349	S7 ICPMS	MP33607	05/06/2016	08/30/2016	jaswal

FROM 0.500ml of M3045 + 0.500ml of M3295 + 0.500ml of M3298 + 0.500ml of M3304 + 0.500ml of M3333 + 0.500ml of M3468 + 0.500ml of M3478 + 0.500ml of M3535 + 0.950ml of M3432 + 1.000ml of M3444 + 1.000ml of M3445 + 2.000ml of M3585 + 2.450ml of M3297 + 2.450ml of M3532 + 2.500ml of M3588 + 25.000ml of M3495 + 4.950ml of M3473 + 4.950ml of M3481 + 4.950ml of M3482 + 438.800ml of W 1152 + 5.000ml of M3590 = Final Quantity: 500.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3350	S6 ICPMS	MP33612	05/06/2016	05/20/2016	jaswal

FROM 50.000ml of MP33602 + 50.000ml of MP33607 = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3351	S5 ICPMS	MP33613	05/06/2016	05/20/2016	jaswal

FROM 25.000ml of MP33607 + 75.000ml of MP33602 = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1145	S4 ICPMS	MP33614	05/06/2016	05/20/2016	jaswal

FROM 12.500ml of MP33607 + 87.500ml of MP33602 = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1146	S3 ICPMS	MP33615	05/06/2016	05/20/2016	jaswal

FROM 10.000ml of MP33612 + 90.000ml of MP33602 = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1120	ICPMS ISM01.2 S1(CONC.)	MP33616	05/06/2016	05/20/2016	jaswal

FROM 0.050ml of M3295 + 0.050ml of M3298 + 0.050ml of M3304 + 0.050ml of M3305 + 0.050ml of M3306 + 0.050ml of M3316 + 0.050ml of M3321 + 0.050ml of M3322 + 0.050ml of M3325 + 0.050ml of M3327 + 0.050ml of M3328 + 0.050ml of M3333 + 0.050ml of M3535 + 0.100ml of M3045 + 0.100ml of M3385 + 0.100ml of M3432 + 0.100ml of M3468 + 0.100ml of M3471 + 0.250ml of M3307 + 0.250ml of M3323 + 0.250ml of M3326 + 0.250ml of M3329 + 0.250ml of M3478 + 0.250ml of M3532 + 0.500ml of M3585 + 2.500ml of M3297 + 2.500ml of M3473 + 2.500ml of M3481 + 2.500ml of M3482 + 236.850ml of MP33602 = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1147	S2 ICPMS	MP33617	05/06/2016	05/20/2016	jaswal

FROM 0.500ml of MP33616 + 99.500ml of MP33602 = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1148	S1 ICPMS	MP33618	05/06/2016	05/20/2016	jaswal

FROM 10.000ml of MP33617 + 90.000ml of MP33602 = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2902	S8 ICPMS	MP33619	05/06/2016	05/20/2016	jaswal

FROM 1.000ml of M3432 + 2.500ml of M3297 + 2.500ml of M3532 + 5.000ml of M3473 + 5.000ml of M3481 + 5.000ml of M3482 + 79.000ml of MP33602 = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3130	100ppm ICV SOL.	MP33620	05/06/2016	05/20/2016	jaswal

FROM 0.250ml of M3446 + 0.250ml of M3498 + 2.500ml of M3479 + 21.500ml of MP33602 = Final Quantity: 25.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1575	ICV ISM01.2 MS	MP33621	05/06/2016	05/20/2016	jaswal

FROM 2.000ml of M3523 + 0.500ml of MP33620 + 97.500ml of MP33602 = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1430	CCV ICPMS ISM01.2	MP33622	05/06/2016	05/20/2016	jaswal

FROM 0.250ml of M3045 + 0.250ml of M3295 + 0.250ml of M3298 + 0.250ml of M3304 + 0.250ml of M3333 + 0.250ml of M3468 + 0.250ml of M3478 + 0.250ml of M3535 + 0.475ml of M3432 + 0.500ml of M3444 + 0.500ml of M3445 + 1.000ml of M3585 + 1.225ml of M3297 + 1.225ml of M3532 + 12.500ml of M3495 + 2.475ml of M3473 + 2.475ml of M3481 + 2.475ml of M3482 + 470.900ml of MP33602 = Final Quantity: 500.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1142	ICSA ICPMS	MP33623	05/06/2016	05/20/2016	jaswal

FROM 10.000ml of M3411 + 90.000ml of MP33602 = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1143	ICSAB ICPMS	MP33624	05/06/2016	05/20/2016	jaswal

FROM 10.000ml of M3411 + 10.000ml of M3416 + 80.000ml of MP33602 = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1135	MG 10PPM ILM05.4 FOR TUNE	MP33626	05/06/2016	05/20/2016	jaswal

FROM 0.100ml of M3481 + 99.900ml of MP33602 = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1174	TUNE SOL 10PPB ICPMS	MP33627	05/06/2016	05/20/2016	jaswal

FROM 0.100ml of M3541 + 0.100ml of MP33626 + 99.800ml of MP33602 = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3323	Startup configuration Sol.	MP33628	05/06/2016	05/20/2016	jaswal

FROM 0.200ml of M3433 + 99.800ml of MP33602 = Final Quantity: 200.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
857	ICPMS INT. STANDARD	MP33669	05/06/2016	05/20/2016	jaswal

FROM 10.000ml of M3590 + 440.000ml of W1152 + 50.000ml of M3502 = Final Quantity: 250.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	083013	08/30/2016	09/02/2014 / BIN	09/25/2013 / jaswal	M3045

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSR1-1 / Strontium, 125 ml, 1000 PPM	G2-SR02040	11/13/2016	01/30/2015 / BIN	01/19/2015 / BIN	M3295

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGK10-5 / Potassium, 500 ml, 10000 PPM	G2-K03042	01/06/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3297

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGTH1-1 / Thorium 1000 ug/ml	H2-TH01094R	12/15/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3298

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGZR1-1 / Zirconium, 1000 PPM, 125 ml	H2-ZR01095R	12/16/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3304

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGNI1-1 / NICKEL 125mL 1000ug/mL	H2-NI02086R	12/03/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3305

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGCO1-1 / COBALT 125mL 1000ug/mL	H2-CO02063	10/27/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3306

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSI1-1 / SILICON 125mL 1000ug/mL	G2-SI03029	01/24/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3307

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGTL1-1 / THALLIUM 125mL 1000ug/mL	H2-TL02003R	11/20/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3316

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGAS1-1 / ARSENIC 125mL 1000ug/mL	H2-AS02102R	12/11/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3321

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGCD1-1 / CADMIUM, 125mL 1000ug/mL	H2-CD02055	03/31/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3322

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGV1-1 / VANADIUM 125mL 1000ug/mL	H2-V02090	05/09/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3323

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGBE1-1 / BERYLLIUM 125mL 1000ug/mL	H2-BE02021R	11/20/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3325

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGB1-1 / BORON 125mL 1000ug/mL	G2-B02117	11/14/2016	01/30/2015 / BIN	01/19/2015 / BIN	M3326

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGPB1-1 / LEAD 125mL 1000ug/mL	H2-PB03044R	12/04/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3327

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGAG1-1 / SILVER 125mL 1000ug/mL	H2-AG03035R	12/03/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3328

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSE(4)1-1 / SELENIUM 125mL 1000ug/mL	H2-SE02049	03/31/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3329

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGU1-1 / Uranium 1000 ug/ml	H2-U01102R	11/20/2017	01/30/2015 / BIN	01/19/2015 / BIN	M3333

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSBF1-1 / Antimony, Sb, 125 ml	H2-SB03028	02/24/2017	03/30/2015 / BIN	03/27/2015 / BIN	M3385

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICPMS) STOCK SOLN	ICSA-0803	08/18/2016	02/18/2016 / jaswal	03/20/2015 / jaswal	M3411

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	/ ICSB (ICPMS) STOCK SOLUTION	ICSB-0803	08/18/2016	02/18/2016 / jaswal	03/20/2015 / jaswal	M3416

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Aluminum (Al) 10,000PPM	122214	12/22/2017	02/15/2016 / BIN	06/05/2015 / BIN	M3432

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Thermo Fisher Scientific	1600636 / Tune D25 Cross Cal Solution, 10 PPM	CM-0740	03/31/2017	06/08/2015 / jaswal	06/05/2015 / BIN	M3433

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGP10-1 / Phosphorus, 125 ml, 10000 ug/ml	G2-P02050	09/09/2016	06/25/2015 / BIN	06/18/2015 / BIN	M3444

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGS10-1 / SULFUR 125mL 10,000ug/mL	G2-S02014	11/04/2016	06/25/2015 / BIN	06/18/2015 / BIN	M3445

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGU10-1 / Uranium 10000 ug/ml	G2-U01105	11/01/2016	06/25/2015 / BIN	06/18/2015 / BIN	M3446

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGCU1-5 / Copper, 500 ml, 1000 PPM	H2-CU03021	02/13/2018	09/16/2015 / BIN	09/04/2015 / BIN	M3468

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58024 / Chromium, Cr, 500 ml, 1000 PPM	010615	01/06/2018	09/24/2015 / jaswal	09/24/2015 / jaswal	M3471

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Sodium, Na, 500 ml, 10,000 PPM	070615	07/06/2018	09/24/2015 / jaswal	09/24/2015 / jaswal	M3473

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	H2-MEB542131	10/01/2016	09/29/2015 / BIN	09/29/2015 / BIN	M3478

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	H2-MEB542132	10/01/2016	09/29/2015 / BIN	09/29/2015 / BIN	M3479

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGMG10-5 / Magnesium, 500 ml, 10000 PPM	J2-MG03145	07/16/2018	10/02/2015 / BIN	10/02/2015 / BIN	M3481

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGCA10-5 / Calcium, 500 ml, 10000 PPM	H2-CA04105	12/03/2017	10/02/2015 / BIN	10/02/2015 / BIN	M3482

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	6020CAL-1 / Calibration Standard Method 6020	G2-MEB503047	11/26/2016	02/18/2016 / jaswal	09/29/2015 / BIN	M3495

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSR10-1 / STRONTIUM 1 X 125 ml	H2-SR02049	11/17/2017	10/13/2015 / jaswal	09/29/2015 / BIN	M3498

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	6020ISS / 6020ISS, 10 ug/ml, Bi, Ho, In, 6Li, Rh, Sc, TB, Y	J2-MEB562038	01/08/2018	02/18/2016 / jaswal	09/29/2015 / BIN	M3502

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV1-0307	05/30/2016	12/02/2015 / jaswal	03/20/2015 / jaswal	M3523

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGFE10-5 / Iron, 500 ml, 10000 PPM	J2-FE04047	02/13/2018	12/18/2015 / BIN	12/10/2015 / BIN	M3532

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Manganese, Mn, 500 ml, 1000 PPM	072215	07/22/2018	12/18/2015 / BIN	12/07/2015 / BIN	M3535

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	IV-STOCK-12 / ICP-MS TUNING SOLUTION, 125mL	J2-MEB603008	11/06/2018	01/14/2016 / jaswal	01/07/2016 / jaswal	M3541

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	26397-103 / STONES,BOILING,PTFE 450GM	R674-6A002	04/13/2021	04/14/2016 / Bhadresh	02/25/2016 / fabian	M3562

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140440 / TEST PAPERS,PH,0-2.5,.2SENSI, 100PK	hc563733	04/13/2021	04/14/2016 /	04/13/2016 / Bhadresh	M3584

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGBA1-1 / BARIUM 125mL 1000ug/mL	J2-BA02093	07/02/2018	04/26/2016 / BIN	02/19/2016 / BIN	M3585

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)		01/13/2021	05/05/2016 / bhadresh	04/04/2016 / bhadresh	M3588

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	0000135629	01/27/2021	05/06/2016 / bhadresh	05/04/2016 / bhadresh	M3590

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Res-Kem General water	DIW / DI Water	Lab certified	02/23/2025	02/23/2010 /	02/23/2010 / divya	W1152

Absolute Standards, Inc.
300-368-1131
www.absolutestandards.com

Certified Reference Material CRM

RD: 09/25/13
M3045

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

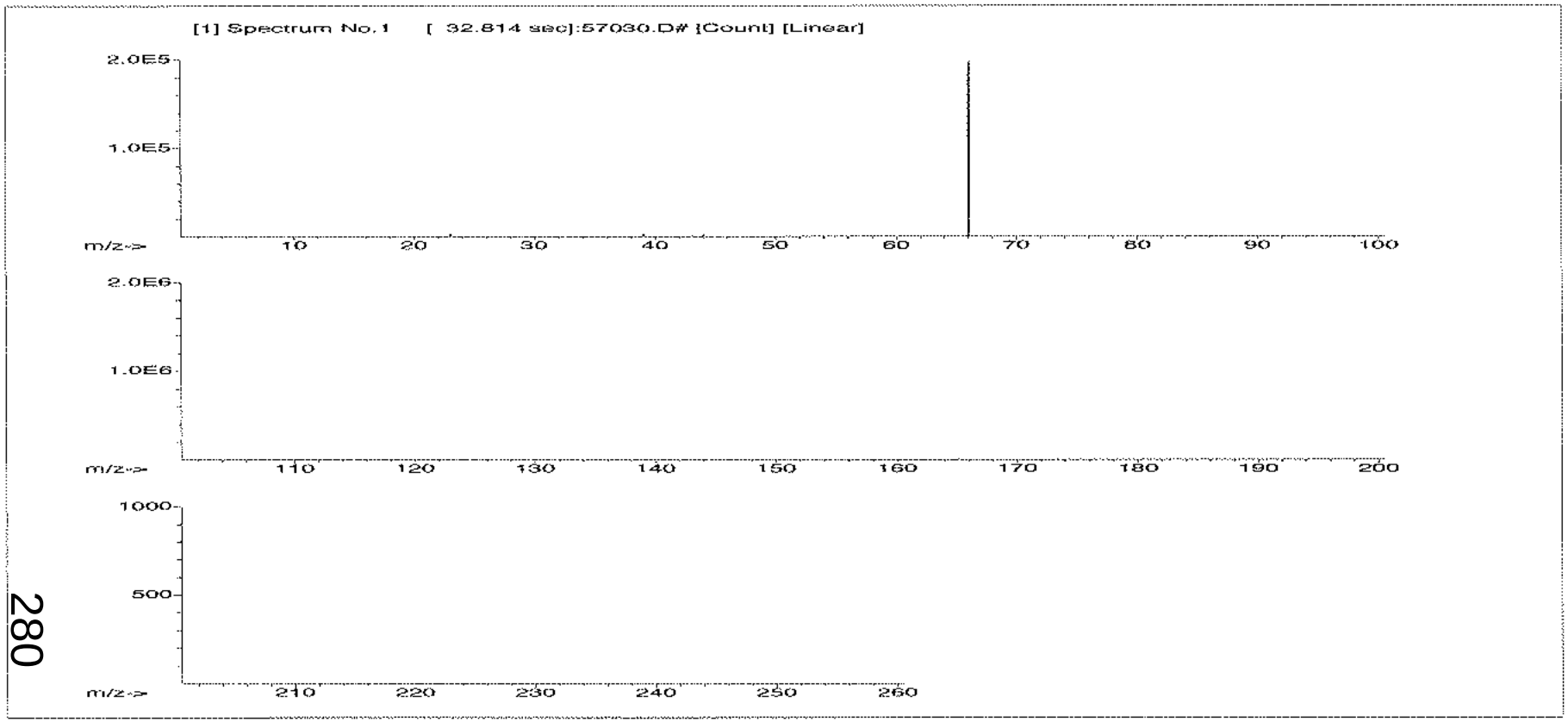
CERTIFIED WEIGHT REPORT:

			Lot #	Solvent:	
Part Number:	**58030**		C257285	Nitric Acid	
Lot Number:	**083013**				
Description:	**Zinc (Zn)**				
			2.0%	40.0	Nitric Acid
Expiration Date:	083016			(mL)	
		Storage:	20 °C		
Nominal Concentration (µg/mL):	**1000**				
			5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):		1999.68	0.100	Flask Uncertainty	

Formulated By:	Lawrence Barry	083013
Reviewed By:	Pedro L. Rentas	083013

MSDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Volume	Uncertainty Pipette	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hydrate (Zn)	58130	042313	0.1000	200.0	0.013	10001.5	**1000.3**	0.00201	13778-30-8	1 mg/m3	ort-rat 1190mg/kg	3168



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M3326 O: 01/30/15 Ex: 11/16/16
R: 01/19/15

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CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

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2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGB1
Lot Number:	G2-B02117
Matrix:	H2O
Value/Analyte(s):	1 000 µg/mL Boron
Starting Material:	H3BO3
Starting Material Lot#:	1631
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 5 µg/mL weighted mean

Certified Density: 1.001 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1,001 ± 3 µg/mL** ICP Assay NIST SRM 3107 Lot Number: 070514
Assay Method #2	**1,000 ± 5 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3295 R:01/19/15 Ex: 11/13/16
09: 01/30/15

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ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	G2-SR02040
Matrix:	0.1% (v/v) HNO3
Value/Analyte(s):	1 000 µg/mL Strontium
Starting Material:	SrCO3
Starting Material Lot#:	1716
Starting Material Purity:	99.9989%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1,004 ± 5 µg/mL weighted mean

Certified Density: 1.001 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1,005 ± 3 µg/mL** ICP Assay NIST SRM 3153a Lot Number: 990906
Assay Method #2	**1,002 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3297 · R: 01/19/15 OP: 01/30/15

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ACCREDITED Testing Laboratory Certificate 88301 ACCREDITED Reference Material Producer Certificate 88302

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGK10
Lot Number:	G2-K03042
Matrix:	2% (v/v) HNO3
Value/Analyte(s):	10 000 µg/mL Potassium
Starting Material:	KNO3
Starting Material Lot#:	1727
Starting Material Purity:	99.9989%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10,001 ± 21 µg/mL weighted mean

Certified Density: 1.024 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**10023 ± 62 µg/mL** ICP Assay NIST SRM 3141a Lot Number: 051220
Assay Method #2	**9999 ± 20 µg/mL** Gravimetric NIST SRM Lot Number: See Sec 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3298 R: 01/19/15 OP: 01/30/15

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ACCREDITED Testing Laboratory Certificate 993.01 ACCREDITED Reference Material Producer Certificate 993.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTH1
Lot Number:	H2-TH01094R
Matrix:	5% (v/v) HNO3
Value/Analyte(s):	1 000 µg/mL Thorium
Starting Material:	Th(NO3)4x4H2O
Starting Material Lot#:	1803
Starting Material Purity:	99.9934%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 4 µg/mL

Certified Density: 1.026 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1001 ± 4 µg/mL** ICP Assay NIST SRM 3159 Lot Number: 992912
Assay Method #2	**1000 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3304 DP: 01/30/15 R: 01/19/15

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Ex: 12/16/17

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ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZR1
Lot Number:	H2-ZR01095R
Matrix:	tr. HF
Value/Analyte(s):	1 000 µg/mL Zirconium
Starting Material:	ZrO2
Starting Material Lot#:	1765
Starting Material Purity:	99.9947%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 995 ± 5 µg/mL - weighted mean

Certified Density: 1.000 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **997 ± 3 µg/mL**
ICP Assay NIST SRM 3169 Lot Number: 071226

Assay Method #2 **1000 ± 3 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3305 R:01/19/15 OP: 01/30/15 Ex: 12/03/17

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ACCREDITED Testing Laboratory Certificate 2853.01 ACCREDITED Reference Material Producer Certificate 3053.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNI1
Lot Number:	H2-NI02086R
Matrix:	2% v/v HNO3
Value/Analyte(s):	1 000 µg/mL Nickel
Starting Material:	Ni pieces
Starting Material Lot#:	1559
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 4 µg/mL - weighted mean

Certified Density: 1.011 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1001 ± 3 µg/mL** ICP Assay NIST SRM 3136 Lot Number: 000612
Assay Method #2	**1002 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3306 R: 01/19/15 D: 01/30/15 Ex: 10/27/17

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ACCREDITED ACCREDITED

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCO1
Lot Number:	H2-CO02063
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Co
Starting Material:	Cobalt Carbonate
Starting Material Lot#:	1850
Starting Material Purity:	99.9990%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 3 µg/mL - weighted mean

Certified Density: 1.017 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**996 ± 4 µg/mL** ICP Assay NIST SRM 3113 Lot Number: 000630 Co
Assay Method #2	**999 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3307 R: 01/19/15 OP: 01/30/15 Ex: 01/29/17

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ACCREDITED ACCREDITED

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSI1
Lot Number:	G2-SI03029
Matrix:	tr. HNO3 / tr. HF
Value/Analyte(s):	1 000 µg/mL Silicon
Starting Material:	SiO2
Starting Material Lot#:	1551
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1004 ± 5 µg/mL weighted mean

Certified Density: 1.003 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1,005 ± 3 µg/mL** ICP Assay NIST SRM 3150 Lot Number: 071204
Assay Method #2	**1,000 ± 5 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M33/6 R: 01/19/15 OP: 01/30/15 Ex: 1/20/17

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ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTL1
Lot Number:	H2-TL02003R
Matrix:	0.7% v/v HNO3
Value/Analyte(s):	1 000 µg/mL Thallium
Starting Material:	TlNO3
Starting Material Lot#:	1576
Starting Material Purity:	99.9996%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1003 ± 7 µg/mL - no weighted mean

Certified Density: 1.003 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **1003 ± 6 µg/mL**
ICP Assay NIST SRM 3158 Lot Number: 993012

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3321 R:01/19/15 OP:01/30/15 Ex -12/11/17

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ACCREDITED Testing Laboratory Certificate 3813.01 ACCREDITED Reference Material Producer Certificate 3813.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAS1
Lot Number:	H2-AS02102R
Matrix:	2% (v/v) HNO3
Value/Analyte(s):	1 000 µg/mL Arsenic
Starting Material:	As Lump
Starting Material Lot#:	1814
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 5 µg/mL - weighted mean

Certified Density: 1.012 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**999 ± 4 µg/mL** ICP Assay NIST SRM 3103a Lot Number: 100818
Assay Method #2	**1002 ± 3 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M332 R: 01/19/15 OP: 01/30/15 Ex: 03/31/17

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ACCREDITED Testing Laboratory Certificate 853.01 ACCREDITED Reference Material Producer Certificate 853.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCD1
Lot Number:	H2-CD02055
Matrix:	3% (v/v) HNO3
Value/Analyte(s):	1 000 µg/mL Cadmium
Starting Material:	Cd shot
Starting Material Lot#:	1816
Starting Material Purity:	99.9999%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1,002 ± 5 µg/mL weighted mean

Certified Density: 1.016 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**999 ± 4 µg/mL** ICP Assay NIST SRM 3108 Lot Number: 060531
Assay Method #2	**1003 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3323 R: 01/19/15 Ex: 01/30/15 Ex: 05/09/17

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ACCREDITED Testing Laboratory Certificate 86101 ACCREDITED Reference Material Producer Certificate 86102

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGV1
Lot Number:	H2-V02090
Matrix:	2% (v/v) HNO3
Value/Analyte(s):	1 000 µg/mL Vanadium
Starting Material:	V2O5
Starting Material Lot#:	1782
Starting Material Purity:	99.9876%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 5 µg/mL weighted mean

Certified Density: 1.016 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1000 ± 5 µg/mL** ICP Assay NIST SRM 3165 Lot Number: 992706
Assay Method #2	**1000 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M 33205 R: 01/19/15 O: 01/30/15 Ex 11/20/17

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number (010105).

ACCREDITED ACCREDITED

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGBE1
Lot Number:	H2-BE02021R
Matrix:	3% (v/v) HNO3
Value/Analyte(s):	1 000 µg/mL Beryllium
Starting Material:	Be4O(OOCCH3)6
Starting Material Lot#:	1772
Starting Material Purity:	99.9999%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1005 ± 5 µg/mL - no weighted mean

Certified Density: 1.022 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **1005 ± 4 µg/mL**
ICP Assay NIST SRM 3105a Lot Number: 090514

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

IV3327 R:01/19/15 D:01/30/15
Ex: 12/09/17

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 853.01 ACCREDITED Reference Material Producer Certificate 853.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGPB1
Lot Number:	H2-PB03044R
Matrix:	0.5% v/v HNO_3
Value/Analyte(s):	1 000 µg/mL Lead
Starting Material:	$Pb(NO_3)_2$
Starting Material Lot#:	1717
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 3 µg/mL - weighted mean

Certified Density: 1.002 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **998 ± 3 µg/mL**
ICP Assay NIST SRM 3128 Lot Number: 101026

Assay Method #2 **1002 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3328 O: 01/30/15 E: 12/03/17
R: 01/19/15

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ACCREDITED Testing Laboratory Certificate 853.01 ACCREDITED Reference Material Producer Certificate 853.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAG1
Lot Number:	H2-AG03035R
Matrix:	5% HNO3 (v/v)
Value/Analyte(s):	1 000 µg/mL Silver
Starting Material:	Ag shot
Starting Material Lot#:	1641
Starting Material Purity:	100.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 6 µg/mL - weighted mean

Certified Density: 1.026 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **1000 ± 3 µg/mL**
ICP Assay NIST SRM 3151 Lot Number: 992212

Assay Method #2 **1003 ± 2 µg/mL**
Volhard NIST SRM 999b Lot Number: 999b

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3329 R: 01/19/15 E: 03/31/17
O: 01/30/15

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2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSE(4)1
Lot Number:	H2-SE02049
Matrix:	2% (v/v) HNO_3
Value/Analyte(s):	1 000 µg/mL Selenium
Starting Material:	Se Shot
Starting Material Lot#:	1616
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1,000 ± 4 µg/mL weighted mean

Certified Density: 1.011 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **999 ± 5 µg/mL**
ICP Assay NIST SRM 3149 Lot Number: 100901

Assay Method #2 **1,000 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

R: 01/19/15 OD: 01/30/15 Ex: 11/20/17

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ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGU1
Lot Number:	H2-U01102R
Matrix:	2% HNO3 (v/v)
Value/Analyte(s):	1 000 µg/mL Uranium
Starting Material:	UO2(NO3)2•6H2O
Starting Material Lot#:	1767
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1004 ± 6 µg/mL - no weighted mean

Certified Density: 1.010 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **1004 ± 5 µg/mL**
ICP Assay NIST SRM 3164 Lot Number: 080521

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

IM3385 R: 03/27/15 O: 03/30/15 Ex: 02/24/17

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ACCREDITED Testing Laboratory Certificate 851.01 ACCREDITED Reference Material Producer Certificate 663.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSBF1
Lot Number:	H2-SB03028
Matrix:	2% (v/v) HNO3 / tr. HF
Value/Analyte(s):	1 000 µg/mL Antimony
Starting Material:	Sb shot
Starting Material Lot#:	1561
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1,001 ± 6 µg/mL no weighted mean

Certified Density: 1.010 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1001 ± 4 µg/mL** ICP Assay NIST SRM 3102A Lot Number: 061229
Assay Method #2	**1000 ± 7 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-0803, Inferferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO_3. Analyze this solution by ICP-MS.

ICSB-0803, Analytes, mixed with ICSA-0803, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO_3. Analyze this ICSAB solution by ICP-MS.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-MS ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled results from the following sources: CLP Pre-award analysis, Quarterly Blind analysis, CLP laboratory referee analysis, and QATS Laboratory analysis.

ICSA → M3408 → M3412

ICSB → M3413 → M3418

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-MS ICSA-0803, AND ICSA-0803 MIXED WITH ICSB-0803

Element	CRQL	Part A (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)	Part A +Part B (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)
Al	20	[100000]			[100000]		
Sb	2	(1.5)	-2.5	5.5	22.0	17.6	26.4
As	1	(0.1)	-1.9	2.1	19.0	15.2	22.8
Ba	10	(1.2)	-18.8	21.2	(22.0)	2.0	42.0
Be	1	(0)	-2.0	2.0	19.0	15.2	22.8
Cd	1	(0.7)	-1.3	2.7	20.0	16.0	24.0
Ca	500	[100000]			[100000]		
C		[200000]			[200000]		
Cl		[1000000]			[1000000]		
Cr	2	21.0	16.8	25.2	40.0	32.0	48.0
Co	1	(1.0)	-1.0	3.0	20.0	16.0	24.0
Cu	2	(8.0)	4.0	12.0	25.0	20.0	30.0
Fe	200	[100000]			[100000]		
Pb	1	(4.0)	2.0	6.0	25.0	20.0	30.0
Mg	500	[100000]			[100000]		
Mn	1	(7.0)	5.0	9.0	27.0	21.6	32.4
Mo		[2000]			[2000]		
Ni	1	(6.0)	4.0	8.0	24.0	19.2	28.8
P		[100000]			[100000]		
K	500	[100000]			[100000]		
Se	5	(0.3)	-9.7	10.3	(19.0)	9.0	29.0
Ag	1	(0)	-2.0	2.0	18.0	14.4	21.6
Na	500	[100000]			[100000]		
S		[100000]			[100000]		
Tl	1	(0)	-2.0	2.0	21.0	16.8	25.2
Ti		[2000]			[2000]		
V	5	(0.5)	-9.5	10.5	(19.0)	9.0	29.0
Zn	2	(11.0)	7.0	15.0	29.0	23.2	34.8

[ ] Indicates analytes that do not require ICP-MS determination in the ICS.
( ) Indicates analyte certified values. The acceptance range is calculated based on +/- 2 times the CRQL.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-0803, Inferferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO_3. Analyze this solution by ICP-MS.

ICSB-0803, Analytes, mixed with ICSA-0803, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO_3. Analyze this ICSAB solution by ICP-MS.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-MS ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled results from the following sources: CLP Pre-award analysis, Quarterly Blind analysis, CLP laboratory referee analysis, and QATS Laboratory analysis.

ICSA → M3408 → M3412

ICSB → M3413 → M3417

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-MS ICSA-0803, AND ICSA-0803 MIXED WITH ICSB-0803

Element	CRQL	Part A (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)	Part A +Part B (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)
Al	20	[100000]			[100000]		
Sb	2	(1.5)	-2.5	5.5	22.0	17.6	26.4
As	1	(0.1)	-1.9	2.1	19.0	15.2	22.8
Ba	10	(1.2)	-18.8	21.2	(22.0)	2.0	42.0
Be	1	(0)	-2.0	2.0	19.0	15.2	22.8
Cd	1	(0.7)	-1.3	2.7	20.0	16.0	24.0
Ca	500	[100000]			[100000]		
C		[200000]			[200000]		
Cl		[1000000]			[1000000]		
Cr	2	21.0	16.8	25.2	40.0	32.0	48.0
Co	1	(1.0)	-1.0	3.0	20.0	16.0	24.0
Cu	2	(8.0)	4.0	12.0	25.0	20.0	30.0
Fe	200	[100000]			[100000]		
Pb	1	(4.0)	2.0	6.0	25.0	20.0	30.0
Mg	500	[100000]			[100000]		
Mn	1	(7.0)	5.0	9.0	27.0	21.6	32.4
Mo		[2000]			[2000]		
Ni	1	(6.0)	4.0	8.0	24.0	19.2	28.8
P		[100000]			[100000]		
K	500	[100000]			[100000]		
Se	5	(0.3)	-9.7	10.3	(19.0)	9.0	29.0
Ag	1	(0)	-2.0	2.0	18.0	14.4	21.6
Na	500	[100000]			[100000]		
S		[100000]			[100000]		
Tl	1	(0)	-2.0	2.0	21.0	16.8	25.2
Ti		[2000]			[2000]		
V	5	(0.5)	-9.5	10.5	(19.0)	9.0	29.0
Zn	2	(11.0)	7.0	15.0	29.0	23.2	34.8

[ ] Indicates analytes that do not require ICP-MS determination in the ICS.
( ) Indicates analyte certified values. The acceptance range is calculated based on +/- 2 times the CRQL.

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Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58113
Lot Number: 122214
Description: Aluminum (Al)
Expiration Date: 122217
Storage: 20 °C
Nominal Concentration (µg/mL): 10000
Weight shown below was diluted to (mL): 2000.24

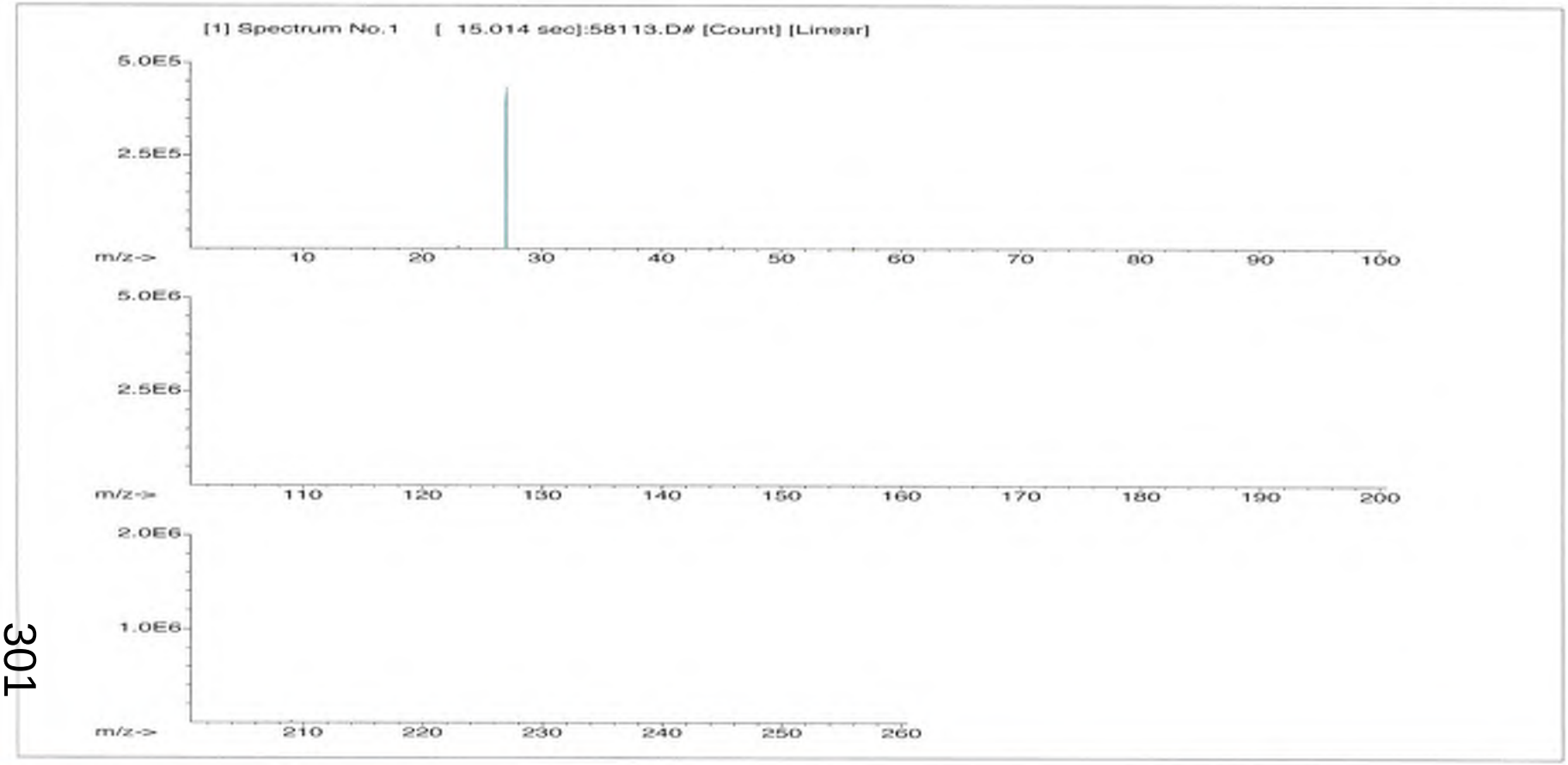
	Lot #		
Solvent:	C363101	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
5E-05	Balance Uncertainty		
0.142	Flask Uncertainty		

Giovanni Esposito
Formulated By: Giovanni Esposito 122214
Pedro Rentas
Reviewed By: Pedro L. Rentas 122214

M3432
R: 06/05/15
E: 12/2217

MSDS Information

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity	Uncertainty Purity	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty (+/-)	CAS#	(Solvent Safety Info. On Attached pg.) OSHA PEL (TWA)	LD50	NIST SRM
1. Aluminum nitrate nonahydrate (Al)	IN022	ALE42013A1	10000.0	100	0.10	7.10	281.7261	281.7630	**10001.3**	0.00201	07784-27-2	5 mg/m3	orl-rat 264 mg/kg 3101a	



301

M3433
R: 06/05/15
Ex: 03/13/17

Thermo SCIENTIFIC

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Tune D25 Cross Cal Solution

Catalog Number: 1600636
Lot Number: CM-0740
Lot Issue Date: 02/19/2015
Expiration Date: 03/31/2017

This analytical reference material was manufactured and verified in accordance with an ISO 9001 registered quality system, and the analyte concentrations were verified by an ISO 17025 accredited laboratory. The certified value for each analyte was determined gravimetrically.

Analyte	True Value	Analytical Method	NIST SRM
aluminum	10.00 ± 0.05 mg/L	ICP / ICP-MS	3101a
arsenic	10.00 ± 0.05 mg/L	ICP / ICP-MS	3103a
barium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3104a
beryllium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3105a
calcium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3109a
cadmium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3108
cobalt	10.00 ± 0.05 mg/L	ICP / ICP-MS	3113
chromium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3112a
copper	10.00 ± 0.05 mg/L	ICP / ICP-MS	3114
iron	10.00 ± 0.05 mg/L	ICP / ICP-MS	3126a
lead	10.00 ± 0.05 mg/L	ICP / ICP-MS	3128
magnesium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3131a
manganese	10.00 ± 0.05 mg/L	ICP / ICP-MS	3132
molybdenum	10.00 ± 0.05 mg/L	ICP / ICP-MS	3134
nickel	10.00 ± 0.05 mg/L	ICP / ICP-MS	3136
potassium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3141a
selenium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3149
sodium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3152a
thallium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3158
* vanadium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3165
zinc	10.00 ± 0.05 mg/L	ICP / ICP-MS	3168a
indium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3124a
lithium	10.00 ± 0.05 mg/L	ICP / ICP-MS	3129a
uranium	10.00 ± 0.05 mg/L	ICP / ICP-MS	second source

Matrix: 5% nitric acid and trace hydrofluoric acid in low TOC water (< 50 ppb)

* light sensitive

Calibrated Class A glassware and clean bottles were used in the manufacture of this standard. Balances used in the manufacture of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001.

Prepared by ULTRA Scientific for Thermo Scientific
For Material Safety Data Sheets (MSDS), visit www.ultrasci.com

M3444

CERTIFICATE OF ANALYSIS

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2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGP10
Lot Number:	G2-P02050
Matrix:	H2O
Value/Analyte(s):	10 000 µg/mL Phosphorus
Starting Material:	H3PO4
Starting Material Lot#:	1704
Starting Material Purity:	99.9996%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9990 ± 33 µg/mL - weighted mean

Certified Density: 1.015 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **9995 ± 40 µg/mL**
ICP Assay NIST SRM 3139a Lot Number: 060717

Assay Method #2 **9988 ± 21 µg/mL**
Acidimetric NIST SRM 84L Lot Number: 84L

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2

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ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGS10
Lot Number:	G2-S02014
Matrix:	H2O
Value/Analyte(s):	10 000 µg/mL Sulfur
Starting Material:	H2SO4
Starting Material Lot#:	1728
Starting Material Purity:	100.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10,028 ± 25 µg/mL weighted mean

Certified Density: 1.018 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **10015 ± 50 µg/mL**
ICP Assay NIST SRM 3154 Lot Number: 892205

Assay Method #2 **10030 ± 21 µg/mL**
Acidimetric NIST SRM 84L Lot Number: 84L

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3446

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ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGU10
Lot Number:	G2-U01105
Matrix:	2% (v/v) HNO3
Value/Analyte(s):	10 000 µg/mL Uranium
Starting Material:	UO2(NO3)2.6H2O
Starting Material Lot#:	1841
Starting Material Purity:	99.9818%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10 007 ± 39 µg/mL - weighted mean

Certified Density: 1.022 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **10 008 ± 30 µg/mL**
ICP Assay NIST SRM 3164 Lot Number: 080521

Assay Method #2 **10 005 ± 34 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

R: 04/04/15
OP: 09/16/15
Ex: 02/13/18
M3468

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate #83131 ACCREDITED Reference Material Producer Certificate #3012

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCU1
Lot Number:	H2-CU03021
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Cu
Starting Material:	Cu Metal
Starting Material Lot#:	1806
Starting Material Purity:	99.9996%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1004 ± 5 µg/mL - weighted mean

Certified Density: 1.016 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **1002 ± 5 µg/mL**
ICP Assay NIST SRM 3114 Lot Number: 121207

Assay Method #2 **1005 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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M3471

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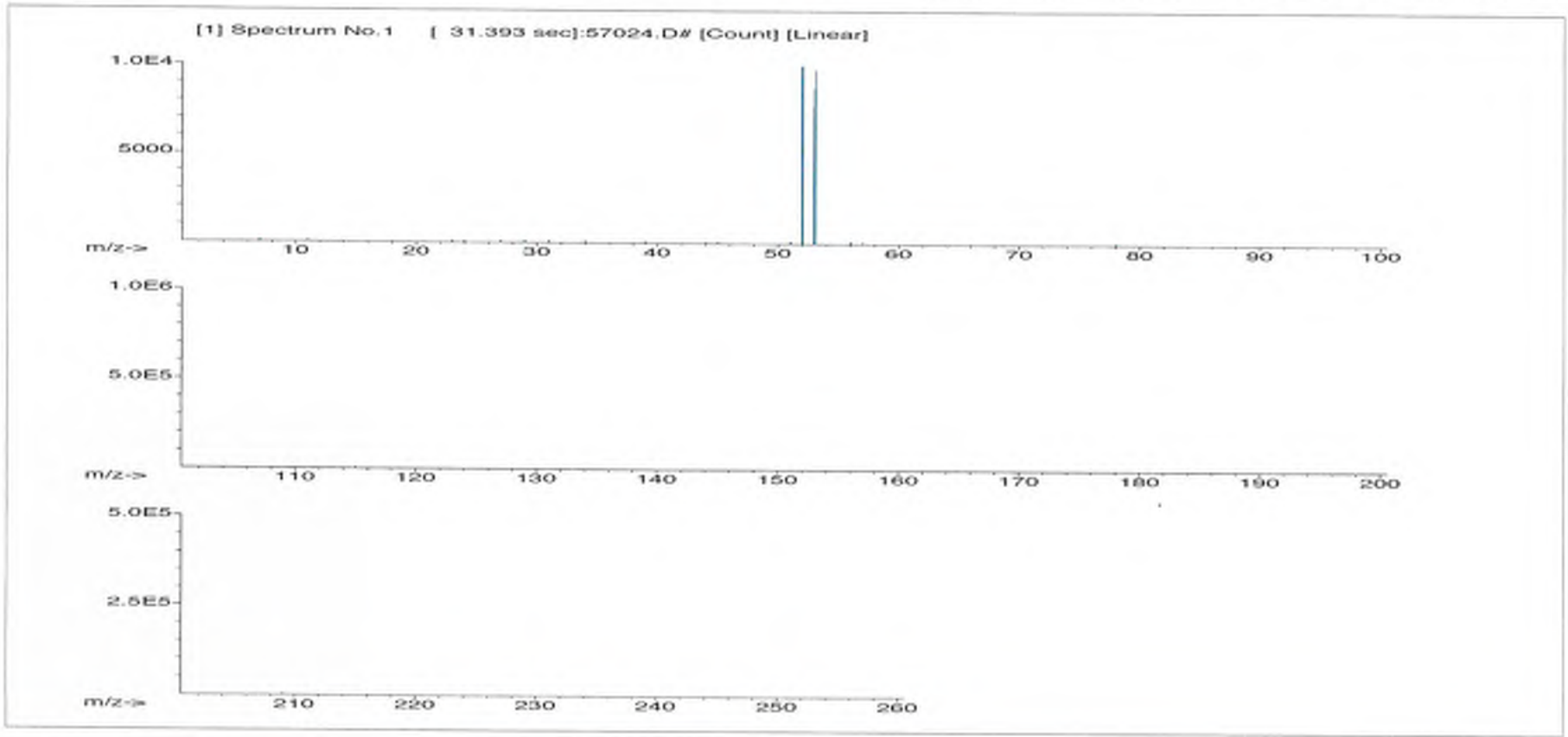
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:
Part Number:	58024	C363101	Nitric Acid
Lot Number:	010615		
Description:	Chromium (Cr)		
		2.0%	40.0 (mL) Nitric Acid
Expiration Date:	010618		
Storage:	20 °C		
Nominal Concentration (µg/mL):	1000		
		5E-05	Balance Uncertainty
Volume shown below was diluted to (mL):	2000.24	0.142	Flask Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	010615
Reviewed By:	Pedro L. Rentas	010615

Compound	Part Number	Lot Number	Dilution Factor	Initial Volume	Uncertainty Pipette	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium (III) nitrate nonahydrate (Cr)	58124	093014	0.100	200.0	0.013	10001.0	**1000.0**	0.00201	07789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



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M3473

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CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 070615
Description: Sodium (Na)

Expiration Date: 070618

Storage: 20 °C

Nominal Concentration (µg/mL): 10000

Weight shown below was diluted to (mL): 2000.24

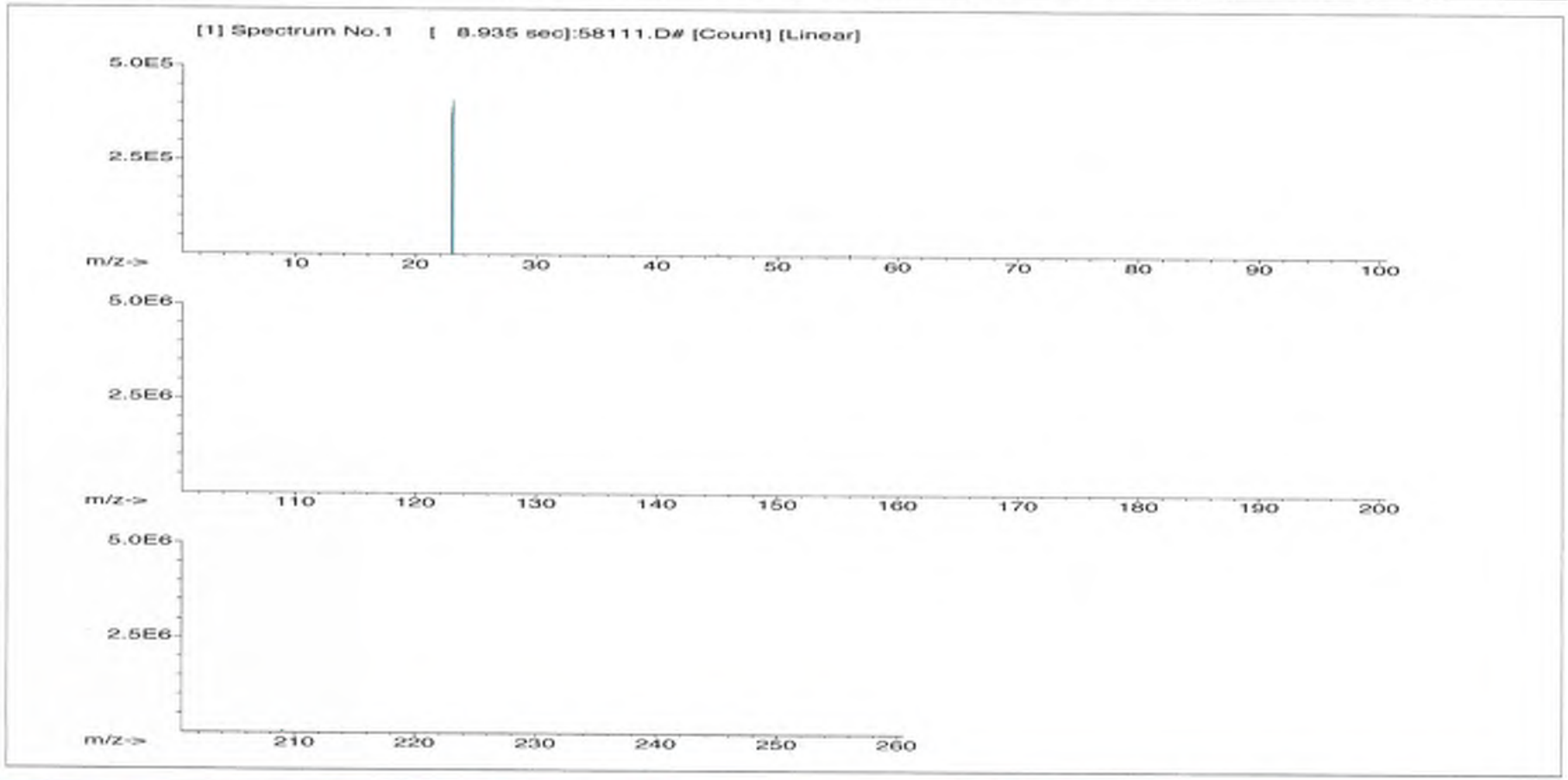
	Lot #		
Solvent:	C471305	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.148	Flask Uncertainty	

Formulated By: Lawrence Barry 070615

Reviewed By: Pedro L. Rentas 070615

MSDS Information (Solvent Safety Info. On Attached pg.)

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity	Uncertainty Purity	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty (+/-)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	R806NAA2R	10000.0	99.999	0.10	27.0	74.0835	74.0952	**10001.6**	0.00201	07631-99-4	5 mg/m3	orl-rat 3236 mg/kg	3152a



M3478 R: 09/29/15 Ex: 10/01/16

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OP: 09/29/15 BA

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2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	H2-MEB542131
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: B, Mo, Si, Sn, Ti

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 7 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 8 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 7 µg/mL		

Certified Density: 1.032 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	070514
Mo	Calculated		See Sec. 4.2
Mo	ICP Assay	3134	891307
Si	Calculated		See Sec. 4.2
Si	ICP Assay	3150	071204
Sn	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330
Ti	Calculated		See Sec. 4.2
Ti	ICP Assay	3162a	060808

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ ($\bar{x}$) = mean

x_i = individual results

n = number of measurements

Uncertainty $(\pm) = 2 [\sum (s_i)^2]^{1/2}$ 2 = the coverage factor.

$[\sum (s_i)^2]^{1/2}$ = The square root of the sum of the squares of the most common errors (where's stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability

M3479 R: 09/29/15 OP: 09/29/15

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2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-QC-4
Lot Number:	H2-MEB542132
Matrix:	3% (v/v) HNO_3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: B, Mo, Si, Sn, Ti

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 7 µg/mL	Molybdenum, Mo	1 000 ± 7 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 7 µg/mL
Titanium, Ti	1 000 ± 7 µg/mL		

Certified Density: 1.034 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	Calculated		See Sec. 4.2
B	ICP Assay	3107	070514
Mo	Calculated		See Sec. 4.2
Mo	ICP Assay	3134	891307
Si	Calculated		See Sec. 4.2
Si	ICP Assay	3150	071204
Sn	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330
Ti	ICP Assay	3162a	060808

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2

M 3481 R: 10/02/15 OP: 10/02/15

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMG10
Lot Number:	J2-MG03145
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Mg
Starting Material:	Mg chips
Starting Material Lot#:	1484
Starting Material Purity:	99.9987%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9970 ± 24 µg/mL

Certified Density: 1.053 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **9954 ± 58 µg/mL**
ICP Assay NIST SRM 3131a Lot Number: 050302

Assay Method #2 **9973 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3482 P: 10/02/15 R: 10/02/15
Ex: 12/03/17
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 853.01 — ACCREDITED Reference Material Producer Certificate 853.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCA10
Lot Number:	H2-CA04105
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Ca
Starting Material:	CaO
Starting Material Lot#:	1748
Starting Material Purity:	99.9971%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9950 ± 24 µg/mL - weighted mean

Certified Density: 1.040 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 — **9956 ± 50 µg/mL**
ICP Assay NIST SRM 3109a Lot Number: 130213

Assay Method #2 — **9948 ± 25 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3495. M3496. M3497

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R: 09/29/15 Ex: 11/26/16 BH

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number (010105).

ACCREDITED ACCREDITED

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020CAL-1
Lot Number:	G2-MEB503047
Matrix:	tr. HF 5% (v/v) HNO3
Value / Analyte(s):	20 µg/mL ea:

Ag,	Al,	As,
Ba,	Be,	Ca,
Cd,	Co,	Cr3,
Cu,	Fe,	K,
Mg,	Mn,	Na,
Ni,	Pb,	Sb,
Se,	Tl,	V,
Zn		

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum	20.00 ± 0.16 µg/mL	Antimony	19.99 ± 0.14 µg/mL
Arsenic	19.99 ± 0.13 µg/mL	Barium	20.00 ± 0.15 µg/mL
Beryllium	20.00 ± 0.14 µg/mL	Cadmium	20.00 ± 0.15 µg/mL
Calcium	20.00 ± 0.16 µg/mL	Chromium+3	20.00 ± 0.16 µg/mL
Cobalt	20.00 ± 0.17 µg/mL	Copper	20.00 ± 0.16 µg/mL
Iron	20.00 ± 0.16 µg/mL	Lead	20.00 ± 0.16 µg/mL
Magnesium	20.00 ± 0.15 µg/mL	Manganese	20.00 ± 0.15 µg/mL
Nickel	20.00 ± 0.15 µg/mL	Potassium	20.00 ± 0.17 µg/mL
Selenium	19.99 ± 0.13 µg/mL	Silver	20.00 ± 0.13 µg/mL
Sodium	20.00 ± 0.16 µg/mL	Thallium	20.00 ± 0.13 µg/mL
Vanadium	20.00 ± 0.14 µg/mL	Zinc	20.00 ± 0.11 µg/mL

Certified Density: 1.026 g/mL (measured at 20 ± 1 °C)

Assay Information:

IM3498 R: 09/29/15

CERTIFICATE OF ANALYSIS

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EK: 11/17/2017 BH

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number (010105).

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR10
Lot Number:	H2-SR02049
Matrix:	2% (v/v) HNO_3
Value / Analyte(s):	10 000 µg/mL ea: Sr
Starting Material:	$SrCO_3$
Starting Material Lot#:	1716
Starting Material Purity:	99.9989%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10013 ± 33 µg/mL - weighted mean

Certified Density: 1.030 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**9955 ± 54 µg/mL** ICP Assay NIST SRM 3153a Lot Number: 990906
Assay Method #2	**10046 ± 41 µg/mL** EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

M3499. M3500. M3501. M3502. M3503

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R: 09129115 Ex: 01/08/18 BH

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ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ISS
Lot Number:	J2-MEB562038
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 µg/mL ea:

Bi, Ho, In,
Li6, Rh, Sc,
Tb, Y

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
6-Lithium, Li6	10.00 ± 0.05 µg/mL	Bismuth, Bi	10.00 ± 0.06 µg/mL
Holmium, Ho	10.00 ± 0.07 µg/mL	Indium, In	10.00 ± 0.05 µg/mL
Rhodium, Rh	10.00 ± 0.06 µg/mL	Scandium, Sc	10.00 ± 0.07 µg/mL
Terbium, Tb	10.00 ± 0.05 µg/mL	Yttrium, Y	10.00 ± 0.07 µg/mL

Certified Density: 1.035 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Bi	Calculated		See Sec. 4.2
Bi	ICP Assay	3106	991212
Ho	ICP Assay	3123a	790812
Ho	EDTA	928	928
In	ICP Assay	3124a	110516
In	EDTA	928	928
Li6	Gravimetric		See Sec. 4.2
Rh	Calculated		See Sec. 4.2
Rh	ICP Assay	3144	070619
Sc	ICP Assay	3148a	100701
Sc	EDTA	928	928
Tb	ICP Assay	3157a	100518
Tb	EDTA	928	928
Y	ICP Assay	3167a	790412
Y	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

For ICP-MS use: dilute the ICV1 concentrate 50-fold with 1% (v/v) nitric acid; pipet 2 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0508 For the cold vapor analysis of mercury by AA: dilute the ICV5 concentrate 100-fold with 2% (v/v) nitric acid; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide: dilute the ICV6 concentrate 100-fold with Type II water; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) ***CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS***

M3523

ICV1-0307		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2521	504
Sb	994	199
As	999	200
Ba	497	99
Be	495	99
Cd	496	99
Ca	10026	2005
Cr	490	98
Co	499	100
Cu	492	98
Fe	5082	1016
Pb	1002	200
Mg	6074	1215
Mn	499	100
Ni	503	101
K	10021	2004
Se	1029	206
Ag	501	100
Na	10097	2019
Tl	1028	206
V	501	100
Zn	1025	205

ICV5-0508		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	CN^-	99

M3532 R: 12/10/15

OP 12/18/15

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2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGFE10
Lot Number:	J2-FE04047
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Fe
Starting Material:	Fe pieces
Starting Material Lot#:	1820
Starting Material Purity:	99.9965%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10 008 ± 23 µg/mL - weighted mean

Certified Density: 1.045 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**9992 ± 31 µg/mL** ICP Assay NIST SRM 3126a Lot Number: 140812
Assay Method #2	**10 020 ± 26 µg/mL** EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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M3535

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R : 12/10/15
OP : 12/18/15

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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**58025**	C471305	Nitric Acid		
Lot Number:	**072215**				
Description:	**Manganese (Mn)**				
		2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	072218				
	Storage: 20 °C				
Nominal Concentration (µg/mL):	**1000**				
		5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.24	0.148	Flask Uncertainty		

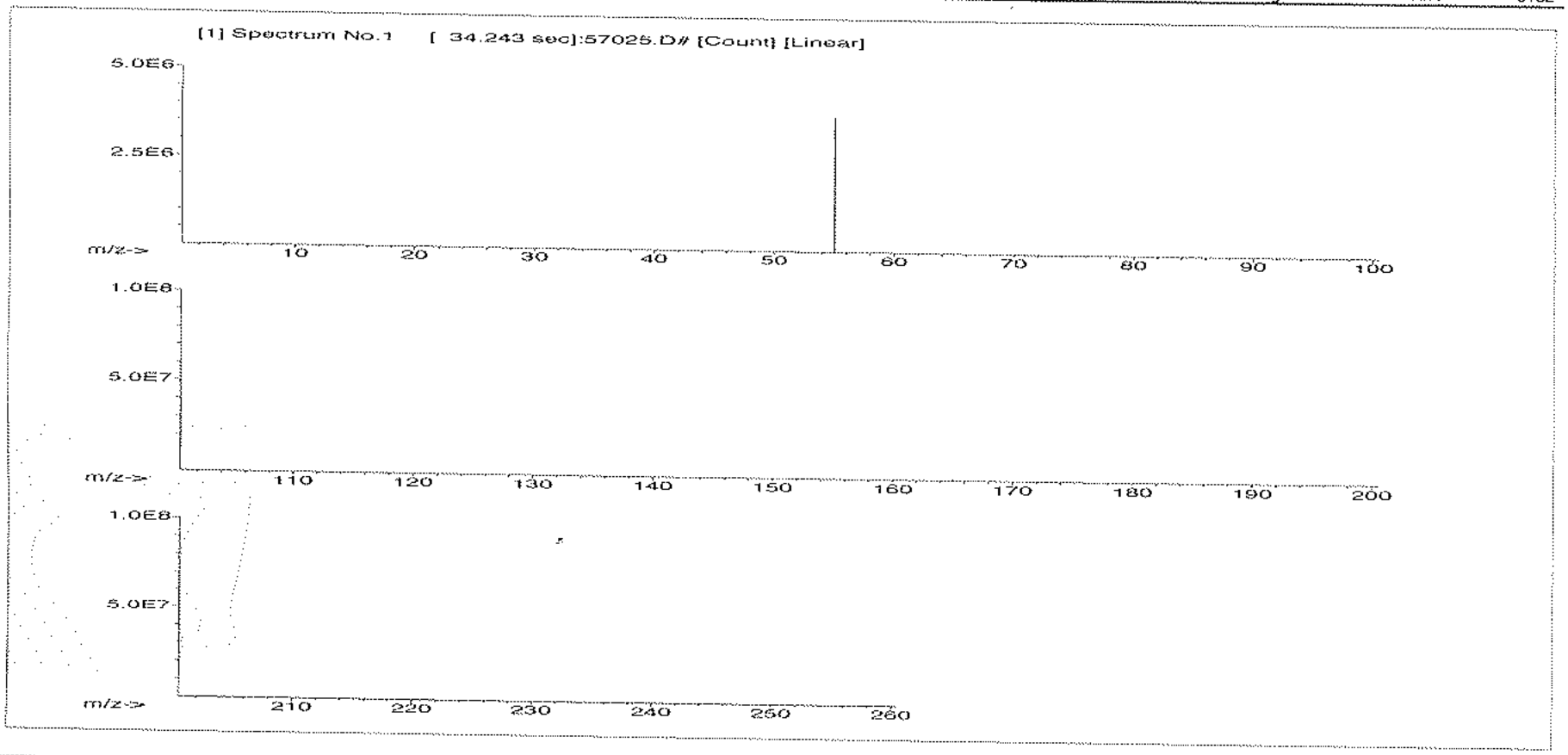
Gabriel Helland

Formulated By:	Gabriel Helland	072215

Pedro Rentas

Reviewed By:	Pedro L. Rentas	072215

Compound	Part Number	Lot Number	Dilution Factor	Initial Volume	Uncertainty Pipette	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Manganese (II) nitrate Hydrate (Mn)	58125	012115	0.1000	200.0	0.013	10001.5	**1000.0**	0.00201	15710-66-4	5 mg/m3	N/A	3132



R: 01/07/16 Exp: 11/06/18
Do: 01/14/16

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

M3541

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-STOCK-12
Lot Number:	J2-MEB603008
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 µg/mL ea:

Ba, Be, Bi,
Ce, Co, In,
Li, Ni, Pb,
U

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Barium, Ba	10.00 ± 0.05 µg/mL	Beryllium, Be	10.00 ± 0.06 µg/mL
Bismuth, Bi	10.00 ± 0.05 µg/mL	Cerium, Ce	10.00 ± 0.05 µg/mL
Cobalt, Co	10.00 ± 0.05 µg/mL	Indium, In	10.00 ± 0.05 µg/mL
Lead, Pb	10.00 ± 0.05 µg/mL	Lithium, Li	10.00 ± 0.06 µg/mL
Nickel, Ni	10.00 ± 0.05 µg/mL	Uranium, U	10.00 ± 0.06 µg/mL

Certified Density: 1.023 g/mL (measured at 20 ± 1 °C)

Assay Information:

M3585 R: 02/19/16
D: 04/26/16

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

Ex: 07/02/18 (BH)

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED ACCREDITED

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGBA1
Lot Number:	J2-BA02093
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Ba
Starting Material:	Ba(NO3)2
Starting Material Lot#:	1822
Starting Material Purity:	99.9991%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 5 µg/mL

Certified Density: 1.000 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **997 ± 3 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **998 ± 5 µg/mL**
ICP Assay NIST SRM 3104a Lot Number: 070222

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

M 3588
Rec. 04/28/16
Exp : 01/13/21

Material No.: 9530-33
Batch No.: 0000134218
Manufactured Date: 2016/01/15
Retest Date: 2021/01/13

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.7
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	1
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.191
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	< 1
ACS - Free Chlorine (as Cl_2)	<= 0.5 ppm	< 0.5
Phosphate (PO_4)	<= 0.05 ppm	< 0.03
Sulfate (SO_4)	<= 0.5 ppm	< 0.3
Sulfite (SO_3)	<= 0.8 ppm	0.4
Ammonium (NH_4)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	8.3
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway. Suite #200. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Material No.: 9530-33
Batch No.: 0000134218

Test	Specification	Result
Trace Impurities - Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 15.0 ppb	4.0
Trace Impurities - Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 10.0 ppb	1.0
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	1.0
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.2
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	0.3
Trace Impurities - Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities - Selenium (Se), For Information Only	ppb	1.0
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 1.0 ppb	< 0.2
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600

Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 , Fax: 610.573.2610

Nitric Acid, 69.0-70.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

M3590
Rec. 05/04/16
Exp. 01/27/21

Material No.: 9598-34
Batch No.: 0000135629
Manufactured Date: 2016/01/29
Retest Date: 2021/01/27

Certificate of Analysis

Test	Specification	Result
ACS - Assay (HNO_3)	69.0 - 70.0 %	69.6
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 2 ppm	< 1
ACS - Specific Gravity at 60°/60°F	1.416 - 1.420	1.420
Chloride (Cl)	<= 0.04 ppm	< 0.03
Phosphate (PO_4)	<= 0.1 ppm	<0.01
Sulfate (SO_4)	<= 0.4 ppm	< 0.2
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	0.3
Arsenic and Antimony (as As)	<= 5 ppb	< 2
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 1.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 4.0 ppb	< 0.7
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	0.5
Trace Impurities - Chromium (Cr)	<= 10.0 ppb	3.0
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 20.0 ppb	< 0.2
Trace Impurities - Germanium (Ge)	<= 4.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 10.0 ppb	0.6

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Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Material No.: 9598-34
Batch No.: 0000135629

Test	Specification	Result
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	< 0.2
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities - Molybdenum (Mo)	<= 5.0 ppb	< 3.0
Trace Impurities - Nickel (Ni)	<= 1.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	0.3
Trace Impurities - Potassium (K)	<= 5.0 ppb	< 2.0
Trace Impurities - Silicon (Si)	<= 20.0 ppb	0.6
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 200.0 ppb	0.9
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 2.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	< 0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2006
Selangor, Malaysia 9001:2008
Dehradun, India 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Pondi, India 9001:2008

Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600

Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

CHEMTECH

Instrument ID: P7

Daily Analysis Runlog For Sequence/QCBatch ID # LB81457

Review By jaswal Review On 5/11/2016 11:57:08 AM

STD. NAME	STD REF.#
ICAL Standard	MP33602,MP33619,MP33607,MP33612,MP33613,MP33614,MP33615,MP33617,MP33618
ICV Standard	MP33621
CCV Standard	MP33622
ICSA Standard	MP33623,MP33624
CRI Standard	
Chk Standard	MP33669,MP33627,MP33628

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	TUNE	TUNE	TUNE	05/06/16 13:41		OK
2	S00	S00	CAL1	05/06/16 13:44		OK
3	S02	S02	CAL3	05/06/16 13:51		OK
4	S03	S03	CAL4	05/06/16 13:54		OK
5	S04	S04	CAL5	05/06/16 13:58		OK
6	S05	S05	CAL6	05/06/16 14:01		OK
7	S06	S06	CAL7	05/06/16 14:04		OK
8	S07	S07	CAL8	05/06/16 14:07		OK
9	S08	S08	CAL9	05/06/16 14:10		OK
10	ICV	ICV	ICV	05/06/16 14:15		OK
11	ICB	ICB	ICB	05/06/16 14:34		OK
12	ICSA	ICSA	ICSA	05/06/16 14:37		OK
13	ICSAB	ICSAB	ICSAB	05/06/16 14:41		OK
14	CCV081	CCV081	CCV	05/06/16 14:44		OK
15	CCB081	CCB081	CCB	05/06/16 14:46		OK
16	PB90341BL	PBS008	MB	05/06/16 14:51		OK
17	PB90341BS	LCS008	LCS	05/06/16 14:54		OK
18	PB90375BL	PBW007	MB	05/06/16 14:57		OK
19	PB90375BS	LCS007	LCS	05/06/16 15:00		OK
20	H2837-01	MH4002	SAM	05/06/16 15:03		OK
21	H2837-02	MH4002D	DUP	05/06/16 15:06		OK

CHEMTECH

Instrument ID: P7

Daily Analysis Runlog For Sequence/QCBatch ID # LB81457

Review By	jaswal	Review On	5/11/2016 11:57:08 AM

STD. NAME	STD REF.#
ICAL Standard	MP33602,MP33619,MP33607,MP33612,MP33613,MP33614,MP33615,MP33617,MP33618
ICV Standard	MP33621
CCV Standard	MP33622
ICSA Standard	MP33623,MP33624
CRI Standard	
Chk Standard	MP33669,MP33627,MP33628

22	H2837-01L	MH4002L	SD	05/06/16 15:09		OK
23	H2837-03	MH4002S	MS	05/06/16 15:12		OK
24	H2837-10	MH4113	SAM	05/06/16 15:15		OK
25	H2837-16	MH4113D	DUP	05/06/16 15:18		OK
26	H2837-10L	MH4113L	SD	05/06/16 15:21		OK
27	H2837-17	MH4113S	MS	05/06/16 15:24		OK
28	H2837-11	MH4116	SAM	05/06/16 15:27		OK
29	H2837-12	MH4202	SAM	05/06/16 15:30		OK
30	H2837-13	MH4211	SAM	05/06/16 15:33		OK
31	H2837-14	MH4217	SAM	05/06/16 15:36		OK
32	H2837-15	MH4218	SAM	05/06/16 15:39		OK
33	H2837-04	MH4025	SAM	05/06/16 15:44		OK
34	H2837-04DL	MH4025	SAM	05/06/16 15:47	Not required	Not Ok
35	H2837-05	MH4025D	DUP	05/06/16 15:50		OK
36	H2837-05DL	MH4025D	DUP	05/06/16 15:53	Not required	Not Ok
37	H2837-04L	MH4025L	SD	05/06/16 15:56		OK
38	H2837-04LDL	MH4025L	SD	05/06/16 15:59	Not required	Not Ok
39	H2837-06	MH4025S	MS	05/06/16 16:02		OK
40	H2837-06DL	MH4025S	MS	05/06/16 16:05	Not required	Not Ok
41	H2837-07	MH4028	SAM	05/06/16 16:08		OK
42	H2837-07DL	MH4028	SAM	05/06/16 16:11	Not required	Not Ok
43	H2837-08	MH4029	SAM	05/06/16 16:14		OK
44	H2837-08DL	MH4029	SAM	05/06/16 16:17	Not required	Not Ok

CHEMTECH

Instrument ID: P7

Daily Analysis Runlog For Sequence/QCBatch ID # LB81457

Review By	jaswal	Review On	5/11/2016 11:57:08 AM

STD. NAME	STD REF.#
ICAL Standard	MP33602,MP33619,MP33607,MP33612,MP33613,MP33614,MP33615,MP33617,MP33618
ICV Standard	MP33621
CCV Standard	MP33622
ICSA Standard	MP33623,MP33624
CRI Standard	
Chk Standard	MP33669,MP33627,MP33628

45	H2837-09	MH4030	SAM	05/06/16 16:20		OK
46	H2837-09DL	MH4030	SAM	05/06/16 16:23	Not required	Not Ok
47	CCV082	CCV082	CCV	05/06/16 16:26		OK
48	CCB082	CCB082	CCB	05/06/16 16:29		OK
49	PB90376BL	PBW007	MB	05/06/16 17:54		OK
50	PB90376BS	LCS007	LCS	05/06/16 17:57		OK
51	H2850-12	MC0AB0	SAM	05/06/16 18:00		OK
52	H2850-13	MC0AB0D	DUP	05/06/16 18:03		OK
53	H2850-12L	MC0AB0L	SD	05/06/16 18:06		OK
54	H2850-14	MC0AB0S	MS	05/06/16 18:09		OK
55	H2850-15	MC0AD0	SAM	05/06/16 18:12		OK
56	CCV083	CCV083	CCV	05/06/16 18:15		OK
57	CCB083	CCB083	CCB	05/06/16 18:18		OK
58	H2850-16	MC0AE7	SAM	05/06/16 18:21	Zn high	Dilution
59	H2850-22	MC0AG8	SAM	05/06/16 18:24		OK
60	H2850-23	MC0AH2	SAM	05/06/16 18:27		OK
61	H2850-16DL	MC0AE7	SAM	05/06/16 18:30	2X for Zn	Confirms
62	H2850-22DL	MC0AG8	SAM	05/06/16 18:33	Not required	Not Ok
63	H2850-23DL	MC0AH2	SAM	05/06/16 18:36	Not required	Not Ok
64	H2850-16DL2	MC0AE7	SAM	05/06/16 18:39	Not required	Not Ok
65	H2850-22DL2	MC0AG8	SAM	05/06/16 18:42	Not required	Not Ok
66	H2850-23DL2	MC0AH2	SAM	05/06/16 18:45	Not required	Not Ok
67	CCV084	CCV084	CCV	05/06/16 18:48		OK

CHEMTECH

Instrument ID: P7

Daily Analysis Runlog For Sequence/QCBatch ID # LB81457

Review By	jaswal	Review On	5/11/2016 11:57:08 AM

STD. NAME	STD REF.#
ICAL Standard	MP33602,MP33619,MP33607,MP33612,MP33613,MP33614,MP33615,MP33617,MP33618
ICV Standard	MP33621
CCV Standard	MP33622
ICSA Standard	MP33623,MP33624
CRI Standard	
Chk Standard	MP33669,MP33627,MP33628

68	CCB084	CCB084	CCB	05/06/16 18:51		OK

EPA SAMPLE NO.

MH4002

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-01

% Solids: Date Received: 05/03/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1605

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4025

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-04

% Solids: 63.6 Date Received: 05/04/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.21		05/11/2016	1258

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4028

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-07

% Solids: 63.5 Date Received: 05/04/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.087	J	05/11/2016	1304

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4029

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-08

% Solids: 44.7 Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.13	J	05/11/2016	1306

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4030

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: SOIL Lab Sample ID: H2837-09

% Solids: 39 Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.14	J	05/11/2016	1308

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4113

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-10

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1622

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4116

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-11

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1611

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4202

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-12

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1613

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4211

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-13

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1615

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4217

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-14

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1617

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH4218

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix: WATER Lab Sample ID: H2837-15

% Solids: Date Received: 05/05/2016

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/06/2016	1619

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 2 - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Initial Calibration Verification Source : EPA-0508

Continuing Calibration Verification Source : MP33597

Run Batch: LB81450 Analytical Method: CVAA

Concentration Units: µg/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID: ICV				ID: CCV029				ID: CCV030		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Mercury	4.0	3.9	98		5.0	4.9	98		4.7	94	

FORM 2 - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Initial Calibration Verification Source : EPA-0508

Continuing Calibration Verification Source : MP33662

Run Batch: LB81528 Analytical Method: CVAA

Concentration Units: µg/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID: ICV				ID: CCV006				ID: CCV007		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Mercury	4.0	4.0	100		5.0	4.9	98		5.1	102	

FORM 3 - IN
BLANKS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Preparation Blank Matrix : WATER

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): ug/L

Analytical Method: CVAA Preparation Batch: PB90345

Run Batch: LB81450 Preparation Method: 7470A

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction	
	ID: ICB	Q	ID: CCB029	Q	ID: CCB030	Q	ID:	Q	ID: PBW003	Q
Mercury	0.2	U	0.2	U	0.2	U			0.2	U

FORM 3 - IN
BLANKS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Preparation Blank Matrix : Solid

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical Method: CVAA Preparation Batch: PB90463

Run Batch: LB81528 Preparation Method: 7471B

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction	
	ID: ICB	Q	ID: CCB006	Q	ID: CCB007	Q	ID:	Q	ID: PBS004	Q
Mercury	0.2	U	0.2	U	0.2	U			0.096	U

EPA SAMPLE NO.

MH4002S

FORM 5A - IN

MATRIX SPIKE SAMPLE RECOVERY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : WATER Analytical Method: CVAA

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight): ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Mercury	75 - 125	1.1		0.2	U	1.0	110	

EPA SAMPLE NO.

MH4025S

FORM 5A - IN

MATRIX SPIKE SAMPLE RECOVERY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : Solid Analytical Method: CVAA

% Solids: 63.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Mercury	75 - 125	0.86		0.21		0.68	96	

EPA SAMPLE NO.

MH4113S

FORM 5A - IN

MATRIX SPIKE SAMPLE RECOVERY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : WATER Analytical Method: CVAA

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight): ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Mercury	75 - 125	1.0		0.2	U	1.0	100	

EPA SAMPLE NO.

MH4002D

FORM 6 - IN
DUPLICATES

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : WATER Analytical Method: CVAA

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight): ug/L

Analyte	Control Limit	Sample (S)	Q	Duplicate (D)	Q	RPD	Q
Mercury		0.2	U	0.2	U		

EPA SAMPLE NO.

MH4025D

FORM 6 - IN
DUPLICATES

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : Solid Analytical Method: CVAA

% Solids: 63.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/kg

Analyte	Control Limit	Sample (S)	Q	Duplicate (D)	Q	RPD	Q
Mercury	0.14	0.21		0.21		0	

EPA SAMPLE NO.

MH4113D

FORM 6 - IN
DUPLICATES

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No. : SDG No.: MH4002

Matrix : WATER Analytical Method: CVAA

% Solids:

Concentration Units (µg/L, mg/L or mg/kg dry weight): ug/L

Analyte	Control Limit	Sample (S)	Q	Duplicate (D)	Q	RPD	Q
Mercury		0.2	U	0.2	U		

FORM 9-IN

METHOD DETECTION LIMIT

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Analytical Method: CVAA Instrument ID: CV1

Preparation Method: 7470A

Concentration Units (µg/L, µg or mg/kg): ug/L

Analyte	Wavelength/Mass	MDL	Date Analyzed
Mercury	253.70	0.043	12/09/2015

FORM 9-IN

METHOD DETECTION LIMIT

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Analytical Method: CVAA Instrument ID: CV1

Preparation Method: 7471B

Concentration Units (µg/L, µg or mg/kg): mg/kg

Analyte	Wavelength/Mass	MDL	Date Analyzed
Mercury	253.70	0.0098	12/10/2015

FORM 12-IN
ANALYSIS LOG

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: CV1 Analytical Method: CVAA

Start Date: 05/06/2016 End Date: 05/06/2016

Run Batch: LB81450

EPA Sample No.	D/F	Time	Analytes																										
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
S0.0	1.0	1540															X												
S0.2	1.0	1543															X												
S2.5	1.0	1545															X												
S5.0	1.0	1547															X												
S7.5	1.0	1549															X												
S10.0	1.0	1551															X												
ICV	1.0	1554															X												
ICB	1.0	1556															X												
CCV029	1.0	1558															X												
CCB029	1.0	1600															X												
PBW003	1.0	1602															X												
MH4002	1.0	1605															X												
MH4002D	1.0	1607															X												
MH4002S	1.0	1609															X												
MH4116	1.0	1611															X												
MH4202	1.0	1613															X												
MH4211	1.0	1615															X												
MH4217	1.0	1617															X												
MH4218	1.0	1619															X												
MH4113	1.0	1622															X												
MH4113D	1.0	1624															X												
MH4113S	1.0	1626															X												
ZZZZZZ	1.0	1628																											
ZZZZZZ	1.0	1630																											
ZZZZZZ	1.0	1632																											
ZZZZZZ	1.0	1634																											
ZZZZZZ	1.0	1636																											
ZZZZZZ	1.0	1639																											
ZZZZZZ	1.0	1641																											
ZZZZZZ	1.0	1643																											
CCV030	1.0	1645															X												
CCB030	1.0	1647															X												

FORM 12-IN

ANALYSIS LOG

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: CV1 Analytical Method: CVAA

Start Date: 05/11/2016 End Date: 05/11/2016

Run Batch: LB81528

EPA Sample No.	D/F	Time	Analytes																										
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
S0.0	1.0	1234															X												
S0.2	1.0	1236															X												
S2.5	1.0	1238															X												
S5.0	1.0	1240															X												
S7.5	1.0	1243															X												
S10.0	1.0	1245															X												
ICV	1.0	1247															X												
ICB	1.0	1249															X												
CCV006	1.0	1251															X												
CCB006	1.0	1254															X												
PBS004	1.0	1256															X												
MH4025	1.0	1258															X												
MH4025D	1.0	1300															X												
MH4025S	1.0	1302															X												
MH4028	1.0	1304															X												
MH4029	1.0	1306															X												
MH4030	1.0	1308															X												
ZZZZZZ	1.0	1311																											
ZZZZZZ	1.0	1313																											
ZZZZZZ	1.0	1315																											
ZZZZZZ	1.0	1317																											
ZZZZZZ	1.0	1319																											
ZZZZZZ	1.0	1321																											
ZZZZZZ	1.0	1323																											
ZZZZZZ	1.0	1325																											
ZZZZZZ	1.0	1328																											
ZZZZZZ	1.0	1330																											
ZZZZZZ	1.0	1332																											
ZZZZZZ	1.0	1334																											
ZZZZZZ	1.0	1336																											
CCV007	1.0	1338															X												
CCB007	1.0	1340															X												

FORM 15-IN

INITIAL CALIBRATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: CV1 Start Date: 05/06/2016

Analytical Method: CVAA Run Batch: LB81450

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Mercury	0	0.032	0	0.2	0.21	-5	2.5	2.5	0

FORM 15-IN

INITIAL CALIBRATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: CV1 Start Date: 05/06/2016

Analytical Method: CVAA Run Batch: LB81450

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Mercury	5	5.0	0	7.5	7.5	0	10	10.0	0

FORM 15-IN

INITIAL CALIBRATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: CV1 Start Date: 05/11/2016

Analytical Method: CVAA Run Batch: LB81528

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Mercury	0	0	0	0.2	0.19	5	2.5	2.5	0

FORM 15-IN

INITIAL CALIBRATION

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: _____ SDG No.: MH4002

Instrument ID: CV1 Start Date: 05/11/2016

Analytical Method: CVAA Run Batch: LB81528

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Mercury	5	5.0	0	7.5	7.5	0	10	10.0	0

FORM 16-IN

INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: CV1 Start Date : 05/06/2016

Analytical Method: CVAA Run Batch : LB81450

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Mercury	0.99996	1.00001	-0.000189092	Lin. Reg	NONE

FORM 16-IN

INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: MH4002

Instrument ID: CV1 Start Date : 05/11/2016

Analytical Method: CVAA Run Batch : LB81528

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Mercury	0.99999	1.00049	-0.00370812	Lin. Reg	NONE

MERCURY ANALYSIS LOGBOOK

Date	Case Number	Batch Number	Start Time	BLK	STD1 0.05/0.2	STD2	STD3	STD4
05/03/16 (15mo)	H2717	PB90301	14:23	24	179/812	10460	21147	31784
	H2718	PB90302						
	H2573	PB90328						
05/06/16 (3430)	H2629	PB90307	11:07	-40	631	8983	17240	26865
	H2855	PB90325		-40	631	8983	17240	26865
05/06/16 (15mo)	H2751	PB90319	13:57	50	820	10005	20992	31460
	H2752	PB90317						
05/06/16 (15mo)	H2837	PB90345	15:40	44	810	10473	21176	31763
	H2842	PB90346						
	H2855	PB90347						

MERCURY ANALYSIS LOGBOOK

STD 5	End Time	Correlation Coeficient	Stannous Chloride Prep log #	Comment	Analyst	Supervisor Signature
41816	17:02	0.998560	MP33582	ICVIB - CCVIB- 018-021	NB	
					NB	
					NB	
34937	11:13	0.9997228	MP33586	ICVIB - 33 CCVIB 22-25	NB	
					NB	
41848	15:21	0.9998812	MP33586	ICVIB - CCVIB- 026-028	NB	
					NB	
42835	17:29	0.9995598	MP33586	ICVIB - CCVIB- 029-031	NB	
					NB	
					NB	

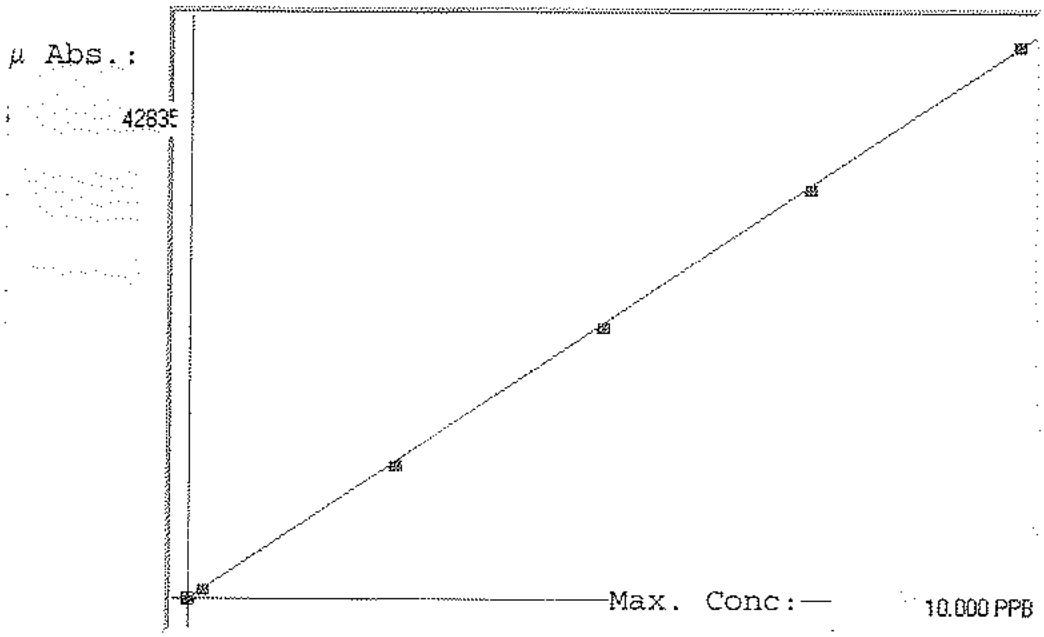
Reviewed By:mohan On:5/9/2016 7:53:18 PM Inst Id :CV1

Reviewed By:mohan
On:5/9/2016 7:53:18 PM
Inst Id :CV1

ISM02.2

LB81450
INSTRUMENT ID: CV1

Linear



A= 0.0000e+000

B= 2.3410e-004 slope

C= 2.1331e-002 y = mx + c

Rho= 0.9999599

Accept=Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	%D
0.0	0.000	0.032	0.032	44	0.000	44					5
0.2	0.200	0.211	0.011	810	0.0 %	810					-1
2.5	2.500	2.473	-0.027	10473	0.0 %	10473					0
5.0	5.000	4.979	-0.021	21176	0.0 %	21176					-1
7.5	7.500	7.457	-0.043	31763	0.0 %	31763					0
10.0	10.000	10.049	0.049	42835	0.0 %	42835					

NB
5/6/16

Reviewed By:mohan
On:5/9/2016 7:53:18 PM
Inst Id :CV1

LB81450

INSTRUMENT ID : CV1

Sample ID	Extended ID	µ Abs.	Conc.		Stnd Conc	Method	Units	Date	Type
0	S0	44	-		0	ISM02.2	PPB	5/6/2016 15:40	Std
0.2	S0.2	810	-		0.2	ISM02.2	PPB	5/6/2016 15:43	Std
2.5	S2.5	10473	-		2.5	ISM02.2	PPB	5/6/2016 15:45	Std
5	S5	21176	-		5	ISM02.2	PPB	5/6/2016 15:47	Std
7.5	S7.5	31763	-		7.5	ISM02.2	PPB	5/6/2016 15:49	Std
10	S10	42835	-		10	ISM02.2	PPB	5/6/2016 15:51	Std
ICV	ICV	16707	3.9324	-		ISM02.2	PPB	5/6/2016 15:54	SMPL
ICB	ICB	-140	-0.0114	-		ISM02.2	PPB	5/6/2016 15:56	SMPL
CCV029	CCV029	21019	4.9418	-		ISM02.2	PPB	5/6/2016 15:58	SMPL
CCB029	CCB029	-208	-0.0274	-		ISM02.2	PPB	5/6/2016 16:00	SMPL
PB90345BL	PBW003	-12	0.0185	-		ISM02.2	PPB	5/6/2016 16:02	SMPL
H2837-01	MH4002	50	0.033	-		ISM02.2	PPB	5/6/2016 16:05	SMPL
H2837-02	MH4002D	41	0.0309	-		ISM02.2	PPB	5/6/2016 16:07	SMPL
H2837-03	MH4002S	4440	1.0607	-		ISM02.2	PPB	5/6/2016 16:09	SMPL
H2837-11	MH4116	13	0.0244	-		ISM02.2	PPB	5/6/2016 16:11	SMPL
H2837-12	MH4202	24	0.0269	-		ISM02.2	PPB	5/6/2016 16:13	SMPL
H2837-13	MH4211	27	0.0277	-		ISM02.2	PPB	5/6/2016 16:15	SMPL
H2837-14	MH4217	13	0.0244	-		ISM02.2	PPB	5/6/2016 16:17	SMPL
H2837-15	MH4218	13	0.0244	-		ISM02.2	PPB	5/6/2016 16:19	SMPL
H2837-10	MH4113	35	0.0295	-		ISM02.2	PPB	5/6/2016 16:22	SMPL
H2837-16	MH4113D	25	0.0272	-		ISM02.2	PPB	5/6/2016 16:24	SMPL
H2837-17	MH4113S	4368	1.0439	-		ISM02.2	PPB	5/6/2016 16:26	SMPL
PB90346BL	PBW003	13	0.0244	-		ISM02.2	PPB	5/6/2016 16:28	SMPL
H2842-01	MD9WR6	16011	3.7695	-		ISM02.2	PPB	5/6/2016 16:30	SMPL
H2842-21	MD9WZ8	-86	0.0012	-		ISM02.2	PPB	5/6/2016 16:32	SMPL
H2842-22	MD9X00	421	0.1199	-		ISM02.2	PPB	5/6/2016 16:34	SMPL
H2842-23	MD9X00D	332	0.0991	-		ISM02.2	PPB	5/6/2016 16:36	SMPL
H2842-24	MD9X00S	4287	1.0249	-		ISM02.2	PPB	5/6/2016 16:39	SMPL
PB90347BL	PBW003	-203	-0.0262	-		ISM02.2	PPB	5/6/2016 16:41	SMPL
H2855-01	MD9X10	-35	0.0131	-		ISM02.2	PPB	5/6/2016 16:43	SMPL
CCV030	CCV030	19833	4.6642	-		ISM02.2	PPB	5/6/2016 16:45	SMPL
CCB030	CCB030	-149	-0.0135	-		ISM02.2	PPB	5/6/2016 16:47	SMPL
H2855-02	MD9X15	167	0.0604	-		ISM02.2	PPB	5/6/2016 16:49	SMPL
H2855-03	MD9X16	288	0.0888	-		ISM02.2	PPB	5/6/2016 16:51	SMPL
H2855-04	MD9X17	-23	0.0159	-		ISM02.2	PPB	5/6/2016 16:53	SMPL
H2855-05	MD9WS1	-17	0.0174	-		ISM02.2	PPB	5/6/2016 16:56	SMPL
H2855-06	MD9WZ3	16	0.0251	-		ISM02.2	PPB	5/6/2016 16:58	SMPL
H2855-07	MD9WZ4	-11	0.0188	-		ISM02.2	PPB	5/6/2016 17:00	SMPL
H2855-08	MD9WZS	9	0.0234	-		ISM02.2	PPB	5/6/2016 17:02	SMPL
H2855-09	MD9WZ7	-18	0.0171	-		ISM02.2	PPB	5/6/2016 17:04	SMPL
H2855-10	MD9X02	-23	0.0159	-		ISM02.2	PPB	5/6/2016 17:06	SMPL
H2855-11	MD9X03	-8	0.0195	-		ISM02.2	PPB	5/6/2016 17:08	SMPL
H2855-12	MD9X04	9	0.0234	-		ISM02.2	PPB	5/6/2016 17:10	SMPL
H2855-13	MD9X04D	2	0.0218	-		ISM02.2	PPB	5/6/2016 17:13	SMPL
H2855-14	MD9X04S	4015	0.9612	-		ISM02.2	PPB	5/6/2016 17:15	SMPL
H2855-15	MD9X08	82	0.0405	-		ISM02.2	PPB	5/6/2016 17:17	SMPL

Reviewed By:mohan
On:5/9/2016 7:53:18 PM
Inst Id :CV1

LB81450

INSTRUMENT ID : CV1

H2855-16	MD9X09	25	0.0272	-	ISM02.2	PPB	5/6/2016 17:19	SMPL
H2855-17	MD9X11	-49	0.0099	-	ISM02.2	PPB	5/6/2016 17:21	SMPL
H2855-18	MD9X13	-50	0.0096	-	ISM02.2	PPB	5/6/2016 17:23	SMPL
H2855-19	MD9X14	-38	0.0124	-	ISM02.2	PPB	5/6/2016 17:25	SMPL
CCV031	CCV031	20143	4.7367	-	ISM02.2	PPB	5/6/2016 17:27	SMPL
CCB031	CCB031	-131	-0.0093	-	ISM02.2	PPB	5/6/2016 17:29	SMPL

CHEMTECH

284 Sheffield Street Mountainside, NJ 07092

MERCURY ANALYSIS LOGBOOK

Date	Case Number	Batch Number	Start Time	BLK	STD1	STD2	STD3	STD4
5/18/16 (3491)	H2940	PB 90469	9:42	123	844	10409	21672	39415
	H2952							
	H2957							
	H2961							
	H2965							
	H2968	PB 90470						
5/17/16 (1500)	H2837	PB 90463	12:34	103	1071	12327	24343	38072
	H2887	PB 90464						
	H2892	PB 90465						
	H2893	PB 90471						
	H2923	PB 90472						
	H2924	PB 90473						

QA Control # A3041058

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CHEMTECH

284 Sheffield Street Mountainside, NJ 07092

MERCURY ANALYSIS LOGBOOK

STD 5	End Time	Correlation Coeficient	Stannous Chloride Prep log #	Comment	Analyst	Supervisor Signature
43299	12:08	0.9997298	MP33672	ICVIB - 39 CCVIA 01-05	MB	
					MB	
					MB	
					MB	
					MB	
					MB	
48431	17:29	0.9999892	MP33672	ICVIB: CCVIA: 006-012	MB	
					MB	
					MB	
					MB	
					MB	
					MB	

QA Control # A3041058

LB 81528 CV2

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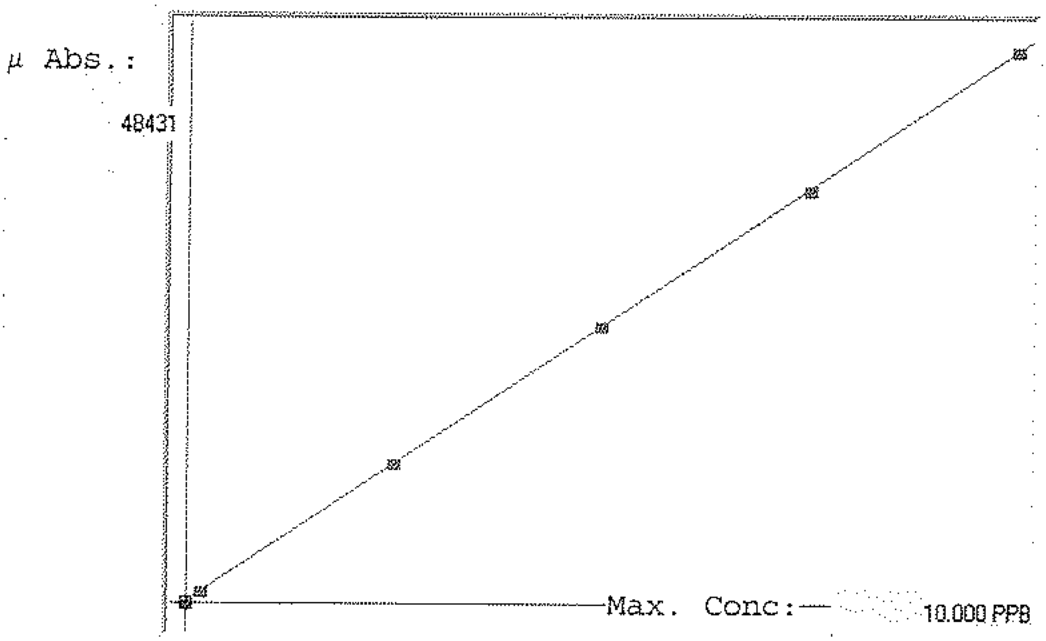
Reviewed By:jaswal
On:5/13/2016 12:55:42 PM
Inst Id :CV1

Reviewed By:jaswal
On:5/13/2016 12:55:42 PM
Inst Id :CV1

ISM02.2 LB81529

INSTRUMENT ID: CV1

Linear



A= 0.0000e+000

B= 2.0727e-004 slope

C= -3.0915e-002 y-intercept

Rho= 0.9999892

Accept=Accepted

Std ID	Conc	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	%D
0.0	0.000	-0.010	-0.010	103	0.000	103					-
0.2	0.200	0.191	-0.009	1071	0.0 %	1071					-5
2.5	2.500	2.524	0.024	12327	0.0 %	12327					1
5.0	5.000	5.015	0.015	24343	0.0 %	24343					0
7.5	7.500	7.473	-0.027	36202	0.0 %	36202					0
10.0	10.000	10.007	0.007	48431	0.0 %	48431					0

mb
5/11/16

Reviewed By:jaswal
On:5/13/2016 12:55:42 PM
Inst Id :CV1

LB81528

INSTRUMENT ID : CV1

Sample ID	Extended ID	µ Abs.	Conc.		Stnd Conc	Method	Units	Date	Type
0	S0	103	-		0	ISM02.2	PPB	5/11/2016 12:34	Std
0.2	S0.2	1071	-		0.2	ISM02.2	PPB	5/11/2016 12:36	Std
2.5	S2.5	12327	-		2.5	ISM02.2	PPB	5/11/2016 12:38	Std
5	S5	24343	-		5	ISM02.2	PPB	5/11/2016 12:40	Std
7.5	S7.5	36202	-		7.5	ISM02.2	PPB	5/11/2016 12:43	Std
10	S10	48431	-		10	ISM02.2	PPB	5/11/2016 12:45	Std
ICV	ICV	19593	4.0301	-		ISM02.2	PPB	5/11/2016 12:47	SMPL
ICB	ICB\	35	-0.0237	-		ISM02.2	PPB	5/11/2016 12:49	SMPL
CCV006	CCV006	24005	4.9445	-		ISM02.2	PPB	5/11/2016 12:51	SMPL
CCB006	CCB006	19	-0.027	-		ISM02.2	PPB	5/11/2016 12:54	SMPL
PB90463BL	PBS004	69	-0.0166	-		ISM02.2	PPB	5/11/2016 12:56	SMPL
H2837-04	MH4025	3928	0.7832	-		ISM02.2	PPB	5/11/2016 12:58	SMPL
H2837-05	MH4025D	3881	0.7735	-		ISM02.2	PPB	5/11/2016 13:00	SMPL
H2837-06	MH4025S	15434	3.1681	-		ISM02.2	PPB	5/11/2016 13:02	SMPL
H2837-07	MH4028	1692	0.3198	-		ISM02.2	PPB	5/11/2016 13:04	SMPL
H2837-08	MH4029	1736	0.3289	-		ISM02.2	PPB	5/11/2016 13:06	SMPL
H2837-09	MH4030	1643	0.3096	-		ISM02.2	PPB	5/11/2016 13:08	SMPL
PB90464BL	PBS004	-16	-0.0342	-		ISM02.2	PPB	5/11/2016 13:11	SMPL
H2887-01	MB0AR7	1011	0.1786	-		ISM02.2	PPB	5/11/2016 13:13	SMPL
H2887-02	MBD371	2346	0.4553	-		ISM02.2	PPB	5/11/2016 13:15	SMPL
H2887-03	MBD371D	2450	0.4769	-		ISM02.2	PPB	5/11/2016 13:17	SMPL
H2887-04	MBD371S	14478	2.9699	-		ISM02.2	PPB	5/11/2016 13:19	SMPL
H2887-05	MBD373	833	0.1417	-		ISM02.2	PPB	5/11/2016 13:21	SMPL
H2887-06	MBD374	953	0.1666	-		ISM02.2	PPB	5/11/2016 13:23	SMPL
H2887-07	MBD376	1386	0.2564	-		ISM02.2	PPB	5/11/2016 13:25	SMPL
H2887-08	MBD377	730	0.1204	-		ISM02.2	PPB	5/11/2016 13:28	SMPL
H2887-09	MBD378	765	0.1276	-		ISM02.2	PPB	5/11/2016 13:30	SMPL
H2887-10	MBD395	1936	0.3704	-		ISM02.2	PPB	5/11/2016 13:32	SMPL
H2887-11	MBD396	1011	0.1786	-		ISM02.2	PPB	5/11/2016 13:34	SMPL
H2887-12	MBD397	496	0.0719	-		ISM02.2	PPB	5/11/2016 13:36	SMPL
CCV007	CCV007	24882	5.1263	-		ISM02.2	PPB	5/11/2016 13:38	SMPL
CCB007	CCB007	-94	-0.0504	-		ISM02.2	PPB	5/11/2016 13:40	SMPL
H2887-13	MBD398	1005	0.1774	-		ISM02.2	PPB	5/11/2016 13:42	SMPL
H2887-14	MBD3A2	5564	1.1223	-		ISM02.2	PPB	5/11/2016 13:44	SMPL
H2887-15	MBD3A3	908	0.1573	-		ISM02.2	PPB	5/11/2016 13:47	SMPL
H2887-16	MBD3A4	700	0.1142	-		ISM02.2	PPB	5/11/2016 13:49	SMPL
H2887-17	MBD3A5	675	0.109	-		ISM02.2	PPB	5/11/2016 13:51	SMPL
H2887-18	MBD3C1	885	0.1525	-		ISM02.2	PPB	5/11/2016 13:53	SMPL
H2887-19	MBD3C2	286	0.0284	-		ISM02.2	PPB	5/11/2016 13:55	SMPL
H2887-20	MBD3C3	689	0.1119	-		ISM02.2	PPB	5/11/2016 13:57	SMPL
H2887-21	MBD3C4	495	0.0717	-		ISM02.2	PPB	5/11/2016 13:59	SMPL
H2887-22	MBD3E1	476	0.0677	-		ISM02.2	PPB	5/11/2016 14:01	SMPL
PB90465BL	PBS004	3	-0.0303	-		ISM02.2	PPB	5/11/2016 14:04	SMPL
H2892-01	MD9WS2	324	0.0362	-		ISM02.2	PPB	5/11/2016 14:06	SMPL
H2892-02	MD9WT9	25936	5.3448	-		ISM02.2	PPB	5/11/2016 14:08	SMPL
H2892-03	MD9WW0	1204	0.2186	-		ISM02.2	PPB	5/11/2016 14:10	SMPL

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H2892-04	MD9WW1	2410	0.4686	-	ISM02.2	PPB	5/11/2016 14:12 SMPL
H2892-05	MD9WW2	1572	0.2949	-	ISM02.2	PPB	5/11/2016 14:14 SMPL
H2892-06	MD9WW3	456	0.0636	-	ISM02.2	PPB	5/11/2016 14:16 SMPL
H2892-07	MD9WW4	5119	1.0301	-	ISM02.2	PPB	5/11/2016 14:18 SMPL
H2892-08	MD9WW6	142	-0.0015	-	ISM02.2	PPB	5/11/2016 14:21 SMPL
H2892-09	MD9WW7	992	0.1747	-	ISM02.2	PPB	5/11/2016 14:23 SMPL
CCV008	CCV008	24708	5.0902	-	ISM02.2	PPB	5/11/2016 14:25 SMPL
CCB008	CCB008	-96	-0.0508	-	ISM02.2	PPB	5/11/2016 14:27 SMPL
H2892-10	MD9WW8	922	0.1602	-	ISM02.2	PPB	5/11/2016 14:29 SMPL
H2892-11	MD9WW9	1051	0.1869	-	ISM02.2	PPB	5/11/2016 14:31 SMPL
H2892-12	MD9WX0	852	0.1457	-	ISM02.2	PPB	5/11/2016 14:33 SMPL
H2892-13	MD9WX2	45	-0.0216	-	ISM02.2	PPB	5/11/2016 14:35 SMPL
H2892-14	MD9WX3	254	0.0217	-	ISM02.2	PPB	5/11/2016 14:38 SMPL
H2892-15	MD9WX7	556	0.0843	-	ISM02.2	PPB	5/11/2016 14:40 SMPL
H2892-16	MD9WX9	527	0.0783	-	ISM02.2	PPB	5/11/2016 14:42 SMPL
H2892-17	MD9WY0	326	0.0367	-	ISM02.2	PPB	5/11/2016 14:44 SMPL
H2892-18	MD9WY0D	328	0.0371	-	ISM02.2	PPB	5/11/2016 14:46 SMPL
H2892-19	MD9WY0S	12637	2.5883	-	ISM02.2	PPB	5/11/2016 14:48 SMPL
H2892-20	MD9WY1	1528	0.2858	-	ISM02.2	PPB	5/11/2016 14:50 SMPL
H2892-21	MD9WY3	69	-0.0166	-	ISM02.2	PPB	5/11/2016 14:52 SMPL
H2892-22	MD9WY5	3945	0.7868	-	ISM02.2	PPB	5/11/2016 14:55 SMPL
PB90471BL	PBS004	-21	-0.0353	-	ISM02.2	PPB	5/11/2016 14:57 SMPL
H2893-01	MD9WY7	961	0.1683	-	ISM02.2	PPB	5/11/2016 14:59 SMPL
H2893-02	MD9WY9	793	0.1334	-	ISM02.2	PPB	5/11/2016 15:01 SMPL
H2893-03	MD9WT2	586192	HIGH	-	ISM02.2	PPB	5/11/2016 15:03
H2893-05	MD9WT4	10523	2.1502	-	ISM02.2	PPB	5/11/2016 15:07 SMPL
H2893-06	MD9WT5	780	0.1308	-	ISM02.2	PPB	5/11/2016 15:09 SMPL
CCV009	CCV009	24568	5.0612	-	ISM02.2	PPB	5/11/2016 15:12 SMPL
CCB009	CCB009	-100	-0.0516	-	ISM02.2	PPB	5/11/2016 15:14 SMPL
H2893-07	MD9WT6	10770	2.2014	-	ISM02.2	PPB	5/11/2016 15:16 SMPL
H2893-08	MD9WT7	3147	0.6214	-	ISM02.2	PPB	5/11/2016 15:18 SMPL
H2893-09	MD9WT7D	3401	0.674	-	ISM02.2	PPB	5/11/2016 15:20 SMPL
H2893-10	MD9WT7S	15655	3.2139	-	ISM02.2	PPB	5/11/2016 15:22 SMPL
H2893-11	MD9WT8	2093	0.4029	-	ISM02.2	PPB	5/11/2016 15:24 SMPL
H2893-12	MD9WY4	1129	0.2031	-	ISM02.2	PPB	5/11/2016 15:26 SMPL
H2893-13	MD9WY6	7079	1.4363	-	ISM02.2	PPB	5/11/2016 15:29 SMPL
H2893-14	MD9WY8	16256	3.3384	-	ISM02.2	PPB	5/11/2016 15:31 SMPL
H2893-20	MD9WX8	444	0.0611	-	ISM02.2	PPB	5/11/2016 15:33 SMPL
PB90472BL	PBS004	-18	-0.0346	-	ISM02.2	PPB	5/11/2016 15:35 SMPL
H2923-01	ME5NH5	205	0.0116	-	ISM02.2	PPB	5/11/2016 15:37 SMPL
H2923-02	ME5NH6	436	0.0595	-	ISM02.2	PPB	5/11/2016 15:39 SMPL
H2923-03	ME5NE9	2690	0.5266	-	ISM02.2	PPB	5/11/2016 15:41 SMPL
H2923-04	ME5NF0	1619	0.3047	-	ISM02.2	PPB	5/11/2016 15:43 SMPL
H2923-05	ME5NF1	5410	1.0904	-	ISM02.2	PPB	5/11/2016 15:46 SMPL
H2923-06	ME5NF2	-55	-0.0423	-	ISM02.2	PPB	5/11/2016 15:48 SMPL
H2923-07	ME5NF3	325	0.0364	-	ISM02.2	PPB	5/11/2016 15:50 SMPL
H2923-08	ME5NF4	863	0.148	-	ISM02.2	PPB	5/11/2016 15:52 SMPL

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H2923-09	ME5NF5	99	-0.0104	-	ISM02.2	PPB	5/11/2016 15:54 SMPL
H2923-10	ME5NF6	252	0.0213	-	ISM02.2	PPB	5/11/2016 15:56 SMPL
CCV010	CCV010	24822	5.1139	-	ISM02.2	PPB	5/11/2016 15:58 SMPL
CCB010	CCB010	-41	-0.0394	-	ISM02.2	PPB	5/11/2016 16:01 SMPL
H2923-11	ME5NF7	1717	0.325	-	ISM02.2	PPB	5/11/2016 16:03 SMPL
H2923-12	ME5NF8	2754	0.5399	-	ISM02.2	PPB	5/11/2016 16:05 SMPL
H2923-13	ME5NF9	494	0.0715	-	ISM02.2	PPB	5/11/2016 16:07 SMPL
H2923-14	ME5NG0	423	0.0568	-	ISM02.2	PPB	5/11/2016 16:09 SMPL
H2923-15	ME5NG1	951	0.1662	-	ISM02.2	PPB	5/11/2016 16:11 SMPL
H2923-16	ME5NG2	806	0.1361	-	ISM02.2	PPB	5/11/2016 16:13 SMPL
H2923-17	ME5NG3	849	0.1451	-	ISM02.2	PPB	5/11/2016 16:15 SMPL
H2923-18	ME5NG4	1647	0.3105	-	ISM02.2	PPB	5/11/2016 16:23 SMPL
H2923-19	ME5NG4D	1573	0.2951	-	ISM02.2	PPB	5/11/2016 16:25 SMPL
H2923-20	ME5NG4S	12685	2.5983	-	ISM02.2	PPB	5/11/2016 16:30 SMPL
H2923-21	ME5NG5	68027	14.0689	-	ISM02.2	PPB	5/11/2016 16:32 SMPL
H2923-22	ME5NG6	67176	13.8925	-	ISM02.2	PPB	5/11/2016 16:34 SMPL
PB90473BL	PBS004	-188	-0.0699	-	ISM02.2	PPB	5/11/2016 16:36 SMPL
H2924-01	ME5NG7	2795	0.5484	-	ISM02.2	PPB	5/11/2016 16:39 SMPL
H2924-02	ME5NG8	667	0.1073	-	ISM02.2	PPB	5/11/2016 16:41 SMPL
H2924-03	ME5NG9	1865	0.3556	-	ISM02.2	PPB	5/11/2016 16:43 SMPL
H2924-04	ME5NH0	1096	0.1963	-	ISM02.2	PPB	5/11/2016 16:45 SMPL
H2924-05	ME5NH1	3673	0.7304	-	ISM02.2	PPB	5/11/2016 16:47 SMPL
H2924-06	ME5NH2	5007	1.0069	-	ISM02.2	PPB	5/11/2016 16:49 SMPL
H2924-07	ME5NH3	822	0.1395	-	ISM02.2	PPB	5/11/2016 16:51 SMPL
CCV011	CCV011	24758	5.1006	-	ISM02.2	PPB	5/11/2016 16:54 SMPL
CCB011	CCB011	-11	-0.0332	-	ISM02.2	PPB	5/11/2016 16:56 SMPL
H2924-08	ME5NH4	1504	0.2808	-	ISM02.2	PPB	5/11/2016 16:58 SMPL
H2924-09	ME5NH4D	1485	0.2769	-	ISM02.2	PPB	5/11/2016 17:00 SMPL
H2924-10	ME5NH4S	14257	2.9241	-	ISM02.2	PPB	5/11/2016 17:02 SMPL
H2893-03DLX10	MD9WT2	101599	21.0272	-	ISM02.2	PPB	5/11/2016 17:04 SMPL
H2893-04	MD9WT3	260	0.023	-	ISM02.2	PPB	5/11/2016 17:06 SMPL
H2923-21DLX5	ME5NG5	13844	2.8385	-	ISM02.2	PPB	5/11/2016 17:12 SMPL
H2923-22DLX5	ME5NG6	13809	2.8312	-	ISM02.2	PPB	5/11/2016 17:17 SMPL
H2893-03DL2X50	MD9WT2	20265	4.1694	-	ISM02.2	PPB	5/11/2016 17:19 SMPL
CCV012	CCV012	24091	4.9624	-	ISM02.2	PPB	5/11/2016 17:27 SMPL
CCB012	CCB012	-23	-0.0357	-	ISM02.2	PPB	5/11/2016 17:29 SMPL

CHEMTECH **MERCURY PREPARATION WORKSHEET**

PB90345

ISM02.2 M-ISM02.2 - Mercury in Waters-CV

SOP: M Revision:

Prep Code: 747A09

Batch # PB90345

Bath Temprature: —

Digestion Time: In: 10:40 Out: 12:40

Block Temprature: 95°C

PH STRIP: M3564 NB 5/6/16

Supervisor Signature:

Balance Check: (0.2G): —

Acceptance Range 0. 199-0.201 gram

Dig Technician Signature: NB

Date: 05/06/16 Time: 10:02 Final Volume: 100 ML

Sample Received By: NB

STANDARD NAME	MLS USED	STD REF. # FROM LOG
ICV		MP33595
CCV	100mL	MP33597
Matrix Spike	0.40mL	MP33588

NB 5/6/16

CHEMICAL USED	ML/SAMPLE USED	LOT NUMBER
HNO3/H2SO4 1:2	5.0mL	MP33426
KMN04	15.0mL	MP33566
K2S2O8	8.0mL	MP33428
Hydroxylamine HCL	6.0mL	MP.335

NB 5/6/16

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	Wt(g)/Vol(ml)	COMMENTS
BLK 0.0 ppb	S0	WATER	100 ML	MP33589
Std1 0.2 ppb	S0.2			MP33590
Std2 2.5 ppb	S2.5			MP33591
Std3 5.0 ppb	S5.0			MP33592
Std4 7.5 ppb	S7.5			MP33593
Std5 10.0 ppb	S10.0			MP33594
ICV	ICV			MP33595
ICB	ICB			MP33596
CCV	CCV			MP33597
CCB	CCB			MP33598
~~CRI~~	CRA / CRI			
~~CHK STD~~	CHK STD			

NB 5/6/16

Date/Time	Received By	Relinquished By	Location
	Analysis Group	Digestion Group	
			NB 5/6/16

CHEMTECH

MERCURY PREPARATION WORKSHEET

PB90345

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST	MATRIX	Wt(g) Vol(ml)	PH	COMMENTS	PREP Pos
H2837-01	MH4002	Mercury	Water	100	<2		
H2837-02	MH4002D	Mercury	Water		<2		
H2837-03	MH4002S	Mercury	Water		<2	MP33133	
H2837-10	MH4113	Mercury	Water		<2		
H2837-11	MH4116	Mercury	Water		<2		
H2837-12	MH4202	Mercury	Water		<2		
H2837-13	MH4211	Mercury	Water		<2		
H2837-14	MH4217	Mercury	Water		<2		
H2837-15	MH4218	Mercury	Water		<2		
H2837-16	MH4113D	Mercury	Water		<2		
H2837-17	MH4113S	Mercury	Water		<2	MP33188	
PB90345BL	PBW 003	Mercury	Water		<2		

MB
5/6/16

* BL=Blank * BS=Blank Spike * TB=TCLP Blank

CHEMTECH

MERCURY PREPARATION WORKSHEET

PB90345

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST	MATRIX	Wt(g) Vol(ml)	PH	COMMENTS	Prep Pos
H2837-01	MH4002	Mercury	Water	100	<2		
H2837-02	MH4002D	Mercury	Water	100	<2		
H2837-03	MH4002S	Mercury	Water	100	<2	MP33538	
H2837-10	MH4113	Mercury	Water	100	<2		
H2837-11	MH4116	Mercury	Water	100	<2		
H2837-12	MH4202	Mercury	Water	100	<2		
H2837-13	MH4211	Mercury	Water	100	<2		
H2837-14	MH4217	Mercury	Water	100	<2		
H2837-15	MH4218	Mercury	Water	100	<2		
H2837-16	MH4113D	Mercury	Water	100	<2		
H2837-17	MH4113S	Mercury	Water	100	<2	MP33584	
PB90345BL	PBW003	Mercury	Water	100	<2		

MB
5/6/16

* BL=Blank * BS=Blank Spike * TB=TCLP Blank

CHEMTECH **MERCURY PREPARATION WORKSHEET** **PB90463**

1SM02.2 MIS M02.2 "Mercury Ion Soil-01

SOP: M Revision: Prep Code: 7471B Batch # PB90463

Bath Temprature: — BALANCE ID: MSC-3 Digestion Time: In: 16:40 Out: 17:10

Block Temprature: 95°C Supervisor Signature:

Balance Check: (0.2G): 0.209 Acceptance Range 0. 199-0.201 gram NB 5/10/16 Dig Technician Signature: NB

Date: 05/10/16 Time: 11:54 Final Volume: 100 ML Sample Received By: NB

STANDARD NAME	MLS USED	STD REF. # FROM LOG
ICV	100mL	MP33660
CCV	100mL	MP33662
Matrix Spike	1.0mL	MP33653

NB 5/10/16

CHEMICAL USED	ML/SAMPLE USED	LOT NUMBER
AQUA REGIA	5.0mL	MP33666
KMN04	15.0mL	MP33667
Hydroxylamine HCL	6.0mL	MP33500
PTFE Boiling Stones		M3536

NB 5/10/16

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	Wt(g)/Vol(ml)	COMMENTS
BLK 0.0 ppb	S0	WATER	100 ML	MP33654
Std1 0.2 ppb	S0.2			MP33655
Std2 2.5 ppb	S2.5			MP33656
Std3 5.0 ppb	S5.0			MP33657
Std4 7.5 ppb	S7.5			MP33658
Std5 10.0 ppb	S10.0			MP33659
ICV	ICV			MP33660
ICB	ICB			MP33661
CCV	CCV			MP33662
CCB	CCB			MP33663
~~CRI~~	CRA / CRI			
~~CHK STD~~	CHK STD			

NB 5/10/16

Date/Time	Received By	Relinquished By	Location
	Analysis Group	Digestion Group	
			NB 5/10/16

CHEMTECH

MERCURY PREPARATION WORKSHEET

PB90463

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST	MATRIX	Wt(g)/Vol(ml)	PH	COMMENTS	PREP Pos
H2837-04	MH4025	Mercury	Solid	0.58	7	"	
H2837-05	MH4025D	Mercury	Solid	0.58	"	"	
H2837-06	MH4025S	Mercury	Solid	0.58	"	MP33653	
H2837-07	MH4028	Mercury	Solid	0.58	"	"	
H2837-08	MH4029	Mercury	Solid	0.58	"	"	
H2837-09	MH4030	Mercury	Solid	0.55	"	"	
PB90463BL	PBS 004	Mercury	Solid	0.52	L	"	

MS
5/10/16

* BL=Blank * BS=Blank Spike * TB=TCLP Blank

CHEMTECH

MERCURY PREPARATION WORKSHEET

PB90463

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST	MATRIX	Wt(g)/Vol(ml)	PH	COMMENTS	Prep Pos
H2837-04	MH4025	Mercury	Solid	0.58		"	
H2837-05	MH4025D	Mercury	Solid	0.58		"	
H2837-06	MH4025S	Mercury	Solid	0.58		MP33653	
H2837-07	MH4028	Mercury	Solid	0.58		"	
H2837-08	MH4029	Mercury	Solid	0.58		"	
H2837-09	MH4030	Mercury	Solid	0.55		"	
PB90463BL	PBS 0.04	Mercury	Solid	0.52		"	

MB
SY 10/16

* BL=Blank * BS=Blank Spike * TB=TCLP Blank

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Prep Standard - Chemical Standard Summary

Order ID : H2837

Test : Mercury

Prepbatch ID : PB90345,PB90463,

Sequence ID/Qc Batch ID: LB81450,LB81528,

Standard ID :
MP.335,MP33426,MP33428,MP33500,MP33566,MP33586,MP33588,MP33589,MP33590,MP33591,MP33592,MP33593,MP33594,MP33595,MP33596,MP33597,MP33598,MP33653,MP33654,MP33655,MP33656,MP33657,MP33658,MP33659,MP33660,MP33661,MP33662,MP33663,MP33666,MP33667,MP33672,

Chemical ID :
M2211,M3287,M3374,M3429,M3524,M3536,M3556,M3565,M3567,M3578,M3581,M3587,M3588,M3590,W1152,

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
896	2:1 H2SO4 : HN03	MP33426	04/27/2016	09/17/2016	mohan

FROM 1600.000ml of M3578 + 800.000ml of M3567 = Final Quantity: 2400.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
66	POTASSIUM PERSULFATE SOLUTION 5 %	MP33428	04/27/2016	10/27/2016	mohan

FROM 100.000gram of M2211 + 2000.000ml of W1152 = Final Quantity: 2000.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
67	SODIUM CHLORIDE - HYDROXYL-CHLORIDE SOLUTION	MP33500	05/02/2016	11/02/2016	mohan

FROM 2000.000ml of W1152 + 240.000gram of M3429 + 240.000gram of M3556 = Final Quantity: 2000.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
65	POTASSIUM PERMANGANATE SOLUTION 5 %	MP33566	05/05/2016	11/05/2016	mohan

FROM 100.000gram of M3287 + 2000.000ml of W1152 = Final Quantity: 2000.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
68	STANNOUS CHLORIDE SOLUTION	MP33586	05/06/2016	05/07/2016	mohan

FROM 450.000ml of W1152 + 50.000gram of M3581 + 50.000ml of M3588 = Final Quantity: 500.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP33588	05/06/2016	05/07/2016	mohan

FROM 1.000ml of M3587 + 2.500ml of M3565 + 96.500ml of W1152 = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1340	Hg 0.00 PPB STD	MP33589	05/06/2016	05/07/2016	mohan

FROM 2.500ml of M3587 + 247.500ml of W1152 = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1341	Hg 0.2 PPB STD	MP33590	05/06/2016	05/07/2016	mohan

FROM 2.500ml of M3587 + 247.300ml of W1152 + 0.200ml of MP33588 = Final Quantity: 250.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1342	Hg 2.5 PPB STD	MP33591	05/06/2016	05/07/2016	mohan

FROM 2.500ml of M3587 + 245.000ml of W1152 + 2.500ml of MP33588 = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1343	Hg 5.0 PPB STD	MP33592	05/06/2016	05/07/2016	mohan

FROM 2.500ml of M3587 + 242.500ml of W1152 + 5.000ml of MP33588 = Final Quantity: 250.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1344	Hg 7.5 PPB STD	MP33593	05/06/2016	05/07/2016	mohan

FROM 2.500ml of M3587 + 240.000ml of W1152 + 7.500ml of MP33588 = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1345	Hg 10.0 PPB STD	MP33594	05/06/2016	05/07/2016	mohan

FROM 2.500ml of M3587 + 237.500ml of W1152 + 10.000ml of MP33588 = Final Quantity: 250.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1346	Hg ICV SOLUTION	MP33595	05/06/2016	05/07/2016	mohan

FROM 2.500ml of M3374 + 2.500ml of M3587 + 245.000ml of W1152 = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1351	ICB (Hg 0.00 PPB SOLUTION)	MP33596	05/06/2016	05/07/2016	mohan

FROM 2.500ml of M3587 + 247.500ml of W1152 = Final Quantity: 250.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1358	CCV (Hg 5.0 PPB SOLUTION)	MP33597	05/06/2016	05/07/2016	mohan

FROM 485.000ml of W1152 + 5.000ml of M3587 + 10.000ml of MP33588 = Final Quantity: 500.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1352	CCB (Hg 0.00 PPB SOLUTION)	MP33598	05/06/2016	05/07/2016	mohan

FROM 495.000ml of W1152 + 5.000ml of M3587 = Final Quantity: 500.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP33653	05/10/2016	05/11/2016	mohan

FROM 1.000ml of M3590 + 2.500ml of M3565 + 96.500ml of W1152 = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1340	Hg 0.00 PPB STD	MP33654	05/10/2016	05/11/2016	mohan

FROM 2.500ml of M3590 + 247.500ml of W1152 = Final Quantity: 250.000 ml

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1341	Hg 0.2 PPB STD	MP33655	05/10/2016	05/11/2016	mohan

FROM 2.500ml of M3590 + 247.300ml of W1152 + 0.200ml of MP33653 = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1342	Hg 2.5 PPB STD	MP33656	05/10/2016	05/11/2016	mohan

FROM 2.500ml of M3590 + 245.000ml of W1152 + 2.500ml of MP33653 = Final Quantity: 250.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1343	Hg 5.0 PPB STD	MP33657	05/10/2016	05/11/2016	mohan

FROM 2.500ml of M3590 + 242.500ml of W1152 + 5.000ml of MP33653 = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1344	Hg 7.5 PPB STD	MP33658	05/10/2016	05/11/2016	mohan

FROM 2.500ml of M3590 + 240.000ml of W1152 + 7.500ml of MP33653 = Final Quantity: 250.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1345	Hg 10.0 PPB STD	MP33659	05/10/2016	05/11/2016	mohan

FROM 2.500ml of M3590 + 237.500ml of W1152 + 10.000ml of MP33653 = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1346	Hg ICV SOLUTION	MP33660	05/10/2016	05/11/2016	mohan

FROM 2.500ml of M3374 + 2.500ml of M3590 + 245.000ml of W1152 = Final Quantity: 250.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1351	ICB (Hg 0.00 PPB SOLUTION)	MP33661	05/10/2016	05/11/2016	mohan

FROM 2.500ml of M3590 + 247.500ml of W1152 = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1358	CCV (Hg 5.0 PPB SOLUTION)	MP33662	05/10/2016	05/11/2016	mohan

FROM 485.000ml of W1152 + 5.000ml of M3590 + 10.000ml of MP33653 = Final Quantity: 500.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1352	CCB (Hg 0.00 PPB SOLUTION)	MP33663	05/10/2016	05/11/2016	mohan

FROM 495.000ml of W1152 + 5.000ml of M3590 = Final Quantity: 500.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
887	AQUA REGIA FOR HG ON 7471A	MP33666	05/10/2016	05/11/2016	mohan

FROM 150.000ml of M3588 + 50.000ml of M3590 = Final Quantity: 200.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
65	POTASSIUM PERMANGANATE SOLUTION 5 %	MP33667	05/10/2016	11/10/2016	mohan

FROM 100.000gram of M3287 + 2000.000ml of W1152 = Final Quantity: 2000.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
68	STANNOUS CHLORIDE SOLUTION	MP33672	05/11/2016	05/12/2016	mohan

FROM 450.000ml of W1152 + 50.000gram of M3524 + 50.000gram of M3581 = Final Quantity: 500.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3238-05 / Potassium Persulfate (2.5kg)	K42631	12/16/2016	06/04/2015 / mohan	12/16/2011 / ALPA	M2211

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3227-05 / Potassium Permanganate (2.5kg)	0000031168	11/05/2019	01/06/2015 / mohan	11/05/2014 / mohan	M3287

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV5-0508	08/26/2016	02/26/2016 / mohan	03/20/2015 / mohan	M3374

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3624-05 / Sodium Chloride, Crystal (cs/4x2.5kg)	0000101324	06/04/2020	06/04/2015 / mohan	06/04/2015 / mohan	M3429

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)	0000120505	08/12/2016	12/17/2015 / mohan	12/04/2015 / mohan	M3524

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	26397-103 / STONES,BOILING,PTFE 450GM	N668-5D015	12/22/2020	12/23/2015 / fabian	12/22/2015 / fabian	M3536

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-2196-01 / Hydroxylamine Hydrochloride, Crystal (cs/4x500g)	0000121677	01/29/2021	02/26/2016 / mohan	01/29/2016 / mohan	M3556

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	MSHG-10PPM / MERCURY HCl 125mL 10ug/mL	J2-HG02138	08/19/2018	03/28/2016 / mohan	02/19/2016 / mohan	M3565

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	0000131530	09/17/2016	03/17/2016 / fabian	03/02/2016 / fabian	M3567

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	0000122181	06/09/2020	04/27/2016 /	04/04/2016 / mohan	M3578

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)		08/12/2016	04/28/2016 / mohan	04/13/2016 / mohan	M3581

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	0000099263	12/04/2019	05/04/2016 / bhadresh	04/28/2016 / bhadresh	M3587

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)		01/13/2021	05/05/2016 / bhadresh	04/04/2016 / bhadresh	M3588

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	0000135629	01/27/2021	05/06/2016 / bhadresh	05/04/2016 / bhadresh	M3590

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Res-Kem General water	DIW / DI Water	Lab certified	02/23/2025	02/23/2010 /	02/23/2010 / divya	W1152

R: 08/20/15

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with CLP SOWs and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M3371
M3372
M3373
M3374
M3375

Received on 03/20/15
(Exp 03/20/20
NB

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-0307", "ICV5-0508", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain-of-custody record. Report any problems to Mr. Keith Strout, CB&I Federal Services LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
CB&I Federal Services LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-0307 For ICP-AES use: dilute the ICV1 concentrate 10-fold with 2% (v/v) nitric acid; pipet 10 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

For ICP-MS use: dilute the ICV1 concentrate 50-fold with 1% (v/v) nitric acid; pipet 2 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0508 For the cold vapor analysis of mercury by AA: dilute the ICV5 concentrate 100-fold with 2% (v/v) nitric acid; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide: dilute the ICV6 concentrate 100-fold with Type II water; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) *CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS*

ICV1-0307		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2521	504
Sb	994	199
As	999	200
Ba	497	99
Be	495	99
Cd	496	99
Ca	10026	2005
Cr	490	98
Co	499	100
Cu	492	98
Fe	5082	1016
Pb	1002	200
Mg	6074	1215
Mn	499	100
Ni	503	101
K	10021	2004
Se	1029	206
Ag	501	100
Na	10097	2019
Tl	1028	206
V	501	100
Zn	1025	205

ICV5-0508		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

Material No.: 3624-05
Batch No.: 0000101324
Manufactured Date: 2014/09/25
Retest Date: 2021/09/23

Certificate of Analysis

m 3624
06-04-15
09-23-2021

Meets ACS Reagent Chemical Requirements.

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	>= 99.0 %	100.8
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
ACS - Insoluble Matter	<= 0.005 %	0.002
Iodide (I)	<= 0.002 %	< 0.002
Bromide (Br)	<= 0.01 %	< 0.01
Chlorate and Nitrate (as NO_3)	<= 0.003 %	< 0.003
ACS - Phosphate (PO_4)	<= 5 ppm	< 5
Sulfate (SO_4)	<= 0.004 %	< 0.004
Barium (Ba)	Passes Test	PT
ACS - Heavy Metals (as Pb)	<= 5 ppm	< 5
Iron (Fe)	<= 2 ppm	< 2
Calcium (Ca)	<= 0.002 %	0.001
Magnesium (Mg)	<= 0.001 %	< 0.001
Potassium (K)	<= 0.005 %	0.003

For Laboratory, Research or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008, 17025:2005
Selangor, Malaysia 9001:2008
Dashrathpur, India 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Paroli, India 9001:2008

Richard M Siberski
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600

Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Stannous Chloride, Dihydrate, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(tin(II) chloride, dihydrate)

M3524
Rcd on 12/04/15
Exp Dt. 8/12/16
RB

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 3980-01
Batch No.: 0000120505
Manufactured Date: 2015/08/13
Expiration Date: 2016/08/12

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($SnCl_2 \cdot 2H_2O$)	98.0 - 103.0 %	99.0
Solubility in HCl	Passes Test	PT
Sulfate (SO_4)	Passes Test	PT
Calcium (Ca)	<= 0.005 %	<0.005
Iron (Fe)	<= 0.003 %	0.002
Lead (Pb)	<= 0.01 %	< 0.01
Magnesium (Mg)	<= 0.01 %	< 0.01
Potassium (K)	<= 0.005 %	0.001
Sodium (Na)	<= 0.01 %	<0.001
Trace Impurities - Arsenic (As)	<= 2.000 ppm	< 2.000
Trace Impurities - Mercury (Hg)	<= 0.050 ppm	0.002

For Laboratory, Research or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008; 14001:2004; FSSC 22000
Paris, KY 9001:2008
Mexicali, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, FSSC 22000
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Delhaven, India 9001:2008, 14001:2004, FSSC 22000
Mumbai, India 9001:2008, 17025:2005
Panoli, India 9001:2008

Jamie Estile
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 , Fax: 610.573.2610

Hydroxylamine Hydrochloride, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(hydroxylammonium chloride)

M3556
Rec'd on 01/29/2016
Exp: 01/29/2021
MS

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 2196-01
Batch No.: 0000121677
Manufactured Date: 2013/12/11
Retest Date: 2020/12/09

Certificate of Analysis

Meets ACS Reagent Chemical Requirements.

Test	Specification	Result
Assay ($NH_2OH \cdot HCl$) (by $KMnO_4$ titrn)	>= 96.0 %	99.2
Clarity of Alcohol Solution	Passes Test	PT
Residue after Ignition	<= 0.050 %	0.035
Titrable Free Acid (meq/g)	<= 0.25	0.20
Ammonium (NH_4)	Passes Test	PT
Sulfur Compounds (as SO_4)	<= 0.005 %	0.005
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	3
Trace Impurities - Iron (Fe)	<= 5 ppm	3
Trace Impurities - Mercury (Hg)	<= 0.050 ppm	< 0.005

For Laboratory, Research or Manufacturing Use

Country of Origin: CN
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

Jamie Ethier
Vice President Global Quality

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Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

INORGANIC VENTURES
SAI Technology Drive
Christiansburg, VA 24073 - USA

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 853.01 ACCREDITED Reference Material Producer Certificate 853.02

M 3565
Received on
02/19/16
NB

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-10PPM
Lot Number:	J2-HG02138
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Hg
Starting Material:	Hg metal
Starting Material Lot#:	1780
Starting Material Purity:	99.9997%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.000 ± 0.052 µg/mL

Certified Density: 1.020 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance.

$w_a = (1/u_{char\ a})^2 / [(1/u_{char\ a})^2 + (1/u_{char\ b})^2]$;

$w_b = (1/u_{char\ b})^2 / [(1/u_{char\ a})^2 + (1/u_{char\ b})^2]$

CRM/RM Expanded Uncertainty (±) $= U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) $= U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.006542	M	Eu	<	0.000218	O	Na		0.000005	O	Se	<	0.030000	O	Zn	<	0.000400
O	Al	<	0.001000	O	Fe	<	0.000800	M	Nb	<	0.002180	O	Si		0.000006	O	Zr	<	0.001000
M	As	<	0.006542	M	Ga	<	0.000436	M	Nd	<	0.000218	M	Sm	<	0.000218				
M	Au	<	0.004361	M	Gd	<	0.000218	O	Ni	<	0.002000	O	Sn	<	0.002000				
M	B	<	0.004361	M	Ge	<	0.001090	n	Os	<		O	Sr	<	0.000200				
O	Ba	<	0.000260	M	Hf	<	0.006542	O	P	<	0.030000	M	Ta	<	0.001090				
O	Be	<	0.000180	s	Hg	<		M	Pb	<	0.002180	M	Tb	<	0.000218				
M	Bi	<	0.002180	M	Ho	<	0.000218	M	Pd	<	0.008723	M	Te	<	0.010904				
O	Ca		0.000017	M	In	<	0.000218	M	Pr	<	0.000218	M	Th	<	0.000436				
O	Cd	<	0.000500	M	Ir	<	0.000218	M	Pt	<	0.000218	O	Ti	<	0.000600				
M	Ce	<	0.000218	O	K		0.000003	M	Rb	<	0.000218	O	Tl	<	0.010000				
M	Co	<	0.000436	M	La	<	0.000218	M	Re	<	0.000218	M	Tm	<	0.000218				
O	Cr	<	0.002000	O	Li	<	0.000040	M	Rh	<	0.000218	M	U	<	0.000218				
M	Cs	<	0.001090	M	Lu	<	0.000218	M	Ru	<	0.000218	O	V	<	0.000550				
M	Cu	<	0.002180	O	Mg		0.000003	O	S	<	0.030000	M	W	<	0.004361				
M	Dy	<	0.000218	O	Mn	<	0.000160	M	Sb	<	0.001090	M	Y	<	0.000218				
M	Er	<	0.000218	O	Mo	<	0.001500	O	Sc	<	0.000600	M	Yb	<	0.000218				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference

n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 19, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 19, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Nitric Acid, 69.0-70.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

M3567
rec. date : 3/9/16
exp. date : 12/16/20

Material No.: 9598-34
Batch No.: 0000131530
Manufactured Date: 2015/12/18
Retest Date: 2020/12/16

Certificate of Analysis

Test	Specification	Result
ACS - Assay (HNO_3)	69.0 - 70.0 %	69.8
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 2 ppm	< 1
ACS - Specific Gravity at 60°/60°F	1.416 - 1.420	1.420
Chloride (Cl)	<= 0.04 ppm	< 0.03
Phosphate (PO_4)	<= 0.1 ppm	<0.01
Sulfate (SO_4)	<= 0.4 ppm	< 0.2
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 2
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 1.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 4.0 ppb	0.7
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	1.0
Trace Impurities - Chromium (Cr)	<= 10.0 ppb	3.0
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 20.0 ppb	< 0.2
Trace Impurities - Germanium (Ge)	<= 4.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 10.0 ppb	0.5

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway. Suite #200. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Material No.: 9598-34
Batch No.: 0000131530

Test	Specification	Result
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	< 0.2
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	< 0.1
Trace Impurities - Molybdenum (Mo)	<= 5.0 ppb	< 3.0
Trace Impurities - Nickel (Ni)	<= 1.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	0.3
Trace Impurities - Potassium (K)	<= 5.0 ppb	< 2.0
Trace Impurities - Silicon (Si)	<= 20.0 ppb	0.5
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 200.0 ppb	< 0.5
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 2.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	< 0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	0.2

For Laboratory, Research or Manufacturing Use
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Parroli, India 9001:2008

James Ethler
Jamie Ethler
Vice President Global Quality

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Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

M3578
04/04/16

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9673-33
Batch No.: 0000122181
Manufactured Date: 2015/09/08
Retest Date: 2020/09/06

Certificate of Analysis

Test	Specification	Result
ACS - Assay (H_2SO_4)	95.0 - 98.0 %	96.6
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	< 1
ACS - Substances Reducing Permanganate (as SO_2)	<= 2 ppm	< 2
Ammonium (NH_4)	<= 1 ppm	< 1
Chloride (Cl)	<= 0.1 ppm	< 0.1
Nitrate (NO_3)	<= 0.2 ppm	< 0.1
Phosphate (PO_4)	<= 0.5 ppm	< 0.1
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	0.4
Arsenic and Antimony (as As)	<= 4 ppb	< 2
Trace Impurities - Barium (Ba)	<= 10.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 10.0 ppb	< 1.0
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 10.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 2.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	2.0
Trace Impurities - Chromium (Cr)	<= 6.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 0.5 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 10.0 ppb	< 0.2
Trace Impurities - Germanium (Ge)	<= 10.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 10.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 500 ppb	< 100

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Avantor ™ Performance Materials Inc.
3477 Corporate Parkway. Suite #200. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Material No.: 9673-33
Batch No.: 0000122181

Test	Specification	Result
Trace Impurities - Iron (Fe)	<= 50.0 ppb	6.0
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 10.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	0.2
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.3
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 2.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 10.0 ppb	< 1.0
Trace Impurities - Potassium (K)	<= 500.0 ppb	< 2.0
Trace Impurities - Selenium (Se)	<= 50.0 ppb	24.9
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 500.0 ppb	0.9
Trace Impurities - Strontium (Sr)	<= 5.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 10.0 ppb	< 5.0
Trace Impurities - Thallium (Tl)	<= 20.0 ppb	< 5.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 10.0 ppb	< 1.0
Trace Impurities - Vanadium (V)	<= 10.0 ppb	< 1.0
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	< 0.3
Trace Impurities - Zirconium (Zr)	<= 10.0 ppb	< 1.0

For Laboratory, Research or Manufacturing Use

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, 5S5S 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dahrtadim, India 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Stannous Chloride, Dihydrate, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(tin(II) chloride, dihydrate)

M3581
Rec'd on 01/13/16
MS

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 3980-01
Batch No.: 0000120505
Manufactured Date: 2015/08/13
Expiration Date: 2016/08/12

Certificate of Analysis

Meets ACS Reagent Chemical Requirements.

Test	Specification	Result
Assay ($SnCl_2 \cdot 2H_2O$)	98.0 - 103.0 %	99.0
Solubility in HCl	Passes Test	PT
Sulfate (SO_4)	Passes Test	PT
Calcium (Ca)	<= 0.005 %	<0.005
Iron (Fe)	<= 0.003 %	0.002
Lead (Pb)	<= 0.01 %	< 0.01
Magnesium (Mg)	<= 0.01 %	< 0.01
Potassium (K)	<= 0.005 %	0.001
Sodium (Na)	<= 0.01 %	<0.001
Trace Impurities - Arsenic (As)	<= 2.000 ppm	< 2.000
Trace Impurities - Mercury (Hg)	<= 0.050 ppm	0.002

For Laboratory, Research or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dahvadun, India 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Pasroli, India 9001:2008

James F. Ehrler
Jamie Ehrler
Vice President Global Quality

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Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Nitric Acid, 69.0-70.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

M3587
Rec. 04/28/16
Exp. 12/04/19

Material No.: 9598-34
Batch No.: 0000099263
Manufactured Date: 2014/12/05
Retest Date: 2019/12/04

Certificate of Analysis

Test	Specification	Result
ACS - Assay (HNO_3)	69.0 - 70.0 %	69.7
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 2 ppm	< 1
ACS - Specific Gravity at 60°/60°F	1.416 - 1.420	1.419
Chloride (Cl)	<= 0.04 ppm	< 0.03
Phosphate (PO_4)	<= 0.1 ppm	<0.01
Sulfate (SO_4)	<= 0.4 ppm	< 0.2
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	0.3
Arsenic and Antimony (as As)	<= 5 ppb	< 2
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 1.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 4.0 ppb	< 0.7
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	1.0
Trace Impurities - Chromium (Cr)	<= 10.0 ppb	0.9
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 20.0 ppb	< 0.2
Trace Impurities - Germanium (Ge)	<= 4.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 10.0 ppb	0.4

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway. Suite #200. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Material No.: 9598-34
Batch No.: 0000099263

Test	Specification	Result
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	0.3
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	< 0.1
Trace Impurities - Molybdenum (Mo)	<= 5.0 ppb	< 3.0
Trace Impurities - Nickel (Ni)	<= 1.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	0.4
Trace Impurities - Potassium (K)	<= 5.0 ppb	< 2.0
Trace Impurities - Silicon (Si)	<= 20.0 ppb	0.7
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 200.0 ppb	< 0.5
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 2.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	< 0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008, 17025:2005
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Paroli, India 9001:2008

Richard M Siberski
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600

Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

M 3588
Rec. 04/28/16
Exp : 01/13/21

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9530-33
Batch No.: 0000134218
Manufactured Date: 2016/01/15
Retest Date: 2021/01/13

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.7
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	1
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.191
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	< 1
ACS - Free Chlorine (as Cl_2)	<= 0.5 ppm	< 0.5
Phosphate (PO_4)	<= 0.05 ppm	< 0.03
Sulfate (SO_4)	<= 0.5 ppm	< 0.3
Sulfite (SO_3)	<= 0.8 ppm	0.4
Ammonium (NH_4)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	8.3
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

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Avantor ™ Performance Materials Inc.
3477 Corporate Parkway. Suite #200. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Material No.: 9530-33
Batch No.: 0000134218

Test	Specification	Result
Trace Impurities - Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 15.0 ppb	4.0
Trace Impurities - Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 10.0 ppb	1.0
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	1.0
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.2
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	0.3
Trace Impurities - Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities - Selenium (Se), For Information Only	ppb	1.0
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 1.0 ppb	< 0.2
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600

Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 , Fax: 610.573.2610

Nitric Acid, 69.0-70.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

M3590
Rec. 05/04/16
Exp. 01/27/21

Material No.: 9598-34
Batch No.: 0000135629
Manufactured Date: 2016/01/29
Retest Date: 2021/01/27

Certificate of Analysis

Test	Specification	Result
ACS - Assay (HNO_3)	69.0 - 70.0 %	69.6
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 2 ppm	< 1
ACS - Specific Gravity at 60°/60°F	1.416 - 1.420	1.420
Chloride (Cl)	<= 0.04 ppm	< 0.03
Phosphate (PO_4)	<= 0.1 ppm	<0.01
Sulfate (SO_4)	<= 0.4 ppm	< 0.2
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	0.3
Arsenic and Antimony (as As)	<= 5 ppb	< 2
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 1.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 4.0 ppb	< 0.7
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	0.5
Trace Impurities - Chromium (Cr)	<= 10.0 ppb	3.0
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 20.0 ppb	< 0.2
Trace Impurities - Germanium (Ge)	<= 4.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 10.0 ppb	0.6

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Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Material No.: 9598-34
Batch No.: 0000135629

Test	Specification	Result
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	< 0.2
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities - Molybdenum (Mo)	<= 5.0 ppb	< 3.0
Trace Impurities - Nickel (Ni)	<= 1.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	0.3
Trace Impurities - Potassium (K)	<= 5.0 ppb	< 2.0
Trace Impurities - Silicon (Si)	<= 20.0 ppb	0.6
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 200.0 ppb	0.9
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 2.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	< 0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2006
Selangor, Malaysia 9001:2008
Dehradun, India 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Pondi, India 9001:2008

Jamie Ethier
Vice President Global Quality

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CHEMTECH

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB81450

Review By mohan Review On 5/9/2016 7:53:18 PM

STD. NAME	STD REF.#
ICAL Standard	MP33588,MP33589,MP33590,MP33591,MP33592,MP33593,MP33594
ICV Standard	MP33595
CCV Standard	MP33597
ICSA Standard	
CRI Standard	
Chk Standard	MP33596,MP33598,MP33586

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	S0	S0.0	CAL1	05/06/16 15:40		OK
2	S0.2	S0.2	CAL2	05/06/16 15:43		OK
3	S2.5	S2.5	CAL3	05/06/16 15:45		OK
4	S5	S5.0	CAL4	05/06/16 15:47		OK
5	S7.5	S7.5	CAL5	05/06/16 15:49		OK
6	S10	S10.0	CAL6	05/06/16 15:51		OK
7	ICV	ICV	ICV	05/06/16 15:54		OK
8	ICB	ICB	ICB	05/06/16 15:56		OK
9	CCV029	CCV029	CCV	05/06/16 15:58		OK
10	CCB029	CCB029	CCB	05/06/16 16:00		OK
11	PB90345BL	PBW003	MB	05/06/16 16:02		OK
12	H2837-01	MH4002	SAM	05/06/16 16:05		OK
13	H2837-02	MH4002D	DUP	05/06/16 16:07		OK
14	H2837-03	MH4002S	MS	05/06/16 16:09		OK
15	H2837-11	MH4116	SAM	05/06/16 16:11		OK
16	H2837-12	MH4202	SAM	05/06/16 16:13		OK
17	H2837-13	MH4211	SAM	05/06/16 16:15		OK
18	H2837-14	MH4217	SAM	05/06/16 16:17		OK
19	H2837-15	MH4218	SAM	05/06/16 16:19		OK
20	H2837-10	MH4113	SAM	05/06/16 16:22		OK
21	H2837-16	MH4113D	DUP	05/06/16 16:24		OK

CHEMTECH

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB81450

Review By mohan Review On 5/9/2016 7:53:18 PM

STD. NAME	STD REF.#
ICAL Standard	MP33588,MP33589,MP33590,MP33591,MP33592,MP33593,MP33594
ICV Standard	MP33595
CCV Standard	MP33597
ICSA Standard	
CRI Standard	
Chk Standard	MP33596,MP33598,MP33586

22	H2837-17	MH4113S	MS	05/06/16 16:26		OK
23	PB90346BL	PBW003	MB	05/06/16 16:28		OK
24	H2842-01	MD9WR6	SAM	05/06/16 16:30		OK
25	H2842-21	MD9WZ8	SAM	05/06/16 16:32		OK
26	H2842-22	MD9X00	SAM	05/06/16 16:34		OK
27	H2842-23	MD9X00D	DUP	05/06/16 16:36		OK
28	H2842-24	MD9X00S	MS	05/06/16 16:39		OK
29	PB90347BL	PBW003	MB	05/06/16 16:41		OK
30	H2855-01	MD9X10	SAM	05/06/16 16:43		OK
31	CCV030	CCV030	CCV	05/06/16 16:45		OK
32	CCB030	CCB030	CCB	05/06/16 16:47		OK
33	H2855-02	MD9X15	SAM	05/06/16 16:49		OK
34	H2855-03	MD9X16	SAM	05/06/16 16:51		OK
35	H2855-04	MD9X17	SAM	05/06/16 16:53		OK
36	H2855-05	MD9WS1	SAM	05/06/16 16:56		OK
37	H2855-06	MD9WZ3	SAM	05/06/16 16:58		OK
38	H2855-07	MD9WZ4	SAM	05/06/16 17:00		OK
39	H2855-08	MD9WZ5	SAM	05/06/16 17:02		OK
40	H2855-09	MD9WZ7	SAM	05/06/16 17:04		OK
41	H2855-10	MD9X02	SAM	05/06/16 17:06		OK
42	H2855-11	MD9X03	SAM	05/06/16 17:08		OK
43	H2855-12	MD9X04	SAM	05/06/16 17:10		OK
44	H2855-13	MD9X04D	DUP	05/06/16 17:13		OK

CHEMTECH

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB81450

Review By	mohan	Review On	5/9/2016 7:53:18 PM

STD. NAME	STD REF.#
ICAL Standard	MP33588,MP33589,MP33590,MP33591,MP33592,MP33593,MP33594
ICV Standard	MP33595
CCV Standard	MP33597
ICSA Standard	
CRI Standard	
Chk Standard	MP33596,MP33598,MP33586

45	H2855-14	MD9X04S	MS	05/06/16 17:15		OK
46	H2855-15	MD9X08	SAM	05/06/16 17:17		OK
47	H2855-16	MD9X09	SAM	05/06/16 17:19		OK
48	H2855-17	MD9X11	SAM	05/06/16 17:21		OK
49	H2855-18	MD9X13	SAM	05/06/16 17:23		OK
50	H2855-19	MD9X14	SAM	05/06/16 17:25		OK
51	CCV031	CCV031	CCV	05/06/16 17:27		OK
52	CCB031	CCB031	CCB	05/06/16 17:29		OK

CHEMTECH

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB81528

Review By jaswal Review On 5/13/2016 12:55:42 PM

STD. NAME	STD REF.#
ICAL Standard	MP33653,MP33654,MP33655,MP33656,MP33657,MP33658,MP33659
ICV Standard	MP33660
CCV Standard	MP33662
ICSA Standard	
CRI Standard	
Chk Standard	MP33661,MP33663,MP33672

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	S0	S0.0	CAL1	05/11/16 12:34		OK
2	S0.2	S0.2	CAL2	05/11/16 12:36		OK
3	S2.5	S2.5	CAL3	05/11/16 12:38		OK
4	S5	S5.0	CAL4	05/11/16 12:40		OK
5	S7.5	S7.5	CAL5	05/11/16 12:43		OK
6	S10	S10.0	CAL6	05/11/16 12:45		OK
7	ICV	ICV	ICV	05/11/16 12:47		OK
8	ICB	ICB	ICB	05/11/16 12:49		OK
9	CCV006	CCV006	CCV	05/11/16 12:51		OK
10	CCB006	CCB006	CCB	05/11/16 12:54		OK
11	PB90463BL	PBS004	MB	05/11/16 12:56		OK
12	H2837-04	MH4025	SAM	05/11/16 12:58		OK
13	H2837-05	MH4025D	DUP	05/11/16 13:00		OK
14	H2837-06	MH4025S	MS	05/11/16 13:02		OK
15	H2837-07	MH4028	SAM	05/11/16 13:04		OK
16	H2837-08	MH4029	SAM	05/11/16 13:06		OK
17	H2837-09	MH4030	SAM	05/11/16 13:08		OK
18	PB90464BL	PBS004	MB	05/11/16 13:11		OK
19	H2887-01	MB0AR7	SAM	05/11/16 13:13		OK
20	H2887-02	MBD371	SAM	05/11/16 13:15		OK
21	H2887-03	MBD371D	DUP	05/11/16 13:17		OK

CHEMTECH

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB81528

Review By	jaswal	Review On	5/13/2016 12:55:42 PM

STD. NAME	STD REF.#
ICAL Standard	MP33653,MP33654,MP33655,MP33656,MP33657,MP33658,MP33659
ICV Standard	MP33660
CCV Standard	MP33662
ICSA Standard	
CRI Standard	
Chk Standard	MP33661,MP33663,MP33672

22	H2887-04	MBD371S	MS	05/11/16 13:19		OK
23	H2887-05	MBD373	SAM	05/11/16 13:21		OK
24	H2887-06	MBD374	SAM	05/11/16 13:23		OK
25	H2887-07	MBD376	SAM	05/11/16 13:25		OK
26	H2887-08	MBD377	SAM	05/11/16 13:28		OK
27	H2887-09	MBD378	SAM	05/11/16 13:30		OK
28	H2887-10	MBD395	SAM	05/11/16 13:32		OK
29	H2887-11	MBD396	SAM	05/11/16 13:34		OK
30	H2887-12	MBD397	SAM	05/11/16 13:36		OK
31	CCV007	CCV007	CCV	05/11/16 13:38		OK
32	CCB007	CCB007	CCB	05/11/16 13:40		OK
33	H2887-13	MBD398	SAM	05/11/16 13:42		OK
34	H2887-14	MBD3A2	SAM	05/11/16 13:44		OK
35	H2887-15	MBD3A3	SAM	05/11/16 13:47		OK
36	H2887-16	MBD3A4	SAM	05/11/16 13:49		OK
37	H2887-17	MBD3A5	SAM	05/11/16 13:51		OK
38	H2887-18	MBD3C1	SAM	05/11/16 13:53		OK
39	H2887-19	MBD3C2	SAM	05/11/16 13:55		OK
40	H2887-20	MBD3C3	SAM	05/11/16 13:57		OK
41	H2887-21	MBD3C4	SAM	05/11/16 13:59		OK
42	H2887-22	MBD3E1	SAM	05/11/16 14:01		OK
43	PB90465BL	PBS004	MB	05/11/16 14:04		OK
44	H2892-01	MD9WS2	SAM	05/11/16 14:06		OK

CHEMTECH

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB81528

Review By	jaswal	Review On	5/13/2016 12:55:42 PM

STD. NAME	STD REF.#
ICAL Standard	MP33653,MP33654,MP33655,MP33656,MP33657,MP33658,MP33659
ICV Standard	MP33660
CCV Standard	MP33662
ICSA Standard	
CRI Standard	
Chk Standard	MP33661,MP33663,MP33672

45	H2892-02	MD9WT9	SAM	05/11/16 14:08		OK
46	H2892-03	MD9WW0	SAM	05/11/16 14:10		OK
47	H2892-04	MD9WW1	SAM	05/11/16 14:12		OK
48	H2892-05	MD9WW2	SAM	05/11/16 14:14		OK
49	H2892-06	MD9WW3	SAM	05/11/16 14:16		OK
50	H2892-07	MD9WW4	SAM	05/11/16 14:18		OK
51	H2892-08	MD9WW6	SAM	05/11/16 14:21		OK
52	H2892-09	MD9WW7	SAM	05/11/16 14:23		OK
53	CCV008	CCV008	CCV	05/11/16 14:25		OK
54	CCB008	CCB008	CCB	05/11/16 14:27		OK
55	H2892-10	MD9WW8	SAM	05/11/16 14:29		OK
56	H2892-11	MD9WW9	SAM	05/11/16 14:31		OK
57	H2892-12	MD9WX0	SAM	05/11/16 14:33		OK
58	H2892-13	MD9WX2	SAM	05/11/16 14:35		OK
59	H2892-14	MD9WX3	SAM	05/11/16 14:38		OK
60	H2892-15	MD9WX7	SAM	05/11/16 14:40		OK
61	H2892-16	MD9WX9	SAM	05/11/16 14:42		OK
62	H2892-17	MD9WY0	SAM	05/11/16 14:44		OK
63	H2892-18	MD9WY0D	DUP	05/11/16 14:46		OK
64	H2892-19	MD9WY0S	MS	05/11/16 14:48		OK
65	H2892-20	MD9WY1	SAM	05/11/16 14:50		OK
66	H2892-21	MD9WY3	SAM	05/11/16 14:52		OK
67	H2892-22	MD9WY5	SAM	05/11/16 14:55		OK

CHEMTECH

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB81528

Review By	jaswal	Review On	5/13/2016 12:55:42 PM

STD. NAME	STD REF.#
ICAL Standard	MP33653,MP33654,MP33655,MP33656,MP33657,MP33658,MP33659
ICV Standard	MP33660
CCV Standard	MP33662
ICSA Standard	
CRI Standard	
Chk Standard	MP33661,MP33663,MP33672

68	PB90471BL	PBS004	MB	05/11/16 14:57		OK
69	H2893-01	MD9WY7	SAM	05/11/16 14:59		OK
70	H2893-02	MD9WY9	SAM	05/11/16 15:01		OK
71	H2893-03	MD9WT2	SAM	05/11/16 15:03	Hg high	Dilution
72	H2893-05	MD9WT4	SAM	05/11/16 15:07		OK
73	H2893-06	MD9WT5	SAM	05/11/16 15:09		OK
74	CCV009	CCV009	CCV	05/11/16 15:12		OK
75	CCB009	CCB009	CCB	05/11/16 15:14		OK
76	H2893-07	MD9WT6	SAM	05/11/16 15:16		OK
77	H2893-08	MD9WT7	SAM	05/11/16 15:18		OK
78	H2893-09	MD9WT7D	DUP	05/11/16 15:20		OK
79	H2893-10	MD9WT7S	MS	05/11/16 15:22		OK
80	H2893-11	MD9WT8	SAM	05/11/16 15:24		OK
81	H2893-12	MD9WY4	SAM	05/11/16 15:26		OK
82	H2893-13	MD9WY6	SAM	05/11/16 15:29		OK
83	H2893-14	MD9WY8	SAM	05/11/16 15:31		OK
84	H2893-20	MD9WX8	SAM	05/11/16 15:33		OK
85	PB90472BL	PBS004	MB	05/11/16 15:35		OK
86	H2923-01	ME5NH5	SAM	05/11/16 15:37		OK
87	H2923-02	ME5NH6	SAM	05/11/16 15:39		OK
88	H2923-03	ME5NE9	SAM	05/11/16 15:41		OK
89	H2923-04	ME5NF0	SAM	05/11/16 15:43		OK
90	H2923-05	ME5NF1	SAM	05/11/16 15:46		OK

CHEMTECH

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB81528

Review By	jaswal	Review On	5/13/2016 12:55:42 PM

STD. NAME	STD REF.#
ICAL Standard	MP33653,MP33654,MP33655,MP33656,MP33657,MP33658,MP33659
ICV Standard	MP33660
CCV Standard	MP33662
ICSA Standard	
CRI Standard	
Chk Standard	MP33661,MP33663,MP33672

91	H2923-06	ME5NF2	SAM	05/11/16 15:48		OK
92	H2923-07	ME5NF3	SAM	05/11/16 15:50		OK
93	H2923-08	ME5NF4	SAM	05/11/16 15:52		OK
94	H2923-09	ME5NF5	SAM	05/11/16 15:54		OK
95	H2923-10	ME5NF6	SAM	05/11/16 15:56		OK
96	CCV010	CCV010	CCV	05/11/16 15:58		OK
97	CCB010	CCB010	CCB	05/11/16 16:01		OK
98	H2923-11	ME5NF7	SAM	05/11/16 16:03		OK
99	H2923-12	ME5NF8	SAM	05/11/16 16:05		OK
100	H2923-13	ME5NF9	SAM	05/11/16 16:07		OK
101	H2923-14	ME5NG0	SAM	05/11/16 16:09		OK
102	H2923-15	ME5NG1	SAM	05/11/16 16:11		OK
103	H2923-16	ME5NG2	SAM	05/11/16 16:13		OK
104	H2923-17	ME5NG3	SAM	05/11/16 16:15		OK
105	H2923-18	ME5NG4	SAM	05/11/16 16:23		OK
106	H2923-19	ME5NG4D	DUP	05/11/16 16:25		OK
107	H2923-20	ME5NG4S	MS	05/11/16 16:30		OK
108	H2923-21	ME5NG5	SAM	05/11/16 16:32	Hg high	Dilution
109	H2923-22	ME5NG6	SAM	05/11/16 16:34	Hg high	Dilution
110	PB90473BL	PBS004	MB	05/11/16 16:36		OK
111	H2924-01	ME5NG7	SAM	05/11/16 16:39		OK
112	H2924-02	ME5NG8	SAM	05/11/16 16:41		OK
113	H2924-03	ME5NG9	SAM	05/11/16 16:43		OK

CHEMTECH

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB81528

Review By	jaswal	Review On	5/13/2016 12:55:42 PM

STD. NAME	STD REF.#
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ICV Standard	MP33660
CCV Standard	MP33662
ICSA Standard	
CRI Standard	
Chk Standard	MP33661,MP33663,MP33672

114	H2924-04	ME5NH0	SAM	05/11/16 16:45		OK
115	H2924-05	ME5NH1	SAM	05/11/16 16:47		OK
116	H2924-06	ME5NH2	SAM	05/11/16 16:49		OK
117	H2924-07	ME5NH3	SAM	05/11/16 16:51		OK
118	CCV011	CCV011	CCV	05/11/16 16:54		OK
119	CCB011	CCB011	CCB	05/11/16 16:56		OK
120	H2924-08	ME5NH4	SAM	05/11/16 16:58		OK
121	H2924-09	ME5NH4D	DUP	05/11/16 17:00		OK
122	H2924-10	ME5NH4S	MS	05/11/16 17:02		OK
123	H2893-03DL	MD9WT2	SAM	05/11/16 17:04	10 x for Hg	Confirms
124	H2893-04	MD9WT3	SAM	05/11/16 17:06		OK
125	H2923-21DL	ME5NG5	SAM	05/11/16 17:12	5x for Hg	Confirms
126	H2923-22DL	ME5NG6	SAM	05/11/16 17:17	5x for Hg	Confirms
127	H2893-03DL2	MD9WT2	SAM	05/11/16 17:19	5x for Hg	Confirms
128	CCV012	CCV012	CCV	05/11/16 17:27		OK
129	CCB012	CCB012	CCB	05/11/16 17:29		OK

CHEMTECH

PERCENT SOLIDS

Analyst Name: jignesh

Date: 5/6/2016

OVEN TEMP IN Celsius (°C) :	109	OVEN TEMP OUT Celsius (°C):	103
Time IN	17:32	Time OUT:	08:30
In Date:	05/05/2016	Out Date:	05/06/2016
Weight Check 1.0g=	1.00 g	Weight Check 1.0g=	1.00 g
Weight Check 10g=	10.00 g	Weight Check 10g=	10.00 g

QC: LB81431

Lab ID	Client Sample ID	Dish#	Dish Weight (g) (A)	Dish + Sample Wt. (g) (B)	Dish + Dry Sample Wt. (g) (C)	% Solid
H2837-04	MH4025	1	1.18	9.75	6.63	63.6
H2837-05	MH4025D	2	1.18	9.75	6.63	63.6
H2837-06	MH4025S	3	1.18	9.75	6.63	63.6
H2837-07	MH4028	4	1.14	9.96	6.74	63.5
H2837-08	MH4029	5	1.11	9.97	5.07	44.7
H2837-09	MH4030	6	1.13	9.66	4.46	39

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

LB81431

WORKLIST(Hardcopy Internal Chain)

WorkList Name : %1-h2837 WorkList ID : 86693 Date : 5/5/2016 4:54:20 PM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/13/2016	Solid	H2837-04	Percent Solids	Cool 4 deg C	USEP01	Q11	MH4025	05/03/2016	Chemtech -SO
05/13/2016	Solid	H2837-05	Percent Solids	Cool 4 deg C	USEP01	Q11	MH4025D	05/03/2016	Chemtech -SO
05/13/2016	Solid	H2837-06	Percent Solids	Cool 4 deg C	USEP01	Q11	MH4025S	05/03/2016	Chemtech -SO
05/13/2016	Solid	H2837-07	Percent Solids	Cool 4 deg C	USEP01	Q11	MH4028	05/03/2016	Chemtech -SO
05/14/2016	Solid	H2837-08	Percent Solids	Cool 4 deg C	USEP01	Q11	MH4029	05/04/2016	Chemtech -SO
05/14/2016	Solid	H2837-09	Percent Solids	Cool 4 deg C	USEP01	Q11	MH4030	05/04/2016	Chemtech -SO

424

Date/Time 05/05/16 5:15PM

Received by:

Relinquished by:

Date/Time 05/05/16 5:20PM

Received by:

Relinquished by: JP

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2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Copy
Original Documents are included in CSF H6002
S.M. Jodhani
Signature
5/3/16
Date

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Copy
Original Documents are included in CSF H6002
S.M. Jodhani
Signature
5/4/16
Date

ORIGIN ID:APAA (303) 590-9145
EDWARD LINDVALL
EA ENGINEERING, SCIENCE & TECH
7995 EAST PRENTICE AVENUE
SUITE 206E
GREENWOOD VILLAGE, CO 80111
UNITED STATES US

SHIP DATE: 04MAY16
ACTWGT: 80.00 LB
CAD: 5873190/NET3730

BILL SENDER

TO **DIVYA MEHTA**
CHEMTECH CONSULTING GROUP
284 SHEFFIELD ST
MOUNTAINSIDE NJ 07092
(908) 789-8900
INV:
PO:
REF: 62028899.5SWFE
DEPT:

540J1/E223/27ZF

FedEx Express

Cargo Negligible shipping 925 31°C

THU - 05 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7762 5738 0633**

NE CDWA

07092
NJ-US EWR

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Copy
Original Documents are Included in CSF H0002

S.M. Jaffee
Signature

5/5/16
Date

https://www.fedex.com/shipping/shipAction.handle?method=doConfirm 1/1

ORIGIN ID:APAA (303) 590-9145
EDWARD LUNDVALL
EA ENGINEERING, SCIENCE & TECH
7995 EAST PRENTICE AVENUE
SUITE 206E
GREENWOOD VILLAGE, CO 80111
UNITED STATES US

SHIP DATE: 04MAY16
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BILL SENDER

TO DIVYA MEHTA
CHEMTECH CONSULTING GROUP
284 SHEFFIELD ST

MOUNTAINSIDE NJ 07092
(908) 789-8900
INV:
PO:
REF: 6202899.5SWFE
DEPT:

540J1/E323/27FF

FedEx Express

George Vargas 5/9/16 925 4°C

THU - 05 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 7762 6713 6562
0201

NE CDWA

07092
NJ-US EWR

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284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Login Summary Report

Order ID :	H2837	Order Date :	5/5/2016 9:25:00 AM	Project Mgr :	Mohammad
Client :	USEPA CLP SMO	Project :	46114	Report Type :	USEPA CLP
Contact :	Anita Kapadia	Receive Date :	5/5/2016 9:25:00 AM	EDD Type :	EPA CLP
Date Sign Off :	5/5/2016 3:57:25 PM				

Sample ID	Client ID	Matrix	Sampling Date	Test	Test Group	Method	TAT Days	Fax Due Date	HC Due Date
H2837-01	MH4002	Water	05/02/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-02	MH4002D	Water	05/02/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-03	MH4002S	Water	05/02/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-04	MH4025	Solid	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS FULL		ISM02.2_MS	15	05/26/2016	05/26/2016
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
H2837-05	MH4025D	Solid	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS FULL		ISM02.2_MS	15	05/26/2016	05/26/2016
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
H2837-06	MH4025S	Solid	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS FULL		ISM02.2_MS	15	05/26/2016	05/26/2016
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
H2837-07	MH4028	Solid	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS FULL		ISM02.2_MS	15	05/26/2016	05/26/2016
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
H2837-08	MH4029	Solid	05/04/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS FULL		ISM02.2_MS	15	05/26/2016	05/26/2016
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
H2837-09	MH4030	Solid	05/04/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016

				Metals CLP MS FULL		ISM02.2_MS	15	05/26/2016	05/26/2016
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
H2837-10	MH4113	Water	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-11	MH4116	Water	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-12	MH4202	Water	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-13	MH4211	Water	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-14	MH4217	Water	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-15	MH4218	Water	05/03/2016						
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-16	MH4113D	Water	05/03/2016		H2837-10D				
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016
H2837-17	MH4113S	Water	05/03/2016		H2837-10S				
				Mercury		ISM02.2_HG	15	05/26/2016	05/26/2016
				Metals CLP MS		ISM02.2_MS	15	05/26/2016	05/26/2016

WORKLIST(Hardcopy Internal Chain)

WorkList Name : H2837_HgW WorkList ID : 86699 Date : 5/5/2016 6:59:24 PM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/16/2016	Water	H2837-01	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4002	05/02/2016	ISM02.2_HG
05/16/2016	Water	H2837-02	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4002D	05/02/2016	ISM02.2_HG
05/16/2016	Water	H2837-03	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4002S	05/02/2016	ISM02.2_HG
05/17/2016	Water	H2837-10	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4113	05/03/2016	ISM02.2_HG
05/17/2016	Water	H2837-11	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4116	05/03/2016	ISM02.2_HG
05/17/2016	Water	H2837-12	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4202	05/03/2016	ISM02.2_HG
05/17/2016	Water	H2837-13	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4211	05/03/2016	ISM02.2_HG
05/17/2016	Water	H2837-14	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4217	05/03/2016	ISM02.2_HG
05/17/2016	Water	H2837-15	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4218	05/03/2016	ISM02.2_HG
05/17/2016	Water	H2837-16	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4113D	05/03/2016	ISM02.2_HG
05/17/2016	Water	H2837-17	Mercury	1:1 HNO3 to p	USEP01	Q11	MH4113S	05/03/2016	ISM02.2_HG

431

Date/Time 05/06/16 @ 9:50
Received by: MB
Relinquished by: CG

Date/Time 05/06/16 @ 13:05
Received by: CG
Relinquished by: MB

WORKLIST(Hardcopy Internal Chain)

WorkList Name : H2837_HgS WorkList ID : 86700 Date : 5/5/2016 6:59:39 PM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/23/2016	Solid	H2837-04	Mercury	Cool 4 deg C	USEP01	Q11	MH4025	05/03/2016	ISM02.2_HG
05/23/2016	Solid	H2837-05	Mercury	Cool 4 deg C	USEP01	Q11	MH4025D	05/03/2016	ISM02.2_HG
05/23/2016	Solid	H2837-06	Mercury	Cool 4 deg C	USEP01	Q11	MH4025S	05/03/2016	ISM02.2_HG
05/23/2016	Solid	H2837-07	Mercury	Cool 4 deg C	USEP01	Q11	MH4028	05/03/2016	ISM02.2_HG
05/24/2016	Solid	H2837-08	Mercury	Cool 4 deg C	USEP01	Q11	MH4029	05/04/2016	ISM02.2_HG
05/24/2016	Solid	H2837-09	Mercury	Cool 4 deg C	USEP01	Q11	MH4030	05/04/2016	ISM02.2_HG

Date/Time 05/10/16 @ 15:30
Received by: MB
Relinquished by:

Date/Time 05/10/16 @ 1735
Received by:
Relinquished by: MB

WORKLIST(Hardcopy Internal Chain)

WorkList Name : h2837sms WorkList ID : 86722 Date : 5/6/2016 8:37:24 AM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/18/2016	Solid	H2837-04	Metals CLP MS	Cool 4 deg C	USEP01	Q11	MH4025	05/03/2016	ISM02.2_MS
05/18/2016	Solid	H2837-05	Metals CLP MS	Cool 4 deg C	USEP01	Q11	MH4025D	05/03/2016	ISM02.2_MS
05/18/2016	Solid	H2837-06	Metals CLP MS	Cool 4 deg C	USEP01	Q11	MH4025S	05/03/2016	ISM02.2_MS
05/18/2016	Solid	H2837-07	Metals CLP MS	Cool 4 deg C	USEP01	Q11	MH4028	05/03/2016	ISM02.2_MS
05/19/2016	Solid	H2837-08	Metals CLP MS	Cool 4 deg C	USEP01	Q11	MH4029	05/04/2016	ISM02.2_MS
05/19/2016	Solid	H2837-09	Metals CLP MS	Cool 4 deg C	USEP01	Q11	MH4030	05/04/2016	ISM02.2_MS

433

Date/Time 05/06/16 8:45
Received by: PB
Relinquished by:

Date/Time 05/06/16
Received by:
Relinquished by: PB

WORKLIST(Hardcopy Internal Chain)

WorkList Name : h2837wms WorkList ID : 86723 Date : 5/6/2016 8:39:15 AM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/17/2016	Water	H2837-01	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4002	05/02/2016	ISM02.2_MS
05/17/2016	Water	H2837-02	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4002D	05/02/2016	ISM02.2_MS
05/17/2016	Water	H2837-03	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4002S	05/02/2016	ISM02.2_MS
05/19/2016	Water	H2837-10	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4113	05/03/2016	ISM02.2_MS
05/19/2016	Water	H2837-11	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4116	05/03/2016	ISM02.2_MS
05/19/2016	Water	H2837-12	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4202	05/03/2016	ISM02.2_MS
05/19/2016	Water	H2837-13	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4211	05/03/2016	ISM02.2_MS
05/19/2016	Water	H2837-14	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4217	05/03/2016	ISM02.2_MS
05/19/2016	Water	H2837-15	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4218	05/03/2016	ISM02.2_MS
05/19/2016	Water	H2837-16	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4113D	05/03/2016	ISM02.2_MS
05/19/2016	Water	H2837-17	Metals CLP MS	1:1 HNO3 to p	USEP01	Q11	MH4113S	05/03/2016	ISM02.2_MS

Date/Time 05/06/16 8:45
Received by: PTB
Relinquished by:

Date/Time 05/06/16
Received by:
Relinquished by: PTB

From: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Sent: Wednesday, May 04, 2016 11:09
To: epa@chemtech.net
Cc: "Goodrich, Donald"
Subject: Region 08 | Case 46114 | Lab CHM | Issue Multiple | FINAL
Attachments: COC - 8-050216-102658-0009_MSD.PDF; COC - 8-050216-163402-0010_MSD.PDF; COC- 8-042516-142347-0005.pdf

Sohil,

Incorrect/duplicated sample IDs
Issue 1: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of including them under one sample ID. The laboratory is requesting to use the sample IDs as listed below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	H4002, H4002MS, H4002MSD
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	MH4001 MH4001D MH1001S
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	MH4002 MH4002D MH1002S
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

Resolution: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples using the attached revised COCs.

pH outside allowable limit
Issue 2: The samples listed below appear to be received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005
MH4014
MH4016
MH4017
Resolution 2: Per Region 8, the laboratory shall preserve the unpreserved samples to an acceptable pH level of <2. This resolution applies to the remainder of the samples associated with this Case when the pH exceeds acceptable levels. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Please let me know if you have any questions. To waive any defect(s) associated with this issue, please contact your Regional CLP COR.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8
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6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
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From: Moss, Pamela [mailto:pmoss@eaest.com]
Sent: Wednesday, May 04, 2016 10:11 AM
To: Don Goodrich (Goodrich.Donald@epa.gov); Vanaman, Alexandra
Subject: RE: Region 08 | Case 46114 | Lab CHM - Corrected COCs for MS/MSD

Plz see attached corrected COCs for samples collected April 25 and May 2 with associated MS/MSD samples. These have been revised per your email. Plz let me know if you have any questions. thanks.

Pam

PLZ NOTE NEW ADDRESS BELOW

Pamela J. Moss
Senior Scientist
EA Engineering, Science, and Technology, Inc., PBC
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111
303-590-9143 (office)
303-810-6903 (cell)
pmoss@eaest.com

EA Engineering, Science, and Technology, Inc.

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Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8

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From: Vanaman, Alexandra
Sent: Tuesday, May 03, 2016 3:20 PM
To: 'epa@chemtech.net'
Subject: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Sohil,

Please see the resolutions below. Please note that this ROC has not been finalized. I will finalize the ROC once I receive the revised COC from the sampler for issue 1, however, the numbers proposed will be submitted on the COCs so you can log the samples in and start with sample prep and analyses.

Incorrect/duplicated sample IDs
Issue 1: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of including them under one sample ID. The laboratory is requesting to use the sample IDs as listed below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	H4002, H4002MS, H4002MSD
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	MH4001 MH4001D MH1001S
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	MH4002 MH4002D MH1002S
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

pH outside allowable limit
Issue 2: The samples listed below appear to be received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005
MH4014
MH4016

MH4017
Resolution 2: Per Region 8, the laboratory shall preserve the unpreserved samples to an acceptable pH level of <2. This resolution applies to the remainder of the samples associated with this Case when the pH exceeds acceptable levels. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Thanks,

ALEXANDRA VANAMAN
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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Tuesday, May 03, 2016 3:04 PM
To: Vanaman, Alexandra
Cc: Moss, Pamela
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Ali, resolve the second issue as follows:

Issue 2: the laboratory shall preserve the unpreserved samples to an acceptable pH level of <2. This resolution applies to the remainder of the samples associated with this Case when the pH exceeds acceptable levels.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Tuesday, May 03, 2016 2:58 PM
To: Moss, Pamela; Vanaman, Alexandra
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Ali, Pam and I discussed the COC issue this morning. Pam will be revising the COCs just as the lab proposed. You can notify the lab that the numbers they proposed will be submitted on the COCs so they can log the samples in and start with sample prep and analyses.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Tuesday, May 03, 2016 12:07 PM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Cc: Moss, Pamela <pmoss@eaest.com>
Subject: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Good afternoon,

CHM is reporting the following issue regarding Case 46114. Please advise. Also, please advise if the resolution for issue 2 should be applied to the remainder of samples for this Case when the pH exceeds allowable the limits.

Incorrect/duplicated sample IDs
Issue 1: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of including them under one sample ID. The laboratory is requesting to use the sample IDs as listed below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	H4002, H4002MS, H4002MSD
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	MH4001 MH4001D MH1001S
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	MH4002 MH4002D MH1002S
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

pH outside allowable limit
Issue 2: The samples listed below appear to be received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005
MH4014
MH4016
MH4017

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8

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From: Sohil Jodhani [mailto:Sohil@chemtech.net]
Sent: Tuesday, May 03, 2016 12:49 PM
To: Vanaman, Alexandra
Cc: DASSsupport; Mohammad@chemtech.net
Subject: Region 08 | Case 46114 | Lab CHM | SDG H4002, MH4001 & MH4002 | Issue Incorrect/duplicated sample IDs

Hi Alexandra,

Sample received with 05/03 shipment has below discrepancies,

Issue1: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of including them under one sample ID. The laboratory is requesting the use the sample IDs below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	**H4002, H4002MS, H4002MSD**
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	**MH4001 MH4001D MH1001S**
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	**MH4002 MH4002D MH1002S**
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

Issue 2: The laboratory has received three water samples for Total Metals and three water samples for Dissolved metals on 05/03. The samples listed below were received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005
MH4014
MH4016
MH4017

Please see attachment for your reference.

Thanks & Regards,

Sohil Jodhani
QC-Analyst
Direct Line: (908)728-3148
General Number: (908)789-8900
Fax: (908)789-8922

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From: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Sent: Friday, May 06, 2016 09:10
To: epa@chemtech.net
Cc: "Goodrich, Donald"; Moss, Pamela
Subject: Region 08 | Case 46114 | Lab CHM | Issue Multiple | FINAL

Sohil,

Damaged samples
Issue 1: One vial out of three for sample H4099 arrived at the laboratory broken. The other two vials are in good condition and have enough volume in order to perform the analysis.
Resolution 1: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Insufficient/inappropriate designation of laboratory QC
Issue 2: An additional sample was designated on the COC for laboratory QC. The laboratory received water samples with QC for metals analysis on 5/3 and on 5/5. The laboratory has already used MH4002 for laboratory QC for this SDG; however, MH4113 is also listed on the COC for QC.
Resolution 2: Per Region 8, the Region would like laboratory QC on both samples. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Please let me know if you have any questions. To waive any defect(s) associated with this issue, please contact your Regional CLP COR.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8
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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Thursday, May 05, 2016 4:37 PM
To: Vanaman, Alexandra
Cc: Moss, Pamela
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Ali, resolve as follows:

Issue1: Teport the issue in the case narrative and continue with sample analysis.
Issue2: R8 would like laboratory QC on both samples.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Thursday, May 05, 2016 1:57 PM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Cc: Moss, Pamela <pmoss@eaest.com>
Subject: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Good afternoon Don,

CHM is reporting the following issues regarding Case 46114. Please advise.

Damaged samples
Issue 1: One vial out of three for sample H4099 arrived at the laboratory broken. The other two vials are in good condition and have enough volume in order to perform the analysis.

Insufficient/inappropriate designation of laboratory QC
Issue 2: An additional sample was designated on the COC for laboratory QC. The laboratory received water samples with QC for metals analysis on 5/3 and on 5/5. The laboratory has already used MH4002 for laboratory QC for this SDG; however, MH4113 is also listed on the COC for QC.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8
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From: Sohil Jodhani [mailto:Sohil@chemtech.net]
Sent: Thursday, May 05, 2016 1:48 PM

To: Vanaman, Alexandra
Cc: 'Mohammad Ahmed'; 'Kim'; 'Moody, Brett'; 'KEVIN'
Subject: Region 08 | Case 46114 | Lab CHM | SDG MH4002 | Issue Lab QC

Hi Alexandra,

Samples received in the shipment of 05/03 and 05/05 has below discrepancy,

Issue: Lab has received water samples with Lab QC for Metals analysis on 05/03 shipment and today also Lab has received water samples with Lab QC, however per SOW only one Lab QC is required for 20 samples. Since the SDG is open so Lab will add toady's received samples in this SDG without Lab QC because Lab QC is already logged for this SDG for sample MH4002 so Lab would like to confirm that Lab would not analyze the Lab QC for sample MH4113 as listed on the COC and Lab can perform the regular analysis for this sample.

Please see attachment for your reference.

Thanks & Regards,

Sohil Jodhani
QC-Analyst
Direct Line: (908)728-3148
General Number: (908)789-8900
Fax: (908)789-8922

From: Sohil Jodhani [mailto:Sohil@chemtech.net]
Sent: Thursday, May 05, 2016 1:48 PM
To: Vanaman, Alexandra
Cc: 'Mohammad Ahmed'; DASSsupport; 'Moody, Brett'; 'Kim'; 'KEVIN'
Subject: Region 08 | Case 46114 | Lab CHM | SDG H4010 | Issue Discrepancies with tags, jars, and/or COC

Hi Alexandra,

Samples received with 05/05 shipment has below discrepancy,

Issue1: One vial out of three for sample H4099 arrived at the laboratory broken. The other two vials are in good condition and have enough volume in order to perform the analysis.

Please see attachment for your reference.

Thanks & Regards,

Sohil Jodhani
QC-Analyst
Direct Line: (908)728-3148
General Number: (908)789-8900
Fax: (908)789-8922

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From: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Sent: Wednesday, May 11, 2016 13:13
To: epa@chemtech.net
Cc: "Goodrich, Donald"; Moss, Pamela
Subject: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC | FINAL

Good afternoon,

Issue: Mercury analysis is scheduled for the water and soil samples; however, the analysis key on the COC only lists DMet=Dissolved Metals and TMet=Total Metals. The laboratory would like to confirm that the samples should also be analyzed for Mercury with Total Metals and Dissolved Metals.
Resolution: Per Region 8, mercury is required for all total and dissolved water samples, and for soil samples for this Case. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Please let me know if you have any questions. To waive any defect(s) associated with this issue, please contact your Regional CLP COR.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2, 7, and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Wednesday, May 11, 2016 1:12 PM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Hi Ali, the proposed resolution is also acceptable.
Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687

cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Wednesday, May 11, 2016 11:10 AM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Hi Don,

Please advise if the Region approves of the proposed resolution below.

Issue: Mercury analysis is scheduled for the water and soil samples; however, the analysis key on the COC only lists DMet=Dissolved Metals and TMet=Total Metals. The laboratory would like to confirm that the samples should also be analyzed for Mercury with Total Metals and Dissolved Metals.

PROPOSED Resolution: Per Region 8, mercury is required for all total and dissolved water samples, and for soil samples for this Case. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2, 7, and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Moss, Pamela [mailto:pmoss@eaest.com]
Sent: Wednesday, May 11, 2016 12:52 PM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>; "Goodrich, Donald" <Goodrich.Donald@epa.gov>
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Yes mercury is required for a analysis on all total and dissolved water samples, and for soil samples. thank you.

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Wednesday, May 11, 2016 10:47 AM
To: "Goodrich, Donald"
Cc: Moss, Pamela
Subject: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Good afternoon Don,

CHM is reporting the following issue regarding Case 46114. Please advise.

Issue: Mercury analysis is scheduled for the water and soil samples; however, the analysis key on the COC only lists DMet=Dissolved Metals and TMet=Total Metals. The laboratory would like to confirm that the samples should also be analyzed for Mercury with Total Metals and Dissolved Metals.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2, 7, and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Sohil Jodhani [mailto:Sohil@chemtech.net]
Sent: Wednesday, May 11, 2016 12:17 PM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Cc: Mohammad@chemtech.net
Subject: Region 08 | Case 46114 | Lab CHM | SDG Multiple | Issue Analysis Key

Hi Alexandra,

Lab would like to confirm below.

Issue: As per ASR, Mercury analysis is scheduled for water & soil samples but analysis key written on the DMet=Dissolved Metals, TMet=Total Metals only so lab would like to confirm that Lab is following the ASR and doing analysis for Mercury with Total Metals and Dissolved Metals, Please advise.

This issue is addressing for all previous shipments also.

Please see attachment for you reference.

Thanks & Regards,

Sohil Jodhani
QC-Analyst
Direct Line: (908)728-3148
General Number: (908)789-8900
Fax: (908)789-8922

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SDG COVER PAGE

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Cas No.: 46114 MA No. : SDG No.: H4002

SOW No. : SOM02.3

EPA Sample No.	Lab Sample ID	Analysis Method: Trace VOA	Low Med VOA	SVOA	SVOA SIM	PEST	ARO
H4002	H2834-01	X		X			
H4002MS	H2834-02	X		X			
H4002MSD	H2834-03	X		X			
H4006	H2834-04	X					
H4094	H2834-05	X					
H4121	H2834-06	X					
H4123	H2834-07	X					
H4124	H2834-08	X					
H4132	H2834-09	X					
H4133	H2834-10	X					
VHBLK01	H2834-11	X					
H4004	H2834-12	X					
H4061	H2834-13		X	X			
H4061MS	H2834-14		X	X			
H4061MSD	H2834-15		X	X			
H4076	H2834-16		X	X			
VHBLK02	H2834-17		X				
H4102	H2834-18	X		X			
H4116	H2834-19	X		X			
H4117	H2834-20	X		X			
H4118	H2834-21	X		X			

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative.Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee,as verified by the following signature.

Signature: [illegible] Name: [illegible]

Date: 6/12/2016 Title: [illegible]

SDG# H4002

USEPA CLP COC (LAB COPY)

DateShipped: 5/2/2016
CarrierName: FedEx
AirbillNo: 776245708347

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050216-163402-0010

Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-GW-MTO	H4002	Ground Water/ Ned Lundvall	Grab	VOC(21)	1116 (HCL), 1117 (HCL), 1118 (HCL) (3)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MS	H4002MS	Ground Water/ Ned Lundvall	Grab	VOC(21)	1324 (HCL), 1325 (HCL), 1326 (HCL) (3)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	H4002MSD	Ground Water/ Ned Lundvall	Grab	VOC(21)	1332 (HCL), 1333 (HCL), 1334 (HCL) (3)	Mt Olivet	05/02/2016 09:00	
A-TB-005	H4006	Water/ Ned Lundvall		VOC(21)	1339 (HCL), 1340 (HCL), 1341 (HCL) (3)	A-TB-005	05/02/2016 07:00	
A-SW-004	H4094	Surface Water/ Ned Lundvall	Grab	VOC(21)	1141 (HCL), 1142 (HCL), 1143 (HCL) (3)	A-SW-04	05/02/2016 13:40	
A-SW-031	H4121	Surface Water/ Ned Lundvall	Grab	VOC(21)	1222 (HCL), 1223 (HCL), 1224 (HCL) (3)	A-SW-31	05/02/2016 15:10	
A-SW-033	H4123	Surface Water/ Ned Lundvall	Grab	VOC(21)	1228 (HCL), 1229 (HCL), 1230 (HCL) (3)	A-SW-33	05/02/2016 14:00	
A-SW-034	H4124	Surface Water/ Ned Lundvall	Grab	VOC(21)	1231 (HCL), 1232 (HCL), 1233 (HCL) (3)	A-SW-34	05/02/2016 14:30	
A-SW-042	H4132	Surface Water/ Ned Lundvall	Grab	VOC(21)	1255 (HCL), 1256 (HCL), 1257 (HCL) (3)	A-SW-42	05/02/2016 14:20	
A-SW-043	H4133	Surface Water/ Ned Lundvall	Grab	VOC(21)	1258 (HCL), 1259 (HCL), 1260 (HCL) (3)	A-SW-43	05/02/2016 13:15	

Sample(s) to be used for Lab QC: A-GW-MTO-MS Tag 1324, A-GW-MTO-MS Tag 1325, A-GW-MTO-MS Tag 1326, A-GW-MTO-MSD Tag 1332, A-GW-MTO-MSD Tag 1333, A-GW-MTO-MSD Tag 1334

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: VOC=TCL VOCs by CLP

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
			George McGwn	5/3/16 920	4.9° C

2

SDG# H4002

USEPA CLP COC (LAB COPY)

DateShipped: 5/2/2016
CarrierName: FedEx
AirbillNo: 776245148907

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050216-102658-0009

Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-GW-MTO	H4002	Ground Water/ Ned Lundvall	Grab	SVOC(21)	1119 (6 C), 1120 (6 C) (2)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MS	H4002MS	Ground Water/ Ned Lundvall	Grab	SVOC(21)	1327 (6 C), 1328 (6 C) (2)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	H4002MSD	Ground Water/ Ned Lundvall	Grab	SVOC(21)	1335 (6 C), 1336 (6 C) (2)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO	MH4001	Ground Water/ Ned Lundvall	Grab	DMet(21)	1121 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	MH4001D	Ground Water/ Ned Lundvall	Grab	DMet(21)	1337 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MS	MH4001S	Ground Water/ Ned Lundvall	Grab	DMet(21)	1329 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO	MH4002	Ground Water/ Ned Lundvall	Grab	TMet(21)	1122 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	MH4002D	Ground Water/ Ned Lundvall	Grab	TMet(21)	1338 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MS	MH4002S	Ground Water/ Ned Lundvall	Grab	TMet(21)	1330 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	

Sample(s) to be used for Lab QC: A-GW-MTO-MS Tag 1327, A-GW-MTO-MS Tag 1328, A-GW-MTO-MSD Tag 1335, A-GW-MTO-MSD Tag 1336, A-GW-MTO-MSD Tag 1337, A-GW-MTO-MS Tag 1329, A-GW-MTO-MSD Tag 1338, A-GW-MTO-MS Tag 1330

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: SVOC=TCL SVOCs by CLP, DMet=Dissolved Metals, TMet=Total Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
			George Negyesy	5/3/16 1120	4°C

3

SDG# H4002

USEPA CLP COC (LAB COPY)
DateShipped: 5/2/2016
CarrierName: FedEx
AirbillNo: 776245148907

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050216-102658-0009
Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-GW-MTO-MS	H4001	Ground Water/ Ned Lundvall	Grab	SVOC(21)	1327 (6 C), 1328 (6 C) (2)	Mt Olivet	05/02/2016 09:00	1
A-GW-MTO	H4002	Ground Water/ Ned Lundvall	Grab	SVOC(21)	1119 (6 C), 1120 (6 C) (2)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	H4004	Ground Water/ Ned Lundvall	Grab	SVOC(21)	1335 (6 C), 1336 (6 C) (2)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO	MH4001	Ground Water/ Ned Lundvall	Grab	DMet(21)	1121 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO	MH4002	Ground Water/ Ned Lundvall	Grab	TMet(21)	1122 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MS	MH4005	Ground Water/ Ned Lundvall	Grab	DMet(21)	1329 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MS	MH4014	Ground Water/ Ned Lundvall	Grab	TMet(21)	1330 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	MH4016	Ground Water/ Ned Lundvall	Grab	DMet(21)	1337 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	MH4017	Ground Water/ Ned Lundvall	Grab	TMet(21)	1338 (HNO3 pH<2) (1)	Mt Olivet	05/02/2016 09:00	

Sample(s) to be used for Lab QC: A-GW-MTO-MS Tag 1327, A-GW-MTO-MS Tag 1328, A-GW-MTO-MSD Tag 1335, A-GW-MTO-MSD Tag 1336, A-GW-MTO-MS Tag 1329, A-GW-MTO-MS Tag 1330, A-GW-MTO-MSD Tag 1337, A-GW-MTO-MSD Tag 1338

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: SVOC=TCL SVOCs by CLP, DMet=Dissolved Metals, TMet=Total Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/2/16	FedEx		

SDG # H4002

USEPA CLP COC (LAB COPY)
DateShipped: 5/2/2016
CarrierName: FedEx
AirbillNo: 776245708347

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050216-163402-0010
Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-GW-MTO-MS	H4001	Ground Water/ Ned Lundvall	Grab	VOC(21)	1324 (HCL), 1325 (HCL), 1326 (HCL) (3)	Mt Olivet	05/02/2016 09:00	2
A-GW-MTO	H4002	Ground Water/ Ned Lundvall	Grab	VOC(21)	1116 (HCL), 1117 (HCL), 1118 (HCL) (3)	Mt Olivet	05/02/2016 09:00	
A-GW-MTO-MSD	H4004	Ground Water/ Ned Lundvall	Grab	VOC(21)	1332 (HCL), 1333 (HCL), 1334 (HCL) (3)	Mt Olivet	05/02/2016 09:00	
A-TB-005	H4006	Water/ Ned Lundvall		VOC(21)	1339 (HCL), 1340 (HCL), 1341 (HCL) (3)	A-TB-005	05/02/2016 07:00	
A-SW-004	H4094	Surface Water/ Ned Lundvall	Grab	VOC(21)	1141 (HCL), 1142 (HCL), 1143 (HCL) (3)	A-SW-04	05/02/2016 13:40	
A-SW-031	H4121	Surface Water/ Ned Lundvall	Grab	VOC(21)	1222 (HCL), 1223 (HCL), 1224 (HCL) (3)	A-SW-31	05/02/2016 15:10	
A-SW-033	H4123	Surface Water/ Ned Lundvall	Grab	VOC(21)	1228 (HCL), 1229 (HCL), 1230 (HCL) (3)	A-SW-33	05/02/2016 14:00	
A-SW-034	H4124	Surface Water/ Ned Lundvall	Grab	VOC(21)	1231 (HCL), 1232 (HCL), 1233 (HCL) (3)	A-SW-34	05/02/2016 14:30	
A-SW-042	H4132	Surface Water/ Ned Lundvall	Grab	VOC(21)	1255 (HCL), 1256 (HCL), 1257 (HCL) (3)	A-SW-42	05/02/2016 14:20	
A-SW-043	H4133	Surface Water/ Ned Lundvall	Grab	VOC(21)	1258 (HCL), 1259 (HCL), 1260 (HCL) (3)	A-SW-43	05/02/2016 13:15	

Sample(s) to be used for Lab QC: A-GW-MTO-MS Tag 1324, A-GW-MTO-MS Tag 1325, A-GW-MTO-MS Tag 1326, A-GW-MTO-MSD Tag 1332, A-GW-MTO-MSD Tag 1333, A-GW-MTO-MSD Tag 1334	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: VOC=TCL VOCs by CLP	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/2/16 1700	Fedex		
			Garage Vaglio	5/3/16 9:30	5.3°C

5

SDG# H4002

USEPA CLP COC (LAB COPY)
DateShipped: 5/3/2016
CarrierName: FedEx
AirbillNo: 776255658133

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050316-160550-0012
Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-TB-006	H4004	Water/ Ned Lundvall		VOC(21)	1458 (HCL), 1459 (HCL), 1460 (HCL) (3)	A-TB-006	05/03/2016 07:30	
A-SS-09	H4061	Soil/ Ned Lundvall	Grab	SVOC(21), VOC(21)	1004 (6 C), 1012 (6 C), 1013 (6 C), 1014 (6 C), 1018 (6 C) (5)	A-SW-09	05/03/2016 08:55	
A-SS-09-MS	H4061MS	Soil/ Ned Lundvall	Grab	SVOC(21), VOC(21)	1352 (6 C), 1354 (6 C), 1355 (6 C), 1356 (6 C), 1357 (6 C) (5)	A-SW-09	05/03/2016 08:55	
A-SS-09-MSD	H4061MSD	Soil/ Ned Lundvall	Grab	SVOC(21), VOC(21)	1358 (6 C), 1360 (6 C), 1361 (6 C), 1362 (6 C), 1363 (6 C) (5)	A-SW-09	05/03/2016 08:55	
A-SS-26	H4076	Soil/ Ned Lundvall	Grab	VOC(21), SVOC(21)	1006 (6 C), 1007 (6 C), 1015 (6 C), 1016 (6 C), 1017 (6 C) (5)	A-SW-26	05/03/2016 13:45	
A-SS-09	MH4025	Soil/ Ned Lundvall	Grab	TMet(21)	1005 (6 C) (1)	A-SW-09	05/03/2016 08:55	
A-SS-09-MSD	MH4025D	Soil/ Ned Lundvall	Grab	TMet(21)	1359 (6 C) (1)	A-SW-09	05/03/2016 08:55	
A-SS-09-MS	MH4025S	Soil/ Ned Lundvall	Grab	TMet(21)	1353 (6 C) (1)	A-SW-09	05/03/2016 08:55	
A-SS-26	MH4028	Soil/ Ned Lundvall	Grab	TMet(21)	1008 (HNO3 pH<2) (1)	A-SW-26	05/03/2016 13:45	

Sample(s) to be used for Lab QC: A-SS-09-MS Tag 1352, A-SS-09-MS Tag 1354, A-SS-09-MS Tag 1355, A-SS-09-MS Tag 1356, A-SS-09-MS Tag 1357, A-SS-09-MSD Tag 1358, A-SS-09-MSD Tag 1360, A-SS-09-MSD Tag 1361, A-SS-09-MSD Tag 1362, A-SS-09-MSD Tag 1363, A-SS-09-MSD Tag 1359, A-SS-09-MS Tag 1353

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: VOC=TCL VOCs by CLP, SVOC=TCL SVOCs by CLP, TMet=Total Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/3/16 1700	Fedex		
	Fedex	9:25 5-4-16		9:25 5-4-16	16°C

SDG# H4002

USEPA CLP COC (LAB COPY)

DateShipped: 5/4/2016

CarrierName: FedEx

AirbillNo: 776257380633

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050416-122017-0019

Lab: Chemtech Consulting Group

Lab Contact: Divya Mehta

Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-TB-008	H4010	Water/ Ned Lundvall		VOC(21)	1473 (HCL), 1474 (HCL), 1475 (HCL) (3)	A-TB-008	05/04/2016 07:45	
A-SS-01-D	H4082	Soil/ Ned Lundvall	Grab	VOC(21), SVOC(21)	1033 (6 C), 1034 (6 C), 1035 (6 C), 1036 (6 C), 1037 (6 C) (5)	A-SW-16	05/04/2016 13:40	
A-SS-01	H4086	Soil/ Ned Lundvall	Grab	VOC(21), SVOC(21)	1000 (6 C), 1001 (6 C), 1009 (6 C), 1010 (6 C), 1011 (6 C) (5)	A-SW-16	05/04/2016 13:40	
A-SW-009	H4099	Surface Water/ Ned Lundvall	Grab	VOC(21)	1156 (HCL), 1157 (HCL), 1158 (HCL) (3)	A-SW-09	05/03/2016 08:55	
A-SW-011	H4101	Surface Water/ Ned Lundvall	Grab	VOC(21)	1162 (HCL), 1163 (HCL), 1164 (HCL) (3)	A-SW-11	05/03/2016 12:30	
A-SW-012	H4102	Surface Water/ Ned Lundvall	Grab	VOC(21)	1165 (HCL), 1166 (HCL), 1167 (HCL) (3)	A-SW-12	05/03/2016 10:30	
A-SW-013	H4103	Surface Water/ Ned Lundvall	Grab	VOC(21)	1168 (HCL), 1169 (HCL), 1170 (HCL) (3)	A-SW-13	05/03/2016 14:30	
A-SW-021	H4111	Surface Water/ Ned Lundvall	Grab	VOC(21)	1192 (HCL), 1193 (HCL), 1194 (HCL) (3)	A-SW-21	05/03/2016 13:20	
A-SW-022	H4112	Surface Water/ Ned Lundvall	Grab	VOC(21)	1195 (HCL), 1196 (HCL), 1197 (HCL) (3)	A-SW-22	05/03/2016 15:50	
A-SW-023	H4113	Surface Water/ Ned Lundvall	Grab	VOC(21)	1198 (HCL), 1199 (HCL), 1200 (HCL) (3)	A-SW-23	05/03/2016 09:30	

Sample(s) to be used for Lab QC: A-SW-023-MS Tag 1376, A-SW-023-MS Tag 1377, A-SW-023-MS Tag 1378

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: VOC=TCL VOCs by CLP, SVOC=TCL SVOCs by CLP

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/4/16 1600	Fedex		
			George Nguyen	5/5/16 925	3.1°C

SDG# H4002

USEPA CLP COC (LAB COPY)

DateShipped: 5/4/2016

CarrierName: FedEx

AirbillNo: 776257380633

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050416-122017-0019

Lab: Chemtech Consulting Group

Lab Contact: Divya Mehta

Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-SW-023-MS	H4113MS	Surface Water/ Ned Lundvall	Grab	VOC(21)	1376 (HCL), 1377 (HCL), 1378 (HCL) (3)	A-SW-23	05/03/2016 09:30	
A-SW-023-MSD	H4113MSD	Surface Water/ Ned Lundvall	Grab	VOC(21)	1391 (HCL), 1392 (HCL), 1393 (HCL) (3)	A-SW-23	05/03/2016 09:30	
A-SW-026	H4116	Surface Water/ Ned Lundvall	Grab	VOC(21)	1207 (HCL), 1208 (HCL), 1209 (HCL) (3)	A-SW-26	05/03/2016 13:45	
A-SW-027	H4117	Surface Water/ Ned Lundvall	Grab	VOC(21)	1210 (HCL), 1211 (HCL), 1212 (HCL) (3)	A-SW-27	05/03/2016 11:20	
A-SW-028	H4118	Surface Water/ Ned Lundvall	Grab	VOC(21)	1213 (HCL), 1214 (HCL), 1215 (HCL) (3)	A-SW-28	05/03/2016 12:00	
A-SW-030	H4120	Surface Water/ Ned Lundvall	Grab	VOC(21)	1219 (HCL), 1220 (HCL), 1221 (HCL) (3)	A-SW-30	05/03/2016 16:30	
A-SW-036	H4126	Surface Water/ Ned Lundvall	Grab	VOC(21)	1237 (HCL), 1238 (HCL), ~~1239 (HCL)~~ (3)	A-SW-36	05/03/2016 17:30	
A-SW-039	H4129	Surface Water/ Ned Lundvall	Grab	VOC(21)	1246 (HCL), 1247 (HCL), 1248 (HCL) (3)	A-SW-39	05/03/2016 17:00	
A-SS-01-D	MH4029	Soil/ Ned Lundvall	Grab	TMet(21)	1038 (6 C) (1)	A-SW-~~18~~01	05/04/2016 13:40	
A-SS-01	MH4030	Soil/ Ned Lundvall	Grab	TMet(21)	1002 (6 C) (1)	A-SW-~~18~~01	05/04/2016 13:40	

Sample(s) to be used for Lab QC: A-SW-023-MS Tag 1376, A-SW-023-MSD Tag 1391, A-SW-023-MSD Tag 1392, A-SW-023-MSD Tag 1393

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: VOC=TCL VOCs by CLP, SVOC=TCL SVOCs by CLP, TMet=Total Metals

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/4/16 kw Fedex			
			Gorge Negron	5/5/16 925	31°C

SDG# H4002

USEPA CLP COC (LAB COPY)

DateShipped: 5/4/2016
CarrierName: FedEx
AirbillNo: 776257387329

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050416-110649-0018

Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-SW-012	H4102	Surface Water/ Ned Lundvall	Grab	SVOC(21)	1406 (6 C), 1407 (6 C) (2)	A-SW-12	05/03/2016 10:30	
A-SW-026	H4116	Surface Water/ Ned Lundvall	Grab	SVOC(21)	1446 (6 C) (1)	A-SW-26	05/03/2016 13:45	
A-SW-027	H4117	Surface Water/ Ned Lundvall	Grab	SVOC(21)	1416 (6 C), 1417 (6 C) (2)	A-SW-27	05/03/2016 11:20	
A-SW-028	H4118	Surface Water/ Ned Lundvall	Grab	SVOC(21)	1425 (6 C), 1426 (6 C) (2)	A-SW-28	05/03/2016 12:00	

Special Instructions:

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: SVOC=TCL SVOCs by CLP

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/4/16 1200	FedEx		
			George Nielsen	5/5/16 925	2-9° C

Sample Delivery Group (SDG) Cover Sheet

SDG Number	H4002	Case Number	46114	Contract Number	EP-W-14-030
Lab Code	CHM	SDG Turnaround	21 DAYS	Delivery CLIN(s)	

First Sample Received in SDG	H4002	Last Sample Received in SDG	H4118
First Sample Receipt Date	5/3/2016 9:20:00 AM	Last Sample Receipt Date	5/5/2016 9:25:00 AM

USEPA Sample Numbers in SDG (Listed in Numerical Order)

CLP Sample ID	Sample Type	Requested Analytical CLIN(s)/SubCLIN(s)	Solicitation Number	MA Number(s)
H4002	Field Sample	0014AB,0011AB	N/A	N/A
H4002MS	Field Sample	0011AB,0014AB	N/A	N/A
H4002MSD	Field Sample	0014AB,0011AB	N/A	N/A
H4006	Field Sample	0011AB	N/A	N/A
H4094	Field Sample	0011AB	N/A	N/A
H4121	Field Sample	0011AB	N/A	N/A
H4123	Field Sample	0011AB	N/A	N/A
H4124	Field Sample	0011AB	N/A	N/A
H4132	Field Sample	0011AB	N/A	N/A
H4133	Field Sample	0011AB	N/A	N/A
H4004	Field Blank	0011AB	N/A	N/A
H4061	Field Sample	0012AB,0014AB	N/A	N/A
H4061MS	Field Sample	0012AB,0014AB	N/A	N/A
H4061MSD	Field Sample	0012AB,0014AB	N/A	N/A
H4076	Field Sample	0012AB,0014AB	N/A	N/A
H4102	Field Sample	0011AB,0014AB	N/A	N/A
H4116	Field Sample	0014AB,0011AB	N/A	N/A
H4117	Field Sample	0011AB,0014AB	N/A	N/A
H4118	Field Sample	0011AB,0014AB	N/A	N/A

Note: *There are a maximum of 20* ***field*** *samples (excluding PE samples) in an SDG. Attach TR/COC Records to this form in alphanumeric order (the order listed above on this form).*

Signature E.M. Jodlowski Date 5/9/16

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 1 of 5
Received By (Print Name) DEEPAK PARMAR		Log-in Date **5/3/2016**
Received By (Signature)		
Case Number 46114	SDG No. H4002	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776245148907
6. Sample Tags Sample Tag #	N/A Yes
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	4.9 Degree C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/03/2016
12. Time Received	09:20

	EPA Sample #	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	H4002	1119,20,1116,17,18	H2834-01	Intact
2	H4002MS	1327,28,1324,25,26	H2834-02	
3	H4002MSD	1335,36,1332,33,34	H2834-03	

* Contact SMO and attach record of resolution

Reviewed By S. M. Jadhav	Logbook No.
Date 5/4/16	Logbook Page No.

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 2 of 5
Received By (Print Name) DEEPAK PARMAR		Log-in Date **5/3/2016**
Received By (Signature)		
Case Number 46114	SDG No. H4002	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776245708347
6. Sample Tags Sample Tag #	N/A Yes
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	5.3 Degree C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/03/2016
12.Time Received	09:20

	EPA Sample #	Corresponding: Sample Tag #	Corresponding: Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	H4002	1119,20,1116,17,18	H2834-01	Intact
2	H4002MS	1327,28,1324,25,26	H2834-02	
3	H4002MSD	1335,36.1332,33,34	H2834-03	
4	H4006	1339,40,41	H2834-04	
5	H4094	1141,42,43	H2834-05	
6	H4121	1222,23,24	H2834-06	
7	H4123	1228,29,30	H2834-07	
8	H4124	1231,32,33	H2834-08	
9	H4132	1255,56,57	H2834-09	
10	H4133	1258,59,60	H2834-10	
11				
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* Contact SMO and attach record of resolution

Reviewed By S.M. Tatheer	Logbook No.
Date 5/4/16	Logbook Page No.

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 3 of 5
Received By (Print Name) DEEPAK PANWAR		Log-in Date **5/4/2016**
Received By (Signature)		
Case Number 46114	SDG No. H4002	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776255658133
6. Sample Tags Sample Tag #	N/A Yes
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	3.6 Degree C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/04/2016 ~~05/05/2016~~
12. Time Received	09:25

	EPA Sample #	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	H4004	1458,59,60	H2834-12	Intact
2	H4061	1004,1012,13,14,18	H2834-13	
3	H4061MS	1352,54,55,56,57	H2834-14	
4	H4061MSD	1358,60,61,62,63	H2834-15	
5	H4076	1006,07,15,16,17	H2834-16	
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23				

* Contact SMO and attach record of resolution

Reviewed By S.M. Jadhav	Logbook No.
Date 5/9/16	Logbook Page No.

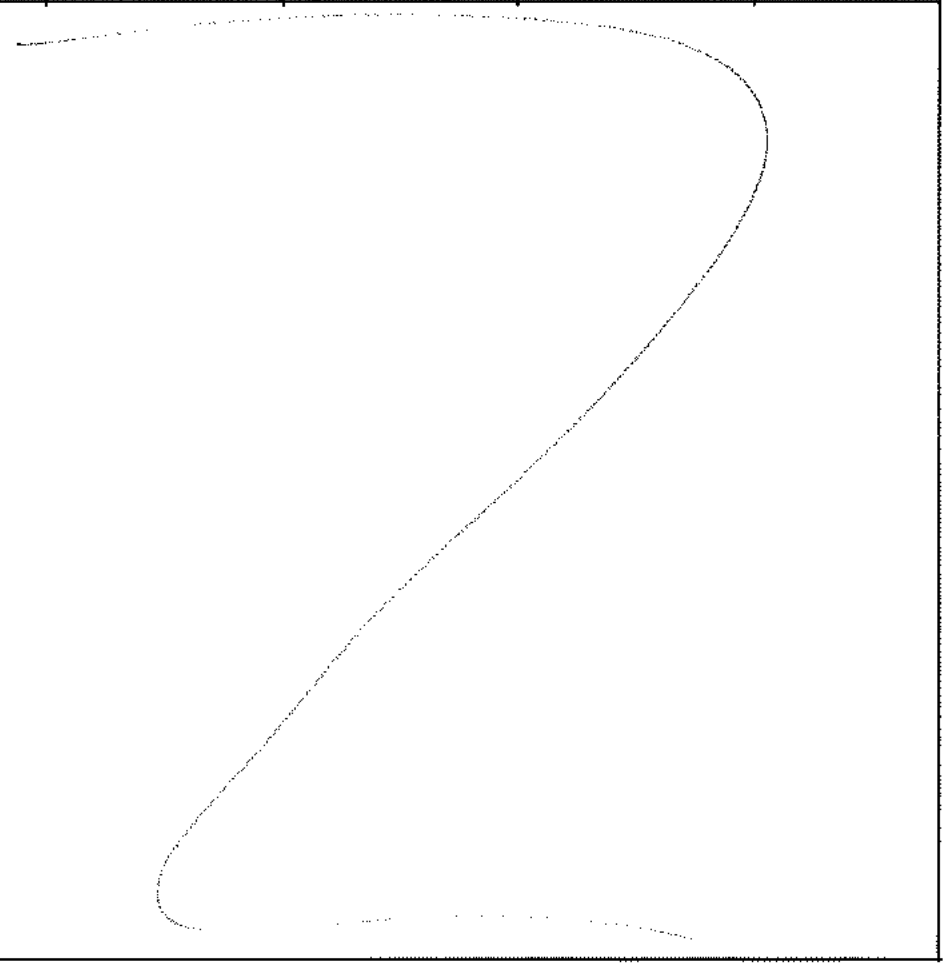
FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 4 of 5
Received By (Print Name) DEEPAK LAHMAN		Log-in Date **5/5/2016**
Received By (Signature)		
Case Number 46114	SDG No. H4002	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776257380633
6. Sample Tags Sample Tag #	N/A Yes
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	3.1 Degree C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/05/2016
12.Time Received	09:25

	EPA Sample #	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	H4102	1165,66,67,1406,07	H2834-18	Intact
2	H4116	1207,08,09,1446	H2834-19	
3	H4117	1210,11,12,1416,17	H2834-20	
4	H4118	1213,14,15,1425,26	H2834-21	



* Contact SMO and attach record of resolution

Reviewed By	S. M. Tolliver	Logbook No.	
Date	5/9/16	Logbook Page No.	

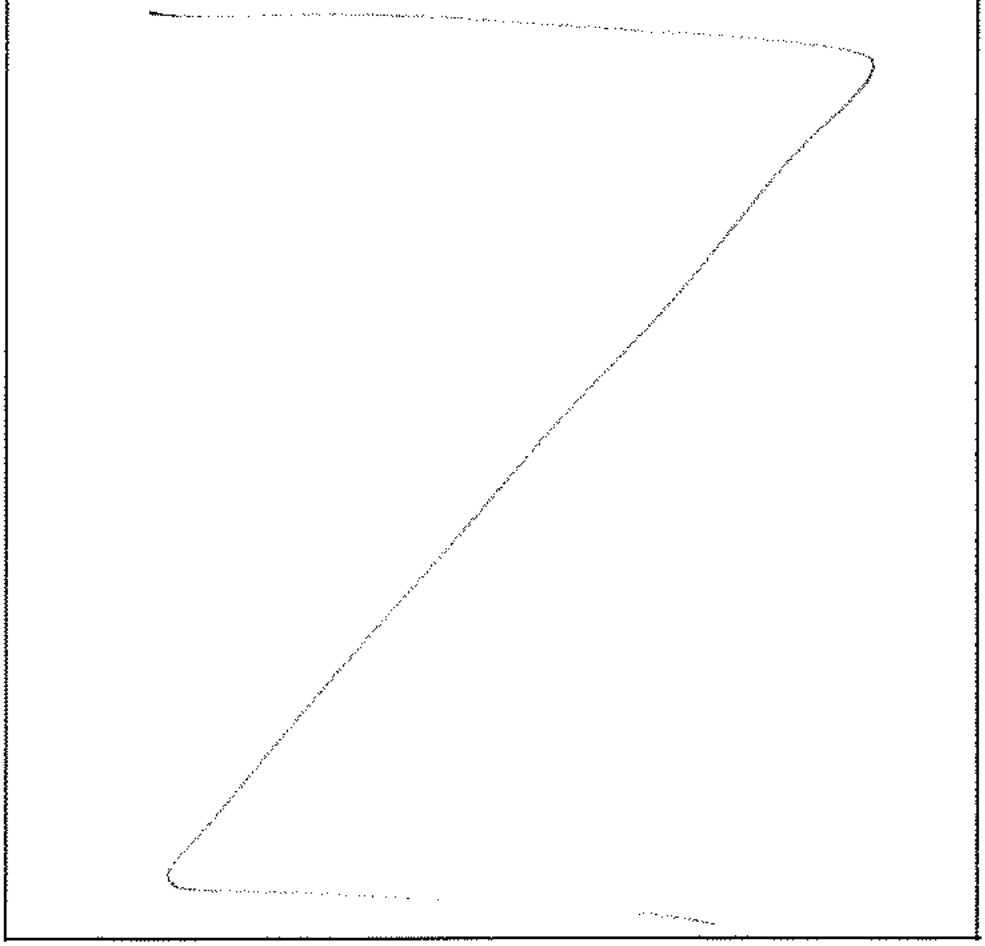
FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 5 of 5
Received By (Print Name) DEEPAK PARMAR		Log-in Date 5/5/2016
Received By (Signature)		
Case Number 46114	SDG No. H4002	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776257387329
6. Sample Tags Sample Tag #	N/A Yes
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	2.9 Degree C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/05/2016
12. Time Received	09:25

	EPA Sample #	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	H4102	1165,66,67,1406,07	H2834-18	Intact
2	H4116	1207,08,09,1446	H2834-19	
3	H4117	1210,11,12,1416,17	H2834-20	
4	H4118	1213,14,15,1425,26	H2834-21	



* Contact SMO and attach record of resolution

Reviewed By	S. M. Jonkman	Logbook No.	
Date	5/9/16	Logbook Page No.	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

LAB NAME CHEMTECH CONSULTING GROUP
LAB CODE CHM
CONTRACT NO. EPW14030
CASE NO. 46114 SDG NO. H4002
MA NO.
SOW NO. SOM02.3

All documents delivered in the complete SDG File must be original documents where possible. (Reference - Exhibit B Section 2.4)

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
1. SDG Cover Page	1	1	✓	
2. Traffic Report/Chain of Custody Record(s)	2	10	✓	
3. Sample Log-In Sheet (DC-1)	11	15	✓	
4. CSF Inventory Sheet (DC-2)	16	22	✓	
5. SDG Narrative	23	43	✓	
Organic Analysis				
Trace Volatiles				
Quality Control Summary				
6. Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)	44	45	✓	
7. Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR)(if requeste by the EPA Region)	46	46	✓	
8. Method Blank Summary (Form 4-OR)	47	50	✓	
9. GC/MS Instrument Performance Check (Form 5-OR)	51	53	✓	
10. Internal Standard Area and Retention Summary (Form 8A-OR)	54	57	✓	
Sample Data				
11. TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	58	385	✓	
12. Tentatively Identified Compounds (Form 1B-OR)			✓	
13. Raw Data for each sample:			✓	
Reconstructed total ion chromatograms (RICs) for each sample			✓	
Raw Spectra and bacground-subtracted mass spectra of target analytes identified			✓	
Quantitation Reports			✓	
Mass Spectra of all reported TICs with three best library matches			✓	
Standards Data (All Instruments)				
14. GC/MS Initial Calibration Data (Form 6A-OR)	386	402	✓	
15. RICs and Quantitation Reports for all Standards			✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
16. Continuing Calibration Verification for GC/MS (Form 7-OR)	403	449	✓	
17. RICs and Quantitation Reports for all Standards				
Quality Control Data				
18. Performance Check	450	472	✓	
19. Blank Data	473	542	✓	
20. Matrix Spike/Matrix Spike Duplicate Data (Form 3A-OR) (if requested by EPA Region)	543	563	✓	
21. Original Preparation and analysis forms or copies of preparation and analysis logbook pages (including screening records if applicable)	1310	1519	✓	
Low-Medium Volatiles				
Quality Control Summary				
22. Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)	564	565	✓	
23. Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR) (if requested by EPA Region)	566	566	✓	
24. Method Blank Summary (Form 4-OR)	567	569	✓	
25. GC/MS Instrument Performance Check (Form 5-OR)	570	573	✓	
26. Internal Standard Area and Retention Time Summary (Form 8A-OR)	574	576	✓	
Sample Data				
27. TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	577	606	✓	
28. Tentatively Identified Compounds (Form 1B-OR)				
29. Raw Data for Each Sample:				
Reconstructed total ion chromatograms (RICs) for each sample				
Raw Spectra and background-subtracted mass spectra of target analytes identified				
Quantitation Reports				
Mass Spectra of all reported TICs with three best library matches				
Standards Data (All Instruments)				
30. GC/MS Initial Calibration Data (Form 6A-OR)	607	698	✓	
31. RICs and Quantitation Reports for all Standards				
32. Continuing Calibration Verification for GC/MS (Form 7A-OR)	699	782	✓	
33. RICs and Quantitation Reports for all Standards				
Quality Control Data				
34. Performance Check	783	812	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
35. Blank Data	813	879	✓	
36. Matrix Spike/Matrix Spike Duplicate Data (if requested by EPA Region)	880	905	✓	
37. Original preparation and analysis forms or copies of preparation and analysis logbook pages (including TCLP/SPLP logs, Percent Solid Determinations logs, and screening records if applicable)	1310	1519	✓	
Semivolatiles				
Quality Control Summary				
38. Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)	906	909	✓	
39. Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR) (if requested by EPA Region)	910	911	✓	
40. Method Blank Summary (Form 4-OR)	912	913	✓	
41. GC/MS Instrument Performance Check (Form 5-OR)	914	916	✓	
42. Internal Standard Area and Retention Time Summary (Form 8A-OR)	917	920	✓	
Sample Data				
43. TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	921	1055	✓	
44. Tentatively Identified Compounds (Form 1B-OR)				
45. Raw Data for Each sample:				
Reconstructed total ion chromatograms (RICs) for each sample	NA	NA	✓	
Raw Spectra and background-subtracted mass spectra of target analytes identified				
Quantitation Reports				
Mass Spectra of all reported TICs with three best library matches				
GPC chromatograms (if GPC is required)				
Standards Data (All Instruments)				
46. GC/MS Initial Calibration Data (Form 6A-OR)	1056	1098	✓	
47. RICs and Quantitation Reports for all Standards				
48. Continuing Calibration Verification for GC/MS (Form 7A-OR)	1099	1171	✓	
49. RICs and Quantitation Reports for all Standards				
Quality Control Data				
50. Performance Check	1172	1204	✓	
51. Blank Data	1205	1228	✓	
52. Matrix Spike/Matrix Spike Duplicate Data (if requested by EPA Region)	1229	1296	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
53. Raw GPC Data	1297	1309	✓	
54. For SIM analysis (if requested), at the same sequence as listed above, except for that Form 1B-OR and TIC spectra data which are not required for SIM method.	NA	NA	✓	
55. Original preparation and analysis forms or copies of preparation and analysis logbook pages (including TCLP/SPLP logs, Percent Solid Determinations logs, and screening records if applicable)	1310	1519	✓	
Pesticides				
Quality Control Summary				
56. Surrogate Recovery (Form 2C-OR)	NA	NA	✓	
57. Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR each columns)	NA	NA	✓	
58. Laboratory Control Sample Recovery (Form 3B-OR each column)	NA	NA	✓	
59. Method Blank Summary (Form 4-OR)	NA	NA	✓	
Sample Data				
60. TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	NA	NA	✓	
61. Raw Data for Each Sample:				
Chromatograms (Primary Column)				
Chromatograms (Secondary Column)				
Quantitation Reports				
Manual Worksheets				
62. For Pesticides by GC/MS Confirmation:				
Copies of raw spectra and copies of background-subtracted mass spectra of target analytes (samples & standards)				
Standards Data				
63. Initial Calibration of Single Component Analytes (Form 6B-OR and 6C-OR)	NA	NA	✓	
64. Initial Calibration of Multicomponent Analytes (Form 6D-OR and 6E-OR)	NA	NA	✓	
65. Analyte Resolution Summary (Form 6G-OR)	NA	NA	✓	
66. Pesticide Performance Evaluation Mixture Calibration Verification Summary (Form 7B-OR)	NA	NA	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
67. Continuing Calibration Verification Summary (Form 7C-OR)	NA	NA	✓	
68. Multicomponent Coninuing Calibration Verification Summary (Form 7D-OR)	NA	NA	✓	
69. Analytical Sequence (Form 8B-OR)	NA	NA	✓	
70. Florisil Cartridge Check (Form 9A-OR)	NA	NA	✓	
71. GPC Calibration Verification (Form 9B-OR)	NA	NA	✓	
72. Identification Summary for Single Component Analytes (Form 10A-OR)	NA	NA	✓	
73. Identification Summary for Multicomponent Analytes (Form 10B-OR)				
74. Chromatograms and Quantitation Reports:	NA	NA	✓	
A printout of Retention Times and corresponding peak areas or peak heights				
Quality Control Data				
75. Blank Data	NA	NA	✓	
76. Matrix Spike/Matrix Spike Duplicate Data	NA	NA	✓	
77. Laboratory Control Sample	NA	NA	✓	
78. Raw GPC Data	NA	NA	✓	
79. Raw Florisil Data	NA	NA	✓	
80. Original preparation and analysis forms or copies of preparation and analysis logbook pages (including TCLP/SPLP logs, Percent Solid Determinations logs, and screening records if applicable)	NA	NA	✓	
Aroclor Data				
Quality Control Summary				
81. Surrogate Recovery (Form 2C-OR)	NA	NA	✓	
82. Matrix Spike/Matrix Spike Duplicate Summary (Form 3A-OR)	NA	NA	✓	
83. Laboratory Control Sample Recovery (Form 3B-OR for each column)	NA	NA	✓	
84. Method Blank Summary (Form 4-OR)	NA	NA	✓	
Sample Data				
85. TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	NA	NA	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
86. Raw Data for Each Sample:	NA	NA	✓	
Chromatograms (Primary Column)	NA	NA	✓	
Chromatograms (Secondary Column)	NA	NA	✓	
Quantitation Reports	NA	NA	✓	
Manual Worksheets	NA	NA	✓	
87. For Aroclors by GC/MS Confirmation:	NA	NA	✓	
Copies of raw spectra and copies of background-subtracted mass spectra of target analytes (samples & standards)	NA	NA	✓	
Standards Data				
88. Initial Calibration of Multicomponent Analytes(Form 6D-OR, Form 6E-OR, and Form 6F-OR)	NA	NA	✓	
89. Multicomponent Continuing Calibration Verification Summary (Form 7D-OR)	NA	NA	✓	
90. Analytical Sequence (Form 8B-OR)	NA	NA	✓	
91. Identification Summary for Multicomponent Analytes (Form 10B-OR)	NA	NA	✓	
92. Chromatograms and data system printouts:	NA	NA	✓	
A printout of Retention Times and corresponding peak areas or peak heights				
Qaulity Control Data				
93. Blank Data	NA	NA	✓	
94. Matrix Spike/Matrix Spike Duplicate Data	NA	NA	✓	
95. Laboratory Control Sample (LCS) Data	NA	NA	✓	
96. Raw GPC Data (if performed)	NA	NA	✓	
97. Original preparation and analysis forms or copies of preparation and analysis logbook pages (including Percent Solid Determinations logs and screening records if applicable)	NA	NA	✓	
Additional				
98. EPA Shipping/Receiving Documents Airbills (No. of shipments 5)	1520	1524	✓	
Sample Tags	NA	NA		
Sample Log-In Sheet (Lab)	1525	1526	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
99. Misc. Shipping/Receiving Records (list all individual records) Communication Logs	NA	NA	✓	
100. Internal Lab Sample Transfer Records & Tracking Sheets (describe or list)	1527	1532	✓	
101. PE/PT Instruction Forms	NA	NA	✓	
102. Other Records (describe or list)				
Communication Log	1533	1543	✓	

103. Comments

Completed by:
(CLP Lab) [signature] (Signature) [illegible] (Printed Name/Title) [illegible] (Date)

Audited by:
(EPA) (Signature) (Printed Name/Title) (Date)

SDG NARRATIVE

LAB NAME: CHEMTECH CONSULTING GROUP
CASE# 46114
SDG# H4002
CONTRACT# EPW14030
LAB CODE: CHM
CHEMTECH PROJECT # H2834
MODIFICATION REF. NUMBER: N/A

Sample ID	Test	EPA ID	pH
H2834-01		H4002	1.0
H2834-01DL	VOC	H4002DL	1.0
H2834-02		H4002MS	1.0
H2834-03		H4002MSD	1.0
H2834-04		H4006	1.0
H2834-05		H4094	1.0
H2834-05DL	VOC	H4094DL	1.0
H2834-06		H4121	1.0
H2834-06DL	VOC	H4121DL	1.0
H2834-07		H4123	1.0
H2834-07DL	VOC	H4123DL	1.0
H2834-08		H4124	1.0
H2834-08RE	VOC	H4124RE	1.0
H2834-09		H4132	1.0
H2834-10		H4133	1.0
H2834-12		H4004	1.0
H2834-13		H4061	
H2834-14		H4061MS	
H2834-15		H4061MSD	
H2834-16		H4076	
H2834-18		H4102	
H2834-18DL	VOC	H4102DL	1.0
H2834-19		H4116	1.0
H2834-19DL	VOC	H4116DL	1.0
H2834-20		H4117	1.0
H2834-21		H4118	1.0

10 Water samples were delivered to the laboratory intact on 05/03/2016.
1 Water and 4 soil samples were delivered to the laboratory intact on 05/04/2016.
4 Water samples were delivered to the laboratory intact on 05/05/2016.

Test requested on the Chain of Custody was Volatile Organic and Semi Volatile Organic by Method SOM02.3.

Samples for Volatile Organic analyses were transferred unopened to the Volatile Laboratory. Sample Tags were not received with the samples.

The temperature of the samples was measured using an I R Gun. The samples temperature was 4.9 and 5.3 degrees Celsius for the samples received on 05/03/2016, 3.6 degrees Celsius for the samples received on 05/04/2016 and 3.1 and 2.9 degrees Celsius for the samples received on 05/05/2016.

Shipping Discrepancies and/or QC issues:

Incorrect/duplicated sample IDs
Issue 1: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of including them under one sample ID. The laboratory is requesting to use the sample IDs as listed below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	H4002, H4002MS, H4002MSD
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	MH4001 MH4001D MH1001S
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	MH4002 MH4002D MH1002S
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

Resolution 1: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples using the attached revised COCs.

pH outside allowable limit
Issue 2: The samples listed below appear to be received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005

Resolution 2: Per Region 8, the laboratory shall preserve the unpreserved samples to an acceptable pH level of <2. This resolution applies to the remainder of the samples associated with this Case when the pH exceeds acceptable levels. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Issue 3: The water samples for this Case are scheduled for 86 TVOA and 17 SVOA analysis; however, the COCs list VOA=TCL VOCs by CLP.

Resolution 3: Per Region 8, the samples in question shall be analyzed as scheduled for TVOA. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples. This resolution may be applied to all COCs received for this Case with this issue.

Issue 4 : Sample tags were not received with samples at the laboratory. Sample tag numbers may or may not be listed on the TR/COC.

Resolution 4: In accordance with previous direction from Region 8, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the sample. The Resolution will be applied to all samples received for this Case.

Trace Volatiles:

The analysis performed on instrument MSVOA_I were done using C column RXI-624 30m 0.25mm 1.4um 872456. The Trap was supplied by OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator.

The analysis of VOC-Low Level -15 was based on method SOM02.3_Trace.

Surrogate recoveries met the criteria except for the followings:
H4121DL [1,1-Dichloroethene-d2 - 40%],
H4094DL [1,1-Dichloroethene-d2 - 49%],,
H4123DL [1,1-Dichloroethene-d2- 44%]
As per method, up to 3 surrogates are allowed to fail; therefore no corrective action was required for above mention sample.
Holding Times were met.
Instrument Performance Check met requirements.
Retention Times met requirements.
The MS { H4002MS } recoveries met the requirements.
The MSD { H4002 MSD} recoveries met the acceptable requirements.
The RPD recoveries met criteria
The Internal Standards Areas met requirements.
The initial Calibration met the requirements.

The Continuing Calibration met the requirements.
The Blank analysis did not indicate the presence of lab contamination.
The Storage Blank did not indicate the presence of lab contamination.

Samples H4002, H4094, H4102, H4116, H4121 and H4123 were diluted due to high concentrations.

Sample H4124 was analyzed following the analysis of H4002, H4094,. H4121, H4123. All these samples have concentration above calibration levels for Tetrachloroethene. Sample H4124 was considered to have a carryover of those compounds (from H4002, H4094, H4121, H4123.) and was reanalyzed. The reanalysis confirmed the hit is from H4124.

The end closing calibration VSTD00542 (VI049274.D) was analyzed following the analysis of H4102, H4116. These samples had common hit of compound with concentration above calibration levels for Tetrachloroethene. Therefore, it was re-analyzed diluted and that calibration is passing for this compound therefore no instrument blank was required.

See **Manual Integration report** for the manual integration information at the end of the case narrative.

Calculation:

$$\text{Concentration in ug/L} = \frac{(Ax)\,(Is)\,(DF)}{(Ais)\,(\overline{RRF})\,(Vo)}$$

Where,

Ax = Area of the characteristic ion (EICP) for the compound to be measured.
Ais = Area of the characteristic ion (EICP) for the internal standard.
Is = Amount of internal standard added in ng.
RRF = Mean Relative Response Factor from the initial calibration standard.
Vo = Total volume of water purged, in mL.
DF = Dilution Factor.

Example Calculation for sample # H4002 for Tetrachloroethene:

Ax= 3043159
Is= 250
RRF= 0.390
DF=1
Ais=842773
VO.= 50

$$\text{Concentration in ug/L} = \frac{(3043159)\ \ (250\ )\ (1_)}{(842773)(\ 0.390)\ (50\ )}$$

= 46.29 ug/L

Reported Result = 46 ug/L

Relative Response Factor = Tetrachloroethene: RUN # VI050416 for 5 ppb

$$RRF = \frac{\text{Area of compound}}{\text{Area of Internal Standard}} \times \frac{\text{Conc. of Internal Standard}}{\text{Conc. of Compound}}$$

$$RRF = \frac{374867}{966164} \times \frac{5.0}{5.0} = 0.3879$$

RRF = 0.388

Low Volatiles:

The analyses for Low Volatile Organics soil sample was performed on instrument MSVOA_T using GC column RXI-624SIL MS 30m 0.25mm 1.4um 872456. The Trap was supplied by OI Analytical, OI #10 Trap, OI Eclipse 4660 Concentrator.

The analysis of VOC-Low Level -10 was based on method SOM02.3_Low

Surrogate recoveries met the criteria.
Holding Times were met.
Instrument Performance Check met requirements.
Retention Times met requirements.
The Internal Standards Areas met requirements.
The MS { H4061MS } recoveries met the requirements.
The MSD { H4061 MSD} recoveries met the acceptable requirements.
The RPD recoveries met criteria

Trans-1, 3-Dichloropropene-d4 fails to meet criteria for the minimum RRF in the run dated 04/12/2016 and 05/06/2016 with T instrument.
As per the method up to two compounds are allow to fail to meet the minimum criteria for the RRF as long as the compound meets the maximum of 40% RSD. No further corrective action was required.

The Continuing Calibration in file id VT013897.D, VT013907.D, VT013929.D, VT013987.D, VT013999.D, VT014021.D, which is fail to meet the minimum RRF of 0.200 for Trans-1, 3-Dichloropropene-d4.
As per method, the % D of 2 compounds can be fail, therefore no correction required.

The Blank analysis indicated presence of Methylene chloride[1.6 ug/Kg] FileID: VT013908.D{ VBLK98} due to possible lab contamination.

The Blank analysis indicated presence of Methylene chloride[1.1 ug/Kg] FileID: VT014000.D{ VBLK79} due to possible lab contamination.

The Storage Blank indicated presence of Methylene chloride[1.4 ug/Kg] FileID: VT014001.D{ VHBLK01 H2834-17} due to possible lab contamination. and the concentration of this compound is below CRQL ,therefore as per method no corrective action was taken.

See **Manual Integration** report for the manual integration information at the end of the case narrative.

Calculation for soil samples:

Low/Med Level Soil/Sediment Calculation

(Concentration in ug/Kg dry Weight basis) $\frac{(A_x)(I_s)(Df)}{(Ais)(\overline{RRF})(Ws)(D)}$

Where,

Ax = Area for the compound to be measured
Ais = Area for the specific internal standard
Is = Amount of internal standard added in nanograms (ng)
RRF = Relative response factor of the calibration standard.
Df = Dilution factor
Ws= Weight of sample
D= $\frac{100 - \%moisture}{100}$

Example Calculation for sample # H4061 for Methylene chloride:
Ax=30112
Is= 250
RRF= 0.339
DF=1
Ais= 904385
Ws= 3.75
D= 0.638

Concentration in ug/KG = $\frac{(30112)(250)(1)}{(904385)(0.339)(3.75)(0.638)}$

= 10.26 ug/Kg

Reported Results = 10 ug/Kg

Relative Response Factor = Vinyl chloride RUN # VT041216 for 25 ppb

$$RRF = \frac{\text{Area of compound}}{\text{Area of Internal Standard}} \times \frac{\text{Conc. of Internal Standard}}{\text{Conc. of Compound}}$$

$$RRF = \frac{705010}{1387721} \times \frac{25}{25} = 0.508$$

RRF= 0.508

Semivolatiles

The samples were analyzed on instrument BNA_M using GC Column ZB-Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA.

Semi volatile Organic samples for Water and Soil were extracted by Method SOM02.3 on 05/05/16.

The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for H4002 [1,4-Dioxane-d8 - 19%], H4002MS [1,4-Dioxane-d8 - 16%], H4002MSD [1,4-Dioxane-d8 - 17%], H4076 [1,4-Dioxane-d8 - 37%], H4102 [1,4-Dioxane-d8 - 18%, 4-Nitrophenol-d4 - 9%], H4116 [1,4-Dioxane-d8 - 15%, 4-Nitrophenol-d4 - 7%], H4117 [1,4-Dioxane-d8 - 17%, 4-Nitrophenol-d4 - 8%], H4118 [1,4-Dioxane-d8 - 20% and 4-Nitrophenol-d4 - 9%]. As per method four surrogates are allowed to fail. No further corrective action was taken.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria.
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements.
The Continuous Calibration (SSTD02036) compound Hexachlorocyclopentadiene is over 50%D but according to SOM02.3, section 9.4.5.3. Compound Hexachlorocyclopentadiene in closing CCV RRF %D requirement is advisory. No further corrective action was taken.
The Tuning criteria met requirements.

See **Manual Integration report** for the manual integration information at the end of the case narrative.

Concentration of Water Sample:

$$\text{Concentration ug/L} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(\overline{RRF})\,(Vo)\,(Vi)}$$

Where,
Ax = Area of the characteristic ion for the compound to be measured.
Ais = Area of the characteristic ion for the internal standard.
Is = Amount of internal standard injected in ng.
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL

$\overline{RRF}$ = Mean Relative Response Factor determined from the initial calibration standard.
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)

Concentration of SOIL Sample:

$$\text{Concentration ug/Kg, (dry weight basis)} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(\overline{RRF})\,(Vi)\,(Wt)\,(D)}$$

Where,

Ax = Area of the characteristic ion for the compound to be measured.
Ais = Area of the characteristic ion for the internal standard.
Is = Amount of internal standard injected in ng.
V_i = Volume of extract injected in microliters (uL)
V_t = Volume of concentrated extract in microliters (uL)
W_t = Weight of the original sample extracted in g
Df = Dilution factor

$\overline{RRF}$ = Mean Relative Response Factor determined from the initial calibration standard.
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)
Vout = Volume of extract collected after GPC cleanup.
D = % dry weight or $\frac{100 - \%Moisture}{100}$

Example calculation of H4061 for Dimethylphthalate:

Ax = 165781
Ais = 292129
Is = 20
V_i = 500
V_t = 1
W_t = 30.1
Df = 1

RRF = 1.602
GPC = 2
D= 0.638

$$\text{Concentration ug/L} = \frac{(165781)\,(20)\,(500)\,(1)\,(2)}{(292129)\,(1.602)\,(1)\,(30.1)\,(0.638)}$$

= 370 ug/Kg

RRF Calculation of standard 20 ppb for Dimethylphthalate with M instrument for method 05/05/16

RRF = Area of compound / Area of Internal Standard X Conc. of Internal Standard / Conc. of Compound

= 434026/ 259664 X 20/20

= 1.671 (Reported RRF)

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature Mildred V. Reyes Name: Mildred V. Reyes

Date: 5/23/16 Title: Document Control Officer

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Manual Integration Report

Sequence:	VI050416	Instrument	MSVOA_i

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
H2834-04/ H4006	VI049233.D	Chloroethane-d5	lisa	5/5/2016 8:52:28 AM	mohammad	5/5/2016 9:01:35 AM	Peak Integrated by Software incorrectly
H2834-06/ H4121	VI049238.D	1,2-Dichloroethane-d4	lisa	5/5/2016 8:52:32 AM	mohammad	5/5/2016 9:01:28 AM	Peak Integrated by Software incorrectly
H2834-07/ H4123	VI049239.D	1,2-Dichloroethane-d4	lisa	5/5/2016 8:52:34 AM	mohammad	5/5/2016 9:01:26 AM	Peak Integrated by Software incorrectly
H2834-10/ H4133	VI049242.D	Chloroethane-d5	lisa	5/5/2016 8:52:35 AM	mohammad	5/5/2016 9:01:20 AM	Peak Integrated by Software incorrectly
VSTDCCC005E C/ VSTD00539	VI049243.D	cis-1,2-Dichloroethene	lisa	5/5/2016 8:52:38 AM	mohammad	5/5/2016 9:01:16 AM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VI050516	Instrument	MSVOA_i

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VI0505WBL01/ VBLK28	VI049246.D	1,2-Dichloroethane-d4	apatel	5/6/2016 9:10:10 AM	feifei	5/6/2016 11:43:42 AM	Peak Integrated by Software incorrectly
VI0505WBL01/ VBLK28	VI049246.D	Chloroethane-d5	apatel	5/6/2016 9:10:10 AM	feifei	5/6/2016 11:43:42 AM	Peak Integrated by Software incorrectly
H2834-12/ H4004	VI049249.D	1,2-Dichloroethane-d4	apatel	5/6/2016 9:10:15 AM	feifei	5/6/2016 11:43:29 AM	Peak Integrated by Software incorrectly
H2834-12/ H4004	VI049249.D	Chloroethane-d5	apatel	5/6/2016 9:10:15 AM	feifei	5/6/2016 11:43:29 AM	Peak Integrated by Software incorrectly
H2834-08RE/ H4124RE	VI049251.D	1,2-Dichloroethane-d4	apatel	5/6/2016 9:10:26 AM	feifei	5/6/2016 11:43:37 AM	Peak Integrated by Software incorrectly
H2834-08RE/ H4124RE	VI049251.D	Chloroethane-d5	apatel	5/6/2016 9:10:26 AM	feifei	5/6/2016 11:43:37 AM	Peak Integrated by Software incorrectly
H2834-01DL/ H4002DL	VI049252.D	Chloroethane-d5	apatel	5/6/2016 9:10:31 AM	feifei	5/6/2016 11:44:13 AM	Peak Integrated by Software incorrectly
VI0505WBL02/ VBLK29	VI049256.D	1,1-Dichloroethene-d2	apatel	5/6/2016 9:10:37 AM	feifei	5/6/2016 11:44:14 AM	Peak Integrated by Software incorrectly
H2834-07DL/ H4123DL	VI049259.D	1,2-Dichloroethane-d4	apatel	5/6/2016 9:10:41 AM	feifei	5/6/2016 11:44:16 AM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VI050616	Instrument	MSVOA_i

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
H2834-18DL/ H4102DL	VI049281.D	1,2-Dichloroethane-d4	lisa	5/9/2016 10:23:56 AM	feifei	5/9/2016 12:05:12 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT041216	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTD2.585/ VSTD2.585	VT013544.D	Trichlorofluoromethane	feifei	4/13/2016 9:54:05 AM	MMdadoda	4/13/2016 2:36:22 PM	Peak Integrated by Software incorrectly
VSTD00586/ VSTD00586	VT013545.D	Trichlorofluoromethane	feifei	4/13/2016 9:54:06 AM	MMdadoda	4/13/2016 2:36:20 PM	Peak Integrated by Software incorrectly
VSTD02587/ VSTD02587	VT013546.D	Trichlorofluoromethane	feifei	4/13/2016 9:54:08 AM	MMdadoda	4/13/2016 2:36:21 PM	Peak Integrated by Software incorrectly
VSTD05088/ VSTD05088	VT013547.D	1,1-Dichloroethene	feifei	4/13/2016 9:54:10 AM	MMdadoda	4/13/2016 2:36:21 PM	Peak Integrated by Software incorrectly
VSTD05088/ VSTD05088	VT013547.D	Trichlorofluoromethane	feifei	4/13/2016 9:54:10 AM	MMdadoda	4/13/2016 2:36:21 PM	Peak Integrated by Software incorrectly
VSTD10089/ VSTD10089	VT013548.D	1,1-Dichloroethene	feifei	4/13/2016 9:54:11 AM	MMdadoda	4/13/2016 2:36:25 PM	Peak Integrated by Software incorrectly
VSTD10089/ VSTD10089	VT013548.D	Carbon disulfide	feifei	4/13/2016 9:54:11 AM	MMdadoda	4/13/2016 2:36:25 PM	Peak Integrated by Software incorrectly
VSTD10089/ VSTD10089	VT013548.D	Trichlorofluoromethane	feifei	4/13/2016 9:54:11 AM	MMdadoda	4/13/2016 2:36:25 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02590	VT013558.D	1,1-Dichloroethene	feifei	4/13/2016 9:54:18 AM	MMdadoda	4/13/2016 2:36:29 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02590	VT013558.D	1,1-Dichloroethene-d2	feifei	4/13/2016 9:54:18 AM	MMdadoda	4/13/2016 2:36:29 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02590	VT013558.D	Trichlorofluoromethane	feifei	4/13/2016 9:54:18 AM	MMdadoda	4/13/2016 2:36:29 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT050516	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC025/ VSTD02579	VT013897.D	Trichlorofluoromethane	feifei	5/6/2016 9:49:49 AM	MMDadoda	5/9/2016 6:52:00 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02580	VT013907.D	1,1-Dichloroethene	feifei	5/6/2016 9:50:11 AM	MMDadoda	5/9/2016 6:52:57 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02580	VT013907.D	Methylene chloride	feifei	5/6/2016 9:50:11 AM	MMDadoda	5/9/2016 6:52:57 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02580	VT013907.D	Trichlorofluoromethane	feifei	5/6/2016 9:50:11 AM	MMDadoda	5/9/2016 6:52:57 PM	Peak Integrated by Software incorrectly
VT0505SBL02/ VBLK98	VT013908.D	Chloroform-d	feifei	5/6/2016 9:50:13 AM	MMDadoda	5/9/2016 6:53:03 PM	Peak Integrated by Software incorrectly
H2834-13/ H4061	VT013913.D	Methylene chloride	feifei	5/6/2016 9:50:16 AM	MMDadoda	5/9/2016 6:52:33 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02581	VT013929.D	Trichlorofluoromethane	feifei	5/6/2016 9:50:19 AM	MMDadoda	5/9/2016 6:52:46 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT050616	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTD2.582/ VSTD2.582	VT013931.D	Carbon disulfide	feifei	5/9/2016 11:32:00 AM	MMDadoda	5/9/2016 6:53:39 PM	Peak Integrated by Software incorrectly
VSTD2.582/ VSTD2.582	VT013931.D	Trichlorofluoromethane	feifei	5/9/2016 11:32:00 AM	MMDadoda	5/9/2016 6:53:39 PM	Peak Integrated by Software incorrectly
VSTD00583/ VSTD00583	VT013932.D	Trichlorofluoromethane	feifei	5/9/2016 11:32:02 AM	MMDadoda	5/9/2016 6:53:45 PM	Peak Integrated by Software incorrectly
VSTD02584/ VSTD02584	VT013933.D	Trichlorofluoromethane	feifei	5/9/2016 11:32:03 AM	MMDadoda	5/9/2016 6:53:50 PM	Peak Integrated by Software incorrectly
VSTD05085/ VSTD05085	VT013934.D	Trichlorofluoromethane	feifei	5/9/2016 11:32:05 AM	MMDadoda	5/9/2016 6:53:56 PM	Peak Integrated by Software incorrectly
VSTD10086/ VSTD10086	VT013935.D	Trichlorofluoromethane	feifei	5/9/2016 11:32:06 AM	MMDadoda	5/9/2016 6:54:02 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02596	VT013941.D	Trichlorofluoromethane	feifei	5/9/2016 11:32:08 AM	MMDadoda	5/9/2016 6:54:09 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02588	VT013963.D	Trichlorofluoromethane	feifei	5/9/2016 11:32:22 AM	MMDadoda	5/9/2016 6:55:09 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02589	VT013985.D	Trichlorofluoromethane	feifei	5/9/2016 11:32:28 AM	MMDadoda	5/9/2016 6:55:30 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT050916	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC025/ VSTD02590	VT013987.D	Trichlorofluoromethane	feifei	5/10/2016 10:53:01 AM	mmdadoda	5/10/2016 7:40:43 PM	Peak Integrated by Software incorrectly
H2834-14MS/ H4061MS	VT013990.D	Methylene chloride	feifei	5/10/2016 10:53:03 AM	mmdadoda	5/10/2016 7:40:46 PM	Peak Integrated by Software incorrectly
H2834-15MSD/ H4061MSD	VT013991.D	Methylene chloride	feifei	5/10/2016 10:53:05 AM	mmdadoda	5/10/2016 7:40:48 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02591	VT013999.D	1,1-Dichloroethene	feifei	5/10/2016 10:53:22 AM	mmdadoda	5/10/2016 7:41:13 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02591	VT013999.D	1,1-Dichloroethene-d2	feifei	5/10/2016 10:53:22 AM	mmdadoda	5/10/2016 7:41:13 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02591	VT013999.D	Carbon disulfide	feifei	5/10/2016 10:53:22 AM	mmdadoda	5/10/2016 7:41:13 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02591	VT013999.D	Methylene chloride	feifei	5/10/2016 10:53:22 AM	mmdadoda	5/10/2016 7:41:13 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02591	VT013999.D	Trichlorofluoromethane	feifei	5/10/2016 10:53:22 AM	mmdadoda	5/10/2016 7:41:13 PM	Peak Integrated by Software incorrectly
VT0509SBL02/ VBLK79	VT014000.D	1,1-Dichloroethene-d2	feifei	5/10/2016 10:53:23 AM	mmdadoda	5/10/2016 7:41:18 PM	Peak Integrated by Software incorrectly
VT0509SBL02/ VBLK79	VT014000.D	Methylene chloride	feifei	5/10/2016 10:53:23 AM	mmdadoda	5/10/2016 7:41:18 PM	Peak Integrated by Software incorrectly
H2834-17/ VHBLK02	VT014001.D	1,1-Dichloroethene-d2	feifei	5/10/2016 10:53:25 AM	mmdadoda	5/10/2016 7:42:39 PM	Peak Integrated by Software incorrectly
H2834-17/ VHBLK02	VT014001.D	Methylene chloride	feifei	5/10/2016 10:53:25 AM	mmdadoda	5/10/2016 7:42:39 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02592	VT014021.D	1,1-Dichloroethene	feifei	5/10/2016 10:53:56 AM	mmdadoda	5/10/2016 7:43:44 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT050916	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC025EC/ VSTD02592	VT014021.D	1,1-Dichloroethene-d2	feifei	5/10/2016 10:53:56 AM	mmdadoda	5/10/2016 7:43:44 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02592	VT014021.D	Carbon disulfide	feifei	5/10/2016 10:53:56 AM	mmdadoda	5/10/2016 7:43:44 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02592	VT014021.D	Trichlorofluoromethane	feifei	5/10/2016 10:53:56 AM	mmdadoda	5/10/2016 7:43:44 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	BM050516	Instrument	BNA_m

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTD02042/ SSTD02042	BM005233.D	Caprolactam	umangi	5/6/2016 7:10:46 PM	sohil	5/6/2016 7:14:59 PM	Peak Integrated by Software incorrectly
SSTD04043/ SSTD04043	BM005234.D	Caprolactam	umangi	5/6/2016 7:10:47 PM	sohil	5/6/2016 7:15:02 PM	Peak Integrated by Software incorrectly
SSTD08044/ SSTD08044	BM005235.D	Caprolactam	umangi	5/6/2016 7:10:48 PM	sohil	5/6/2016 7:15:03 PM	Peak Integrated by Software incorrectly
SSTD16045/ SSTD16045	BM005236.D	Benzaldehyde	umangi	5/6/2016 7:10:52 PM	sohil	5/6/2016 7:15:04 PM	Peak Integrated by Software incorrectly
SSTD16045/ SSTD16045	BM005236.D	Caprolactam	umangi	5/6/2016 7:10:52 PM	sohil	5/6/2016 7:15:04 PM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02046	BM005237.D	Caprolactam	umangi	5/6/2016 7:10:49 PM	sohil	5/6/2016 7:15:05 PM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02047	BM005251.D	Caprolactam	umangi	5/6/2016 7:11:03 PM	sohil	5/6/2016 7:15:20 PM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02048	BM005263.D	Caprolactam	umangi	5/6/2016 7:11:14 PM	sohil	5/6/2016 7:15:24 PM	Peak Integrated by Software incorrectly
SSTDCCC020EC/ SSTD02049	BM005274.D	Caprolactam	umangi	5/6/2016 7:11:10 PM	sohil	5/6/2016 7:15:25 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	bm051116	Instrument	BNA_m

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDCCC020/ SSTD02061	BM005380.D	Caprolactam	umangi	5/12/2016 10:12:29 AM	sohil	5/12/2016 7:01:17 PM	Peak Integrated by Software incorrectly
H2834-13/ H4061	BM005389.D	4-Nitrophenol-d4	umangi	5/12/2016 10:12:31 AM	sohil	5/12/2016 7:01:40 PM	Peak Integrated by Software incorrectly
H2834-16/ H4076	BM005392.D	4-Chloroaniline-d4	umangi	5/12/2016 10:12:37 AM	sohil	5/12/2016 7:06:50 PM	Peak Integrated by Software incorrectly
H2834-16/ H4076	BM005392.D	4-Nitrophenol-d4	umangi	5/12/2016 10:12:37 AM	sohil	5/12/2016 7:06:50 PM	Peak Integrated by Software incorrectly
H2834-16/ H4076	BM005392.D	Chrysene	umangi	5/12/2016 10:12:37 AM	sohil	5/12/2016 7:06:50 PM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02062	BM005393.D	4-Nitroaniline	umangi	5/12/2016 10:12:34 AM	sohil	5/12/2016 7:07:51 PM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02062	BM005393.D	Caprolactam	umangi	5/12/2016 10:12:34 AM	sohil	5/12/2016 7:07:51 PM	Peak Integrated by Software incorrectly
SSTDCCC020EC/ SSTD02063	BM005409.D	4-Nitroaniline	umangi	5/12/2016 10:12:44 AM	sohil	5/12/2016 7:20:59 PM	Peak Integrated by Software incorrectly
SSTDCCC020EC/ SSTD02063	BM005409.D	Caprolactam	umangi	5/12/2016 10:12:44 AM	sohil	5/12/2016 7:20:59 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	bm051316	Instrument	BNA_m

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDCCC020/ SSTD02066	BM005427.D	4-Nitroaniline	umangi	5/14/2016 9:57:14 AM	sohil	5/14/2016 9:58:31 AM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02066	BM005427.D	Caprolactam	umangi	5/14/2016 9:57:14 AM	sohil	5/14/2016 9:58:31 AM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02034	BM005435.D	4-Nitroaniline	umangi	5/14/2016 9:56:40 AM	sohil	5/14/2016 9:58:48 AM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02034	BM005435.D	Caprolactam	umangi	5/14/2016 9:56:40 AM	sohil	5/14/2016 9:58:48 AM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02035	BM005449.D	4-Nitroaniline	umangi	5/14/2016 9:57:11 AM	sohil	5/14/2016 9:59:30 AM	Peak Integrated by Software incorrectly
PB90330BL/ SBLK30	BM005450.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:43 PM	sohil	5/16/2016 7:01:38 PM	Peak Integrated by Software incorrectly
H2834-01/ H4002	BM005451.D	4-Chloroaniline-d4	umangi	5/16/2016 5:05:44 PM	sohil	5/16/2016 7:01:40 PM	Peak Integrated by Software incorrectly
H2834-01/ H4002	BM005451.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:44 PM	sohil	5/16/2016 7:01:40 PM	Peak Integrated by Software incorrectly
H2834-02MS/ H4002MS	BM005452.D	4-Nitrophenol	umangi	5/16/2016 5:05:45 PM	sohil	5/16/2016 7:01:43 PM	Peak Integrated by Software incorrectly
H2834-02MS/ H4002MS	BM005452.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:45 PM	sohil	5/16/2016 7:01:43 PM	Peak Integrated by Software incorrectly
H2834-03MSD/ H4002MSD	BM005453.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:46 PM	sohil	5/16/2016 7:01:45 PM	Peak Integrated by Software incorrectly
H2834-18/ H4102	BM005454.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:47 PM	sohil	5/16/2016 7:01:49 PM	Peak Integrated by Software incorrectly
H2834-19/ H4116	BM005455.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:48 PM	sohil	5/16/2016 7:01:52 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	bm051316	Instrument	BNA_m

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
H2834-20/ H4117	BM005456.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:49 PM	sohil	5/16/2016 7:01:54 PM	Peak Integrated by Software incorrectly
H2834-21/ H4118	BM005457.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:50 PM	sohil	5/16/2016 7:01:57 PM	Peak Integrated by Software incorrectly
H2834-14MS/ H4061MS	BM005459.D	4-Chloroaniline-d4	umangi	5/16/2016 5:05:53 PM	sohil	5/16/2016 7:02:02 PM	Peak Integrated by Software incorrectly
H2834-14MS/ H4061MS	BM005459.D	4-Nitrophenol	umangi	5/16/2016 5:05:53 PM	sohil	5/16/2016 7:02:02 PM	Peak Integrated by Software incorrectly
H2834-14MS/ H4061MS	BM005459.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:53 PM	sohil	5/16/2016 7:02:02 PM	Peak Integrated by Software incorrectly
H2834-14MS/ H4061MS	BM005459.D	Pentachlorophenol	umangi	5/16/2016 5:05:53 PM	sohil	5/16/2016 7:02:02 PM	Peak Integrated by Software incorrectly
H2834-15MSD/ H4061MSD	BM005460.D	4-Nitrophenol	umangi	5/16/2016 5:05:54 PM	sohil	5/16/2016 7:02:04 PM	Peak Integrated by Software incorrectly
H2834-15MSD/ H4061MSD	BM005460.D	4-Nitrophenol-d4	umangi	5/16/2016 5:05:54 PM	sohil	5/16/2016 7:02:04 PM	Peak Integrated by Software incorrectly

FORM 2A-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4002

Analytical Method : Trace VOA Level : _____

Matrix : Water

EPA Sample No .	DMC1 (VCL)	DMC2 (CLA)	DMC3 (DCE)	DMC4 (BUT)	DMC5 (CLF)	DMC6 (DCA)	DMC7 (BEN)	DMC8 (DPA)
VBLK27	104	114	75	98	96	104	102	101
H4006	94	106	72	88	87	100	98	98
H4002	105	112	79	105	100	108	109	107
H4094	99	106	74	103	97	105	104	103
H4121	101	108	76	110	102	109	105	107
H4123	104	118	79	106	104	112	116	115
H4124	106	115	79	112	106	114	111	111
H4132	95	102	69	101	90	98	99	98
H4133	99	111	74	106	99	106	104	103
VBLK28	93	106	67	87	86	94	97	96
H4004	94	109	69	97	88	100	99	99
H4124RE	99	110	73	110	98	107	108	107
H4002DL	96	104	71	106	96	106	105	103
H4002MS	100	101	101	101	98	108	108	106
H4002MSD	97	94	97	101	96	103	104	104
VBLK29	95	114	71	97	95	104	107	108
H4121DL	94	40 D	63	105	90	99	95	97
H4094DL	94	49 D	66	105	92	102	100	100
H4123DL	93	44 D	62	105	90	102	96	97
H4102	85	110	66	110	93	103	98	99
H4116	91	109	69	112	98	105	103	105
VBLK30	82	102	61	102	87	95	93	94
H4118	84	102	64	104	91	99	99	98
H4117	90	111	68	111	98	105	103	102
H4102DL	86	98	65	110	94	107	104	104
H4116DL	85	103	64	107	92	103	98	101
VHBLK01	86	103	64	108	88	101	98	98

	QC LIMITS
DMC1 (VCL) = Vinyl Chloride-d3	(40-130)
DMC2 (CLA) = Chloroethane-d5	(65-130)
DMC3 (DCE) = 1,1-Dichloroethene-d2	(60-125)
DMC4 (BUT) = 2-Butanone-d5	(40-130)
DMC5 (CLF) = Chloroform-d	(70-125)
DMC6 (DCA) = 1,2-Dichloroethane-d4	(70-130)
DMC7 (BEN) = Benzene-d6	(70-125)
DMC8 (DPA) = 1,2-Dichloropropane-d6	(60-140)

FORM 2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030
Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4002
Analytical Method : Trace VOA Level : _____
Matrix : Water

EPA Sample No .	DMC9 (TOL)	DMC10 (TDP)	DMC11 (HEX)	DMC12 (TCA)	DMC13 (DCZ)	DMC14	DMC15	DMC16	TOT OUT
VBLK27	102	99	98	97	101				0
H4006	98	89	95	92	95				0
H4002	107	103	107	99	103				0
H4094	101	95	101	94	97				0
H4121	102	100	104	96	101				0
H4123	110	107	109	95	95				0
H4124	108	102	108	101	104				0
H4132	96	92	97	89	95				0
H4133	100	95	102	95	99				0
VBLK28	94	92	91	80	83				0
H4004	95	89	94	89	96				0
H4124RE	103	101	104	96	98				0
H4002DL	99	96	101	92	98				0
H4002MS	103	97	105	99	102				0
H4002MSD	99	93	104	93	97				0
VBLK29	99	99	99	89	90				0
H4121DL	91	90	99	88	90				1
H4094DL	97	97	105	94	94				1
H4123DL	93	93	103	92	90				1
H4102	90	89	100	90	93				0
H4116	97	90	105	95	96				0
VBLK30	88	88	96	86	86				0
H4118	93	90	103	92	91				0
H4117	97	90	104	95	94				0
H4102DL	96	96	108	98	95				0
H4116DL	93	88	100	94	93				0
VHBLK01	91	90	101	92	92				0

	QC LIMITS
DMC9 (TOL) = Toluene-d8	(70-130)
DMC10 (TDP) = trans-1,3-Dichloropropene-d4	(55-130)
DMC11 (HEX) = 2-Hexanone-d5	(45-130)
DMC12 (TCA) = 1,1,2,2-Tetrachloroethane-d2	(65-120)
DMC13 (DCZ) = 1,2-Dichlorobenzene-d4	(80-120)

FORM 3A-OR
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code : CHM Case No. : 46114 MA No .: SDG No. : H4002

Analytical Method : Trace VOA Level :

Matrix Water

EPA Sample No.(Matrix Spike/Metrix Spike Duplicate): H4002

Instrument ID : MSVOA_I GC Column RXI-624 ID : 0.25 (mm)

Concentration Units (ug/L,mg/L ug/kg): ug/L

ANALYTE	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS %R #	QC Limits %R
1,1-Dichloroethene	5	0	4.6	92	61 - 145
Benzene	5	0	5.2	104	76 - 127
Trichloroethene	5	0.56	5.7	103	71 - 120
Toluene	5	0	5.2	104	76 - 125
Chlorobenzene	5	0	5	100	75 - 130

ANALYTE	SPIKE AADDED	MSD CONCENTRATION	MSD %R #	RPD	QC Limits	
					RPD	%R
1,1-Dichloroethene	5	4.5	90	2	14	61 - 145
Benzene	5	5	100	4	11	76 - 127
Trichloroethene	5	5.4	97	6	14	71 - 120
Toluene	5	5	100	4	13	76 - 125
Chlorobenzene	5	4.9	98	2	13	75 - 130

EPA SAMPLE NO.

VBLK27

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM
Case No.: 46114
MA No. :
SDG No.: H4002
Analytical Method: Trace VOA
Level :
Matrix : Water
Lab Sample ID: VI0504WBL01
Instrument ID: MSVOA_I
Lab File ID : VI049226.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : RXI-624 ID : 0.25 (mm)
Date Analyzed : 05/04/2016
GC Column ( ) : ID : (mm)
Time Analyzed : 15:13
Heated Purge: (Y/N) N
Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
H4006	H2834-04	VI049233.D	05/04/2016 18:55
H4002	H2834-01	VI049234.D	05/04/2016 19:27
H4094	H2834-05	VI049237.D	05/04/2016 21:02
H4121	H2834-06	VI049238.D	05/04/2016 21:33
H4123	H2834-07	VI049239.D	05/04/2016 22:05
H4124	H2834-08	VI049240.D	05/04/2016 22:37
H4132	H2834-09	VI049241.D	05/04/2016 23:08
H4133	H2834-10	VI049242.D	05/04/2016 23:40

EPA SAMPLE NO.

VBLK28

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM
Case No.: 46114
MA No. :
SDG No.: H4002
Analytical Method: Trace VOA
Level :
Matrix : Water
Lab Sample ID: VI0505WBL01
Instrument ID: MSVOA_I
Lab File ID : VI049246.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : RXI-624 ID : 0.25 (mm)
Date Analyzed : 05/05/2016
GC Column ( ) : ID : (mm)
Time Analyzed : 10:59
Heated Purge: (Y/N) N
Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
H4004	H2834-12	VI049249.D	05/05/2016 12:34
H4124RE	H2834-08RE	VI049251.D	05/05/2016 13:38
H4002DL	H2834-01DL	VI049252.D	05/05/2016 14:09
H4002MS	H2834-02MS	VI049253.D	05/05/2016 15:13
H4002MSD	H2834-03MSD	VI049254.D	05/05/2016 15:44

EPA SAMPLE NO.

VBLK29

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM
Case No.: 46114
MA No. :
SDG No.: H4002
Analytical Method: Trace VOA
Level :
Matrix : Water
Lab Sample ID: VI0505WBL02
Instrument ID: MSVOA_I
Lab File ID : VI049256.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : RXI-624 ID : 0.25 (mm)
Date Analyzed : 05/05/2016
GC Column ( ) : ID : (mm)
Time Analyzed : 16:54
Heated Purge: (Y/N) N
Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
H4121DL	H2834-06DL	VI049257.D	05/05/2016 17:59
H4094DL	H2834-05DL	VI049258.D	05/05/2016 18:31
H4123DL	H2834-07DL	VI049259.D	05/05/2016 19:02
H4102	H2834-18	VI049270.D	05/06/2016 00:50
H4116	H2834-19	VI049271.D	05/06/2016 01:22

EPA SAMPLE NO.

VBLK30

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM
Case No.: 46114
MA No. :
SDG No.: H4002
Analytical Method: Trace VOA
Level :
Matrix : Water
Lab Sample ID: VI0506WBL01
Instrument ID: MSVOA_I
Lab File ID : VI049277.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : RXI-624 ID : 0.25 (mm)
Date Analyzed : 05/06/2016
GC Column ( ) : ID : (mm)
Time Analyzed : 11:45
Heated Purge: (Y/N) N
Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
H4118	H2834-21	VI049278.D	05/06/2016 12:17
H4117	H2834-20	VI049280.D	05/06/2016 13:20
H4102DL	H2834-18DL	VI049281.D	05/06/2016 13:52
H4116DL	H2834-19DL	VI049286.D	05/06/2016 17:09
VHBLK01	H2834-11	VI049288.D	05/06/2016 18:12

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB32

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : Trace VOA Lab File ID : VI049219.D

Instrument ID: MSVOA_I BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 05/04/2016 Injection Time: 08:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	29.8	
75	30.0 - 80.0% of mass 95	62.3	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0.3(0.4)	1
174	50.0 - 120% of mass 95	77.4	
175	5.0 - 9.0% of mass 174	5.5(7.1)	1
176	95.0 - 101% of mass 174	73.5(95)	1
177	5.0 - 9.0% of mass 176	4.9(6.7)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD0.533	VSTD0.533	VI049220.D	05/04/2016	11:27
VSTD00134	VSTD00134	VI049221.D	05/04/2016	11:58
VSTD00535	VSTD00535	VI049222.D	05/04/2016	12:30
VSTD01036	VSTD01036	VI049223.D	05/04/2016	13:02
VSTD02037	VSTD02037	VI049224.D	05/04/2016	13:33
VSTD00538	VSTDCCC005	VI049225.D	05/04/2016	14:05
VBLK27	VI0504WBL01	VI049226.D	05/04/2016	15:13
H4006	H2834-04	VI049233.D	05/04/2016	18:55
H4002	H2834-01	VI049234.D	05/04/2016	19:27
H4094	H2834-05	VI049237.D	05/04/2016	21:02
H4121	H2834-06	VI049238.D	05/04/2016	21:33
H4123	H2834-07	VI049239.D	05/04/2016	22:05
H4124	H2834-08	VI049240.D	05/04/2016	22:37
H4132	H2834-09	VI049241.D	05/04/2016	23:08
H4133	H2834-10	VI049242.D	05/04/2016	23:40
VSTD00539	VSTDCCC005EC	VI049243.D	05/05/2016	00:11

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB33

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : Trace VOA Lab File ID : VI049244.D

Instrument ID: MSVOA_I BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 05/05/2016 Injection Time: 09:34

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	31.1	
75	30.0 - 80.0% of mass 95	62.8	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	7.2	
173	Less than 2.0% of mass 174	0.4(0.5)	1
174	50.0 - 120% of mass 95	77.8	
175	5.0 - 9.0% of mass 174	5.4(7)	1
176	95.0 - 101% of mass 174	76.2(98)	1
177	5.0 - 9.0% of mass 176	4.9(6.4)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD00540	VSTDCCC005	VI049245.D	05/05/2016	10:15
VBLK28	VI0505WBL01	VI049246.D	05/05/2016	10:59
H4004	H2834-12	VI049249.D	05/05/2016	12:34
H4124RE	H2834-08RE	VI049251.D	05/05/2016	13:38
H4002DL	H2834-01DL	VI049252.D	05/05/2016	14:09
H4002MS	H2834-02MS	VI049253.D	05/05/2016	15:13
H4002MSD	H2834-03MSD	VI049254.D	05/05/2016	15:44
VSTD00541	VSTDCCC005	VI049255.D	05/05/2016	16:16
VBLK29	VI0505WBL02	VI049256.D	05/05/2016	16:54
H4121DL	H2834-06DL	VI049257.D	05/05/2016	17:59
H4094DL	H2834-05DL	VI049258.D	05/05/2016	18:31
H4123DL	H2834-07DL	VI049259.D	05/05/2016	19:02
H4102	H2834-18	VI049270.D	05/06/2016	00:50
H4116	H2834-19	VI049271.D	05/06/2016	01:22
VSTD00542	VSTDCCC005EC	VI049274.D	05/06/2016	02:57

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB34

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : Trace VOA Lab File ID : VI049275.D

Instrument ID: MSVOA_I BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 05/06/2016 Injection Time: 09:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	31	
75	30.0 - 80.0% of mass 95	65.2	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	7.2	
173	Less than 2.0% of mass 174	0.0(0.0)	1
174	50.0 - 120% of mass 95	75.4	
175	5.0 - 9.0% of mass 174	6.5(8.6)	1
176	95.0 - 101% of mass 174	73(96.8)	1
177	5.0 - 9.0% of mass 176	5(6.9)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD00543	VSTDCCC005	VI049276.D	05/06/2016	10:21
VBLK30	VI0506WBL01	VI049277.D	05/06/2016	11:45
H4118	H2834-21	VI049278.D	05/06/2016	12:17
H4117	H2834-20	VI049280.D	05/06/2016	13:20
H4102DL	H2834-18DL	VI049281.D	05/06/2016	13:52
H4116DL	H2834-19DL	VI049286.D	05/06/2016	17:09
VHBLK01	H2834-11	VI049288.D	05/06/2016	18:12
VSTD00544	VSTDCCC005EC	VI049289.D	05/06/2016	19:15

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002
Analytical Method: Trace VOA | Level :
EPA Sample No. : VSTD00538 | Lab File ID (Standard) : VI049225.D
Instrument ID : MSVOA_I | Init.Calib.Date(s): 05/04/2016
GC Column : RXI-624 | ID: 0.25 (mm) | Date Analyzed : 05/04/2016
Heated Purge: (Y/N) N | Time Analyzed : 14:05

	IS1 (DFB) AREA	RT	IS2 (CBZ) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1354320	7.94	1001730	11.22	409038	13.43
UPPER LIMIT	2708630	8.11	2003460	11.39	818076	13.6
LOWER LIMIT	677158	7.77	500864	11.05	204519	13.26
EPA SAMPLE NO.						
VBLK27	1471992	7.93	1023504	11.22	378551	13.44
H4006	1309272	7.93	874832	11.22	314361	13.43
H4002	1264369	7.94	842773	11.22	306766	13.43
H4094	1238765	7.93	828120	11.22	303293	13.43
H4121	1273049	7.93	848972	11.22	309434	13.43
H4123	1242119	7.93	780602	11.22	244069	13.43
H4124	1223488	7.93	817280	11.22	299035	13.43
H4132	1288236	7.93	845376	11.22	307484	13.43
H4133	1212193	7.93	802516	11.22	282267	13.44

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene -d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002
Analytical Method: Trace VOA | Level :
EPA Sample No. : VSTD00540 | Lab File ID (Standard) : VI049245.D
Instrument ID : MSVOA_I | Init.Calib.Date(s): 05/04/2016
GC Column : RXI-624 | ID: 0.25 (mm) | Date Analyzed : 05/05/2016
Heated Purge: (Y/N) N | Time Analyzed : 10:15

	IS1 (DFB) AREA	RT	IS2 (CBZ) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1400840	7.94	948431	11.22	368197	13.44
UPPER LIMIT	2801680	8.11	1896860	11.39	736394	13.61
LOWER LIMIT	700421	7.77	474216	11.05	184099	13.27
EPA SAMPLE NO.						
VBLK28	1422886	7.94	911067	11.23	296478	13.44
H4004	1272879	7.94	841746	11.22	301318	13.43
H4124RE	1227605	7.94	789169	11.23	288629	13.44
H4002DL	1264417	7.94	838639	11.23	298705	13.43
H4002MS	1197205	7.94	784211	11.23	283482	13.44
H4002MSD	1236775	7.94	814270	11.23	293377	13.44

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene -d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002
Analytical Method: Trace VOA | Level :
EPA Sample No. : VSTD00541 | Lab File ID (Standard) : VI049255.D
Instrument ID : MSVOA_I | Init.Calib.Date(s): 05/04/2016
GC Column : RXI-624 | ID: 0.25 (mm) | Date Analyzed : 05/05/2016
Heated Purge: (Y/N) N | Time Analyzed : 16:16

	IS1 (DFB) AREA	RT	IS2 (CBZ) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1235300	7.95	831818	11.22	319065	13.44
UPPER LIMIT	2470600	8.12	1663640	11.39	638130	13.61
LOWER LIMIT	617650	7.78	415909	11.05	159533	13.27
EPA SAMPLE NO.						
VBLK29	1193553	7.93	762181	11.23	241848	13.43
H4121DL	1269772	7.94	839822	11.23	302518	13.44
H4094DL	1222187	7.94	807048	11.23	297649	13.44
H4123DL	1328744	7.94	898593	11.23	339174	13.43
H4102	1194366	7.94	784610	11.23	283029	13.44
H4116	1164003	7.94	760683	11.23	269617	13.43

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene -d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002
Analytical Method: Trace VOA | Level :
EPA Sample No. : VSTD00543 | Lab File ID (Standard) : VI049276.D
Instrument ID : MSVOA_I | Init.Calib.Date(s): 05/04/2016
GC Column : RXI-624 | ID: 0.25 (mm) | Date Analyzed : 05/06/2016
Heated Purge: (Y/N) N | Time Analyzed : 10:21

	IS1 (DFB) AREA	RT	IS2 (CBZ) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1457810	7.94	978595	11.22	385883	13.44
UPPER LIMIT	2915620	8.11	1957190	11.39	771766	13.61
LOWER LIMIT	728905	7.77	489298	11.05	192942	13.27
EPA SAMPLE NO.						
VBLK30	1307874	7.94	851739	11.23	307505	13.44
H4118	1232391	7.94	782569	11.23	286122	13.43
H4117	1176009	7.94	772722	11.23	283431	13.43
H4102DL	1200218	7.93	767967	11.22	282692	13.44
H4116DL	1179943	7.94	763648	11.22	276848	13.44
VHBLK01	1159555	7.93	753453	11.22	273005	13.43

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene -d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049234.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.070	J
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.26	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	2.0	
71-55-6	1,1,1-Trichloroethane	0.66	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.56	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049234.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.24	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	46	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049234.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049234.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

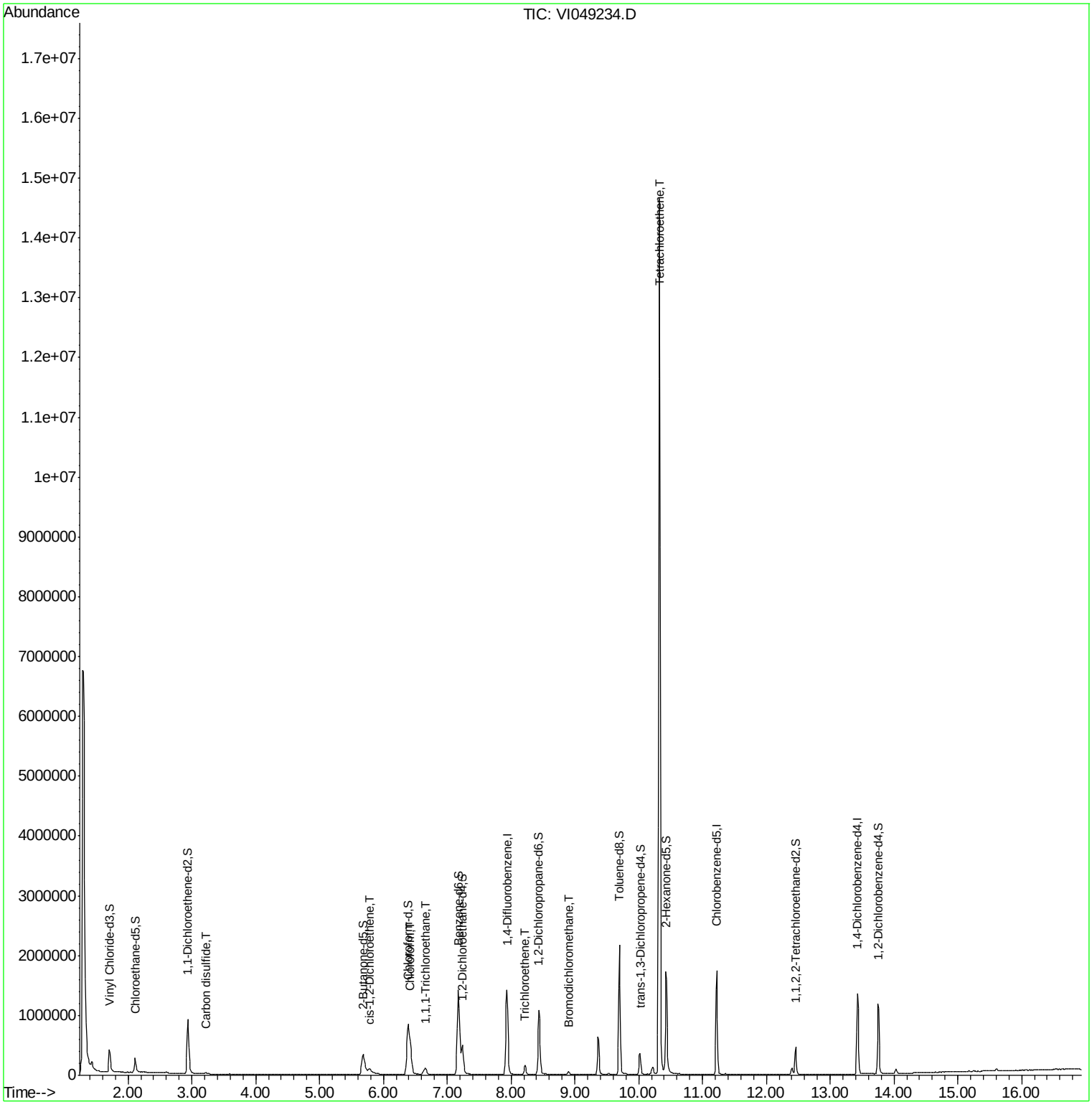
EPA-designated Registry Number.

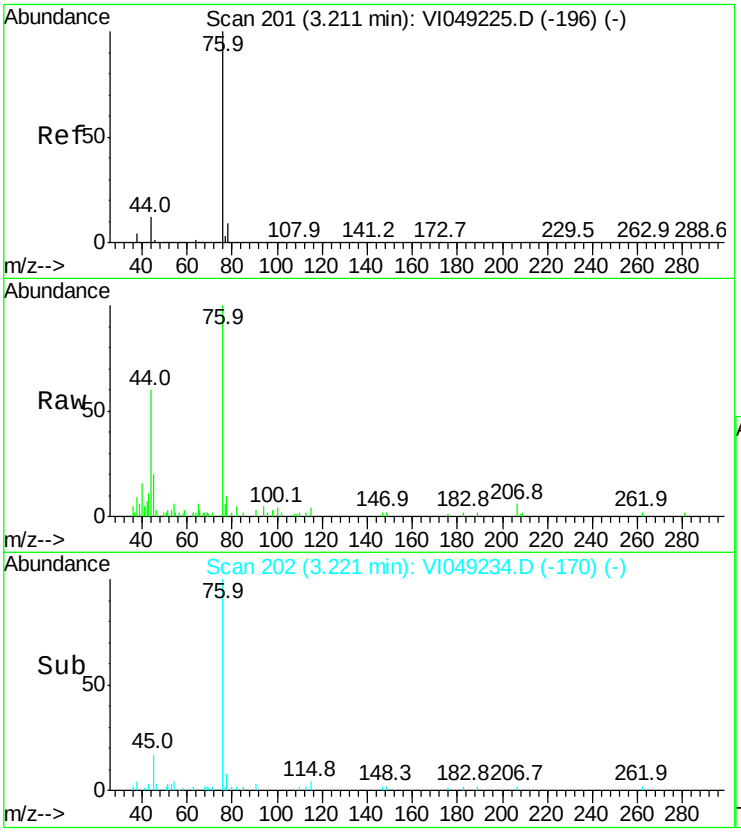
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049234.D
Acq On : 4 May 2016 19:27
Operator : FY/SY
Sample : H2834-01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002

Quant Time: May 05 06:01:35 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration



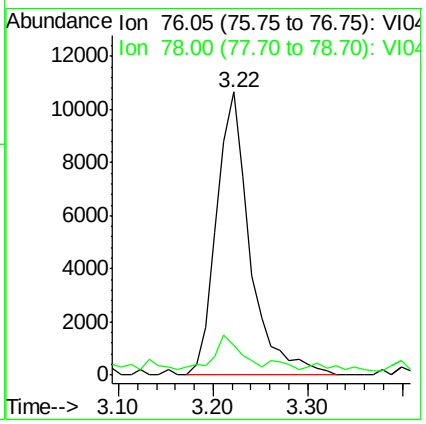


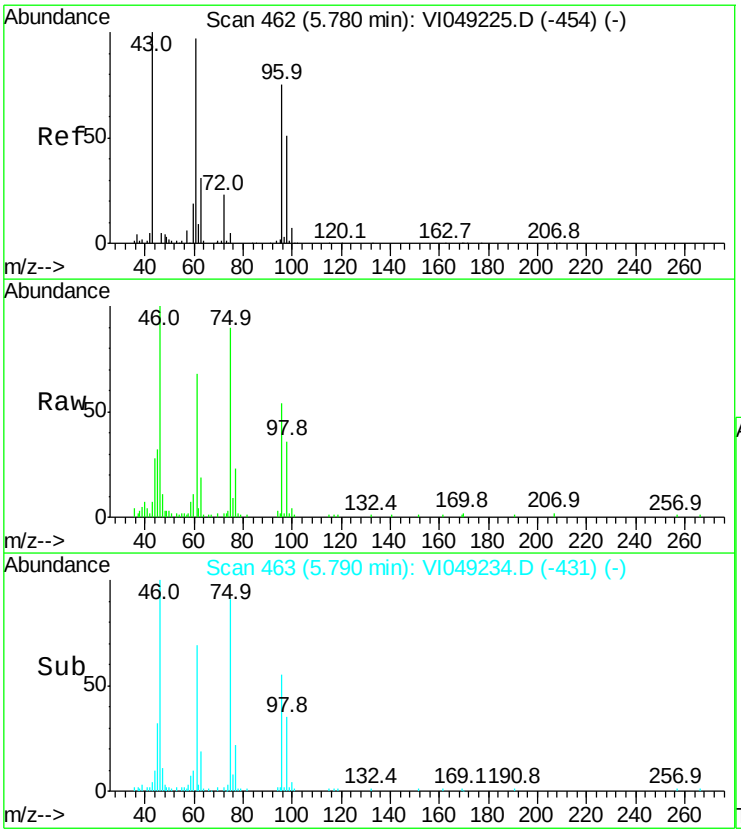
#14
Carbon disulfide
Concen: 0.07 ug/L
RT: 3.22 min Scan# 202
Delta R.T. 0.01 min
Lab File: VI049234.D
Acq: 4 May 2016 19:27

Instrument : MSVOA_I
ClientSampleId : H4002

Tgt Ion: 76 Resp: 26194

Ion	Ratio	Lower	Upper
76	100		
78	10.5	7.4	11.0

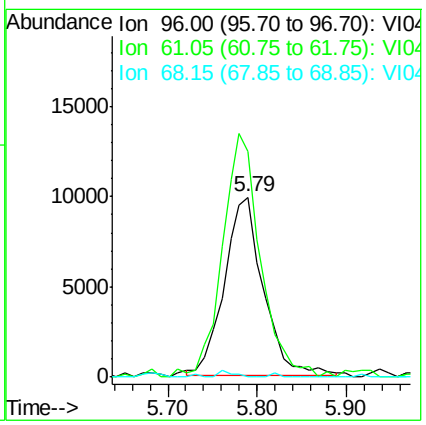


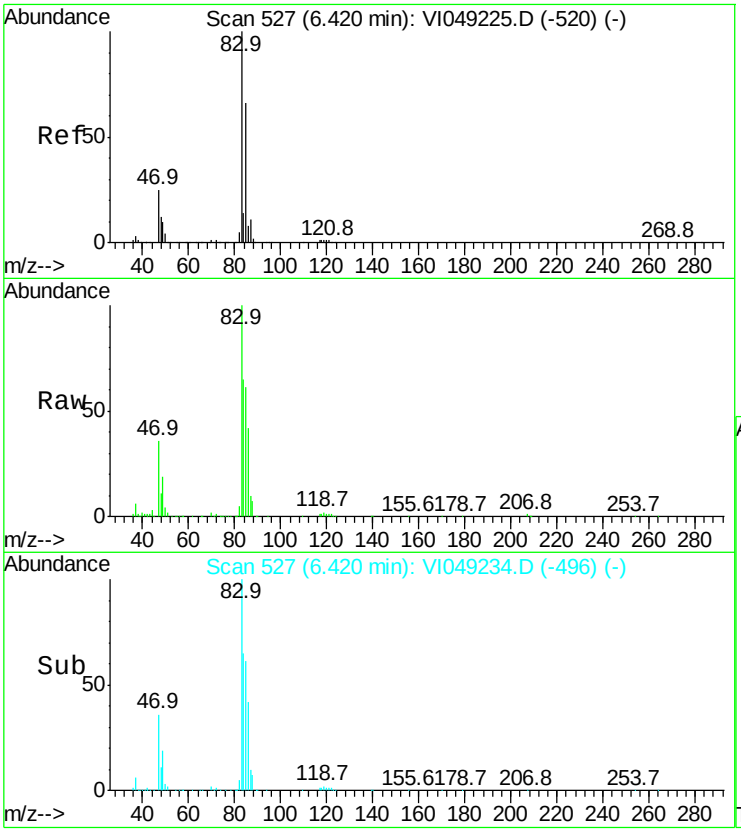


#22
cis-1,2-Dichloroethene
Concen: 0.26 ug/L
RT: 5.79 min Scan# 463
Delta R.T. 0.01 min
Lab File: VI049234.D
Acq: 4 May 2016 19:27

Tgt Ion: 96 Resp: 30086

Ion	Ratio	Lower	Upper
96	100		
61	125.6	82.1	152.5
68	0.0	0.0	0.0



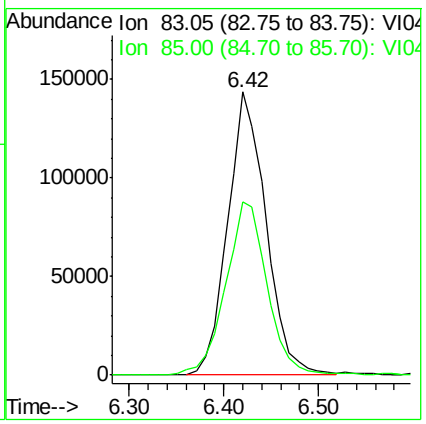


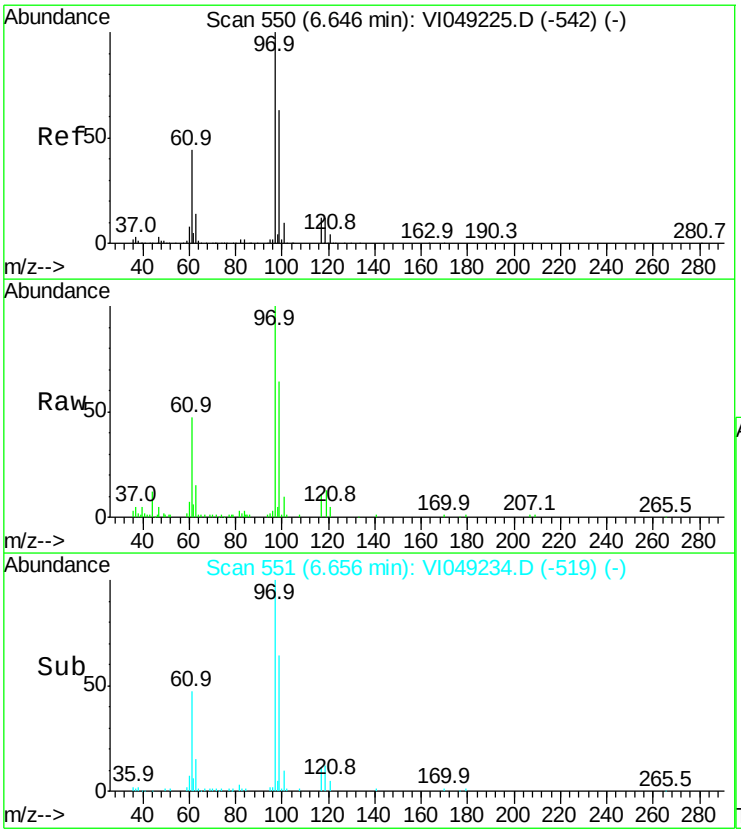
#25
Chloroform
Concen: 1.98 ug/L
RT: 6.42 min Scan# 527
Delta R.T. 0.00 min
Lab File: VI049234.D
Acq: 4 May 2016 19:27

Instrument :
MSVOA_I
ClientSampleId :
H4002

Tgt Ion: 83 Resp: 402304

Ion	Ratio	Lower	Upper
83	100		
85	61.2	47.3	87.8

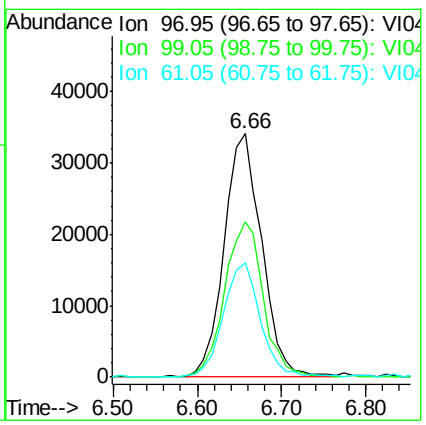


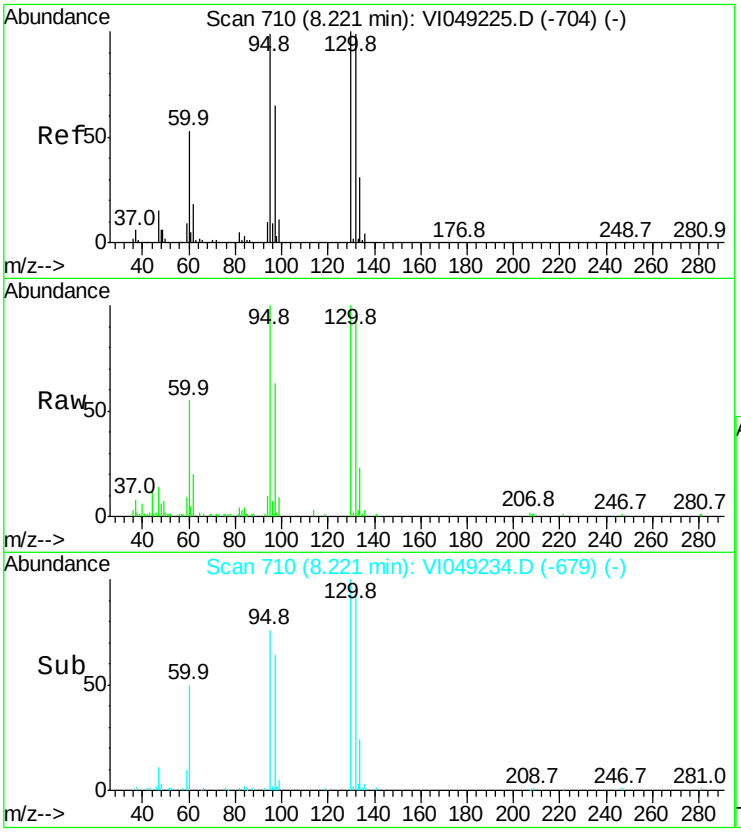


#29
1,1,1-Trichloroethane
Concen: 0.66 ug/L
RT: 6.66 min Scan# 551
Delta R.T. 0.01 min
Lab File: VI049234.D
Acq: 4 May 2016 19:27

Tgt Ion: 97 Resp: 105929

Ion	Ratio	Lower	Upper
97	100		
99	65.0	51.1	76.7
61	46.5	33.3	49.9



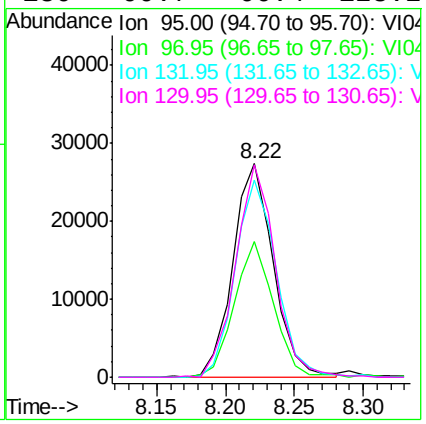


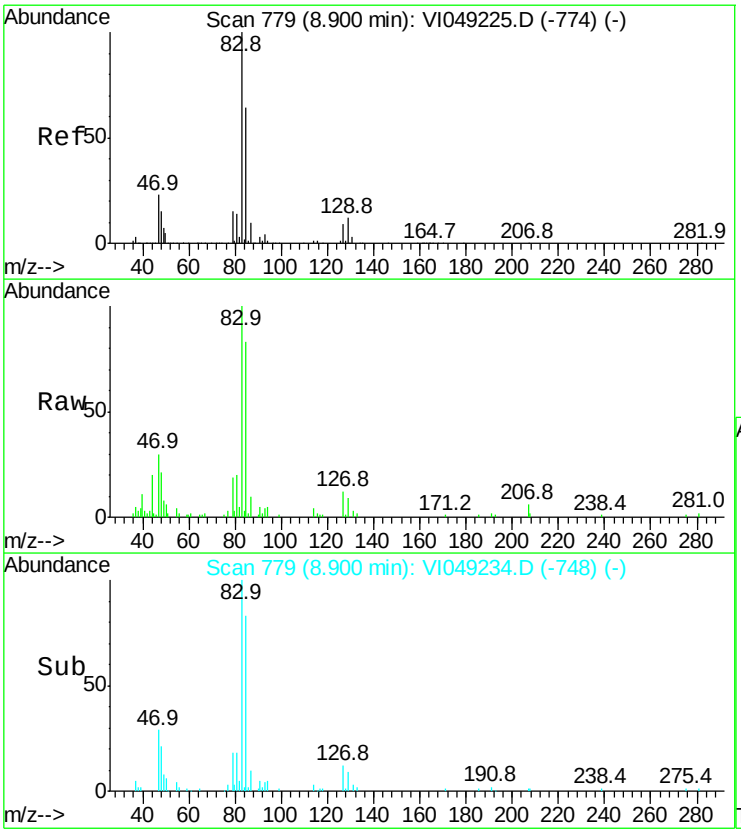
#34
Trichloroethene
Concen: 0.56 ug/L
RT: 8.22 min Scan# 710
Delta R.T. 0.00 min
Lab File: VI049234.D
Acq: 4 May 2016 19:27

Instrument :
MSVOA_I
ClientSampleId :
H4002

Tgt Ion: 95 Resp: 56111

Ion	Ratio	Lower	Upper
95	100		
97	63.5	45.8	85.2
132	92.4	63.9	118.7
130	99.7	66.4	123.2

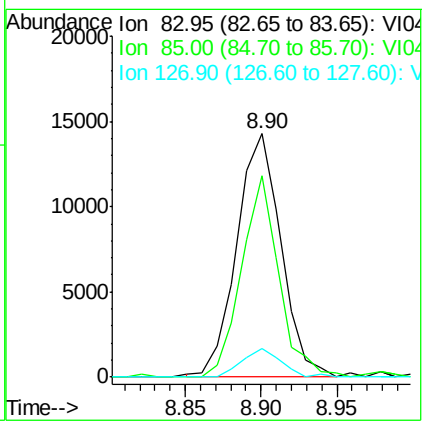


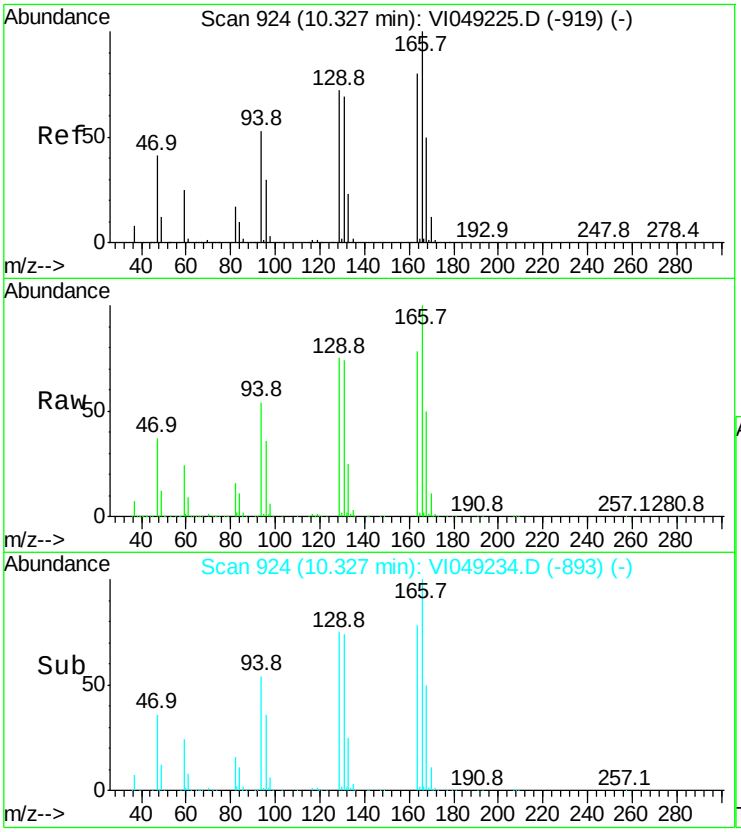


#38
Bromodichloromethane
Concen: 0.24 ug/L
RT: 8.90 min Scan# 779
Delta R.T. 0.00 min
Lab File: VI049234.D
Acq: 4 May 2016 19:27

Tgt Ion: 83 Resp: 29078

Ion	Ratio	Lower	Upper
83	100		
85	82.8	44.7	83.1
127	11.7	6.6	9.8#



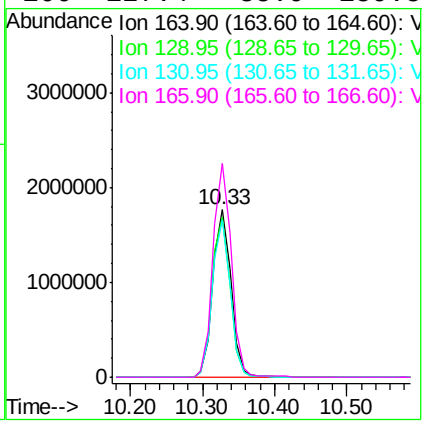


#47
Tetrachloroethene
Concen: 46.27 ug/L
RT: 10.33 min Scan# 924
Delta R.T. 0.00 min
Lab File: VI049234.D
Acq: 4 May 2016 19:27

Instrument :
MSVOA_I
ClientSampleId :
H4002

Tgt Ion:164 Resp: 3043159

Ion	Ratio	Lower	Upper
164	100		
129	95.6	62.1	115.3
131	93.7	60.6	112.6
166	127.4	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049234.D
Acq On : 4 May 2016 19:27
Operator : FY/SY
Sample : H2834-01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002

Quant Time: May 05 06:01:35 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1264369	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	842773	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	306766	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	406968	5.23	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 104.60%			
7) Chloroethane-d5	2.11	69	241084	5.59	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 111.80%			
11) 1,1-Dichloroethene-d2	2.94	63	721695	3.94	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 78.80%			
20) 2-Butanone-d5	5.68	46	888820	52.74	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 105.48%			
24) Chloroform-d	6.39	84	988135	4.99	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 99.80%			
26) 1,2-Dichloroethane-d4	7.24	65	436090	5.38	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 107.60%			
32) Benzene-d6	7.18	84	1789176	5.45	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 109.00%			
36) 1,2-Dichloropropane-d6	8.44	67	494131	5.35	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 107.00%			
41) Toluene-d8	9.70	98	1290476	5.33	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.60%			
43) trans-1,3-Dichloropropene-	10.02	79	187074	5.14	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 102.80%			
46) 2-Hexanone-d5	10.43	63	615809	53.68	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 107.36%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	206947	4.93	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 98.60%			
63) 1,2-Dichlorobenzene-d4	13.76	152	277531	5.16	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 103.20%			
Target Compounds						Qvalue
14) Carbon disulfide	3.22	76	26194	0.07	ug/L	97
22) cis-1,2-Dichloroethene	5.79	96	30086	0.26	ug/L	92
25) Chloroform	6.42	83	402304	1.98	ug/L	92
29) 1,1,1-Trichloroethane	6.66	97	105929	0.66	ug/L	96
34) Trichloroethene	8.22	95	56111	0.56	ug/L	97
38) Bromodichloromethane	8.90	83	29078	0.24	ug/L #	77
47) Tetrachloroethene	10.33	164	3043159	46.27	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049234.D
Acq On : 4 May 2016 19:27
Operator : FY/SY
Sample : H2834-01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.292	3	6	19	rBV	6601471	17706862	69.11%	21.770%
2	1.430	19	20	37	rVB	171121	468127	1.83%	0.576%
3	1.706	45	48	57	rBV	368152	644013	2.51%	0.792%
4	2.109	85	89	98	rBV	235291	446891	1.74%	0.549%
5	2.385	115	117	120	rBV4	6775	12625	0.05%	0.016%
6	2.473	124	126	127	rBV2	5583	9489	0.04%	0.012%
7	2.601	136	139	141	rBV4	15695	20030	0.08%	0.025%
8	2.818	159	161	164	rVB4	8722	17666	0.07%	0.022%
9	2.867	164	166	168	rBV3	4943	9629	0.04%	0.012%
10	2.936	168	173	188	rVV	911083	2127949	8.31%	2.616%
11	3.123	190	192	194	rVV3	7120	7757	0.03%	0.010%
12	3.221	198	202	205	rVB2	15149	31104	0.12%	0.038%
13	3.428	221	223	226	rVB4	4795	4621	0.02%	0.006%
14	3.595	236	240	243	rBV6	7312	13960	0.05%	0.017%
15	3.645	243	245	247	rVB3	3565	4716	0.02%	0.006%
16	3.861	264	267	270	rBV5	2673	6808	0.03%	0.008%
17	3.910	270	272	275	rVB3	6529	12030	0.05%	0.015%
18	3.969	275	278	279	rBV3	5055	8974	0.04%	0.011%
19	4.146	293	296	299	rVB3	3717	6501	0.03%	0.008%
20	4.255	304	307	309	rBV3	4039	6281	0.02%	0.008%
21	4.461	327	328	331	rBV3	5262	8127	0.03%	0.010%
22	4.629	343	345	347	rVB2	6161	7345	0.03%	0.009%
23	4.698	347	352	355	rBV5	4302	13667	0.05%	0.017%
24	4.747	355	357	360	rVB3	3382	5504	0.02%	0.007%
25	4.816	362	364	368	rVB3	4146	8060	0.03%	0.010%
26	4.885	368	371	372	rBV2	3697	4770	0.02%	0.006%
27	4.973	379	380	382	rVB2	4331	4957	0.02%	0.006%
28	5.022	382	385	386	rBV3	3357	5892	0.02%	0.007%
29	5.062	386	389	392	rVB3	4545	8203	0.03%	0.010%
30	5.121	392	395	396	rBV3	4411	6755	0.03%	0.008%
31	5.298	411	413	417	rVB4	4808	6847	0.03%	0.008%
32	5.377	417	421	424	rBV4	3774	11674	0.05%	0.014%
33	5.505	431	434	436	rBV3	5087	6626	0.03%	0.008%
34	5.682	443	452	459	rBV	343375	1227978	4.79%	1.510%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049234.D
Acq On : 4 May 2016 19:27
Operator : FY/SY
Sample : H2834-01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	5.780	459	462	474	rVB3	86175	343619	1.34%	0.422%
36	6.390	516	524	538	rBV2	840441	3288986	12.84%	4.044%
37	6.538	538	539	541	rVB2	7499	8493	0.03%	0.010%
38	6.656	541	551	558	rBV2	107104	345593	1.35%	0.425%
39	6.833	566	569	573	rBV4	2893	7871	0.03%	0.010%
40	6.902	573	576	579	rBV5	4541	9205	0.04%	0.011%
41	7.178	596	604	608	rBV	1414486	3805931	14.85%	4.679%
42	7.237	608	610	619	rVV	484567	1063939	4.15%	1.308%
43	7.542	640	641	644	rBV2	2778	4513	0.02%	0.006%
44	7.650	648	652	653	rBV4	3383	6869	0.03%	0.008%
45	7.778	662	665	667	rVB4	3532	6578	0.03%	0.008%
46	7.808	667	668	671	rVB3	3688	5454	0.02%	0.007%
47	7.857	671	673	675	rBV3	4053	5495	0.02%	0.007%
48	7.936	675	681	689	rBV	1416127	3095941	12.08%	3.806%
49	8.103	697	698	699	rBV	6900	4830	0.02%	0.006%
50	8.152	699	703	704	rVB2	5673	7108	0.03%	0.009%
51	8.221	705	710	716	rVB	153956	320691	1.25%	0.394%
52	8.300	716	718	720	rVB3	4169	5633	0.02%	0.007%
53	8.339	720	722	724	rBV2	3408	6033	0.02%	0.007%
54	8.438	726	732	741	rBV	1070098	2348490	9.17%	2.887%
55	8.625	749	751	757	rVB6	5816	12862	0.05%	0.016%
56	8.900	775	779	789	rVB	52327	119887	0.47%	0.147%
57	9.018	789	791	792	rBV2	3035	4524	0.02%	0.006%
58	9.235	811	813	816	rVB4	3316	4620	0.02%	0.006%
59	9.363	822	826	835	rBV	634383	1186153	4.63%	1.458%
60	9.530	840	843	846	rVB3	12499	26671	0.10%	0.033%
61	9.579	846	848	851	rBV4	4912	5132	0.02%	0.006%
62	9.697	855	860	873	rBV	2162766	3789546	14.79%	4.659%
63	9.875	875	878	879	rVB3	4307	6644	0.03%	0.008%
64	9.894	879	880	883	rVB3	3711	4422	0.02%	0.005%
65	9.963	883	887	889	rVB5	4244	6413	0.03%	0.008%
66	10.022	889	893	898	rBV	360778	650338	2.54%	0.800%
67	10.140	902	905	907	rBV4	5609	9424	0.04%	0.012%
68	10.219	907	913	919	rBV	120370	250006	0.98%	0.307%
69	10.327	919	924	931	rVV	14634533	25621478	100.00%	31.501%
70	10.426	931	934	947	rVB	1701409	3298614	12.87%	4.056%
71	10.977	987	990	992	rBV4	3452	4760	0.02%	0.006%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049234.D
Acq On : 4 May 2016 19:27
Operator : FY/SY
Sample : H2834-01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.016	992	994	998	rVB2	2916	6362	0.02%	0.008%
73	11.065	998	999	1002	rBV2	3610	5028	0.02%	0.006%
74	11.223	1010	1015	1023	rBV	1739216	2953932	11.53%	3.632%
75	11.351	1025	1028	1032	rVB4	12474	25420	0.10%	0.031%
76	11.469	1037	1040	1043	rBV4	7719	11162	0.04%	0.014%
77	11.587	1050	1052	1054	rBV3	4340	6956	0.03%	0.009%
78	11.853	1076	1079	1084	rBV7	5306	13314	0.05%	0.016%
79	12.030	1093	1097	1100	rVB4	3240	6280	0.02%	0.008%
80	12.079	1100	1102	1104	rBV3	3131	5478	0.02%	0.007%
81	12.158	1107	1110	1111	rBV2	2864	5228	0.02%	0.006%
82	12.197	1111	1114	1116	rVB3	3842	6204	0.02%	0.008%
83	12.404	1129	1135	1138	rBV2	108902	218959	0.85%	0.269%
84	12.463	1138	1141	1148	rVB	463146	767369	3.00%	0.943%
85	12.748	1165	1170	1171	rBV4	2259	4527	0.02%	0.006%
86	12.916	1184	1187	1190	rBV5	5278	9116	0.04%	0.011%
87	13.024	1197	1198	1200	rBV2	3418	5385	0.02%	0.007%
88	13.231	1216	1219	1220	rBV3	3216	4875	0.02%	0.006%
89	13.270	1220	1223	1224	rBV3	4446	6902	0.03%	0.008%
90	13.290	1224	1225	1227	rVB2	4305	4644	0.02%	0.006%
91	13.329	1227	1229	1231	rBV2	3715	7567	0.03%	0.009%
92	13.428	1235	1239	1246	rBV	1346689	2279839	8.90%	2.803%
93	13.615	1255	1258	1261	rBV4	3935	10659	0.04%	0.013%
94	13.664	1261	1263	1266	rVB4	4464	8000	0.03%	0.010%
95	13.752	1268	1272	1281	rVV	1165884	2110017	8.24%	2.594%
96	13.949	1290	1292	1294	rVB3	6908	8098	0.03%	0.010%
97	14.028	1294	1300	1307	rBV2	75382	170320	0.66%	0.209%
98	14.313	1327	1329	1330	rBV2	8737	8581	0.03%	0.011%
99	14.609	1357	1359	1362	rBV4	6087	14755	0.06%	0.018%
100	15.612	1457	1461	1463	rBV	33897	65560	0.26%	0.081%

Sum of corrected areas: 81335741

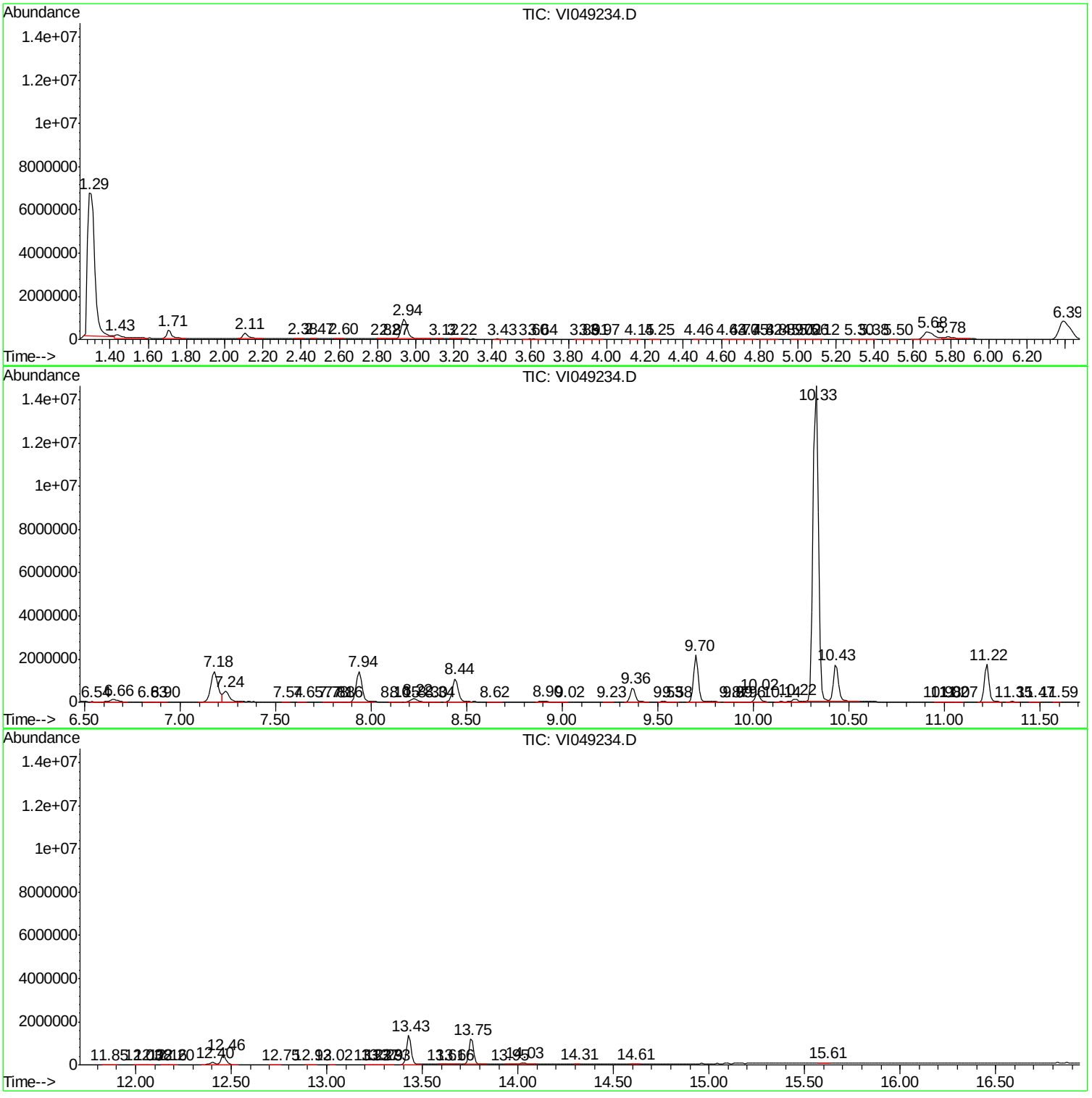
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049234.D
Acq On : 4 May 2016 19:27
Operator : FY/SY
Sample : H2834-01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049234.D
Acq On : 4 May 2016 19:27
Operator : FY/SY
Sample : H2834-01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4002

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049234.D
Acq On : 4 May 2016 19:27
Operator : FY/SY
Sample : H2834-01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049252.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049252.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	40	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049252.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4002DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-01DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049252.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 5.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

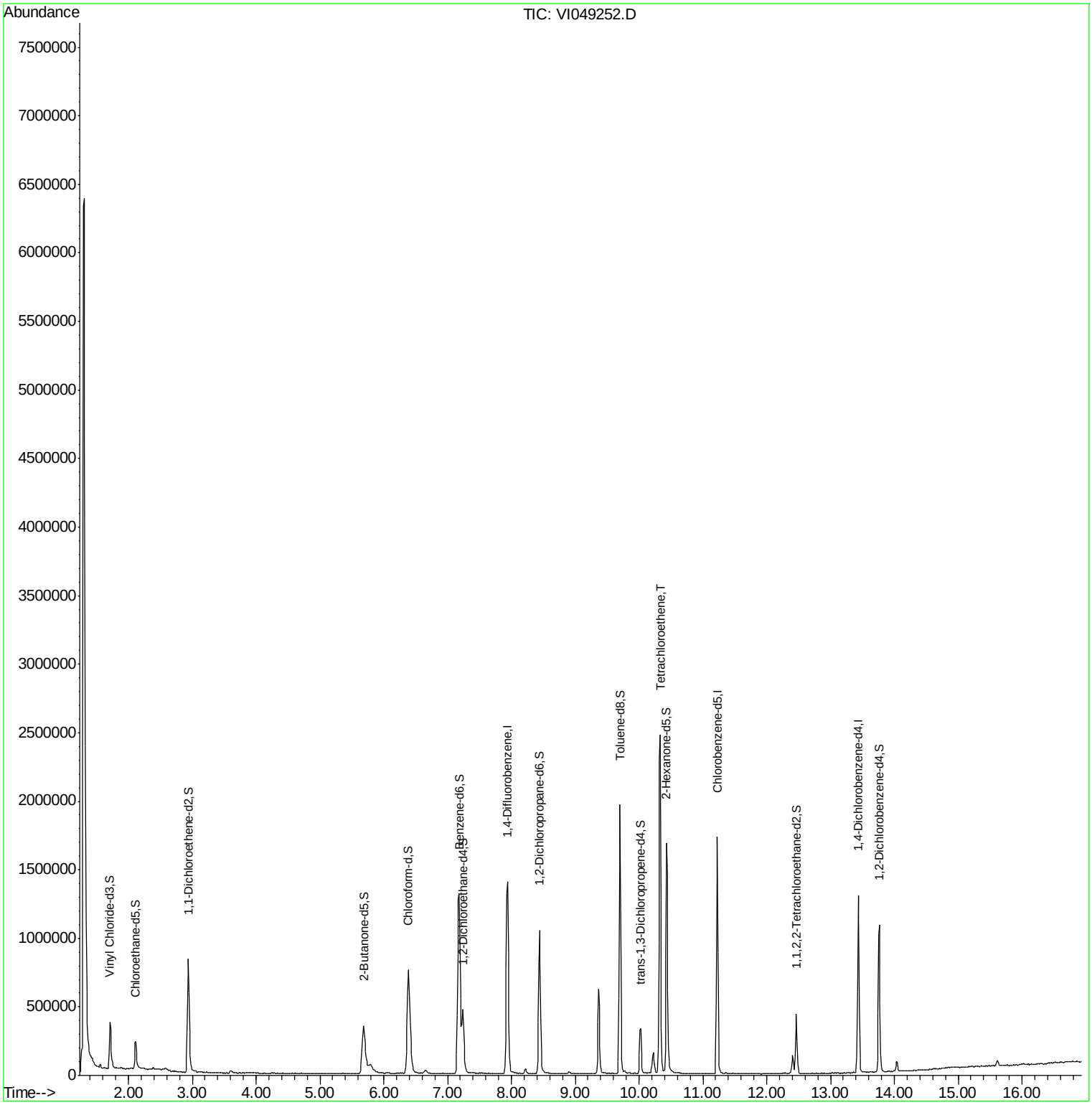
Quantitation Report (QT/LSC Reviewed)

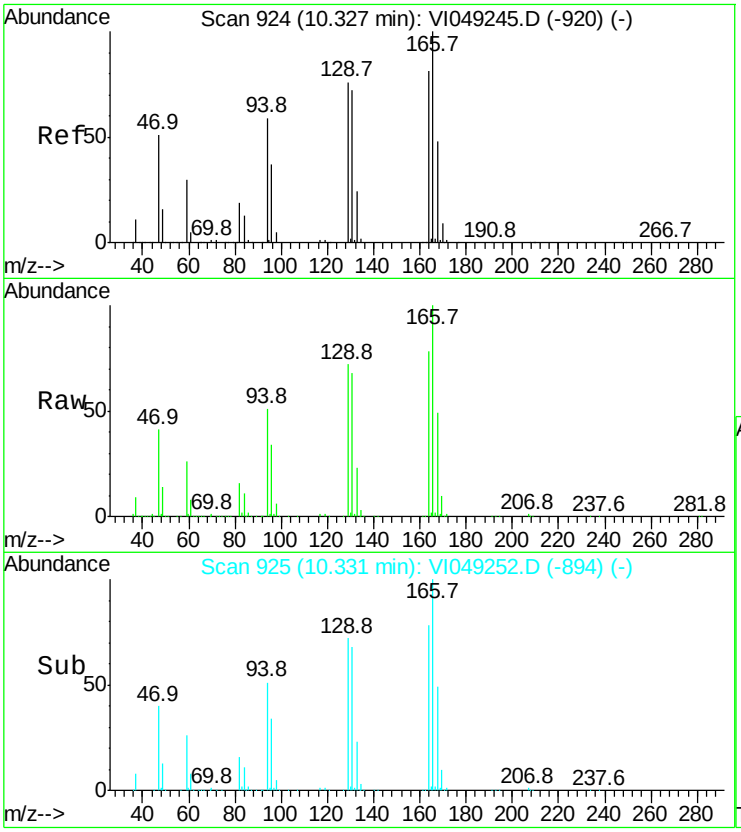
Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 06 05:04:36 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4002DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:13 AM

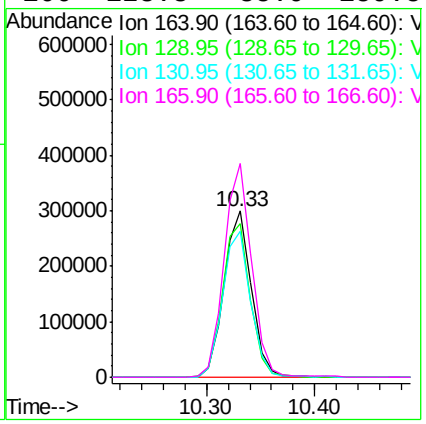




#47
Tetrachloroethene
Concen: 8.02 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.00 min
Lab File: VI049252.D
Acq: 5 May 2016 14:09

Tgt Ion:164 Resp: 525029

Ion	Ratio	Lower	Upper
164	100		
129	92.3	62.1	115.3
131	88.0	60.6	112.6
166	128.8	85.9	159.5



Instrument :
MSVOA_I
ClientSampleId :
H4002DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:13 AM

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:13 AM

Quant Time: May 06 05:04:36 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1264417	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	838639	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	298705	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	371766	4.78	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 95.60%			
7) Chloroethane-d5	2.11	69	223433m	5.18	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 103.60%			
11) 1,1-Dichloroethene-d2	2.94	63	649934	3.54	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 70.80%			
20) 2-Butanone-d5	5.68	46	891469	52.90	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 105.80%			
24) Chloroform-d	6.38	84	945852	4.78	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.60%			
26) 1,2-Dichloroethane-d4	7.24	65	427431	5.28	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 105.60%			
32) Benzene-d6	7.18	84	1709131	5.23	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 104.60%			
36) 1,2-Dichloropropane-d6	8.44	67	471903	5.14	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 102.80%			
41) Toluene-d8	9.70	98	1189086	4.93	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.60%			
43) trans-1,3-Dichloropropene-	10.03	79	172972	4.78	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 95.60%			
46) 2-Hexanone-d5	10.43	63	574172	50.30	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 100.60%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	192915	4.62	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 92.40%			
63) 1,2-Dichlorobenzene-d4	13.77	152	256383	4.90	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 98.00%			
Target Compounds						Qvalue
47) Tetrachloroethene	10.33	164	525029	8.02	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.306	4	8	31	rVB	6337031	14706107	100.00%	27.458%
2	1.552	31	33	36	rVB2	30535	47324	0.32%	0.088%
3	1.709	46	49	57	rBV	338288	586540	3.99%	1.095%
4	2.113	86	90	101	rBV	197981	422014	2.87%	0.788%
5	2.388	116	118	120	rBV2	12200	10164	0.07%	0.019%
6	2.526	131	132	133	rBV	7963	6635	0.05%	0.012%
7	2.585	136	138	146	rVB3	25718	73645	0.50%	0.138%
8	2.831	159	163	165	rVB5	6004	13266	0.09%	0.025%
9	2.861	165	166	168	rVB2	5135	5479	0.04%	0.010%
10	2.940	168	174	182	rBV	828526	1858841	12.64%	3.471%
11	3.038	182	184	188	rVV5	13812	30116	0.20%	0.056%
12	3.117	188	192	194	rVV5	8730	19742	0.13%	0.037%
13	3.186	197	199	200	rVV2	4256	4874	0.03%	0.009%
14	3.215	200	202	208	rVB7	8895	16712	0.11%	0.031%
15	3.609	238	242	247	rBV4	16363	46796	0.32%	0.087%
16	3.747	253	256	258	rVB4	3711	5994	0.04%	0.011%
17	3.796	258	261	263	rBV3	4666	7799	0.05%	0.015%
18	3.875	264	269	270	rBV5	4451	10725	0.07%	0.020%
19	4.032	282	285	287	rVB4	7365	12486	0.08%	0.023%
20	4.062	287	288	293	rBV5	2513	6218	0.04%	0.012%
21	4.130	293	295	297	rVB3	4323	5872	0.04%	0.011%
22	4.249	305	307	309	rBV2	4305	6984	0.05%	0.013%
23	4.278	309	310	314	rBV4	3983	7679	0.05%	0.014%
24	4.367	317	319	323	rBV5	2828	5483	0.04%	0.010%
25	4.563	337	339	340	rBV2	4916	4797	0.03%	0.009%
26	4.711	352	354	357	rBV4	3560	5758	0.04%	0.011%
27	4.780	359	361	362	rBV2	4128	4863	0.03%	0.009%
28	4.888	370	372	374	rBV3	3663	5360	0.04%	0.010%
29	5.292	410	413	415	rVB4	2993	4827	0.03%	0.009%
30	5.518	434	436	440	rBV4	2524	6135	0.04%	0.011%
31	5.685	445	453	459	rBV	350206	1258716	8.56%	2.350%
32	5.892	473	474	479	rVB5	7291	10338	0.07%	0.019%
33	6.059	489	491	493	rVV3	4062	7820	0.05%	0.015%
34	6.197	502	505	506	rBV3	3620	4548	0.03%	0.008%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.384	517	524	543	rBV	752377	2455835	16.70%	4.585%
36	6.650	546	551	557	rVB4	22364	67834	0.46%	0.127%
37	6.886	571	575	576	rVB4	3649	6130	0.04%	0.011%
38	6.926	576	579	584	rBV7	3934	10648	0.07%	0.020%
39	7.073	593	594	597	rBV3	2792	5283	0.04%	0.010%
40	7.181	597	605	608	rBV	1311634	3492629	23.75%	6.521%
41	7.241	608	611	620	rVV	459376	1155587	7.86%	2.158%
42	7.939	676	682	690	rBV	1399746	3102953	21.10%	5.794%
43	8.215	706	710	716	rVB4	30774	63110	0.43%	0.118%
44	8.441	727	733	742	rBV	1045520	2245391	15.27%	4.192%
45	8.540	742	743	748	rVV5	7289	14079	0.10%	0.026%
46	8.658	752	755	758	rVB4	2892	5971	0.04%	0.011%
47	8.756	764	765	768	rBV2	4243	7137	0.05%	0.013%
48	8.855	771	775	777	rBV5	3158	7880	0.05%	0.015%
49	8.904	777	780	784	rBV4	10478	24018	0.16%	0.045%
50	8.992	787	789	791	rVB3	4594	6208	0.04%	0.012%
51	9.022	791	792	796	rBV4	2788	4594	0.03%	0.009%
52	9.120	798	802	804	rVB6	3198	7604	0.05%	0.014%
53	9.219	809	812	815	rBV5	2658	5000	0.03%	0.009%
54	9.366	823	827	836	rVB	610044	1095885	7.45%	2.046%
55	9.583	847	849	854	rVB6	3931	6608	0.04%	0.012%
56	9.701	856	861	867	rBV	1963390	3476799	23.64%	6.492%
57	9.858	876	877	879	rVB2	6569	4605	0.03%	0.009%
58	9.937	883	885	887	rVB3	5643	7593	0.05%	0.014%
59	10.026	889	894	901	rBV	327353	601454	4.09%	1.123%
60	10.105	901	902	904	rVB2	4331	4702	0.03%	0.009%
61	10.144	904	906	907	rBV2	6592	10011	0.07%	0.019%
62	10.223	909	914	920	rVV2	151843	327561	2.23%	0.612%
63	10.331	920	925	931	rVV	2467477	4501445	30.61%	8.405%
64	10.429	931	935	950	rVB	1675326	3053060	20.76%	5.700%
65	10.764	967	969	973	rVB4	4302	9811	0.07%	0.018%
66	10.921	982	985	989	rVB5	3529	8613	0.06%	0.016%
67	11.148	1007	1008	1011	rBV3	3575	5199	0.04%	0.010%
68	11.227	1011	1016	1025	rBV	1728627	2954434	20.09%	5.516%
69	11.354	1025	1029	1033	rVV6	9407	20350	0.14%	0.038%
70	11.473	1039	1041	1044	rVB4	4827	8867	0.06%	0.017%
71	11.522	1044	1046	1051	rVB4	4323	7572	0.05%	0.014%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.591	1051	1053	1056	rBV3	2477	5308	0.04%	0.010%
73	11.640	1056	1058	1062	rVB5	2738	4720	0.03%	0.009%
74	11.856	1075	1080	1086	rVB8	6398	26432	0.18%	0.049%
75	11.965	1088	1091	1094	rBV3	2811	4521	0.03%	0.008%
76	12.063	1097	1101	1105	rBV6	4328	9327	0.06%	0.017%
77	12.122	1105	1107	1109	rBV2	4044	4759	0.03%	0.009%
78	12.201	1111	1115	1117	rBV5	3867	6458	0.04%	0.012%
79	12.260	1119	1121	1122	rBV	3575	4556	0.03%	0.009%
80	12.289	1122	1124	1126	rVB3	5526	7094	0.05%	0.013%
81	12.408	1128	1136	1139	rVV	135168	266365	1.81%	0.497%
82	12.467	1139	1142	1150	rVB	438167	723812	4.92%	1.351%
83	12.585	1153	1154	1157	rBV3	4621	7623	0.05%	0.014%
84	12.713	1166	1167	1171	rBV3	3270	6395	0.04%	0.012%
85	12.860	1179	1182	1183	rBV3	3837	5641	0.04%	0.011%
86	12.900	1183	1186	1189	rVB5	4390	6141	0.04%	0.011%
87	12.988	1191	1195	1197	rBV4	2797	4831	0.03%	0.009%
88	13.018	1197	1198	1201	rBV3	5848	8710	0.06%	0.016%
89	13.067	1201	1203	1205	rBV3	4511	6632	0.05%	0.012%
90	13.215	1216	1218	1220	rVB3	5445	7544	0.05%	0.014%
91	13.244	1220	1221	1224	rBV3	4838	9234	0.06%	0.017%
92	13.303	1224	1227	1228	rVB3	3104	5115	0.03%	0.010%
93	13.333	1228	1230	1231	rBV2	5622	7281	0.05%	0.014%
94	13.362	1231	1233	1236	rBV3	5797	9705	0.07%	0.018%
95	13.431	1236	1240	1248	rBV	1294661	2209104	15.02%	4.125%
96	13.766	1269	1274	1279	rBV	1074081	1945279	13.23%	3.632%
97	14.032	1295	1301	1305	rBV2	74519	150391	1.02%	0.281%
98	14.317	1328	1330	1331	rBV2	6404	6003	0.04%	0.011%
99	14.356	1332	1334	1335	rBV2	4801	5181	0.04%	0.010%
100	15.616	1459	1462	1465	rVB	37195	71882	0.49%	0.134%

Sum of corrected areas: 53559161

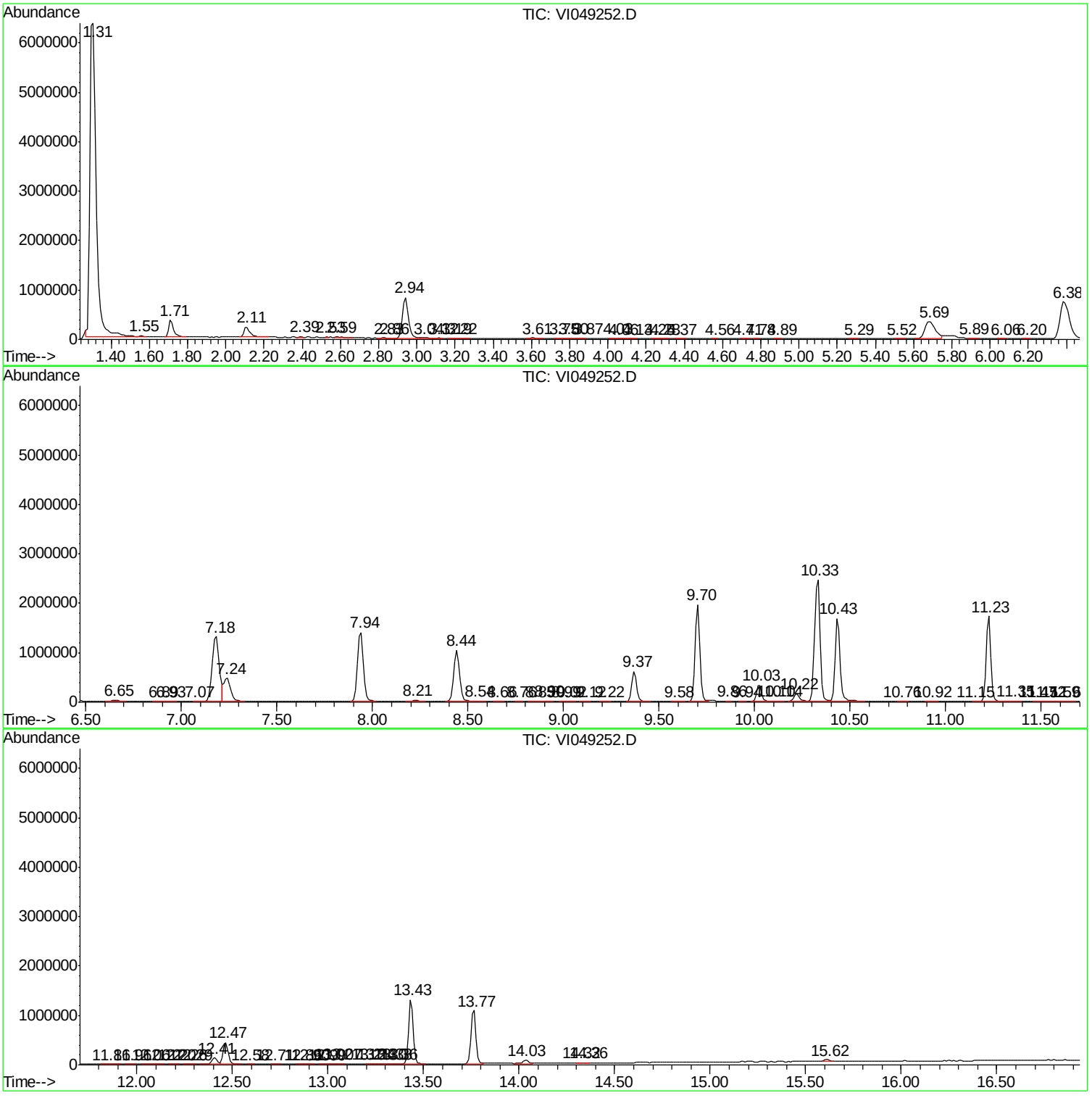
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4002DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

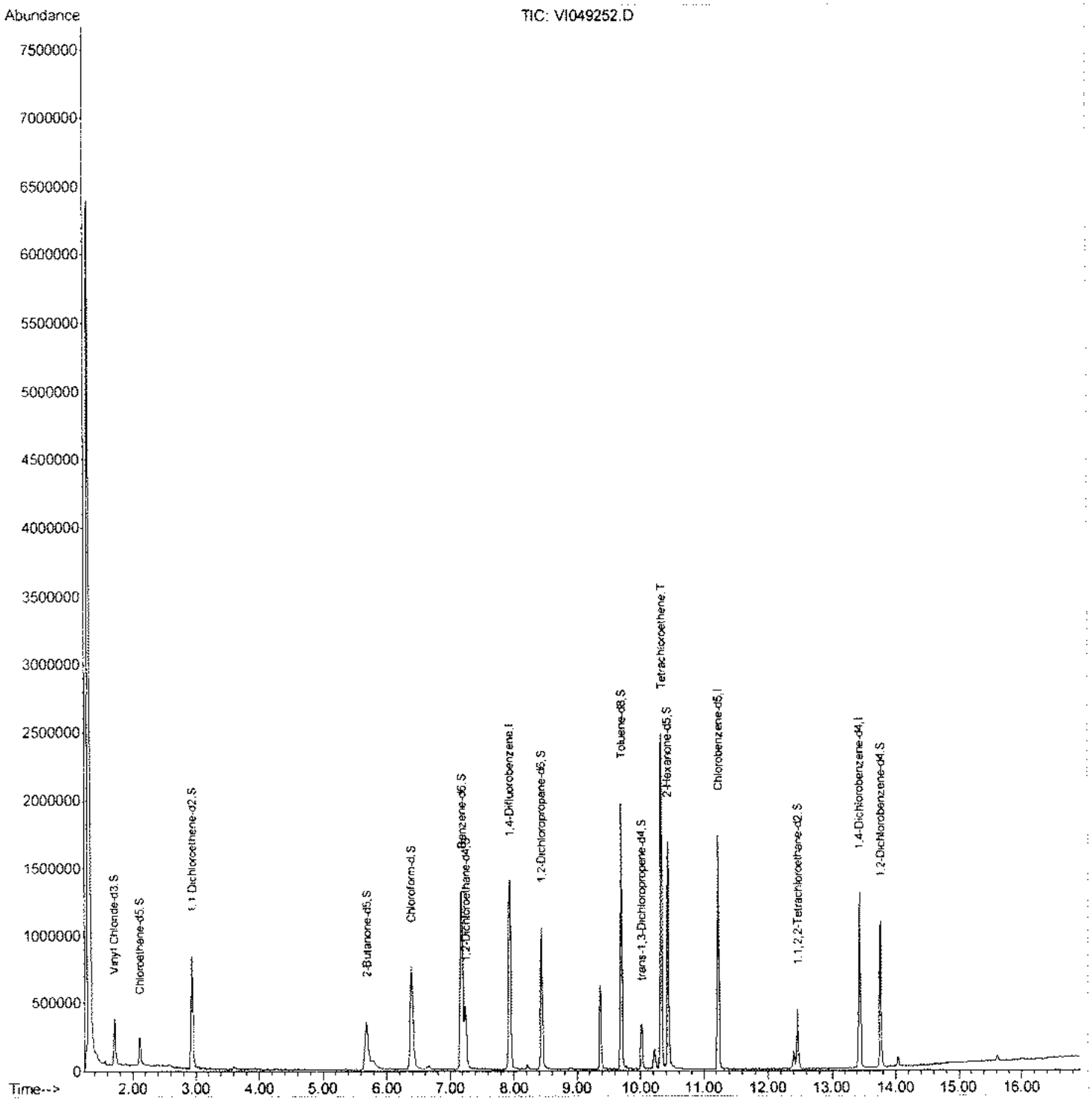
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 06 05:04:36 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4002DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:13 AM



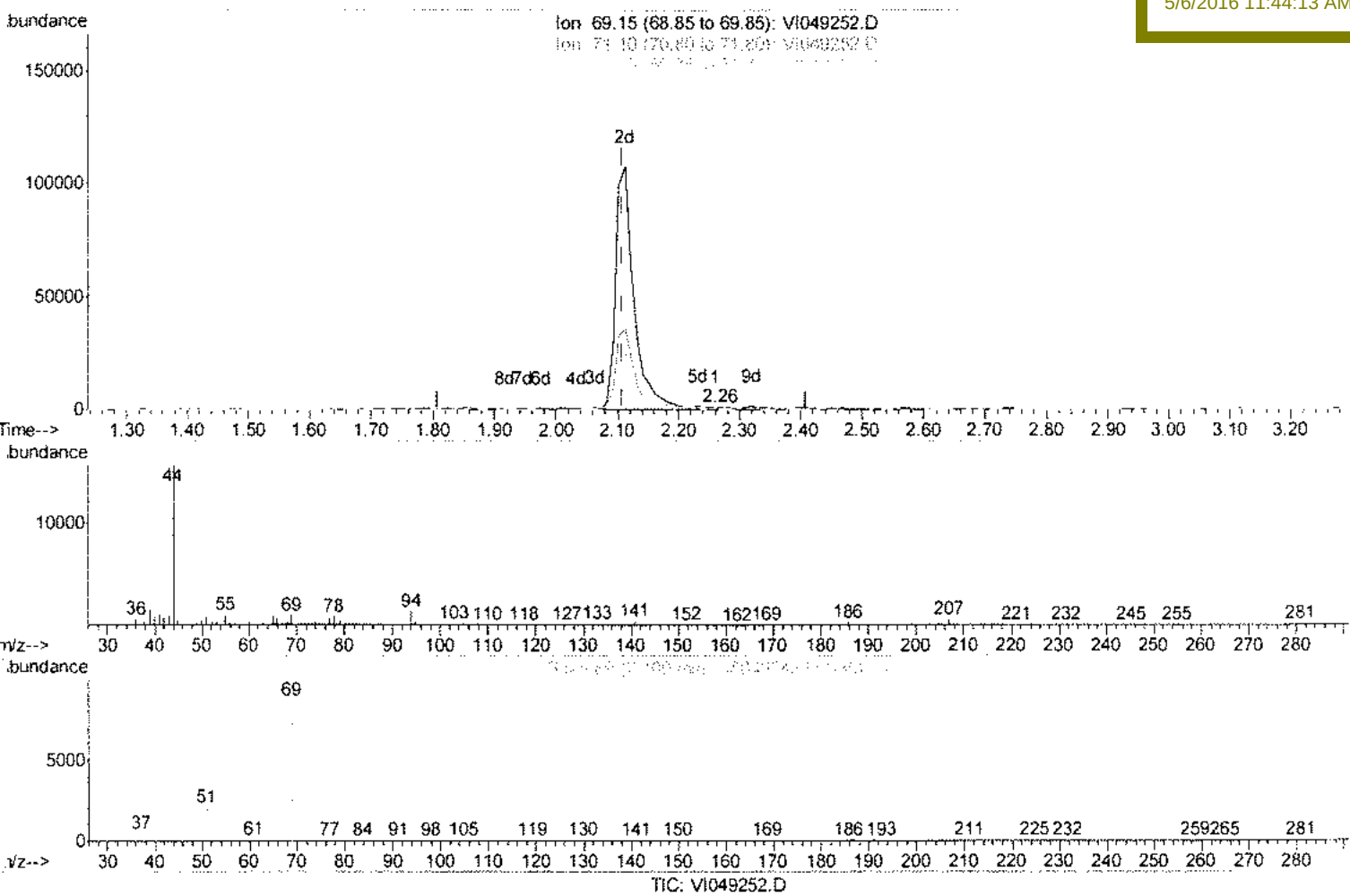
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 06 04:43:59 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4002DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:13 AM



(7) Chloroethane-d5 (S)

2.260min (+0.151) 0.05ug/L

response 2012

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	27.34
51.05	32.70	36.28
0.00	0.00	0.00

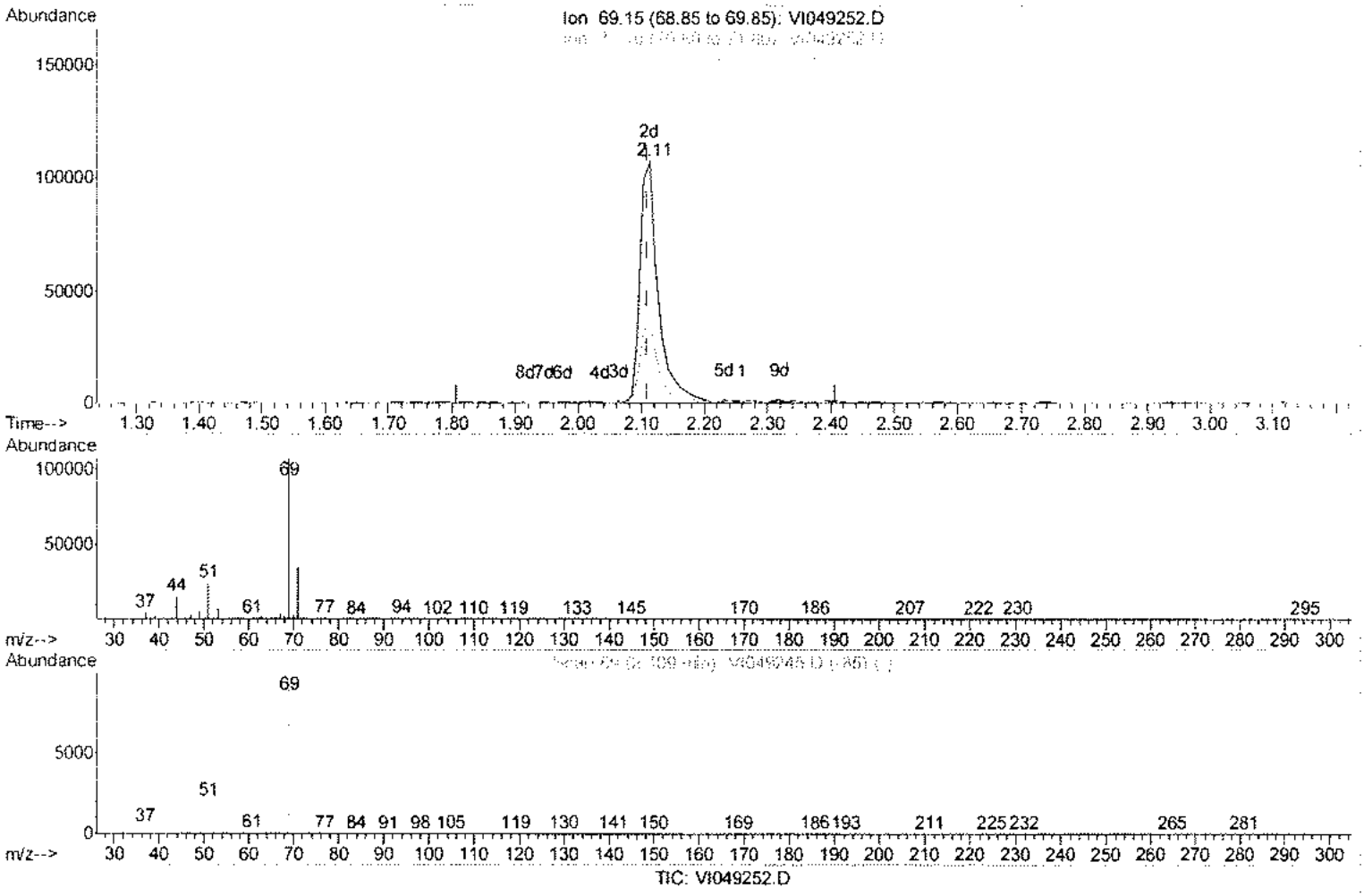
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 06 04:43:59 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4002DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:13 AM



TIC: VI049252.D

(7) Chloroethane-d5 (S)

2.113min (+0.004) 5.18ug/L m MD 05/09/16

response 223433

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	0.25#
51.05	32.70	0.33#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049252.D
Acq On : 5 May 2016 14:09
Operator : FY/SY
Sample : H2834-01DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 06 05:04:36 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4002DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:13 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1264417	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	838639	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	298705	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	371766	4.78	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 95.60%			
7) Chloroethane-d5	2.11	69	223433m	5.18	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 103.60%			
11) 1,1-Dichloroethene-d2	2.94	63	649934	3.54	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 70.80%			
20) 2-Butanone-d5	5.68	46	891469	52.90	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 105.80%			
24) Chloroform-d	6.38	84	945852	4.78	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.60%			
26) 1,2-Dichloroethane-d4	7.24	65	427431	5.28	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 105.60%			
32) Benzene-d6	7.18	84	1709131	5.23	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 104.60%			
36) 1,2-Dichloropropane-d6	8.44	67	471903	5.14	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 102.80%			
41) Toluene-d8	9.70	98	1189086	4.93	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.60%			
43) trans-1,3-Dichloropropene-	10.03	79	172972	4.78	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 95.60%			
46) 2-Hexanone-d5	10.43	63	574172	50.30	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 100.60%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	192915	4.62	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 92.40%			
63) 1,2-Dichlorobenzene-d4	13.77	152	256383	4.90	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 98.00%			
Target Compounds						Qvalue
47) Tetrachloroethene	10.33	164	525029	8.02	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

M.D 05/09/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4004

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-12
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049249.D
% Solids :
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4004

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-12
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049249.D
% Solids :
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4004

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-12
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049249.D
% Solids :
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4004

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-12
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049249.D
% Solids :
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000109-99-9	Furan, tetrahydro-	6.24	0.41	JN
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

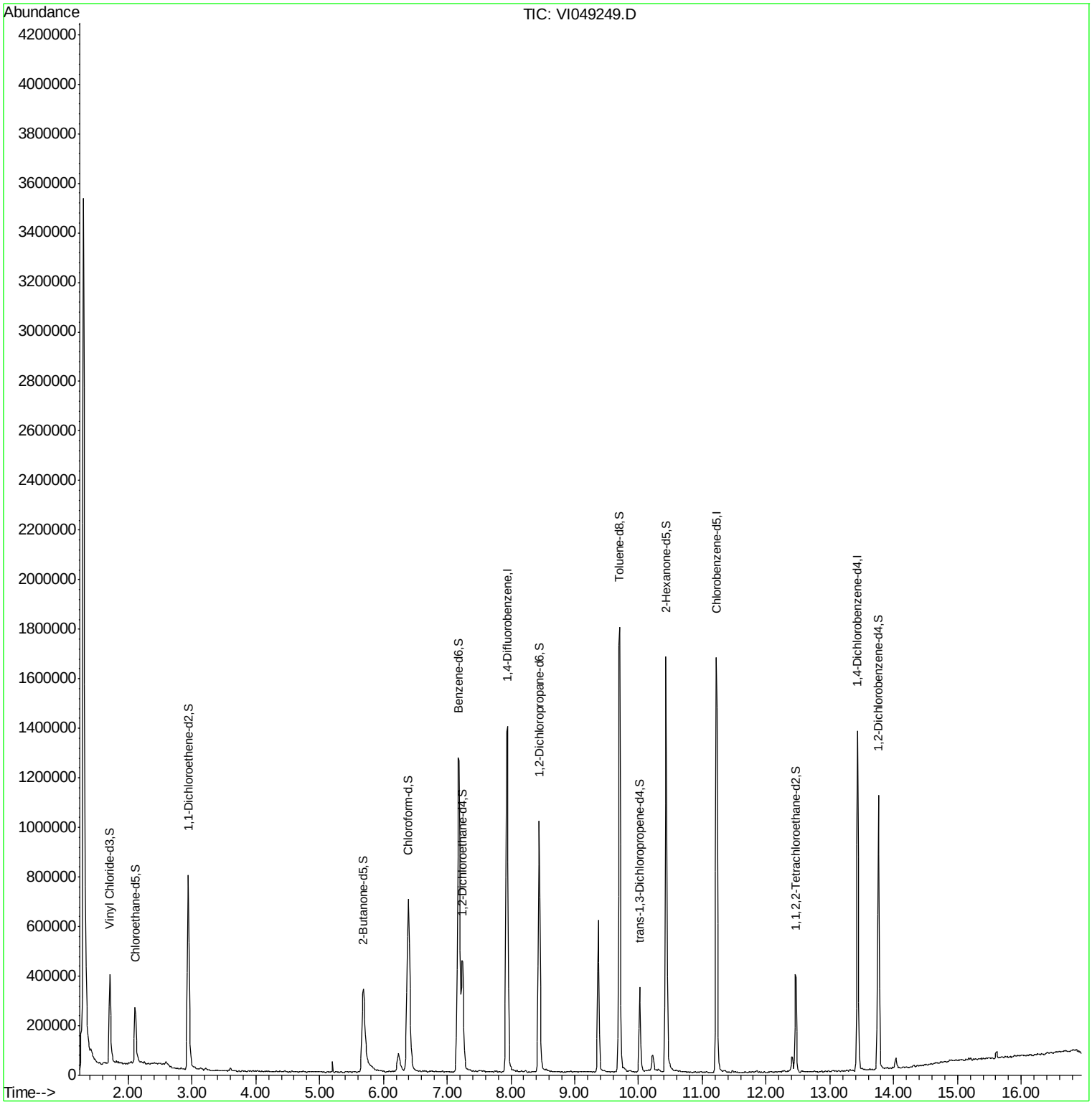
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 04:53:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4004

Manual Integrations APPROVED
feifei
5/6/2016 11:43:29 AM



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 04:53:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4004

Manual Integrations APPROVED
feifei
5/6/2016 11:43:29 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1272879	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	841746	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	301318	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	367555	4.69	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 93.80%			
7) Chloroethane-d5	2.11	69	236853m	5.46	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 109.20%			
11) 1,1-Dichloroethene-d2	2.94	63	641469	3.47	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 69.40%			
20) 2-Butanone-d5	5.69	46	818728	48.26	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 96.52%			
24) Chloroform-d	6.39	84	880663	4.42	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 88.40%			
26) 1,2-Dichloroethane-d4	7.24	65	409642m	5.02	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.40%			
32) Benzene-d6	7.18	84	1621210	4.94	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.80%			
36) 1,2-Dichloropropane-d6	8.44	67	454502	4.93	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 98.60%			
41) Toluene-d8	9.70	98	1154341	4.77	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 95.40%			
43) trans-1,3-Dichloropropene-	10.02	79	162115	4.46	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 89.20%			
46) 2-Hexanone-d5	10.43	63	537655	46.92	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 93.84%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	186862	4.46	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 89.20%			
63) 1,2-Dichlorobenzene-d4	13.76	152	252968	4.79	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 95.80%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4004

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.299	4	7	17	rVB	3438152	6675708	100.00%	16.734%
2	1.633	37	41	42	rBV4	8756	17257	0.26%	0.043%
3	1.712	46	49	57	rVV	359880	585555	8.77%	1.468%
4	2.106	86	89	97	rVB	224261	422994	6.34%	1.060%
5	2.588	136	138	145	rVB3	22306	60379	0.90%	0.151%
6	2.834	161	163	166	rVB3	6889	10641	0.16%	0.027%
7	2.942	169	174	182	rBV	783819	1785002	26.74%	4.474%
8	3.218	198	202	206	rBV3	9075	21660	0.32%	0.054%
9	3.375	216	218	220	rVB2	4087	5120	0.08%	0.013%
10	3.602	237	241	245	rBV4	12505	28569	0.43%	0.072%
11	3.661	245	247	253	rVB7	5023	11650	0.17%	0.029%
12	3.740	253	255	258	rBV4	5023	5654	0.08%	0.014%
13	3.799	258	261	262	rVB3	4093	5863	0.09%	0.015%
14	3.838	262	265	266	rBV3	4472	4852	0.07%	0.012%
15	3.877	266	269	271	rBV3	2697	4559	0.07%	0.011%
16	4.704	349	353	356	rBV3	3687	7817	0.12%	0.020%
17	4.832	363	366	367	rBV3	3110	5774	0.09%	0.014%
18	5.058	388	389	392	rVB3	3994	5002	0.07%	0.013%
19	5.206	403	404	406	rVB	44329	27161	0.41%	0.068%
20	5.334	414	417	419	rBV4	3633	6224	0.09%	0.016%
21	5.423	422	426	429	rBV4	3674	6453	0.10%	0.016%
22	5.482	429	432	434	rVB4	3882	6706	0.10%	0.017%
23	5.531	434	437	439	rBV3	3768	6226	0.09%	0.016%
24	5.688	445	453	474	rBV	334452	1373549	20.58%	3.443%
25	5.905	474	475	477	rVB2	5223	5557	0.08%	0.014%
26	6.092	488	494	498	rBV8	4319	15437	0.23%	0.039%
27	6.141	498	499	501	rVV2	4381	5210	0.08%	0.013%
28	6.239	503	509	517	rVV	76697	258279	3.87%	0.647%
29	6.387	517	524	538	rVV	694582	2200346	32.96%	5.515%
30	6.771	558	563	564	rVV4	4794	11261	0.17%	0.028%
31	6.889	573	575	578	rBV4	2495	4652	0.07%	0.012%
32	6.958	581	582	586	rBV3	3650	5657	0.08%	0.014%
33	7.174	596	604	608	rBV	1269185	3361199	50.35%	8.425%
34	7.233	608	610	620	rVB	442314	1099717	16.47%	2.757%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4004

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	7.450	630	632	635	rVB4	4268	6182	0.09%	0.015%
36	7.657	651	653	660	rVB7	2936	8933	0.13%	0.022%
37	7.745	660	662	664	rBV3	4124	6765	0.10%	0.017%
38	7.873	673	675	676	rBV2	3144	4532	0.07%	0.011%
39	7.942	676	682	696	rBV	1394389	3127571	46.85%	7.840%
40	8.100	696	698	702	rVB5	6638	8898	0.13%	0.022%
41	8.168	702	705	706	rBV2	4832	6429	0.10%	0.016%
42	8.227	709	711	715	rVB4	6379	10825	0.16%	0.027%
43	8.326	719	721	724	rBV4	4247	8894	0.13%	0.022%
44	8.444	727	733	742	rBV	1012730	2180765	32.67%	5.466%
45	8.552	742	744	745	rVB2	6140	7018	0.11%	0.018%
46	8.631	751	752	755	rVB3	3692	4704	0.07%	0.012%
47	8.788	767	768	771	rVB2	3646	5385	0.08%	0.013%
48	8.867	775	776	778	rBV2	3065	4895	0.07%	0.012%
49	8.936	780	783	786	rVB5	5634	10266	0.15%	0.026%
50	8.975	786	787	790	rBV3	4129	7940	0.12%	0.020%
51	9.074	795	797	801	rBV3	2590	5420	0.08%	0.014%
52	9.369	822	827	841	rVV	611996	1103416	16.53%	2.766%
53	9.536	841	844	846	rVB4	4105	6932	0.10%	0.017%
54	9.704	856	861	866	rBV	1793700	3332908	49.93%	8.354%
55	10.019	888	893	900	rBV	344243	607106	9.09%	1.522%
56	10.117	900	903	906	rVV5	3938	11287	0.17%	0.028%
57	10.166	906	908	909	rVV2	5214	7722	0.12%	0.019%
58	10.225	909	914	918	rVV2	63787	148625	2.23%	0.373%
59	10.284	918	920	921	rVV2	7741	9975	0.15%	0.025%
60	10.304	921	922	931	rVB8	10037	15785	0.24%	0.040%
61	10.432	931	935	949	rBV	1673878	2851565	42.72%	7.148%
62	10.590	949	951	955	rVV3	5301	7647	0.11%	0.019%
63	10.639	955	956	960	rVB4	5364	8239	0.12%	0.021%
64	10.885	980	981	983	rVB2	4386	4688	0.07%	0.012%
65	10.934	983	986	987	rBV3	4348	6394	0.10%	0.016%
66	11.062	996	999	1002	rBV3	2850	5415	0.08%	0.014%
67	11.170	1007	1010	1011	rBV2	2488	4550	0.07%	0.011%
68	11.219	1011	1015	1025	rBV	1675091	2933299	43.94%	7.353%
69	11.475	1038	1041	1043	rBV4	5109	7152	0.11%	0.018%
70	11.682	1061	1062	1064	rBV2	4384	5111	0.08%	0.013%
71	11.741	1064	1068	1069	rVB4	3376	4538	0.07%	0.011%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4004

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.780	1069	1072	1075	rBV4	3118	6467	0.10%	0.016%
73	11.859	1075	1080	1082	rBV5	5066	14042	0.21%	0.035%
74	11.977	1088	1092	1093	rBV4	3079	5021	0.08%	0.013%
75	12.056	1097	1100	1103	rBV3	4283	10958	0.16%	0.027%
76	12.154	1108	1110	1112	rVB2	4477	6611	0.10%	0.017%
77	12.214	1114	1116	1119	rVB4	4569	7144	0.11%	0.018%
78	12.292	1119	1124	1125	rBV5	7022	19422	0.29%	0.049%
79	12.410	1130	1136	1138	rBV	59925	117028	1.75%	0.293%
80	12.460	1138	1141	1148	rVB	394710	726345	10.88%	1.821%
81	12.558	1148	1151	1152	rBV3	4964	5341	0.08%	0.013%
82	12.696	1163	1165	1167	rVB3	3563	5478	0.08%	0.014%
83	12.784	1172	1174	1177	rVB4	3622	7381	0.11%	0.019%
84	12.824	1177	1178	1181	rBV3	3415	6608	0.10%	0.017%
85	12.873	1181	1183	1185	rVB3	4810	5618	0.08%	0.014%
86	13.030	1196	1199	1200	rBV3	3194	5039	0.08%	0.013%
87	13.267	1220	1223	1226	rBV4	5508	10357	0.16%	0.026%
88	13.306	1226	1227	1230	rBV3	5993	11506	0.17%	0.029%
89	13.355	1230	1232	1235	rVB4	6295	10133	0.15%	0.025%
90	13.434	1235	1240	1246	rBV	1371890	2259147	33.84%	5.663%
91	13.503	1246	1247	1252	rVB5	6374	11273	0.17%	0.028%
92	13.759	1269	1273	1280	rVV	1104401	1898255	28.44%	4.758%
93	13.906	1286	1288	1290	rVB2	4742	5315	0.08%	0.013%
94	13.975	1294	1295	1297	rBV2	6729	8230	0.12%	0.021%
95	14.034	1297	1301	1305	rVV	42365	80437	1.20%	0.202%
96	14.162	1310	1314	1315	rBV4	4567	8669	0.13%	0.022%
97	14.310	1327	1329	1332	rBV3	8569	15693	0.24%	0.039%
98	14.487	1345	1347	1348	rBV2	5988	5802	0.09%	0.015%
99	14.733	1370	1372	1373	rBV2	6794	8881	0.13%	0.022%
100	15.619	1458	1462	1465	rBV3	27724	56422	0.85%	0.141%

Sum of corrected areas: 39894089

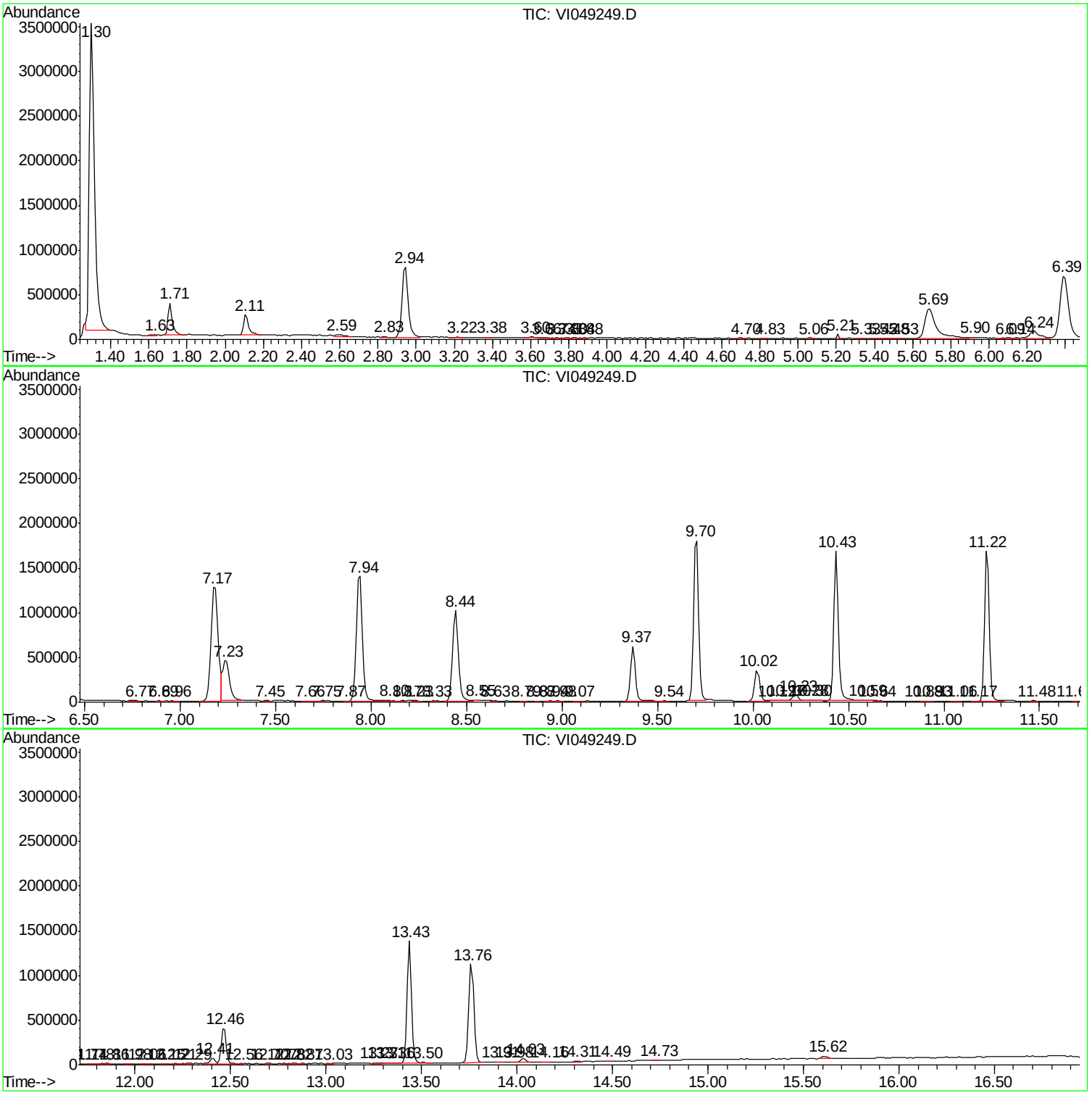
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4004

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4004

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

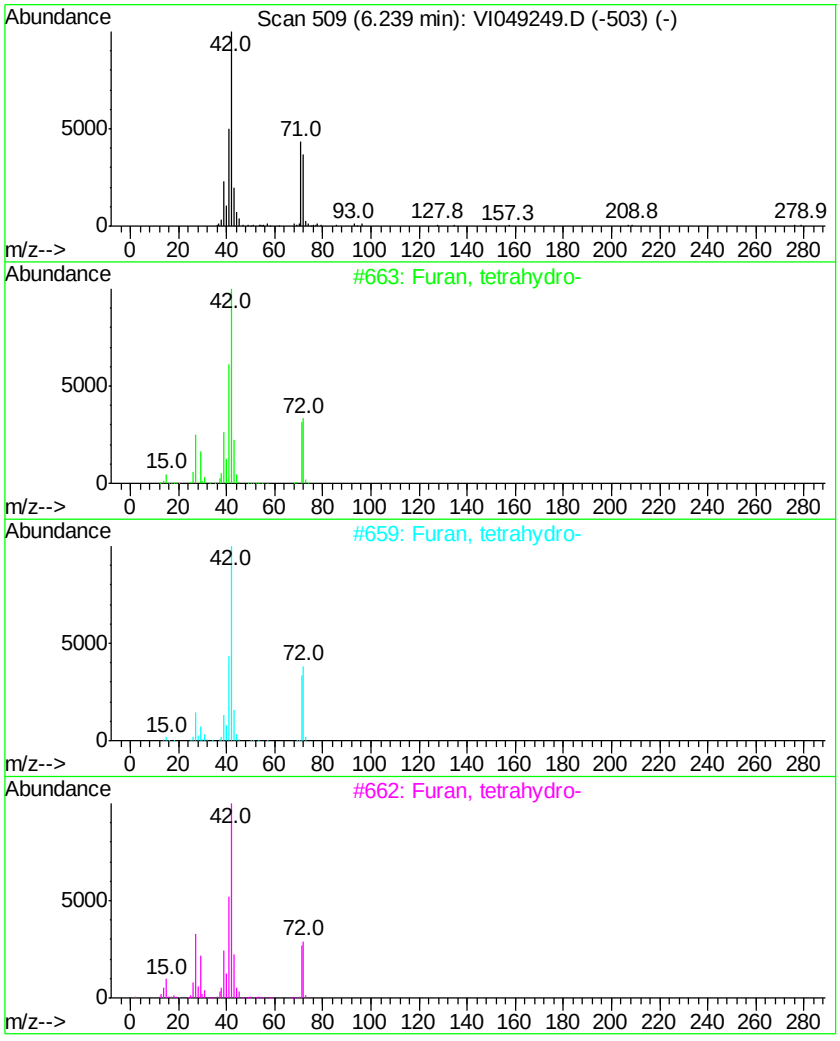
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

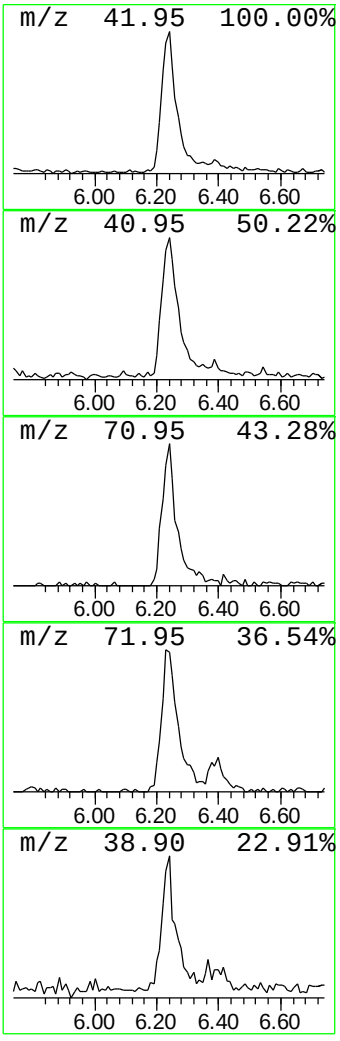
****

Peak Number 2 Furan, tetrahydro- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.24	0.41 ug/L	258279	1,4-Difluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Furan, tetrahydro-	72	C4H8O	000109-99-9	90
2	Furan, tetrahydro-	72	C4H8O	000109-99-9	86
3	Furan, tetrahydro-	72	C4H8O	000109-99-9	78
4	1-Propene, 2-methoxy-	72	C4H8O	000116-11-0	50
5	Oxirane, ethyl-	72	C4H8O	000106-88-7	46





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4004

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Furan, tetrahydro-	6.24	0.4	ug/L	258279	1	7.94	3127570	5.0

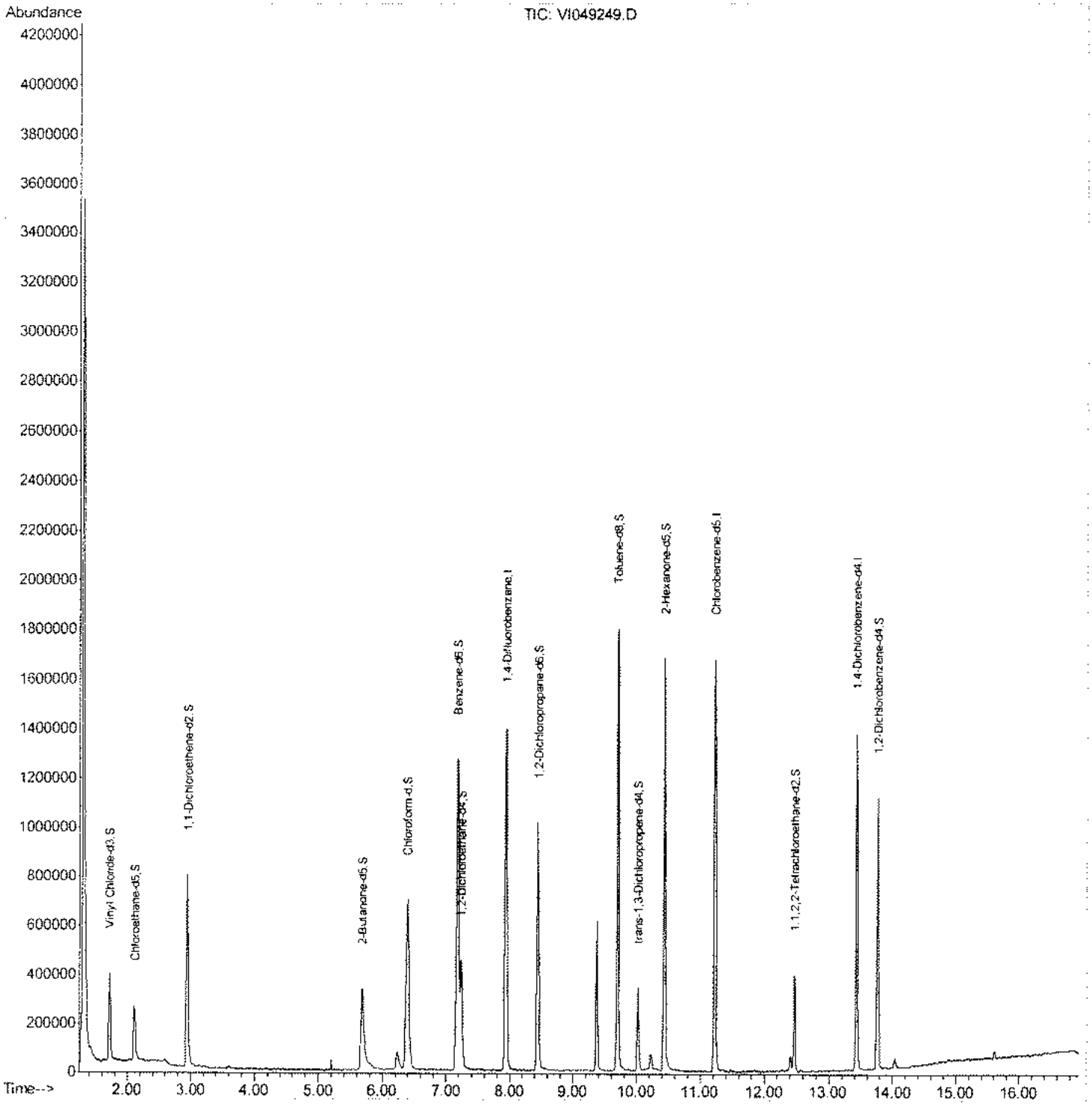
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 04:53:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4004

Manual Integrations APPROVED
feifei
5/6/2016 11:43:29 AM



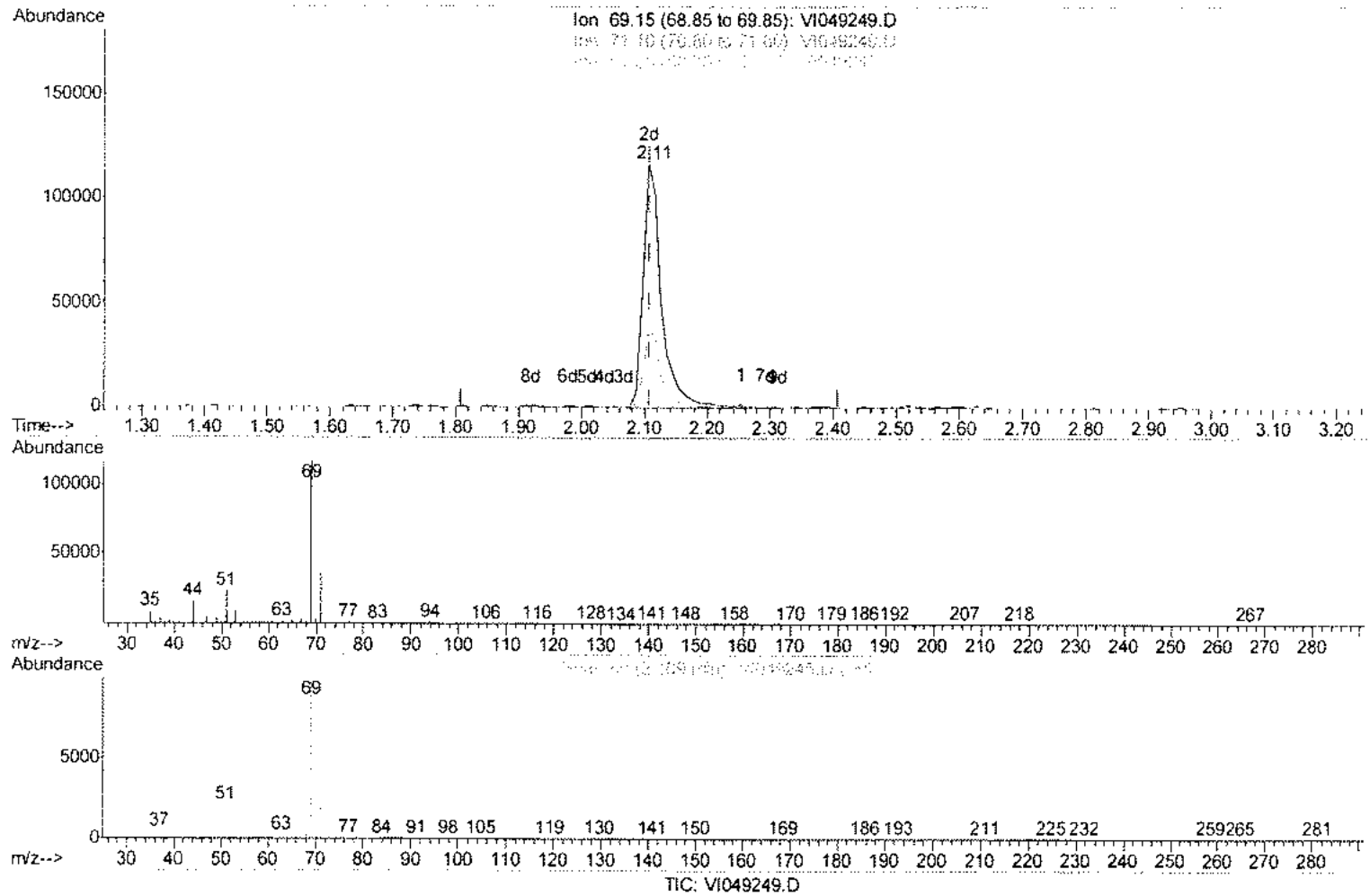
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 04:43:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4004

Manual Integrations APPROVED
feifei
5/6/2016 11:43:29 AM



TIC: VI049249.D

(7) Chloroethane-d5 (S)

2.106min (-0.003) 5.46ug/L m M.D 05/09/16

response 236853

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	0.10#
51.05	32.70	0.10#
0.00	0.00	0.00

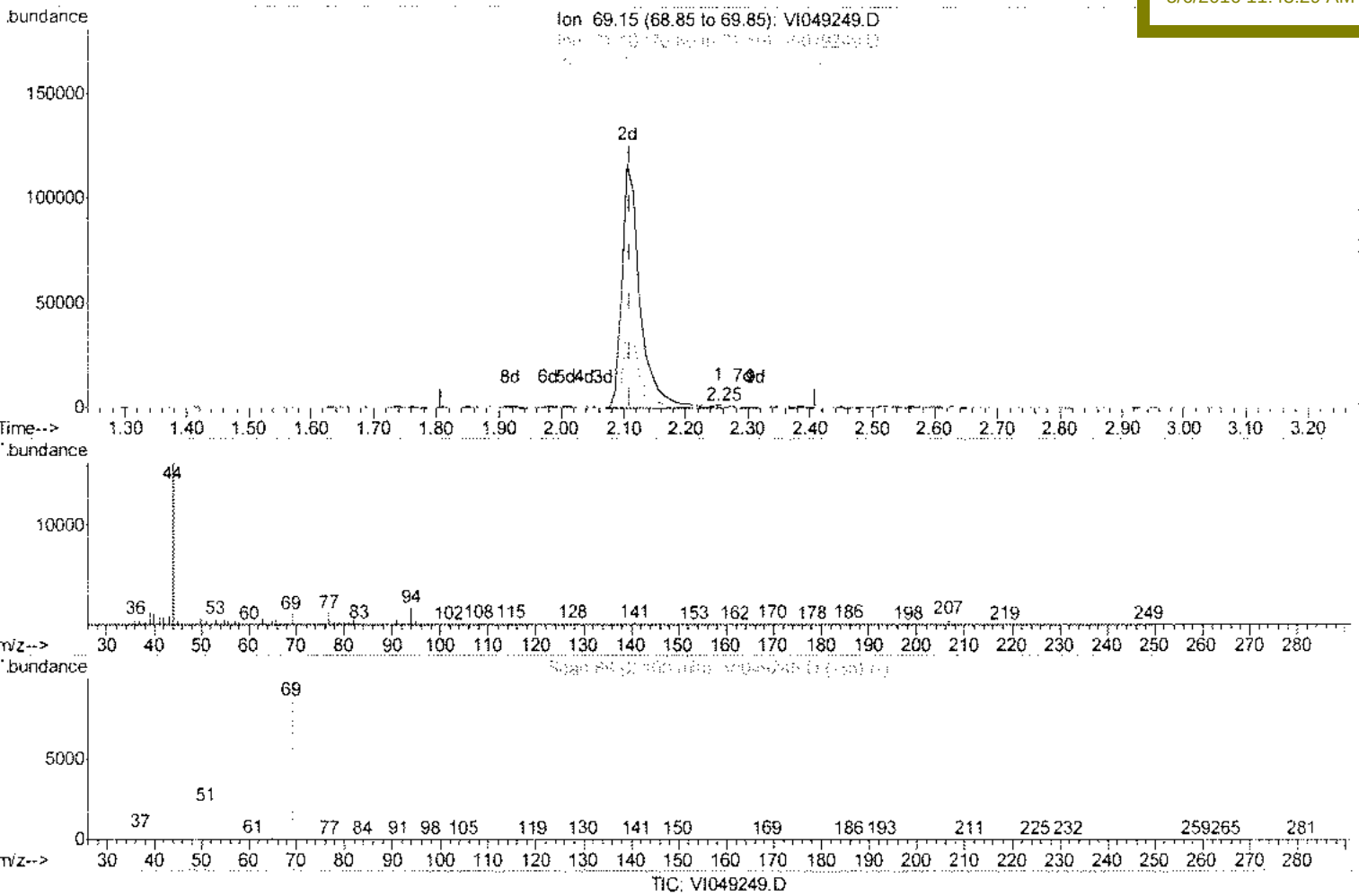
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 04:43:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4004

Manual Integrations APPROVED
feifei
5/6/2016 11:43:29 AM



(7) Chloroethane-d5 (S)

2.253min (+0.144) 0.02ug/L

response 878

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	26.99
51.05	32.70	27.56
0.00	0.00	0.00

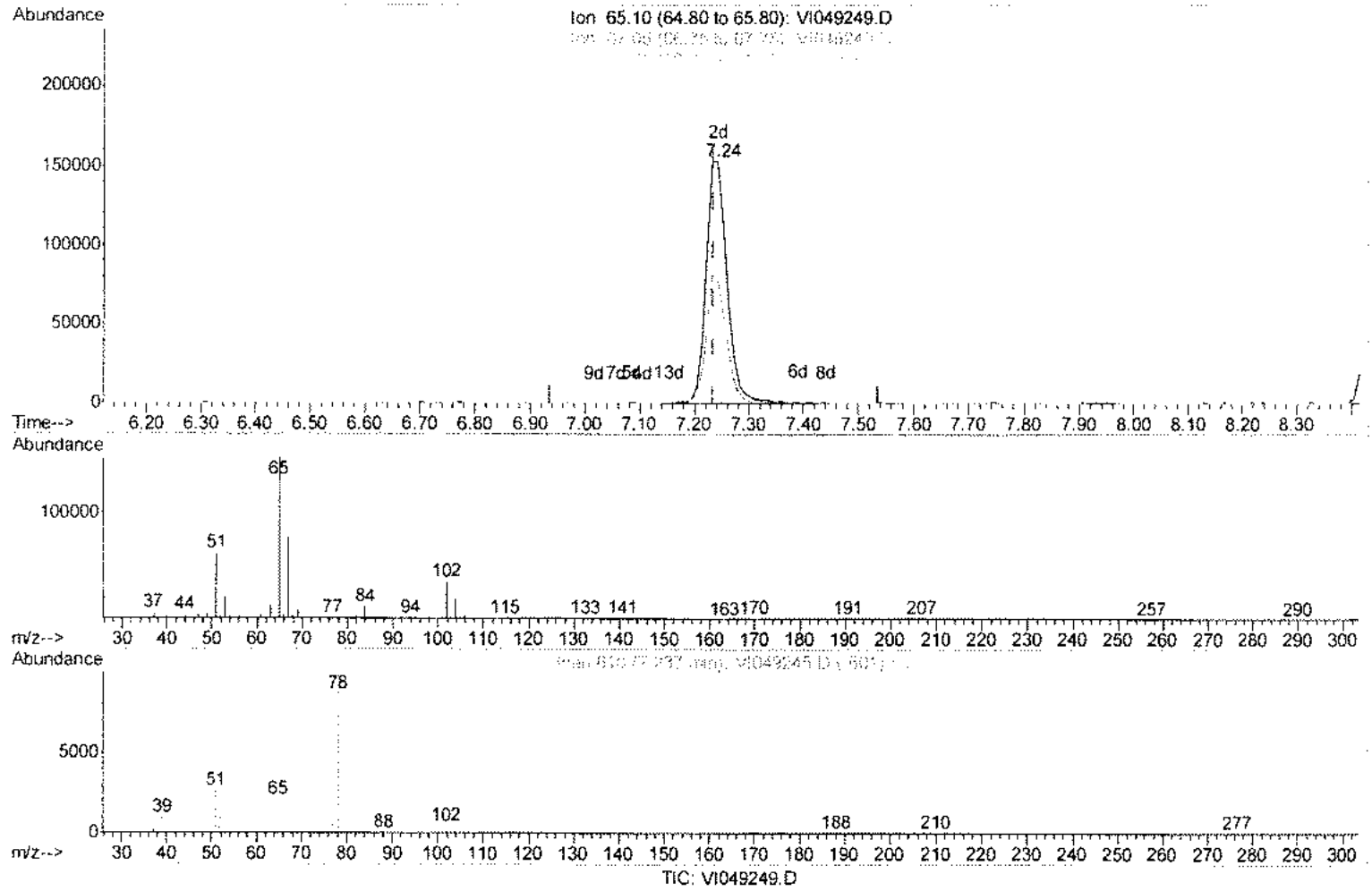
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 04:43:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4004

Manual Integrations APPROVED
feifei
5/6/2016 11:43:29 AM



TIC: VI049249.D

(26) 1,2-Dichloroethane-d4 (S)

7.243min (+0.007) 5.02ug/L m M.D 05/09/16

response 409642

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	0.04#
51.05	123.20	0.08#
0.00	0.00	0.00

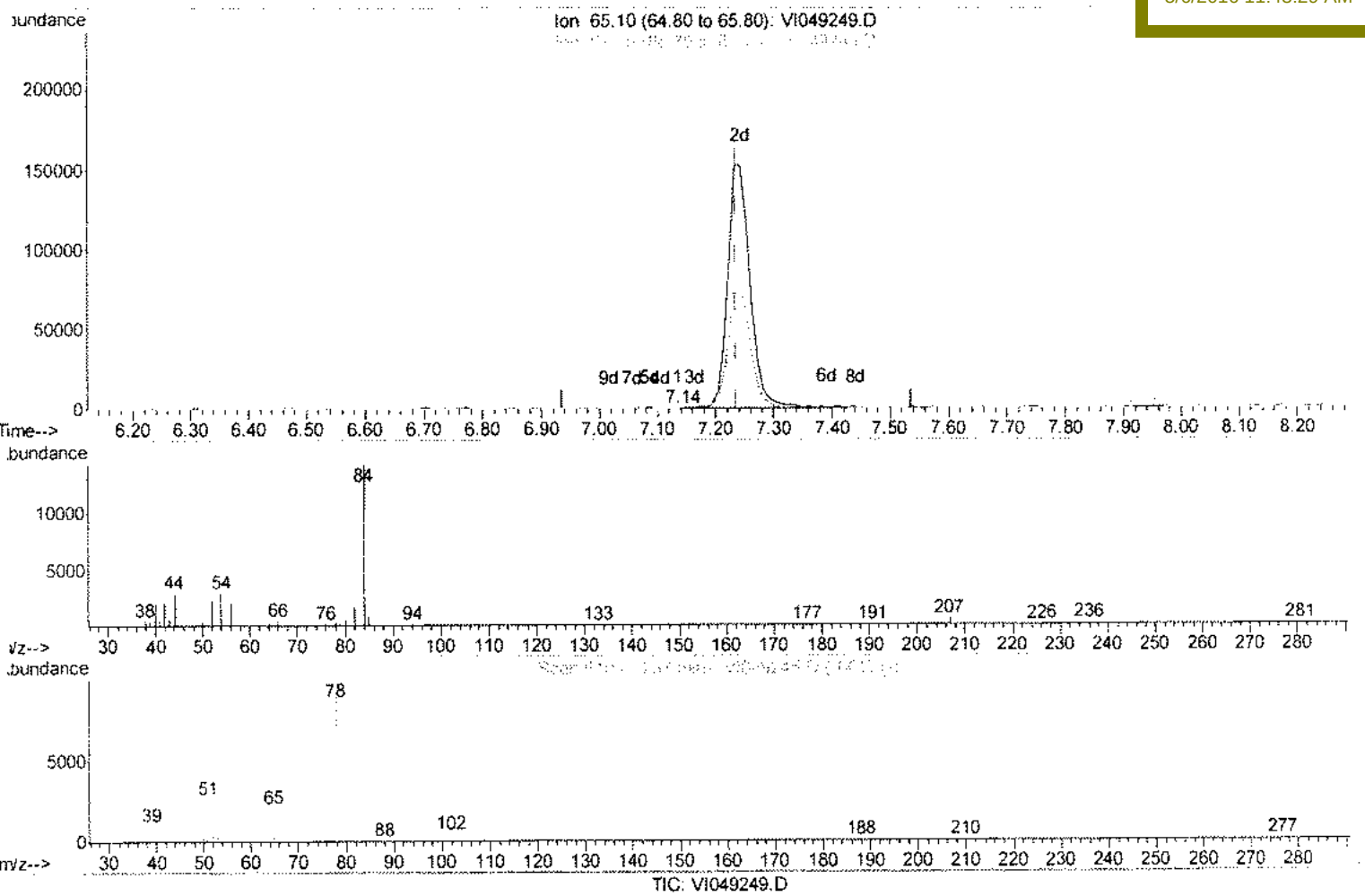
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 04:43:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4004

Manual Integrations APPROVED
feifei
5/6/2016 11:43:29 AM



(26) 1,2-Dichloroethane-d4 (S)

7.135min (-0.102) 0.00ug/L

response 327

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	44.65
51.05	123.20	100.31
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049249.D
Acq On : 5 May 2016 12:34
Operator : FY/SY
Sample : H2834-12
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 04:53:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4004

Manual Integrations APPROVED
feifei
5/6/2016 11:43:29 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1272879	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	841746	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	301318	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	367555	4.69	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 93.80%			
7) Chloroethane-d5	2.11	69	236853m	5.46	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 109.20%			
11) 1,1-Dichloroethene-d2	2.94	63	641469	3.47	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 69.40%			
20) 2-Butanone-d5	5.69	46	818728	48.26	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 96.52%			
24) Chloroform-d	6.39	84	880663	4.42	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 88.40%			
26) 1,2-Dichloroethane-d4	7.24	65	409642m	5.02	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.40%			
32) Benzene-d6	7.18	84	1621210	4.94	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.80%			
36) 1,2-Dichloropropane-d6	8.44	67	454502	4.93	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 98.60%			
41) Toluene-d8	9.70	98	1154341	4.77	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 95.40%			
43) trans-1,3-Dichloropropene-	10.02	79	162115	4.46	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 89.20%			
46) 2-Hexanone-d5	10.43	63	537655	46.92	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 93.84%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	186862	4.46	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 89.20%			
63) 1,2-Dichlorobenzene-d4	13.76	152	252968	4.79	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 95.80%			

M.J 05/09/16

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4006

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-04
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049233.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4006

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-04
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049233.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4006

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-04
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049233.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4006

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-04
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049233.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000109-99-9	Furan, tetrahydro-	6.23	0.39	JN
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

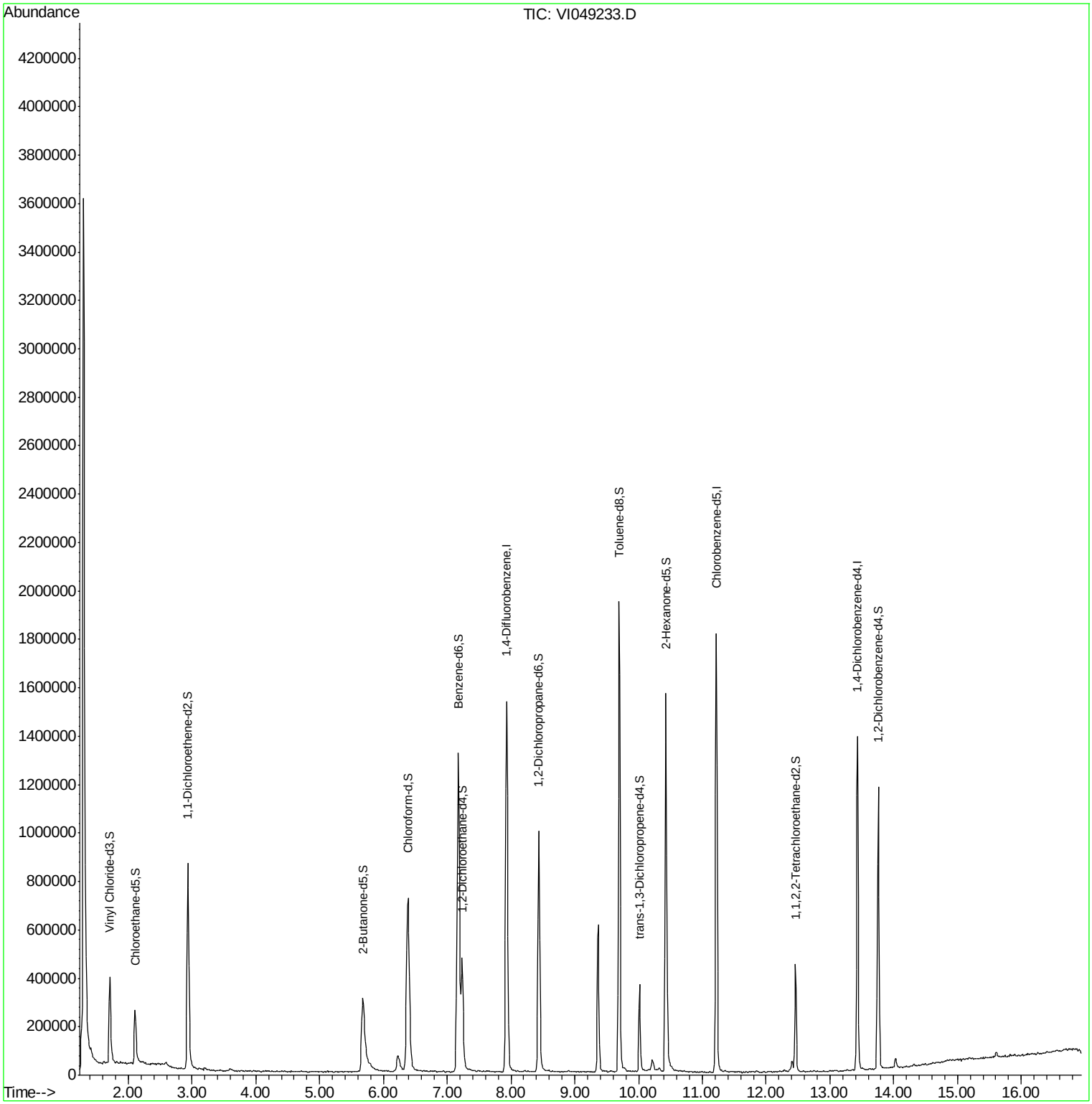
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 05 05:58:19 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4006

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:35 AM



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 05 05:58:19 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4006

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:35 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1309272	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	874832	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	314361	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	379958	4.71	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 94.20%			
7) Chloroethane-d5	2.11	69	236105m	5.29	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 105.80%			
11) 1,1-Dichloroethene-d2	2.93	63	684353	3.60	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 72.00%			
20) 2-Butanone-d5	5.68	46	772086	44.24	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 88.48%			
24) Chloroform-d	6.39	84	893408	4.36	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 87.20%			
26) 1,2-Dichloroethane-d4	7.23	65	418236	4.98	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.60%			
32) Benzene-d6	7.17	84	1672887	4.91	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.20%			
36) 1,2-Dichloropropane-d6	8.43	67	468377	4.89	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 97.80%			
41) Toluene-d8	9.69	98	1227143	4.88	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.60%			
43) trans-1,3-Dichloropropene-	10.02	79	167653	4.44	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 88.80%			
46) 2-Hexanone-d5	10.43	63	564233	47.38	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 94.76%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	199458	4.58	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 91.60%			
63) 1,2-Dichlorobenzene-d4	13.76	152	262548	4.76	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 95.20%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4006

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.298	4	7	18	rVB	3516543	6966276	100.00%	16.844%
2	1.613	37	39	42	rBV3	11640	21231	0.30%	0.051%
3	1.712	46	49	58	rVV	357063	631805	9.07%	1.528%
4	1.820	58	60	64	rVB4	9497	14761	0.21%	0.036%
5	2.105	86	89	99	rBV	221512	461863	6.63%	1.117%
6	2.460	123	125	127	rBV3	6189	10308	0.15%	0.025%
7	2.588	136	138	141	rVB	10845	15274	0.22%	0.037%
8	2.932	168	173	183	rBV	851135	1913477	27.47%	4.627%
9	3.109	189	191	192	rBV	4932	5092	0.07%	0.012%
10	3.198	198	200	201	rBV	8666	14279	0.20%	0.035%
11	3.257	205	206	210	rVB4	5552	7858	0.11%	0.019%
12	3.601	235	241	248	rVB5	10740	38247	0.55%	0.092%
13	3.680	248	249	251	rVB	4574	5089	0.07%	0.012%
14	3.778	255	259	261	rBV5	4797	11263	0.16%	0.027%
15	3.916	271	273	275	rVB2	3967	4748	0.07%	0.011%
16	3.965	275	278	280	rBV4	3261	6409	0.09%	0.015%
17	4.113	290	293	294	rBV3	4205	6569	0.09%	0.016%
18	4.143	294	296	298	rVB3	3567	5419	0.08%	0.013%
19	4.408	321	323	326	rBV4	3636	6684	0.10%	0.016%
20	4.517	332	334	337	rVB2	4132	7835	0.11%	0.019%
21	4.556	337	338	341	rBV3	4692	6118	0.09%	0.015%
22	4.605	341	343	347	rBV5	2592	7665	0.11%	0.019%
23	4.713	352	354	357	rVB4	3815	4734	0.07%	0.011%
24	5.127	393	396	397	rVB3	5255	6010	0.09%	0.015%
25	5.166	397	400	401	rBV3	3351	5710	0.08%	0.014%
26	5.186	401	402	406	rVB4	3759	7047	0.10%	0.017%
27	5.235	406	407	408	rBV	4902	4842	0.07%	0.012%
28	5.324	414	416	419	rBV4	4256	7323	0.11%	0.018%
29	5.383	421	422	424	rBV2	3311	5087	0.07%	0.012%
30	5.520	434	436	437	rBV2	3232	5142	0.07%	0.012%
31	5.609	439	445	446	rVV4	3787	7409	0.11%	0.018%
32	5.678	446	452	474	rVV2	304751	1369717	19.66%	3.312%
33	5.914	474	476	481	rVV6	8429	22948	0.33%	0.055%
34	5.973	481	482	484	rVV2	4226	5348	0.08%	0.013%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4006

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.229	501	508	517	rBV2	64940	251044	3.60%	0.607%
36	6.387	517	524	535	rVB	711138	2204858	31.65%	5.331%
37	6.633	546	549	553	rBV6	2722	6473	0.09%	0.016%
38	6.741	559	560	564	rVB3	3649	4881	0.07%	0.012%
39	6.810	564	567	568	rBV3	2501	4896	0.07%	0.012%
40	6.859	570	572	575	rBV4	3739	7807	0.11%	0.019%
41	6.918	575	578	579	rBV3	2619	5442	0.08%	0.013%
42	6.938	579	580	584	rVB3	6029	6605	0.09%	0.016%
43	6.987	584	585	592	rBV7	3058	8064	0.12%	0.019%
44	7.174	597	604	608	rBV	1315317	3592819	51.57%	8.687%
45	7.233	608	610	627	rVV	472273	1077160	15.46%	2.604%
46	7.410	627	628	630	rVV2	4318	5802	0.08%	0.014%
47	7.489	634	636	638	rVV2	3256	5423	0.08%	0.013%
48	7.774	662	665	666	rBV3	2518	5420	0.08%	0.013%
49	7.804	666	668	674	rVB4	3816	10721	0.15%	0.026%
50	7.932	674	681	691	rBV	1532633	3248069	46.63%	7.853%
51	8.099	696	698	700	rVB3	3443	5276	0.08%	0.013%
52	8.217	708	710	714	rVB4	5458	9230	0.13%	0.022%
53	8.434	727	732	742	rBV	991175	2232986	32.05%	5.399%
54	8.601	748	749	752	rVB3	6508	6459	0.09%	0.016%
55	8.650	752	754	757	rVB4	3462	5759	0.08%	0.014%
56	8.847	771	774	777	rBV5	2901	5147	0.07%	0.012%
57	8.896	777	779	783	rBV5	4338	10434	0.15%	0.025%
58	9.014	788	791	792	rVB3	4365	6613	0.09%	0.016%
59	9.054	792	795	797	rBV3	3605	6524	0.09%	0.016%
60	9.142	802	804	806	rVB4	3751	5425	0.08%	0.013%
61	9.221	808	812	814	rBV5	4260	8526	0.12%	0.021%
62	9.369	822	827	834	rBV	607504	1148936	16.49%	2.778%
63	9.447	834	835	837	rVV2	4416	5310	0.08%	0.013%
64	9.556	842	846	847	rBV3	3984	6486	0.09%	0.016%
65	9.693	856	860	873	rVV	1940684	3569439	51.24%	8.630%
66	10.018	889	893	898	rBV	360949	606382	8.70%	1.466%
67	10.146	905	906	908	rBV2	4318	4943	0.07%	0.012%
68	10.215	909	913	918	rVV	46140	103598	1.49%	0.250%
69	10.323	922	924	928	rVB5	13395	26621	0.38%	0.064%
70	10.432	930	935	949	rBV	1563147	2977631	42.74%	7.200%
71	10.579	949	950	955	rVB4	6022	9769	0.14%	0.024%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4006

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	10.648	955	957	959	rVB2	4001	4972	0.07%	0.012%
73	10.707	961	963	967	rVB5	4490	8431	0.12%	0.020%
74	11.111	1001	1004	1007	rBV4	4196	6579	0.09%	0.016%
75	11.219	1011	1015	1025	rBV	1810507	3023255	43.40%	7.310%
76	11.357	1027	1029	1032	rVB4	6474	8382	0.12%	0.020%
77	11.475	1038	1041	1044	rVB5	3980	7969	0.11%	0.019%
78	11.563	1048	1050	1056	rVB6	6205	19003	0.27%	0.046%
79	11.642	1056	1058	1059	rBV2	5495	6145	0.09%	0.015%
80	11.682	1059	1062	1066	rBV6	3114	6703	0.10%	0.016%
81	11.731	1066	1067	1070	rBV3	3289	4998	0.07%	0.012%
82	11.849	1076	1079	1081	rBV4	5528	11334	0.16%	0.027%
83	12.144	1108	1109	1112	rBV3	3883	5447	0.08%	0.013%
84	12.282	1122	1123	1126	rBV3	5415	6680	0.10%	0.016%
85	12.400	1129	1135	1138	rBV2	43277	98652	1.42%	0.239%
86	12.459	1138	1141	1146	rVB	437463	730261	10.48%	1.766%
87	12.587	1152	1154	1157	rVB5	5017	9479	0.14%	0.023%
88	12.744	1166	1170	1172	rBV2	5069	9199	0.13%	0.022%
89	12.863	1181	1182	1185	rBV3	2900	5352	0.08%	0.013%
90	12.991	1194	1195	1198	rVB3	4363	6151	0.09%	0.015%
91	13.276	1221	1224	1227	rVV5	5627	9820	0.14%	0.024%
92	13.345	1227	1231	1235	rVV5	5038	14083	0.20%	0.034%
93	13.433	1235	1240	1246	rVV	1377210	2346988	33.69%	5.675%
94	13.512	1246	1248	1252	rVB5	7060	14350	0.21%	0.035%
95	13.758	1268	1273	1279	rBV	1166472	1996986	28.67%	4.828%
96	14.034	1295	1301	1305	rBV2	40490	91682	1.32%	0.222%
97	14.201	1312	1318	1321	rBV6	8258	23912	0.34%	0.058%
98	14.319	1327	1330	1332	rBV4	8083	11452	0.16%	0.028%
99	14.496	1346	1348	1351	rVB3	9005	9344	0.13%	0.023%
100	15.609	1458	1461	1463	rBV	19739	34584	0.50%	0.084%

Sum of corrected areas: 41358758

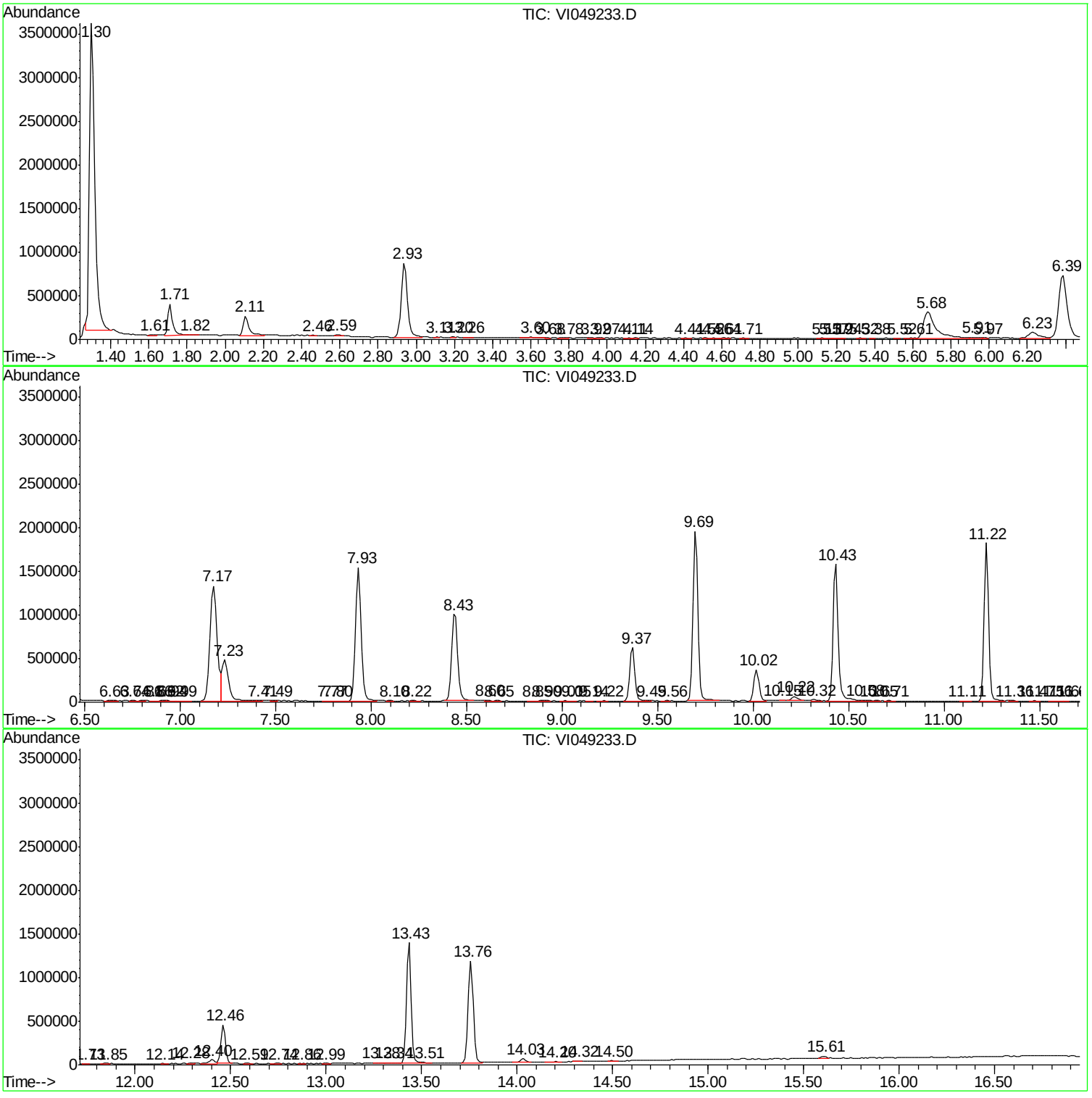
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4006

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4006

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

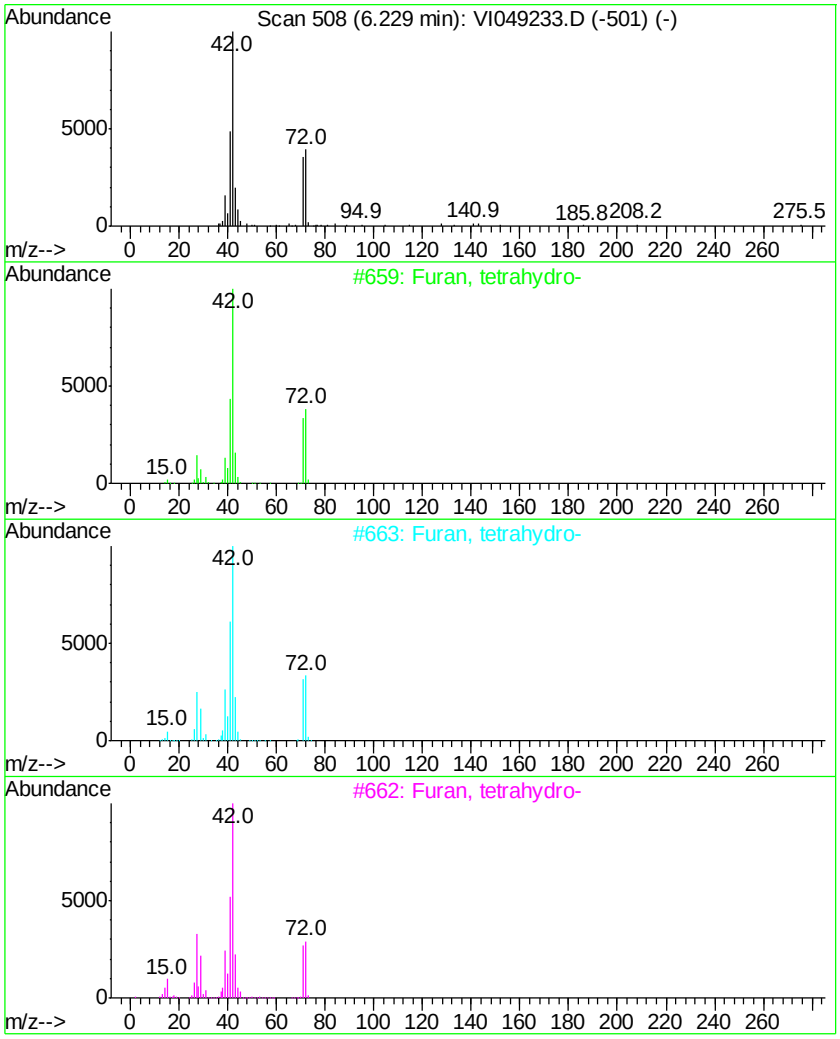
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

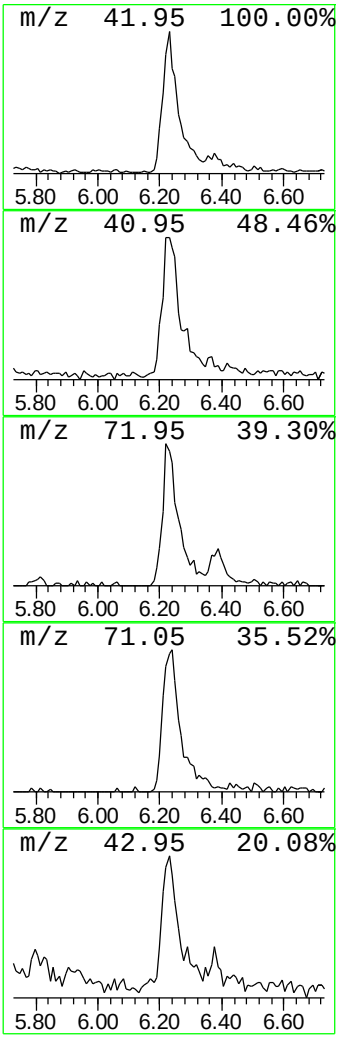
****

Peak Number 2 Furan, tetrahydro- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.23	0.39 ug/L	251044	1,4-Difluorobenzene	7.93

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Furan, tetrahydro-	72	C4H8O	000109-99-9	80
2	Furan, tetrahydro-	72	C4H8O	000109-99-9	72
3	Furan, tetrahydro-	72	C4H8O	000109-99-9	72
4	Oxirane, ethyl-	72	C4H8O	000106-88-7	49
5	1-Propene, 2-methoxy-	72	C4H8O	000116-11-0	45





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4006

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Furan, tetrahydro-	6.23	0.4	ug/L	251044	1	7.93	3248070	5.0

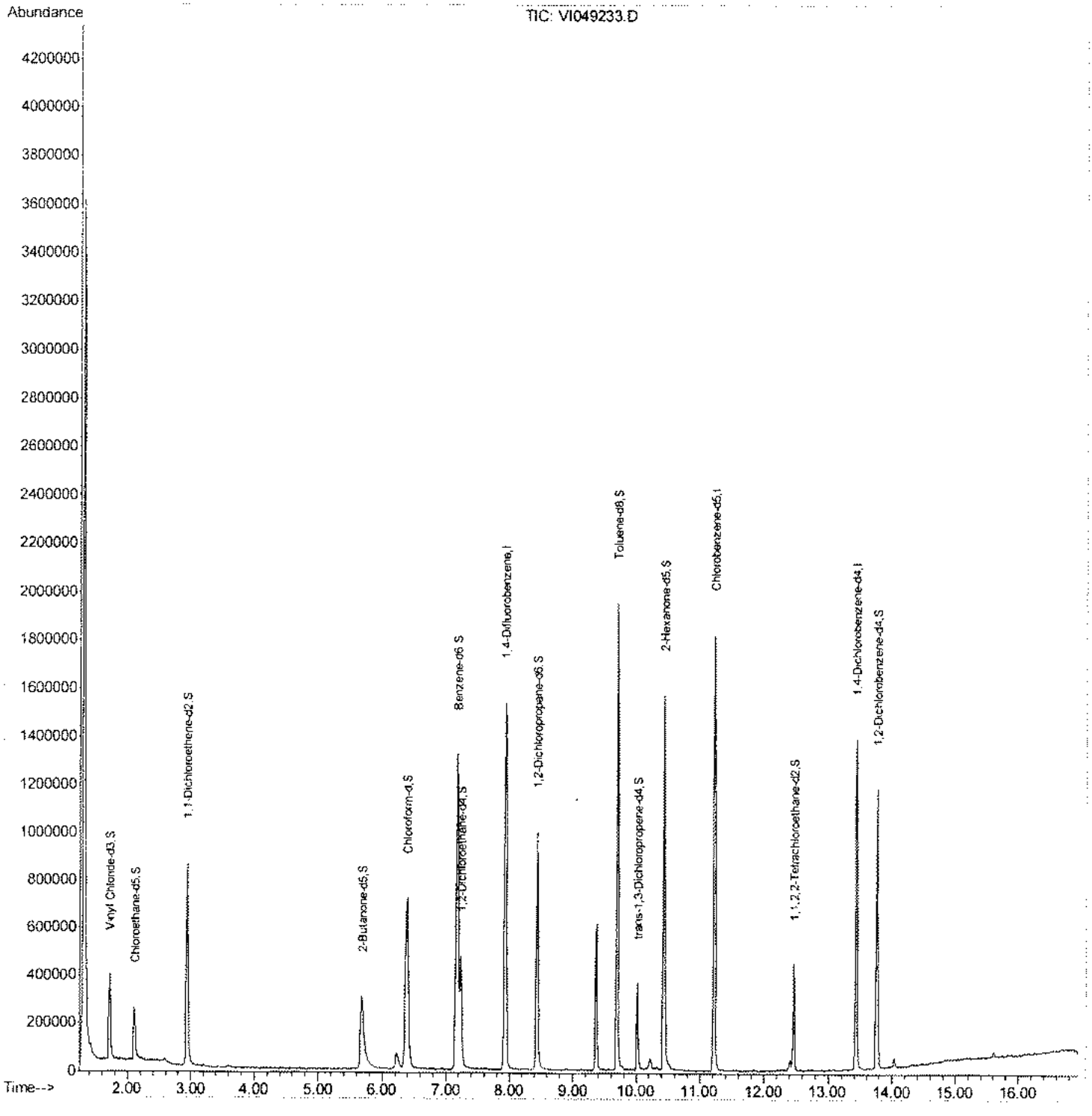
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 05 05:58:19 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4006

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:35 AM



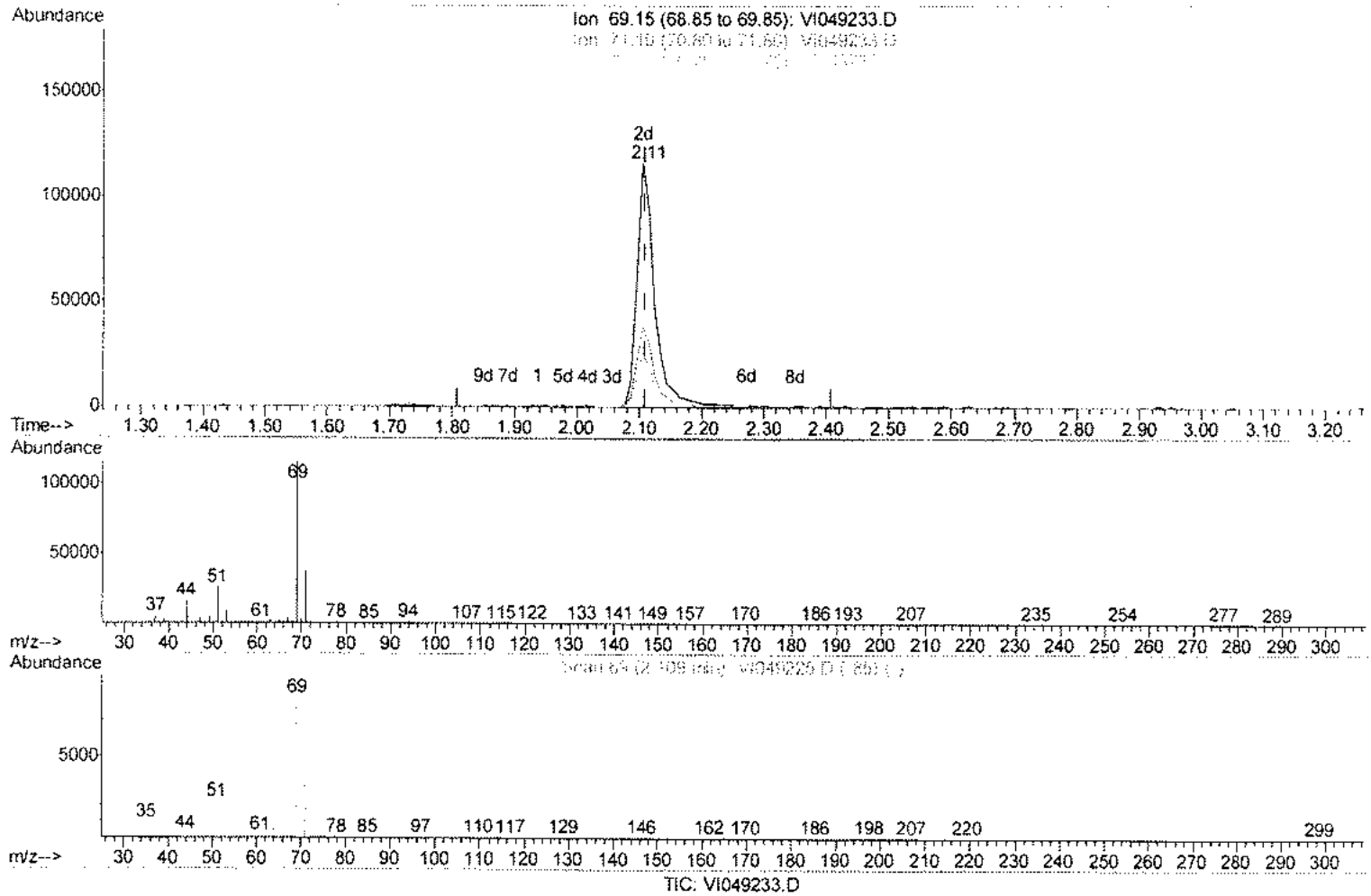
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 05 05:23:47 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4006

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:35 AM



TIC: VI049233.D

(7) Chloroethane-d5 (S)

2.105min (-0.003) 5.29ug/L m

M.D 05/07/16

response 236105

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	0.11#
51.05	32.70	0.14#
0.00	0.00	0.00

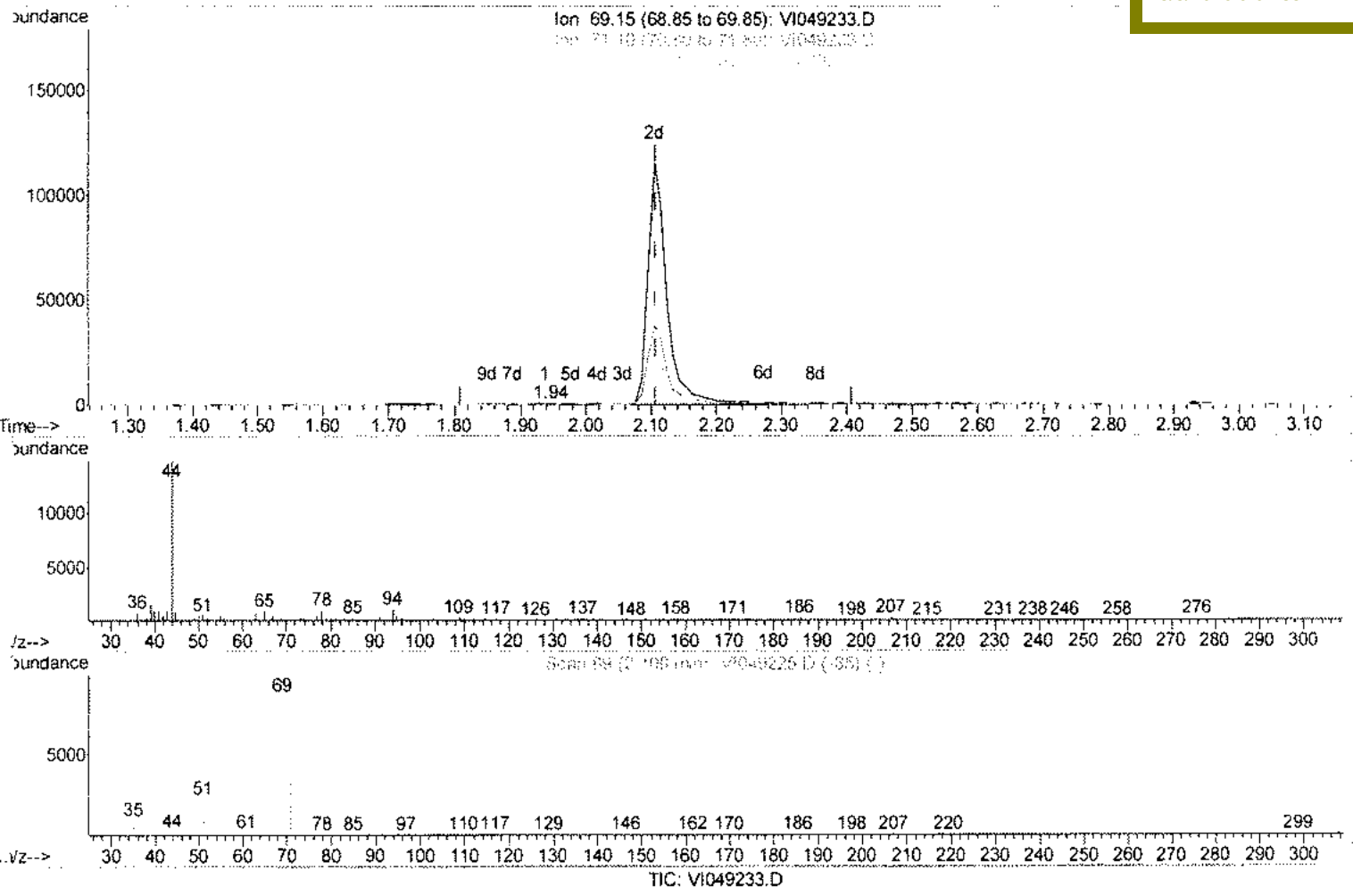
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 05 05:23:47 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4006

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:35 AM



TIC: VI049233.D

(7) Chloroethane-d5 (S)

1.938min (-0.171) 0.02ug/L

response 862

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	31.21
51.05	32.70	37.24
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049233.D
Acq On : 4 May 2016 18:55
Operator : FY/SY
Sample : H2834-04
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 05 05:58:19 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4006

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:35 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1309272	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	874832	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	314361	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	379958	4.71	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 94.20%			
7) Chloroethane-d5	2.11	69	236105m	5.29	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 105.80%			
11) 1,1-Dichloroethene-d2	2.93	63	684353	3.60	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 72.00%			
20) 2-Butanone-d5	5.68	46	772086	44.24	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 88.48%			
24) Chloroform-d	6.39	84	893408	4.36	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 87.20%			
26) 1,2-Dichloroethane-d4	7.23	65	418236	4.98	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.60%			
32) Benzene-d6	7.17	84	1672887	4.91	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.20%			
36) 1,2-Dichloropropane-d6	8.43	67	468377	4.89	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 97.80%			
41) Toluene-d8	9.69	98	1227143	4.88	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.60%			
43) trans-1,3-Dichloropropene-	10.02	79	167653	4.44	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 88.80%			
46) 2-Hexanone-d5	10.43	63	564233	47.38	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 94.76%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	199458	4.58	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 91.60%			
63) 1,2-Dichlorobenzene-d4	13.76	152	262548	4.76	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 95.20%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

M.D 05/07/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4094

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049237.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.19	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	2.2	
71-55-6	1,1,1-Trichloroethane	0.34	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.34	J

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4094

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049237.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.24	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	30	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4094

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049237.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4094

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049237.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

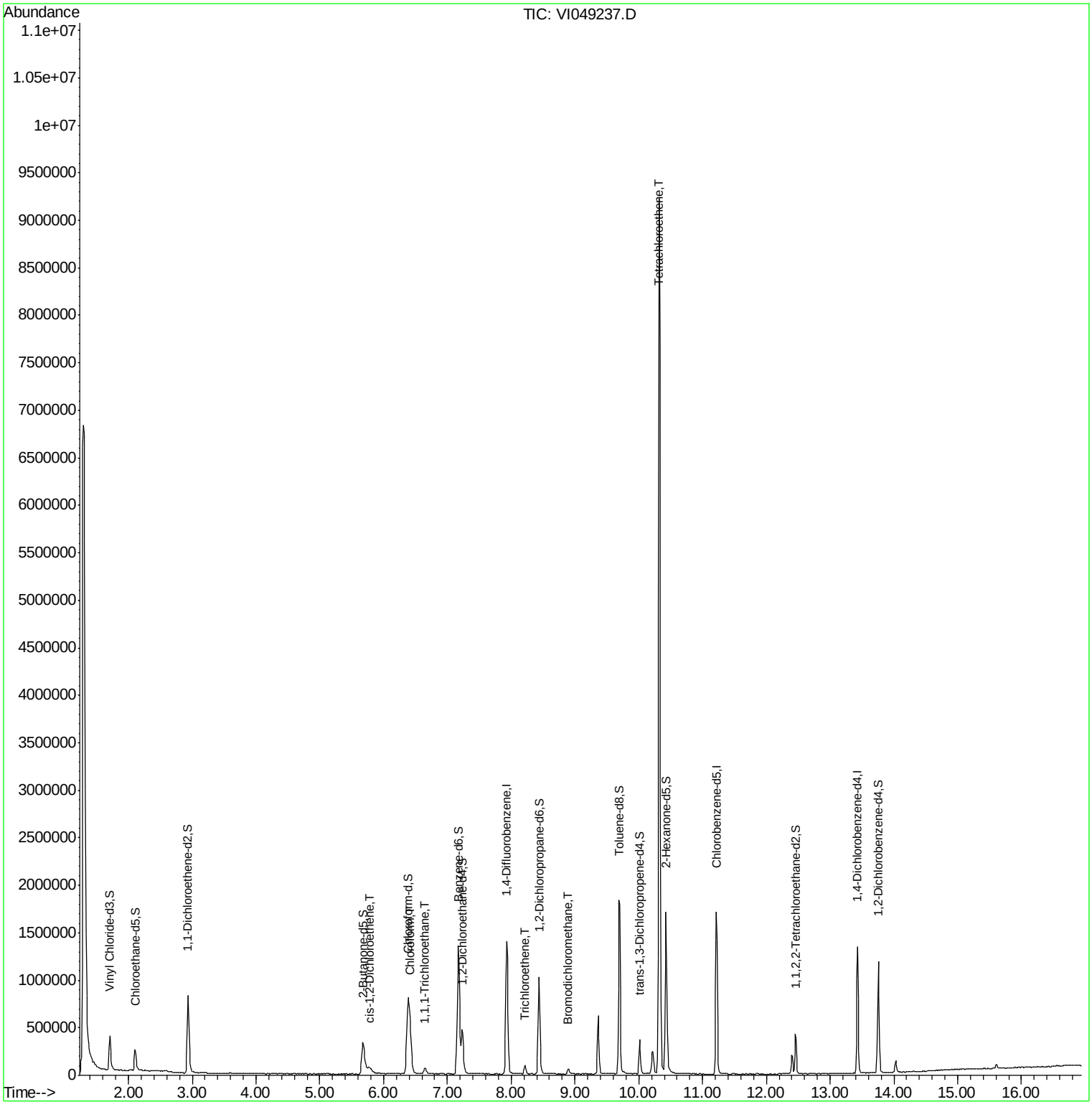
EPA-designated Registry Number.

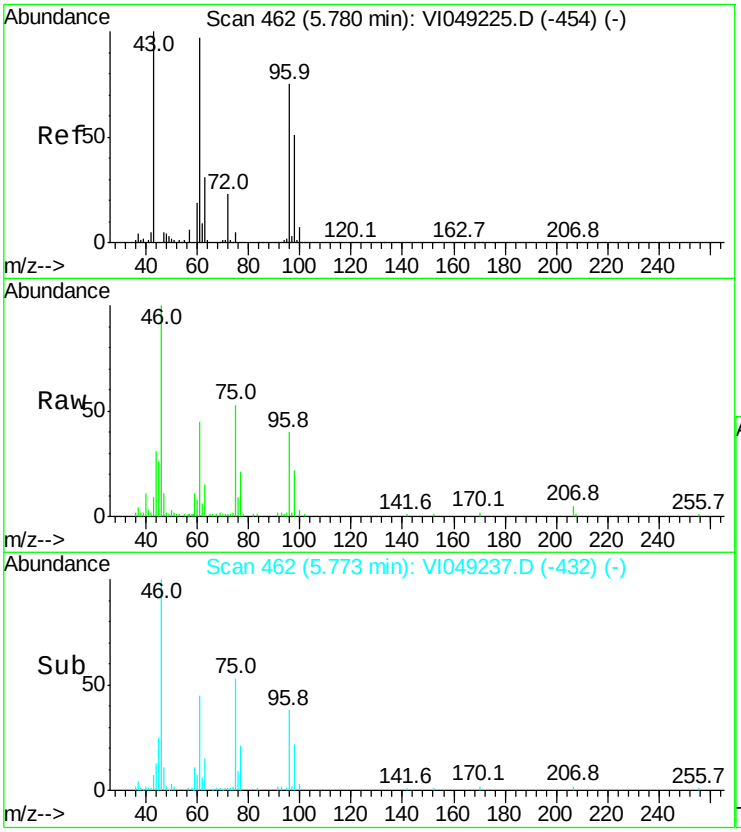
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049237.D
Acq On : 4 May 2016 21:02
Operator : FY/SY
Sample : H2834-05
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 19 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094

Quant Time: May 05 06:38:03 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration



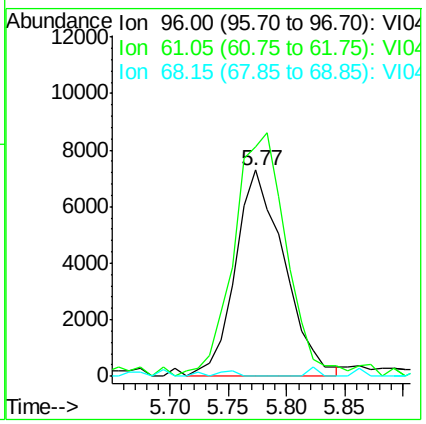


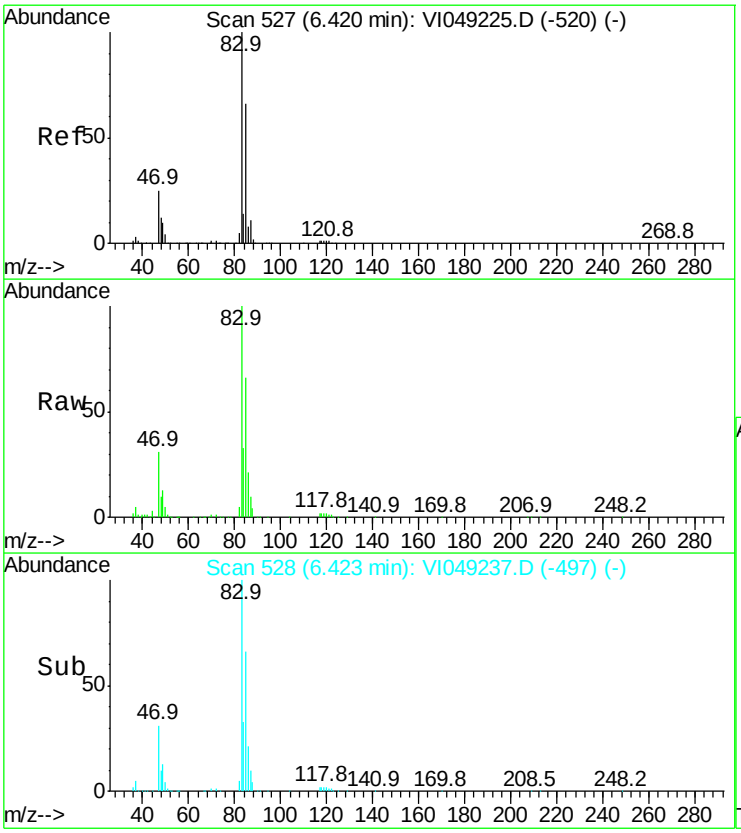
#22
cis-1,2-Dichloroethene
Concen: 0.19 ug/L
RT: 5.77 min Scan# 462
Delta R.T. -0.01 min
Lab File: VI049237.D
Acq: 4 May 2016 21:02

Instrument :
MSVOA_I
ClientSampleId :
H4094

Tgt Ion: 96 Resp: 21239

Ion	Ratio	Lower	Upper
96	100		
61	111.6	82.1	152.5
68	0.0	0.0	0.0

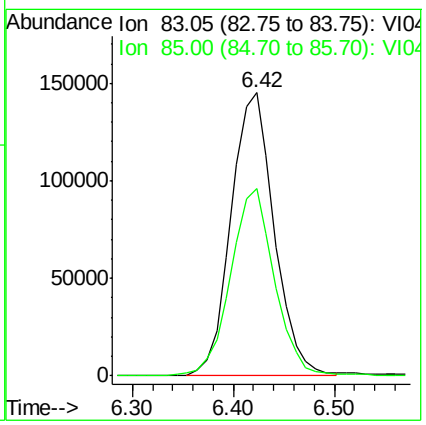


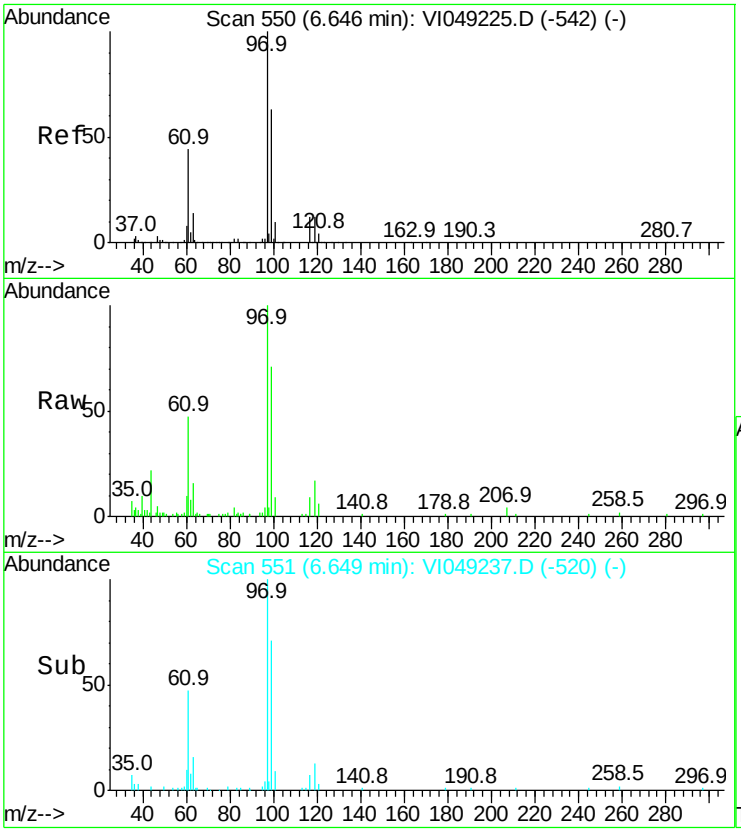


#25
Chloroform
Concen: 2.17 ug/L
RT: 6.42 min Scan# 528
Delta R.T. 0.00 min
Lab File: VI049237.D
Acq: 4 May 2016 21:02

Tgt Ion: 83 Resp: 431418

Ion	Ratio	Lower	Upper
83	100		
85	66.1	47.3	87.8



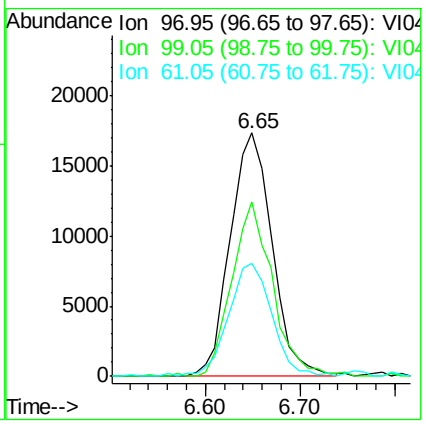


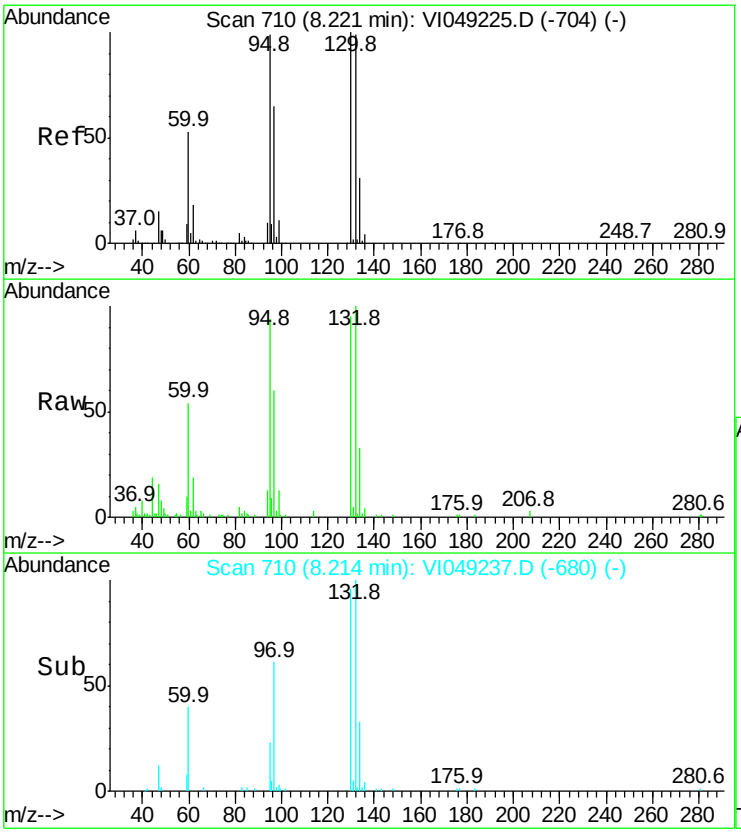
#29
1,1,1-Trichloroethane
Concen: 0.34 ug/L
RT: 6.65 min Scan# 551
Delta R.T. 0.00 min
Lab File: VI049237.D
Acq: 4 May 2016 21:02

Instrument : MSVOA_I
ClientSampleId : H4094

Tgt Ion: 97 Resp: 53384

Ion	Ratio	Lower	Upper
97	100		
99	68.9	51.1	76.7
61	47.9	33.3	49.9

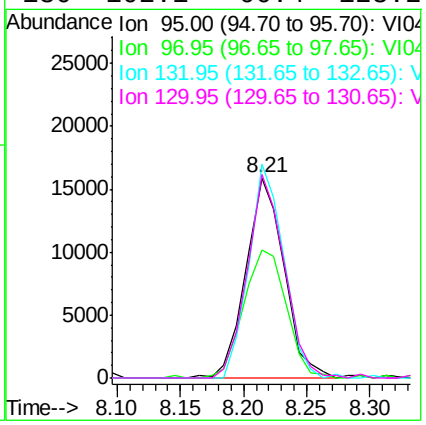


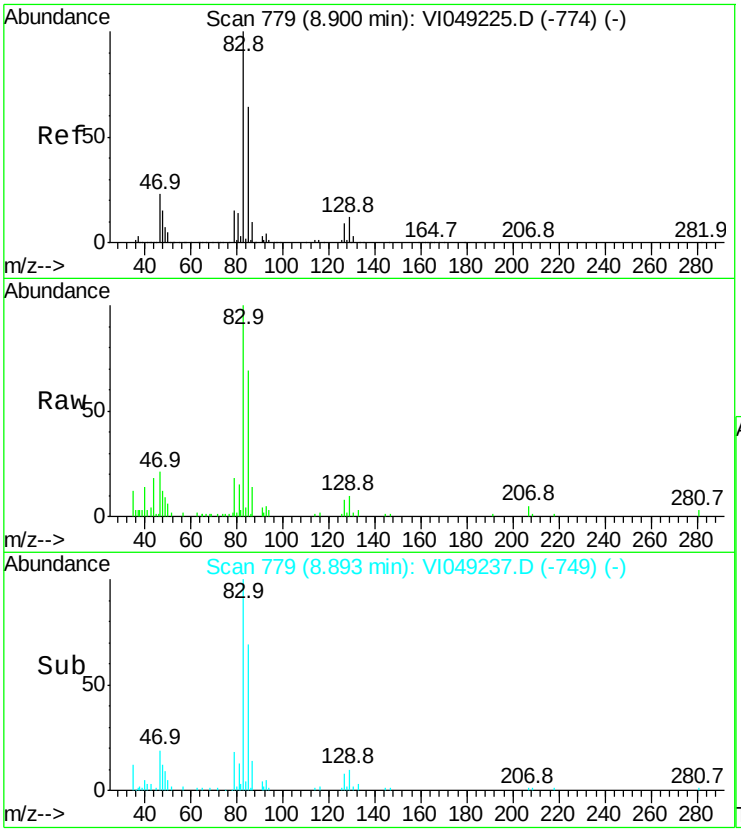


#34
Trichloroethene
Concen: 0.34 ug/L
RT: 8.21 min Scan# 710
Delta R.T. -0.01 min
Lab File: VI049237.D
Acq: 4 May 2016 21:02

Tgt Ion: 95 Resp: 33462

Ion	Ratio	Lower	Upper
95	100		
97	64.1	45.8	85.2
132	106.9	63.9	118.7
130	102.1	66.4	123.2



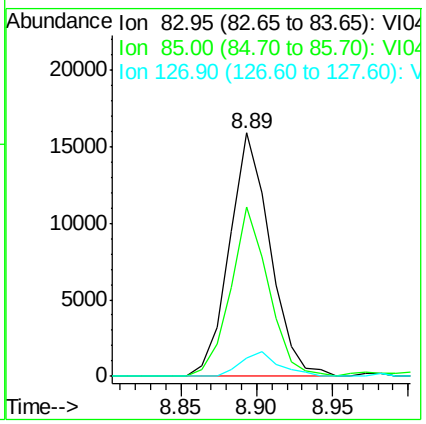


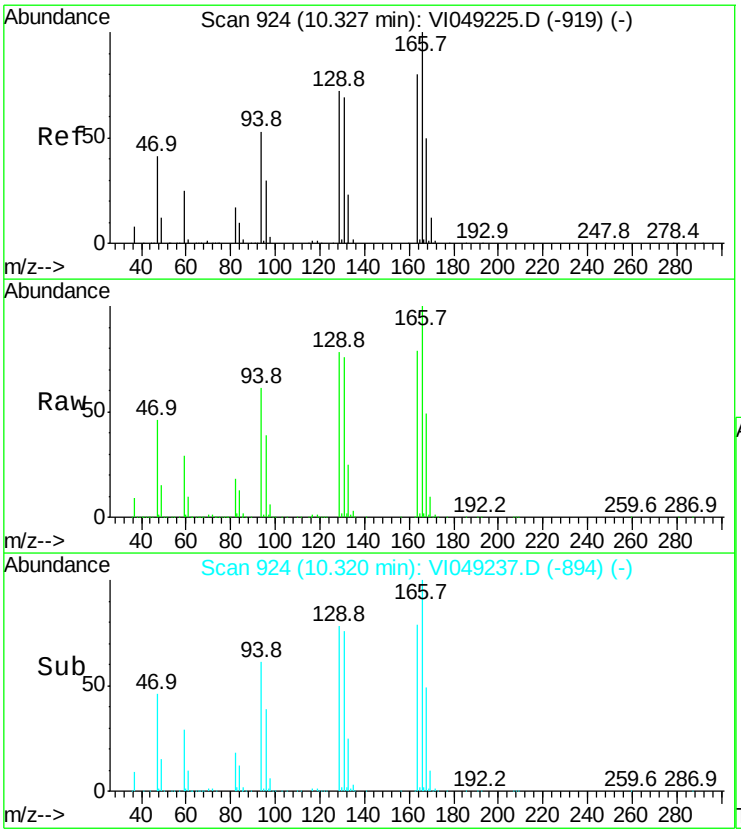
#38
Bromodichloromethane
Concen: 0.24 ug/L
RT: 8.89 min Scan# 779
Delta R.T. -0.01 min
Lab File: VI049237.D
Acq: 4 May 2016 21:02

Instrument : MSVOA_I
ClientSampleId : H4094

Tgt Ion: 83 Resp: 29623

Ion	Ratio	Lower	Upper
83	100		
85	69.4	44.7	83.1
127	7.5	6.6	9.8

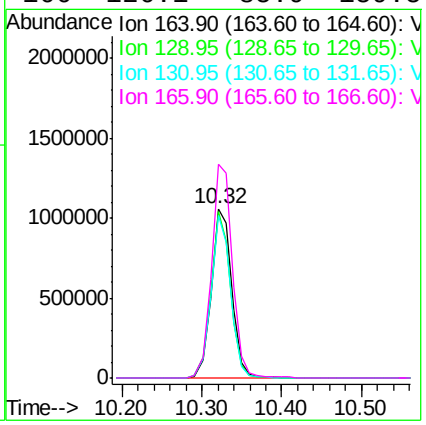




#47
Tetrachloroethene
Concen: 29.58 ug/L
RT: 10.32 min Scan# 924
Delta R.T. -0.01 min
Lab File: VI049237.D
Acq: 4 May 2016 21:02

Tgt Ion:164 Resp: 1911765

Ion	Ratio	Lower	Upper
164	100		
129	98.3	62.1	115.3
131	95.9	60.6	112.6
166	126.1	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049237.D
Acq On : 4 May 2016 21:02
Operator : FY/SY
Sample : H2834-05
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 19 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094

Quant Time: May 05 06:38:03 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1238765	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	828120	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	303293	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	376032	4.93	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 98.60%			
7) Chloroethane-d5	2.10	69	224059	5.30	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 106.00%			
11) 1,1-Dichloroethene-d2	2.93	63	668595	3.72	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 74.40%			
20) 2-Butanone-d5	5.67	46	848670	51.40	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 102.80%			
24) Chloroform-d	6.38	84	938711	4.84	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 96.80%			
26) 1,2-Dichloroethane-d4	7.23	65	417296	5.26	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 105.20%			
32) Benzene-d6	7.17	84	1682621	5.22	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 104.40%			
36) 1,2-Dichloropropane-d6	8.44	67	468051	5.16	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 103.20%			
41) Toluene-d8	9.70	98	1204876	5.06	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.20%			
43) trans-1,3-Dichloropropene-	10.02	79	169287	4.74	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 94.80%			
46) 2-Hexanone-d5	10.43	63	568355	50.42	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 100.84%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	194628	4.72	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 94.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	258178	4.86	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 97.20%			
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	5.77	96	21239	0.19	ug/L	95
25) Chloroform	6.42	83	431418	2.17	ug/L	98
29) 1,1,1-Trichloroethane	6.65	97	53384	0.34	ug/L	92
34) Trichloroethene	8.21	95	33462	0.34	ug/L	91
38) Bromodichloromethane	8.89	83	29623	0.24	ug/L	94
47) Tetrachloroethene	10.32	164	1911765	29.58	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049237.D
Acq On : 4 May 2016 21:02
Operator : FY/SY
Sample : H2834-05
Misc : 25mL/MSVOA I/WATER
ALS Vial : 19 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.295	3	7	35	rVB	6775147	20232691	100.00%	28.026%
2	1.708	46	49	58	rVB	360069	601705	2.97%	0.833%
3	2.102	86	89	98	rBV	214384	415467	2.05%	0.576%
4	2.545	133	134	135	rBV	7735	6025	0.03%	0.008%
5	2.584	136	138	144	rVB5	18074	41876	0.21%	0.058%
6	2.712	149	151	153	rVB3	4592	4737	0.02%	0.007%
7	2.929	167	173	187	rBV	816388	1925172	9.52%	2.667%
8	3.116	190	192	193	rBV2	3898	5760	0.03%	0.008%
9	3.293	209	210	213	rBV3	3878	5802	0.03%	0.008%
10	3.588	236	240	245	rVB5	12395	32445	0.16%	0.045%
11	3.667	245	248	252	rBV5	3066	8841	0.04%	0.012%
12	3.815	261	263	265	rVV3	3349	4952	0.02%	0.007%
13	3.893	269	271	272	rVV2	3327	4384	0.02%	0.006%
14	3.913	272	273	275	rVB2	4494	4563	0.02%	0.006%
15	4.002	280	282	288	rVB7	4177	10190	0.05%	0.014%
16	4.100	288	292	293	rBV3	2547	5127	0.03%	0.007%
17	4.208	301	303	304	rVB2	4009	4038	0.02%	0.006%
18	4.297	309	312	314	rBV2	2969	4534	0.02%	0.006%
19	4.917	371	375	377	rVB3	3041	6378	0.03%	0.009%
20	5.163	399	400	403	rVB2	4834	5883	0.03%	0.008%
21	5.212	403	405	407	rBV3	5042	6858	0.03%	0.009%
22	5.271	407	411	413	rVB5	1939	4919	0.02%	0.007%
23	5.419	424	426	429	rVB4	3041	4749	0.02%	0.007%
24	5.498	432	434	437	rBV3	4824	7889	0.04%	0.011%
25	5.675	446	452	460	rBV	335318	1233995	6.10%	1.709%
26	5.773	460	462	472	rVB3	63113	209385	1.03%	0.290%
27	6.019	485	487	488	rVB2	6185	5144	0.03%	0.007%
28	6.275	512	513	516	rBV3	4265	6083	0.03%	0.008%
29	6.383	516	524	537	rBV2	805592	3227714	15.95%	4.471%
30	6.649	545	551	560	rVB	58166	177770	0.88%	0.246%
31	6.807	565	567	570	rBV3	4535	5767	0.03%	0.008%
32	6.876	573	574	578	rBV4	3310	5800	0.03%	0.008%
33	7.171	597	604	608	rBV	1348276	3528672	17.44%	4.888%
34	7.230	608	610	620	rVB	463916	1079188	5.33%	1.495%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049237.D
Acq On : 4 May 2016 21:02
Operator : FY/SY
Sample : H2834-05
Misc : 25mL/MSVOA I/WATER
ALS Vial : 19 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	7.515	636	639	643	rBV6	2958	6333	0.03%	0.009%
36	7.614	646	649	650	rBV3	2702	5231	0.03%	0.007%
37	7.653	650	653	656	rVB5	5846	8890	0.04%	0.012%
38	7.761	663	664	668	rVB3	3569	5552	0.03%	0.008%
39	7.820	668	670	672	rVB3	3623	4573	0.02%	0.006%
40	7.870	672	675	676	rBV2	2682	5030	0.02%	0.007%
41	7.929	676	681	692	rBV	1400796	3048606	15.07%	4.223%
42	8.214	706	710	716	rBV	95969	204880	1.01%	0.284%
43	8.312	718	720	724	rVB5	2947	6067	0.03%	0.008%
44	8.440	726	733	741	rBV	1027105	2258149	11.16%	3.128%
45	8.696	757	759	762	rVB4	2852	4030	0.02%	0.006%
46	8.893	775	779	787	rBV2	51513	106336	0.53%	0.147%
47	8.982	787	788	791	rVB3	4199	4660	0.02%	0.006%
48	9.257	814	816	817	rVB	5183	4096	0.02%	0.006%
49	9.366	822	827	834	rBV	611317	1091331	5.39%	1.512%
50	9.523	841	843	846	rVB3	7354	12169	0.06%	0.017%
51	9.592	849	850	854	rVB4	4367	5255	0.03%	0.007%
52	9.690	856	860	866	rBV	1831874	3497808	17.29%	4.845%
53	9.858	875	877	881	rVB5	5235	13084	0.06%	0.018%
54	10.015	889	893	900	rBV	364775	615438	3.04%	0.853%
55	10.143	903	906	909	rVV4	8035	20912	0.10%	0.029%
56	10.222	909	914	920	rVV	232310	516134	2.55%	0.715%
57	10.320	920	924	931	rVV	9211957	16107306	79.61%	22.312%
58	10.429	931	935	949	rVB	1697108	3091709	15.28%	4.283%
59	10.645	955	957	958	rBV2	3988	4719	0.02%	0.007%
60	10.714	962	964	967	rVB3	5445	7885	0.04%	0.011%
61	10.763	967	969	972	rVB3	3296	6167	0.03%	0.009%
62	10.842	975	977	981	rVB5	9297	17958	0.09%	0.025%
63	10.901	981	983	986	rVB3	3577	5312	0.03%	0.007%
64	10.960	986	989	992	rBV4	3871	7763	0.04%	0.011%
65	11.009	992	994	996	rVB3	4984	5664	0.03%	0.008%
66	11.216	1011	1015	1026	rBV	1708281	2875923	14.21%	3.984%
67	11.354	1026	1029	1036	rVB8	9581	23806	0.12%	0.033%
68	11.472	1038	1041	1045	rVB5	8517	17297	0.09%	0.024%
69	11.531	1045	1047	1049	rVB3	3840	4541	0.02%	0.006%
70	11.590	1049	1053	1055	rBV5	1741	4516	0.02%	0.006%
71	11.678	1060	1062	1064	rVB3	4011	4516	0.02%	0.006%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049237.D
Acq On : 4 May 2016 21:02
Operator : FY/SY
Sample : H2834-05
Misc : 25mL/MSVOA I/WATER
ALS Vial : 19 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.738	1064	1068	1070	rVB4	3637	7733	0.04%	0.011%
73	11.767	1070	1071	1073	rBV2	3752	5297	0.03%	0.007%
74	11.846	1075	1079	1083	rBV6	5653	15091	0.07%	0.021%
75	11.915	1085	1086	1087	rBV	4874	4668	0.02%	0.006%
76	11.944	1087	1089	1091	rVB3	3983	5382	0.03%	0.007%
77	12.062	1098	1101	1103	rVB4	4989	7450	0.04%	0.010%
78	12.190	1112	1114	1115	rBV	5150	7121	0.04%	0.010%
79	12.259	1118	1121	1122	rBV3	4471	6749	0.03%	0.009%
80	12.279	1122	1123	1126	rVB3	6434	6085	0.03%	0.008%
81	12.397	1129	1135	1138	rBV2	193367	371789	1.84%	0.515%
82	12.456	1138	1141	1147	rVB	419591	726266	3.59%	1.006%
83	12.604	1153	1156	1161	rVB7	3896	8396	0.04%	0.012%
84	12.663	1161	1162	1165	rBV3	3303	5231	0.03%	0.007%
85	12.712	1165	1167	1171	rBV4	2763	5942	0.03%	0.008%
86	12.879	1181	1184	1186	rBV3	4267	9003	0.04%	0.012%
87	12.987	1193	1195	1197	rBV2	5073	7526	0.04%	0.010%
88	13.056	1200	1202	1204	rBV3	3485	5427	0.03%	0.008%
89	13.155	1211	1212	1216	rVB4	3463	4517	0.02%	0.006%
90	13.233	1216	1220	1221	rBV4	2991	4906	0.02%	0.007%
91	13.273	1222	1224	1226	rVB3	3824	5027	0.02%	0.007%
92	13.371	1230	1234	1235	rBV4	5727	8149	0.04%	0.011%
93	13.430	1236	1240	1248	rBV	1337270	2229156	11.02%	3.088%
94	13.755	1269	1273	1281	rVB	1173257	1940694	9.59%	2.688%
95	13.922	1288	1290	1293	rBV4	4716	8203	0.04%	0.011%
96	14.031	1296	1301	1305	rBV2	121063	229027	1.13%	0.317%
97	14.149	1311	1313	1316	rBV4	4958	9419	0.05%	0.013%
98	14.198	1316	1318	1320	rBV3	4513	6461	0.03%	0.009%
99	14.306	1327	1329	1332	rBV3	6743	10005	0.05%	0.014%
100	15.605	1458	1461	1465	rVB	38608	67042	0.33%	0.093%

Sum of corrected areas: 72191911

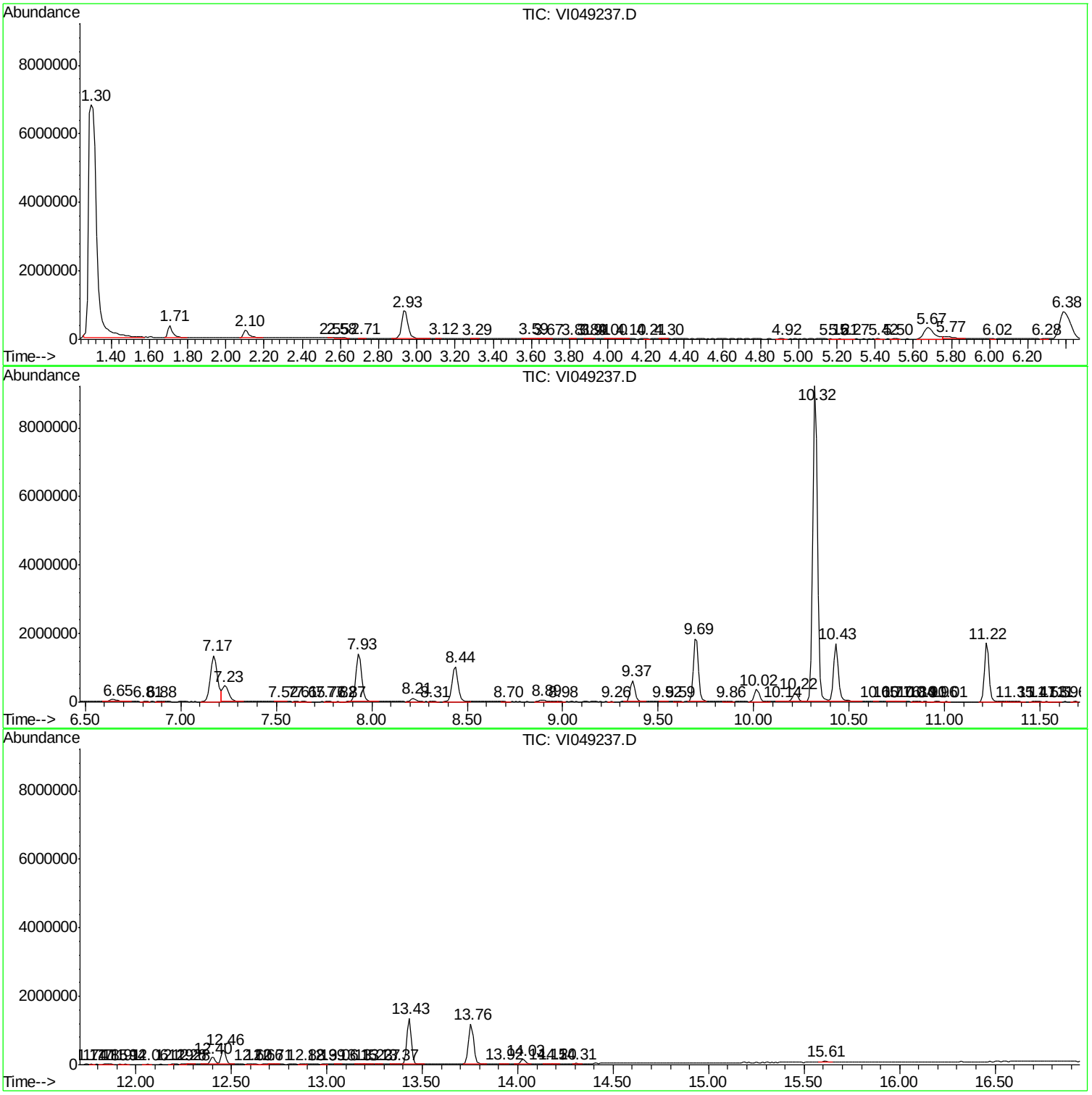
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049237.D
Acq On : 4 May 2016 21:02
Operator : FY/SY
Sample : H2834-05
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 19 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049237.D
Acq On : 4 May 2016 21:02
Operator : FY/SY
Sample : H2834-05
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 19 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4094

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049237.D
Acq On : 4 May 2016 21:02
Operator : FY/SY
Sample : H2834-05
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 19 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard		
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4094DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049258.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4094DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049258.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	27	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4094DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049258.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4094DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-05DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049258.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 5.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

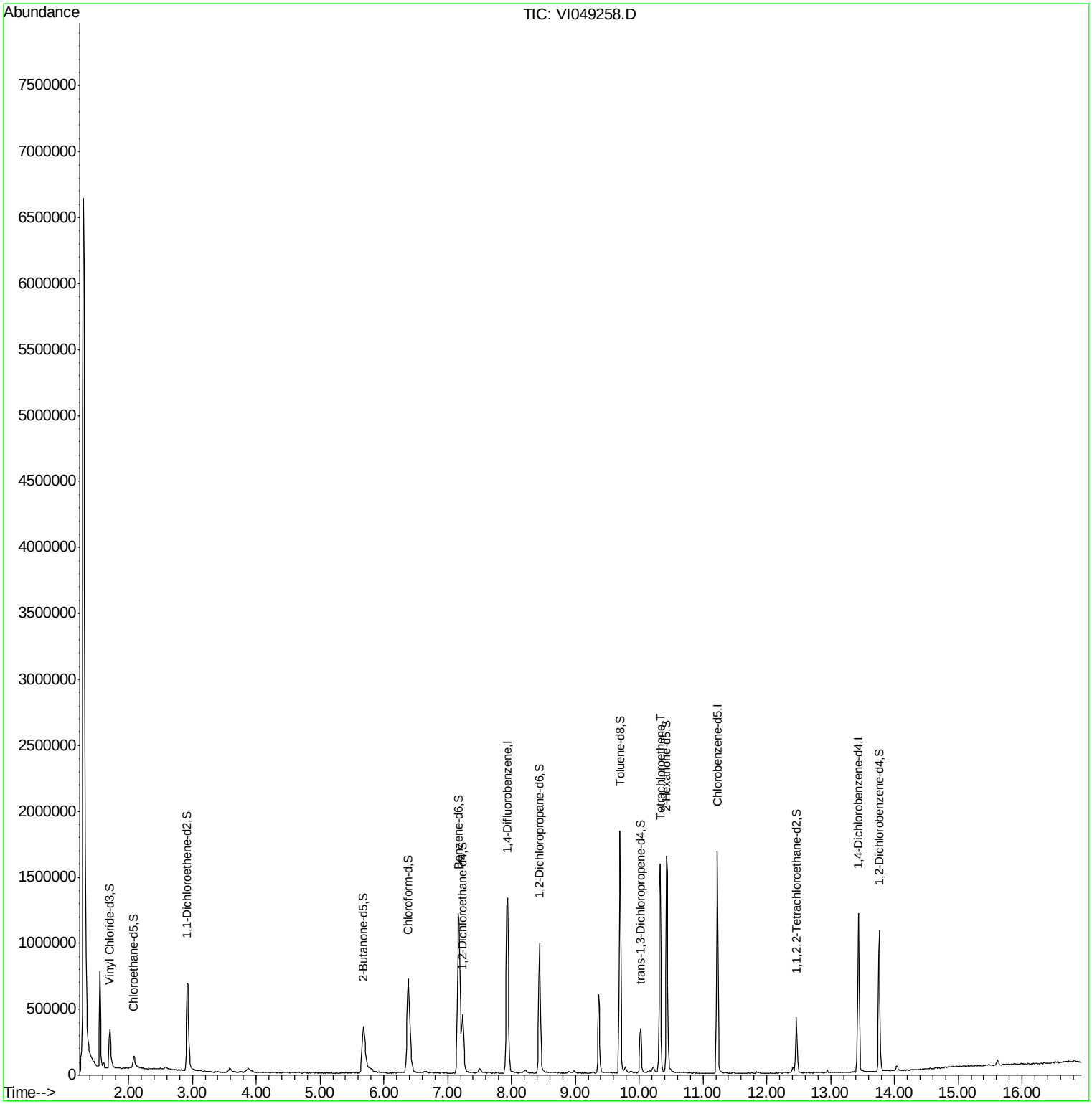
EPA-designated Registry Number.

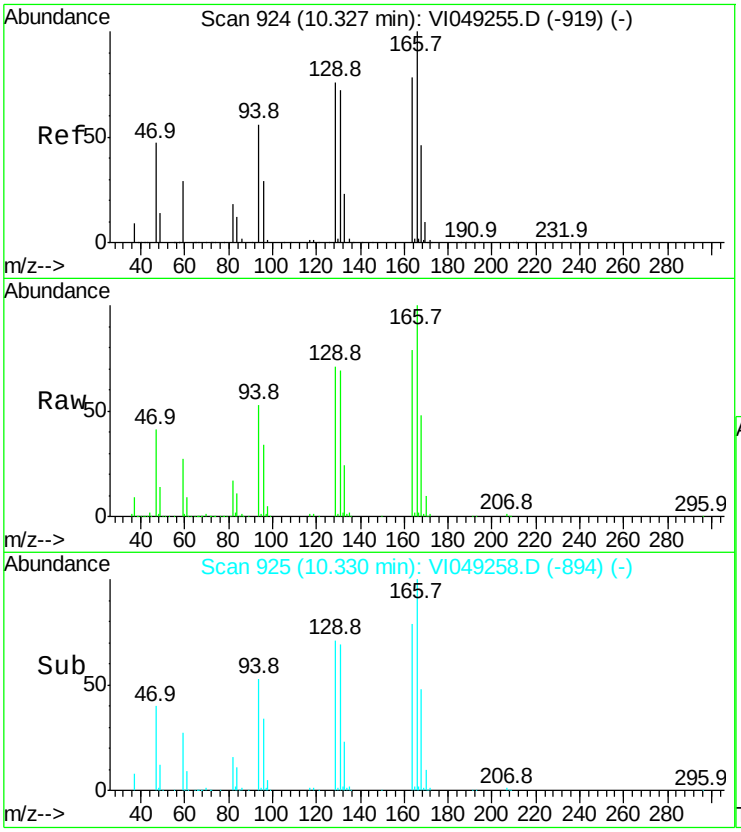
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049258.D
Acq On : 5 May 2016 18:31
Operator : FY/SY
Sample : H2834-05DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094DL

Quant Time: May 06 10:19:10 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration



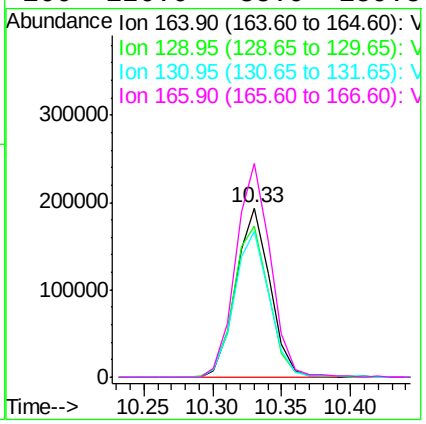


#47
Tetrachloroethene
Concen: 5.32 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.00 min
Lab File: VI049258.D
Acq: 5 May 2016 18:31

Instrument :
MSVOA_I
ClientSampleId :
H4094DL

Tgt Ion:164 Resp: 334876

Ion	Ratio	Lower	Upper
164	100		
129	89.5	62.1	115.3
131	86.3	60.6	112.6
166	126.0	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049258.D
Acq On : 5 May 2016 18:31
Operator : FY/SY
Sample : H2834-05DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094DL

Quant Time: May 06 10:19:10 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1222187	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	807048	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	297649	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	354998	4.72	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 94.40%			
7) Chloroethane-d5	2.08	69	101281	2.43	ug/L	-0.03
Spiked Amount 5.000	Range 65 - 130		Recovery = 48.60%#			
11) 1,1-Dichloroethene-d2	2.92	63	582704	3.29	ug/L	-0.03
Spiked Amount 5.000	Range 60 - 125		Recovery = 65.80%			
20) 2-Butanone-d5	5.68	46	858554	52.70	ug/L	-0.02
Spiked Amount 50.000	Range 40 - 130		Recovery = 105.40%			
24) Chloroform-d	6.38	84	885254	4.62	ug/L	-0.02
Spiked Amount 5.000	Range 70 - 125		Recovery = 92.40%			
26) 1,2-Dichloroethane-d4	7.23	65	398440	5.09	ug/L	-0.02
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.80%			
32) Benzene-d6	7.17	84	1564908	4.98	ug/L	-0.02
Spiked Amount 5.000	Range 70 - 125		Recovery = 99.60%			
36) 1,2-Dichloropropane-d6	8.44	67	443506	5.02	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 100.40%			
41) Toluene-d8	9.70	98	1122084	4.84	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.80%			
43) trans-1,3-Dichloropropene-	10.03	79	168904	4.85	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 97.00%			
46) 2-Hexanone-d5	10.43	63	578712	52.68	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 105.36%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	188232	4.68	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 93.60%			
63) 1,2-Dichlorobenzene-d4	13.77	152	244267	4.68	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 93.60%			
Target Compounds						Qvalue
47) Tetrachloroethene	10.33	164	334876	5.32	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049258.D
Acq On : 5 May 2016 18:31
Operator : FY/SY
Sample : H2834-05DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.295	4	7	30	rVB	6577181	15301043	100.00%	29.495%
2	1.551	30	33	37	rVV	725056	876495	5.73%	1.690%
3	1.610	37	39	42	rVV2	42132	53468	0.35%	0.103%
4	1.709	45	49	59	rVB	293416	555113	3.63%	1.070%
5	1.915	68	70	72	rBV3	10171	16494	0.11%	0.032%
6	2.024	78	81	82	rBV3	12837	22474	0.15%	0.043%
7	2.083	84	87	94	rVB	87144	187915	1.23%	0.362%
8	2.319	109	111	112	rBV2	9138	8005	0.05%	0.015%
9	2.575	135	137	138	rBV2	15371	16395	0.11%	0.032%
10	2.919	168	172	187	rBV	666427	1641839	10.73%	3.165%
11	3.352	213	216	219	rVB4	4304	8359	0.05%	0.016%
12	3.411	219	222	223	rVB3	4104	6421	0.04%	0.012%
13	3.431	223	224	227	rVB3	4403	6395	0.04%	0.012%
14	3.588	236	240	251	rVB	32061	95698	0.63%	0.184%
15	3.736	253	255	256	rBV2	3162	5284	0.03%	0.010%
16	3.874	262	269	277	rBV3	29443	126039	0.82%	0.243%
17	4.238	304	306	307	rBV2	3949	6375	0.04%	0.012%
18	4.337	315	316	319	rVB3	4407	5356	0.04%	0.010%
19	4.415	322	324	325	rBV2	5196	6880	0.04%	0.013%
20	4.445	325	327	331	rVV5	4221	7793	0.05%	0.015%
21	4.494	331	332	336	rVB3	3724	5533	0.04%	0.011%
22	4.553	336	338	341	rBV4	2817	6829	0.04%	0.013%
23	4.760	354	359	362	rBV7	2022	7388	0.05%	0.014%
24	4.888	368	372	373	rBV3	3580	6717	0.04%	0.013%
25	4.947	375	378	380	rVB4	3328	6260	0.04%	0.012%
26	4.996	382	383	386	rBV3	4211	5547	0.04%	0.011%
27	5.232	406	407	409	rVB2	4791	5023	0.03%	0.010%
28	5.350	417	419	420	rBV	4956	5698	0.04%	0.011%
29	5.439	426	428	430	rBV3	3637	5121	0.03%	0.010%
30	5.518	434	436	439	rBV3	4298	7609	0.05%	0.015%
31	5.675	446	452	472	rBV	353894	1468214	9.60%	2.830%
32	5.921	475	477	479	rVV3	8138	12601	0.08%	0.024%
33	5.990	482	484	489	rVB6	3907	8312	0.05%	0.016%
34	6.167	500	502	504	rBV3	3965	5346	0.03%	0.010%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049258.D
Acq On : 5 May 2016 18:31
Operator : FY/SY
Sample : H2834-05DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.256	508	511	513	rBV4	4132	6373	0.04%	0.012%
36	6.384	517	524	534	rBV	713193	2275763	14.87%	4.387%
37	6.640	546	550	557	rVB7	14321	46533	0.30%	0.090%
38	6.895	574	576	580	rBV5	4991	10141	0.07%	0.020%
39	6.974	582	584	587	rVB4	4610	6691	0.04%	0.013%
40	7.171	597	604	608	rBV	1208936	3252713	21.26%	6.270%
41	7.230	608	610	621	rVB	439327	1047144	6.84%	2.018%
42	7.506	634	638	649	rVB3	31604	93426	0.61%	0.180%
43	7.712	658	659	662	rBV2	3953	7127	0.05%	0.014%
44	7.850	671	673	675	rVB2	4266	5209	0.03%	0.010%
45	7.939	675	682	689	rBV	1331509	3003850	19.63%	5.790%
46	8.145	700	703	704	rBV3	3595	6362	0.04%	0.012%
47	8.224	704	711	714	rVV5	22868	64787	0.42%	0.125%
48	8.263	714	715	720	rVB4	7140	10865	0.07%	0.021%
49	8.441	728	733	741	rBV	987906	2114385	13.82%	4.076%
50	8.549	741	744	745	rVB2	4716	6481	0.04%	0.012%
51	8.716	757	761	762	rVB4	3786	8097	0.05%	0.016%
52	8.746	762	764	766	rVB2	5250	7587	0.05%	0.015%
53	8.785	766	768	770	rVB3	3849	5144	0.03%	0.010%
54	8.893	776	779	782	rBV4	11979	25837	0.17%	0.050%
55	8.982	784	788	793	rVB5	15929	33880	0.22%	0.065%
56	9.366	823	827	837	rBV	593665	1073667	7.02%	2.070%
57	9.484	837	839	840	rVV2	4958	4985	0.03%	0.010%
58	9.700	856	861	867	rBV	1838238	3289062	21.50%	6.340%
59	9.779	867	869	876	rVV3	48396	106171	0.69%	0.205%
60	9.868	876	878	883	rVB3	14040	34681	0.23%	0.067%
61	9.927	883	884	888	rBV4	4138	8728	0.06%	0.017%
62	10.025	889	894	899	rVV	338123	587197	3.84%	1.132%
63	10.084	899	900	902	rVV2	5127	6514	0.04%	0.013%
64	10.163	902	908	910	rVV5	16554	49352	0.32%	0.095%
65	10.222	910	914	920	rVV	46701	122221	0.80%	0.236%
66	10.330	920	925	931	rVV	1581785	2848933	18.62%	5.492%
67	10.429	931	935	947	rVV	1645364	3020568	19.74%	5.823%
68	10.606	951	953	956	rVV4	7214	11793	0.08%	0.023%
69	10.793	971	972	976	rVB4	4773	8776	0.06%	0.017%
70	10.862	976	979	980	rBV3	4419	8262	0.05%	0.016%
71	10.970	986	990	991	rVB3	2457	5337	0.03%	0.010%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049258.D
Acq On : 5 May 2016 18:31
Operator : FY/SY
Sample : H2834-05DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.226	1011	1016	1026	rBV	1684375	2839954	18.56%	5.474%
73	11.354	1026	1029	1035	rVB5	7226	16825	0.11%	0.032%
74	11.472	1039	1041	1049	rVB9	7996	18590	0.12%	0.036%
75	11.580	1051	1052	1054	rBV	4571	5890	0.04%	0.011%
76	11.767	1067	1071	1073	rBV5	3954	8891	0.06%	0.017%
77	11.836	1076	1078	1082	rBV2	11897	19503	0.13%	0.038%
78	11.994	1092	1094	1098	rBV5	3483	7351	0.05%	0.014%
79	12.062	1098	1101	1103	rBV4	3419	5223	0.03%	0.010%
80	12.200	1111	1115	1120	rBV7	8869	25381	0.17%	0.049%
81	12.269	1120	1122	1126	rBV5	4399	12353	0.08%	0.024%
82	12.407	1128	1136	1138	rBV2	46018	93581	0.61%	0.180%
83	12.466	1138	1142	1151	rVB	421933	726927	4.75%	1.401%
84	12.584	1153	1154	1158	rBV4	4597	5793	0.04%	0.011%
85	12.751	1168	1171	1173	rBV3	6832	11329	0.07%	0.022%
86	12.929	1185	1189	1190	rBV4	4570	7950	0.05%	0.015%
87	12.948	1190	1191	1192	rVB	23712	13990	0.09%	0.027%
88	13.096	1205	1206	1209	rVB3	4158	6038	0.04%	0.012%
89	13.135	1209	1210	1213	rBV3	3461	6472	0.04%	0.012%
90	13.332	1229	1230	1232	rBV2	7108	8557	0.06%	0.016%
91	13.431	1236	1240	1247	rBV	1205846	2205131	14.41%	4.251%
92	13.657	1262	1263	1269	rBV6	4094	10299	0.07%	0.020%
93	13.765	1269	1274	1281	rBV	1074449	1861932	12.17%	3.589%
94	13.992	1294	1297	1298	rVV3	6149	9316	0.06%	0.018%
95	14.041	1298	1302	1306	rVV2	37657	84381	0.55%	0.163%
96	14.139	1308	1312	1313	rBV4	5448	8894	0.06%	0.017%
97	14.198	1315	1318	1321	rBV5	6710	16014	0.10%	0.031%
98	14.247	1321	1323	1324	rBV2	5673	6079	0.04%	0.012%
99	14.740	1371	1373	1374	rBV2	5954	8140	0.05%	0.016%
100	15.615	1459	1462	1468	rVB	44911	91959	0.60%	0.177%

Sum of corrected areas: 51877424

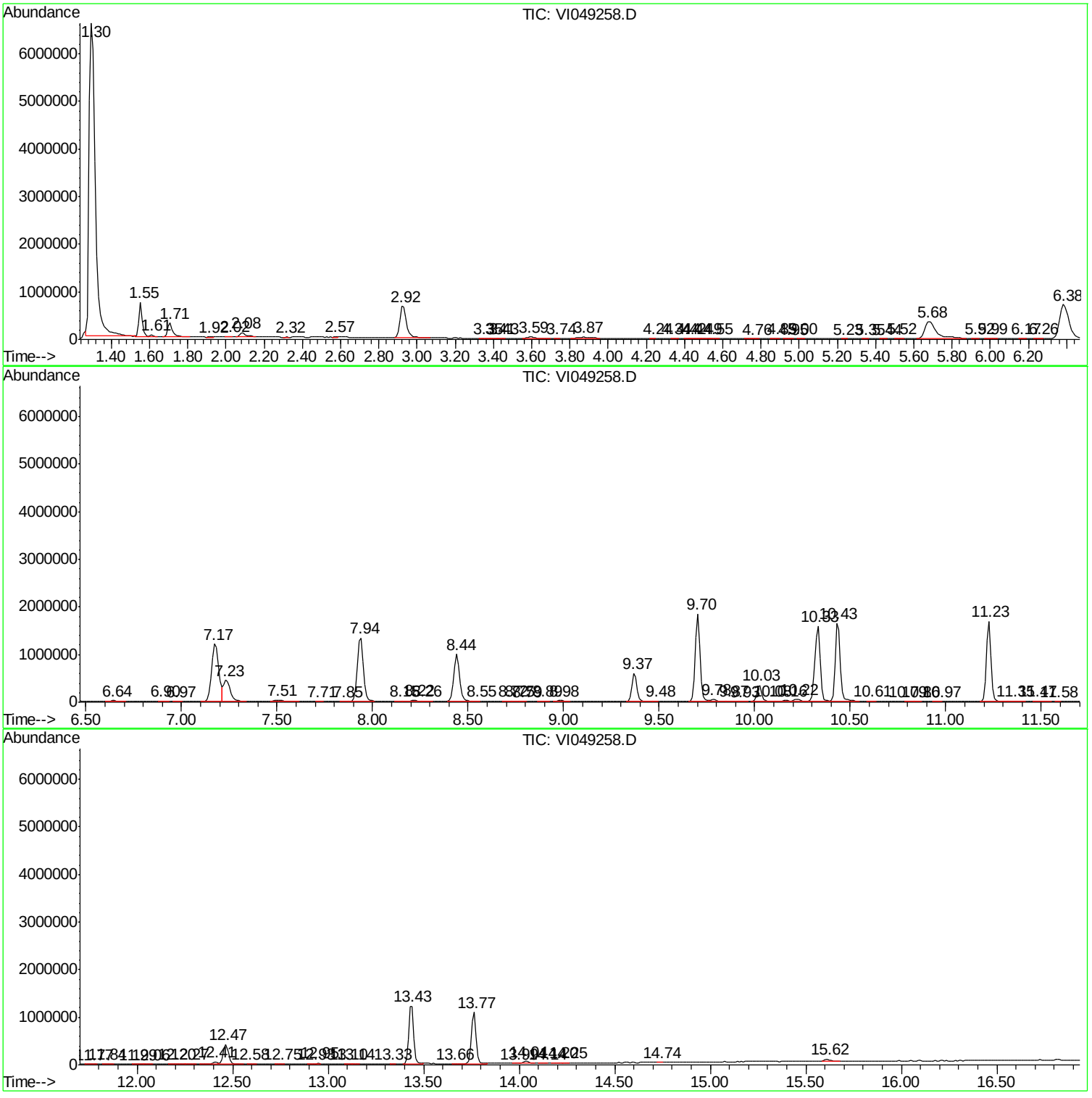
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049258.D
Acq On : 5 May 2016 18:31
Operator : FY/SY
Sample : H2834-05DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049258.D
Acq On : 5 May 2016 18:31
Operator : FY/SY
Sample : H2834-05DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4094DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049258.D
Acq On : 5 May 2016 18:31
Operator : FY/SY
Sample : H2834-05DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4094DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049270.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.12	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.5	
71-55-6	1,1,1-Trichloroethane	0.40	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.39	J

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049270.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	24	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049270.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049270.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/06/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

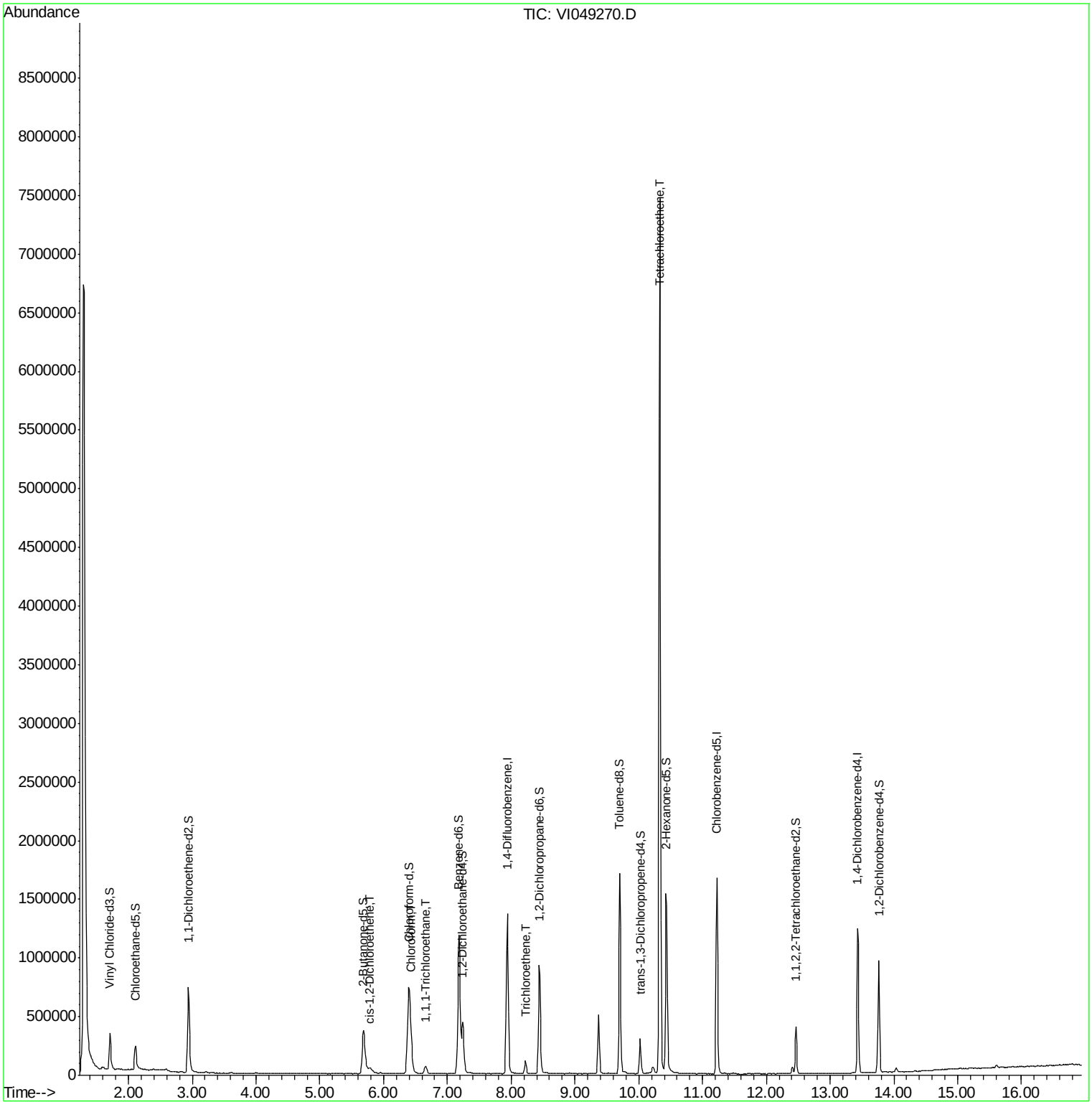
EPA-designated Registry Number.

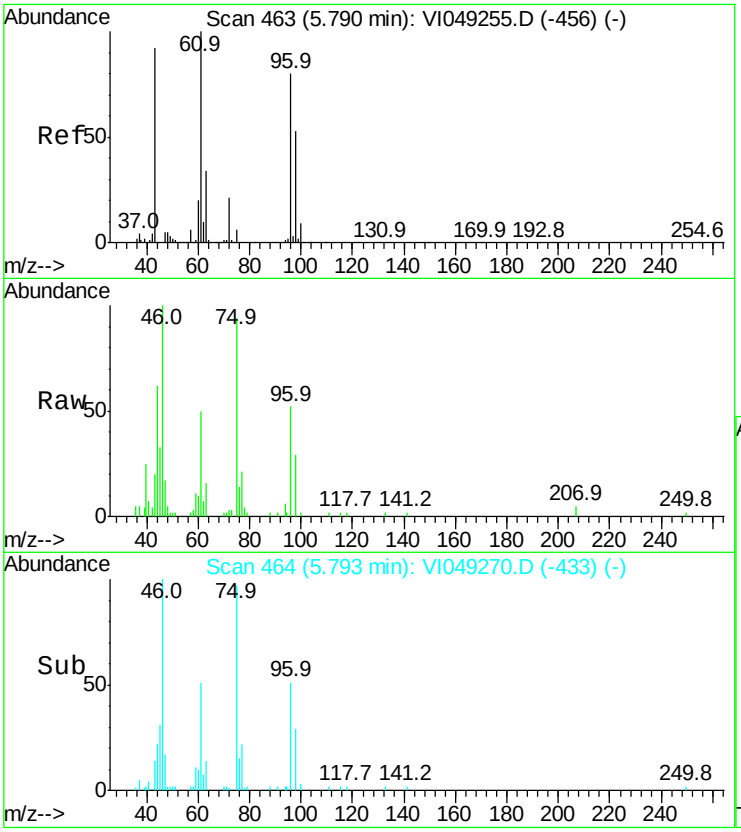
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049270.D
Acq On : 6 May 2016 00:50
Operator : FY/SY
Sample : H2834-18
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 28 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102

Quant Time: May 06 06:55:20 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration



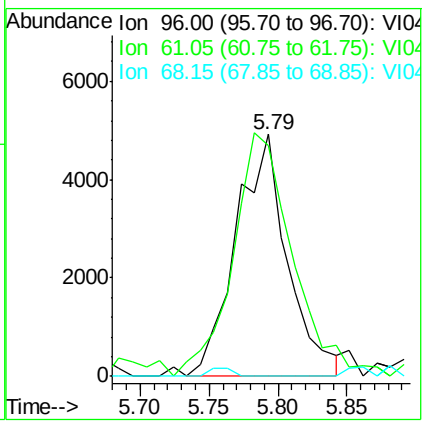


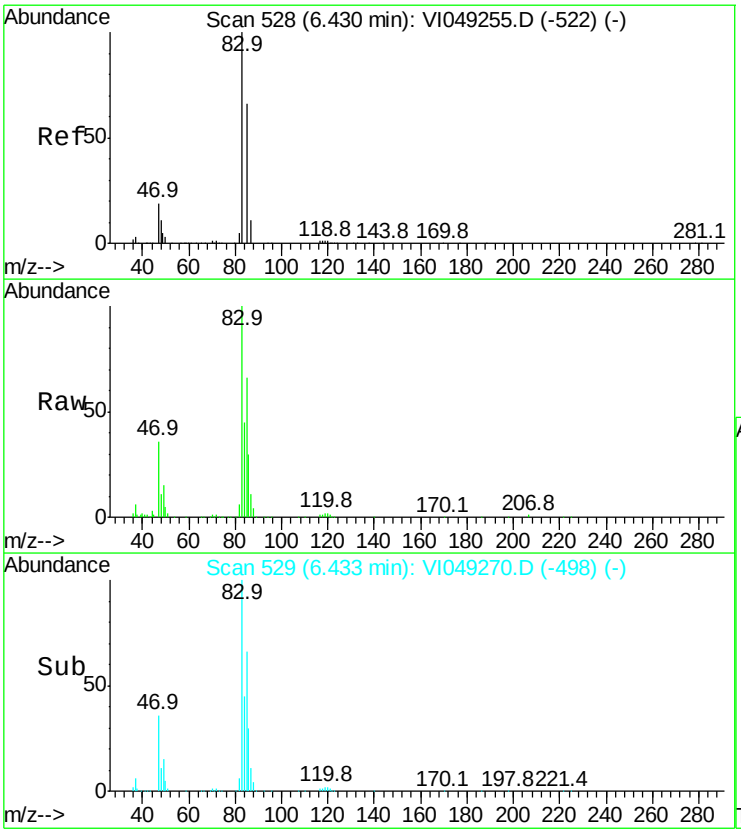
#22
cis-1,2-Dichloroethene
Concen: 0.12 ug/L
RT: 5.79 min Scan# 464
Delta R.T. 0.00 min
Lab File: VI049270.D
Acq: 6 May 2016 00:50

Instrument : MSVOA_I
ClientSampleId : H4102

Tgt Ion: 96 Resp: 12830

Ion	Ratio	Lower	Upper
96	100		
61	95.5	82.1	152.5
68	0.0	0.0	0.0

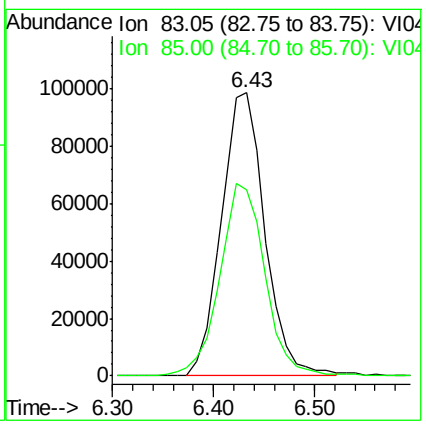


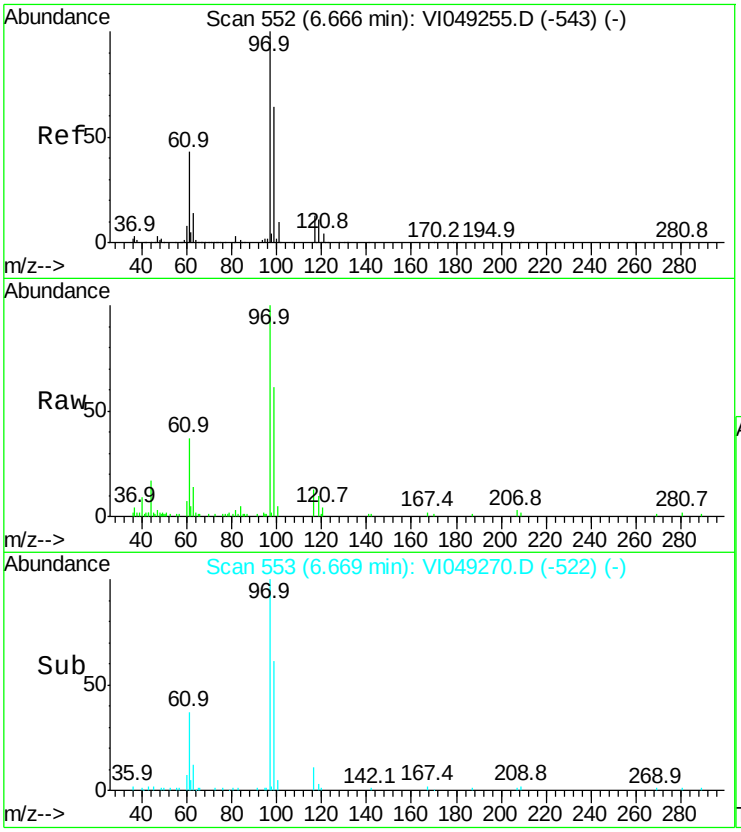


#25
Chloroform
Concen: 1.54 ug/L
RT: 6.43 min Scan# 529
Delta R.T. 0.00 min
Lab File: VI049270.D
Acq: 6 May 2016 00:50

Tgt Ion: 83 Resp: 295075

Ion	Ratio	Lower	Upper
83	100		
85	65.6	47.3	87.8



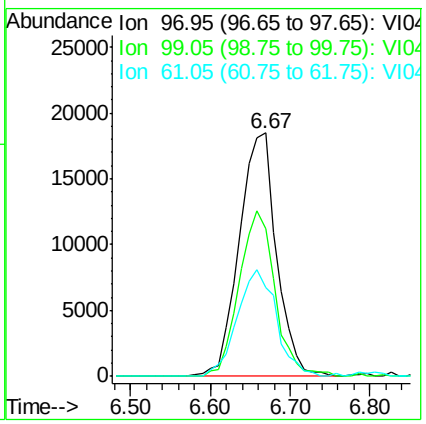


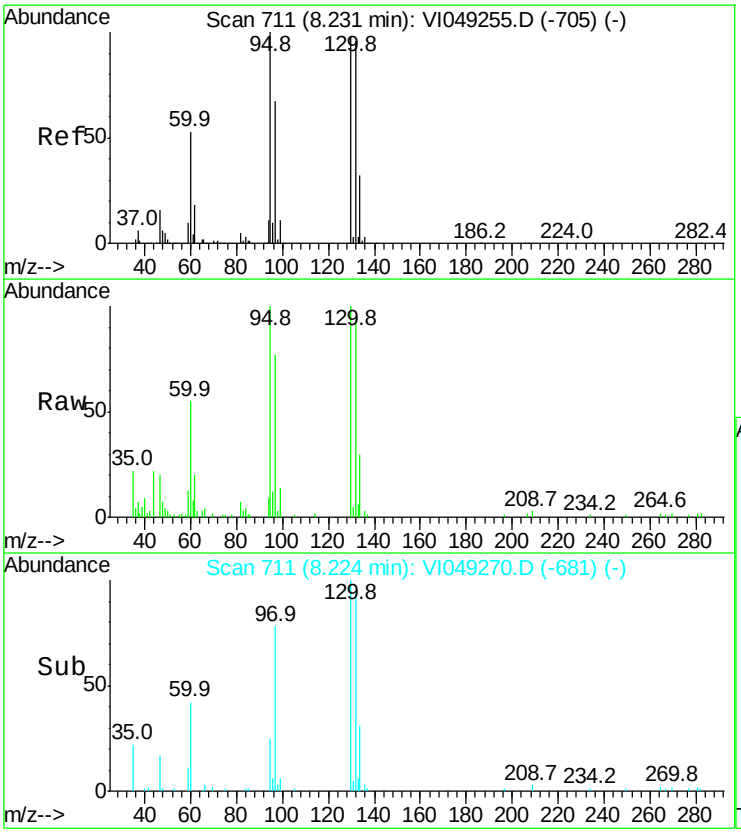
#29
1,1,1-Trichloroethane
Concen: 0.40 ug/L
RT: 6.67 min Scan# 553
Delta R.T. 0.00 min
Lab File: VI049270.D
Acq: 6 May 2016 00:50

Instrument : MSVOA_I
ClientSampleId : H4102

Tgt Ion: 97 Resp: 59588

Ion	Ratio	Lower	Upper
97	100		
99	65.6	51.1	76.7
61	46.0	33.3	49.9

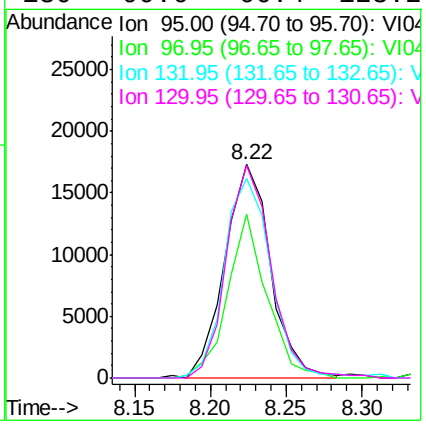


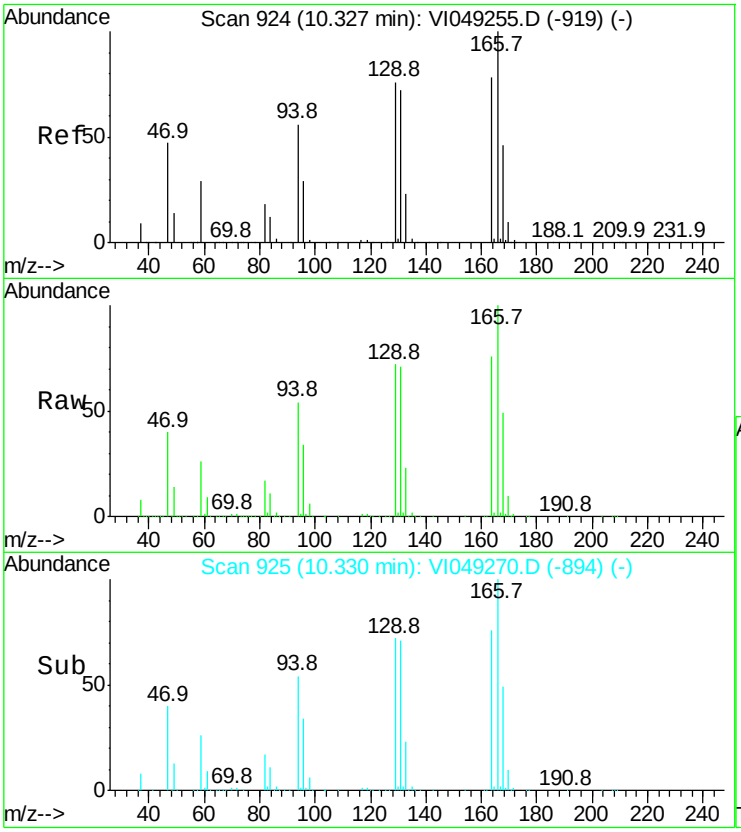


#34
Trichloroethene
Concen: 0.39 ug/L
RT: 8.22 min Scan# 711
Delta R.T. -0.01 min
Lab File: VI049270.D
Acq: 6 May 2016 00:50

Tgt Ion: 95 Resp: 36304

Ion	Ratio	Lower	Upper
95	100		
97	76.8	45.8	85.2
132	93.6	63.9	118.7
130	99.6	66.4	123.2



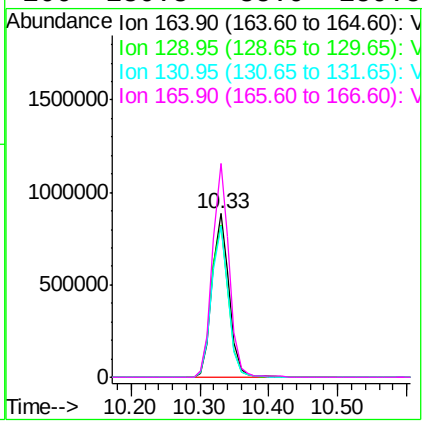


#47
Tetrachloroethene
Concen: 24.44 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.00 min
Lab File: VI049270.D
Acq: 6 May 2016 00:50

Instrument :
MSVOA_I
ClientSampleId :
H4102

Tgt Ion:164 Resp: 1496369

Ion	Ratio	Lower	Upper
164	100		
129	93.6	62.1	115.3
131	92.3	60.6	112.6
166	130.8	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049270.D
Acq On : 6 May 2016 00:50
Operator : FY/SY
Sample : H2834-18
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 28 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102

Quant Time: May 06 06:55:20 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1194366	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	784610	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	283029	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	313222	4.26	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 85.20%			
7) Chloroethane-d5	2.11	69	223740	5.49	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 109.80%			
11) 1,1-Dichloroethene-d2	2.94	63	574704	3.32	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 66.40%			
20) 2-Butanone-d5	5.68	46	871716	54.76	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 109.52%			
24) Chloroform-d	6.39	84	873636	4.67	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 93.40%			
26) 1,2-Dichloroethane-d4	7.24	65	395455	5.17	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.40%			
32) Benzene-d6	7.18	84	1490717	4.88	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 97.60%			
36) 1,2-Dichloropropane-d6	8.44	67	427402	4.97	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 99.40%			
41) Toluene-d8	9.70	98	1019078	4.52	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 90.40%			
43) trans-1,3-Dichloropropene-	10.02	79	150745	4.45	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 89.00%			
46) 2-Hexanone-d5	10.43	63	533507	49.95	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 99.90%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	176672	4.52	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 90.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	230891	4.65	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 93.00%			
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	5.79	96	12830	0.12	ug/L	80
25) Chloroform	6.43	83	295075	1.54	ug/L	98
29) 1,1,1-Trichloroethane	6.67	97	59588	0.40	ug/L	96
34) Trichloroethene	8.22	95	36304	0.39	ug/L	94
47) Tetrachloroethene	10.33	164	1496369	24.44	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049270.D
Acq On : 6 May 2016 00:50
Operator : FY/SY
Sample : H2834-18
Misc : 25mL/MSVOA I/WATER
ALS Vial : 28 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.295	4	7	32	rVB	6682131	18288259	100.00%	29.017%
2	1.580	34	36	42	rBV3	21193	50786	0.28%	0.081%
3	1.708	46	49	56	rVB	308533	498699	2.73%	0.791%
4	1.994	76	78	81	rBV4	6736	10886	0.06%	0.017%
5	2.112	86	90	96	rBV	202404	407956	2.23%	0.647%
6	2.388	116	118	120	rVB3	9992	12034	0.07%	0.019%
7	2.584	136	138	143	rVB2	15374	32038	0.18%	0.051%
8	2.821	158	162	163	rBV3	4188	8793	0.05%	0.014%
9	2.939	169	174	191	rVB	728958	1659439	9.07%	2.633%
10	3.116	191	192	195	rVV2	4848	5361	0.03%	0.009%
11	3.224	198	203	208	rVB5	14153	40619	0.22%	0.064%
12	3.608	237	242	247	rVB8	6652	19236	0.11%	0.031%
13	3.706	249	252	254	rBV4	3938	6736	0.04%	0.011%
14	3.756	254	257	258	rBV3	3170	5785	0.03%	0.009%
15	3.815	260	263	264	rBV3	3610	5024	0.03%	0.008%
16	3.992	279	281	283	rBV3	6252	12146	0.07%	0.019%
17	4.110	291	293	295	rVB3	4551	6915	0.04%	0.011%
18	4.169	295	299	300	rBV3	4282	8374	0.05%	0.013%
19	4.218	303	304	306	rBV2	5213	5377	0.03%	0.009%
20	4.297	309	312	317	rBV6	3191	7881	0.04%	0.013%
21	4.376	317	320	323	rVB4	3565	6974	0.04%	0.011%
22	4.454	325	328	329	rBV2	3291	5420	0.03%	0.009%
23	4.740	350	357	362	rBV5	5955	27245	0.15%	0.043%
24	4.907	372	374	376	rBV2	3411	5043	0.03%	0.008%
25	5.419	422	426	427	rBV4	3116	8247	0.05%	0.013%
26	5.488	432	433	436	rVB3	4177	7244	0.04%	0.011%
27	5.606	444	445	447	rBV2	3051	5122	0.03%	0.008%
28	5.685	447	453	461	rBV	368938	1264721	6.92%	2.007%
29	5.940	478	479	484	rVB4	5472	12007	0.07%	0.019%
30	6.009	484	486	488	rVB3	3832	5861	0.03%	0.009%
31	6.393	517	525	537	rBV2	739082	2800555	15.31%	4.444%
32	6.659	545	552	559	rVB3	59579	184538	1.01%	0.293%
33	6.974	582	584	586	rVB3	5203	7656	0.04%	0.012%
34	7.033	586	590	592	rBV5	3320	7775	0.04%	0.012%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049270.D
Acq On : 6 May 2016 00:50
Operator : FY/SY
Sample : H2834-18
Misc : 25mL/MSVOA I/WATER
ALS Vial : 28 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	7.181	598	605	609	rBV	1187793	3180039	17.39%	5.046%
36	7.240	609	611	621	rVB	435624	976042	5.34%	1.549%
37	7.486	633	636	637	rBV3	3924	5021	0.03%	0.008%
38	7.623	648	650	651	rBV2	3543	5866	0.03%	0.009%
39	7.653	651	653	656	rVB3	5461	8362	0.05%	0.013%
40	7.722	656	660	663	rBV4	3001	6919	0.04%	0.011%
41	7.830	669	671	674	rVB4	3439	6533	0.04%	0.010%
42	7.938	676	682	689	rBV	1365985	2926804	16.00%	4.644%
43	8.224	706	711	719	rVB	109229	217540	1.19%	0.345%
44	8.440	725	733	740	rBV	925972	2043181	11.17%	3.242%
45	8.617	750	751	757	rBV5	5488	15936	0.09%	0.025%
46	8.686	757	758	762	rVV4	4212	9323	0.05%	0.015%
47	8.854	773	775	776	rBV2	3324	5095	0.03%	0.008%
48	8.913	776	781	786	rVV8	7689	19878	0.11%	0.032%
49	9.070	794	797	798	rBV3	3000	5068	0.03%	0.008%
50	9.178	804	808	810	rVB4	3671	8011	0.04%	0.013%
51	9.366	823	827	834	rBV	506120	967363	5.29%	1.535%
52	9.523	839	843	846	rVB6	7614	11928	0.07%	0.019%
53	9.700	856	861	867	rBV	1707622	2992615	16.36%	4.748%
54	9.769	867	868	874	rVV2	18853	40071	0.22%	0.064%
55	10.025	890	894	899	rVV	297567	525398	2.87%	0.834%
56	10.094	899	901	902	rVV2	5076	6597	0.04%	0.010%
57	10.123	902	904	907	rVV4	7904	17431	0.10%	0.028%
58	10.222	907	914	920	rVV	57418	159809	0.87%	0.254%
59	10.330	920	925	932	rVV	7459786	12728645	69.60%	20.196%
60	10.428	932	935	948	rVV	1534885	2889252	15.80%	4.584%
61	10.596	950	952	955	rVV4	5015	11228	0.06%	0.018%
62	10.921	984	985	988	rBV3	2814	5216	0.03%	0.008%
63	11.226	1011	1016	1024	rBV	1669079	2742959	15.00%	4.352%
64	11.344	1026	1028	1033	rVB6	9169	20935	0.11%	0.033%
65	11.482	1036	1042	1045	rBV6	8495	20371	0.11%	0.032%
66	11.649	1054	1059	1060	rBV3	2473	5419	0.03%	0.009%
67	11.806	1074	1075	1077	rBV2	3746	5370	0.03%	0.009%
68	11.856	1077	1080	1082	rBV3	6049	7909	0.04%	0.013%
69	12.072	1098	1102	1103	rVB4	3392	5855	0.03%	0.009%
70	12.121	1103	1107	1109	rVB5	3583	8157	0.04%	0.013%
71	12.161	1109	1111	1113	rBV3	4422	7436	0.04%	0.012%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049270.D
Acq On : 6 May 2016 00:50
Operator : FY/SY
Sample : H2834-18
Misc : 25mL/MSVOA I/WATER
ALS Vial : 28 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	12.279	1116	1123	1125	rBV8	5344	14300	0.08%	0.023%
73	12.407	1131	1136	1138	rBV2	53739	96705	0.53%	0.153%
74	12.466	1138	1142	1150	rVB	403949	685141	3.75%	1.087%
75	12.584	1150	1154	1155	rVB4	4362	5721	0.03%	0.009%
76	12.604	1155	1156	1161	rVB4	3810	6671	0.04%	0.011%
77	12.692	1161	1165	1168	rBV5	3627	10093	0.06%	0.016%
78	12.751	1168	1171	1173	rVB4	3523	5749	0.03%	0.009%
79	12.850	1176	1181	1185	rBV7	4520	14159	0.08%	0.022%
80	13.046	1198	1201	1204	rVB5	4042	6802	0.04%	0.011%
81	13.086	1204	1205	1209	rBV4	4601	10071	0.06%	0.016%
82	13.194	1213	1216	1218	rVB3	3542	4973	0.03%	0.008%
83	13.263	1218	1223	1224	rBV4	3391	9281	0.05%	0.015%
84	13.361	1229	1233	1236	rBV4	6401	15068	0.08%	0.024%
85	13.430	1236	1240	1246	rBV	1228436	2114761	11.56%	3.355%
86	13.607	1255	1258	1260	rVB3	4625	8786	0.05%	0.014%
87	13.657	1260	1263	1265	rBV3	4832	9696	0.05%	0.015%
88	13.765	1269	1274	1280	rVV	952048	1733019	9.48%	2.750%
89	13.863	1282	1284	1285	rVV2	5557	7794	0.04%	0.012%
90	13.893	1285	1287	1289	rVB3	7732	8356	0.05%	0.013%
91	13.981	1294	1296	1297	rBV2	7192	8133	0.04%	0.013%
92	14.031	1297	1301	1305	rBV2	35239	69331	0.38%	0.110%
93	14.139	1310	1312	1314	rVB3	6419	8889	0.05%	0.014%
94	14.168	1314	1315	1316	rBV	5263	5279	0.03%	0.008%
95	14.247	1321	1323	1325	rBV3	5723	8033	0.04%	0.013%
96	14.287	1325	1327	1328	rBV2	4986	7747	0.04%	0.012%
97	14.316	1328	1330	1333	rVV4	5566	8391	0.05%	0.013%
98	15.025	1400	1402	1403	rBV2	7145	7743	0.04%	0.012%
99	15.615	1458	1462	1466	rBV2	25545	64788	0.35%	0.103%
100	16.255	1525	1527	1528	rBV2	10569	9419	0.05%	0.015%

Sum of corrected areas: 63025233

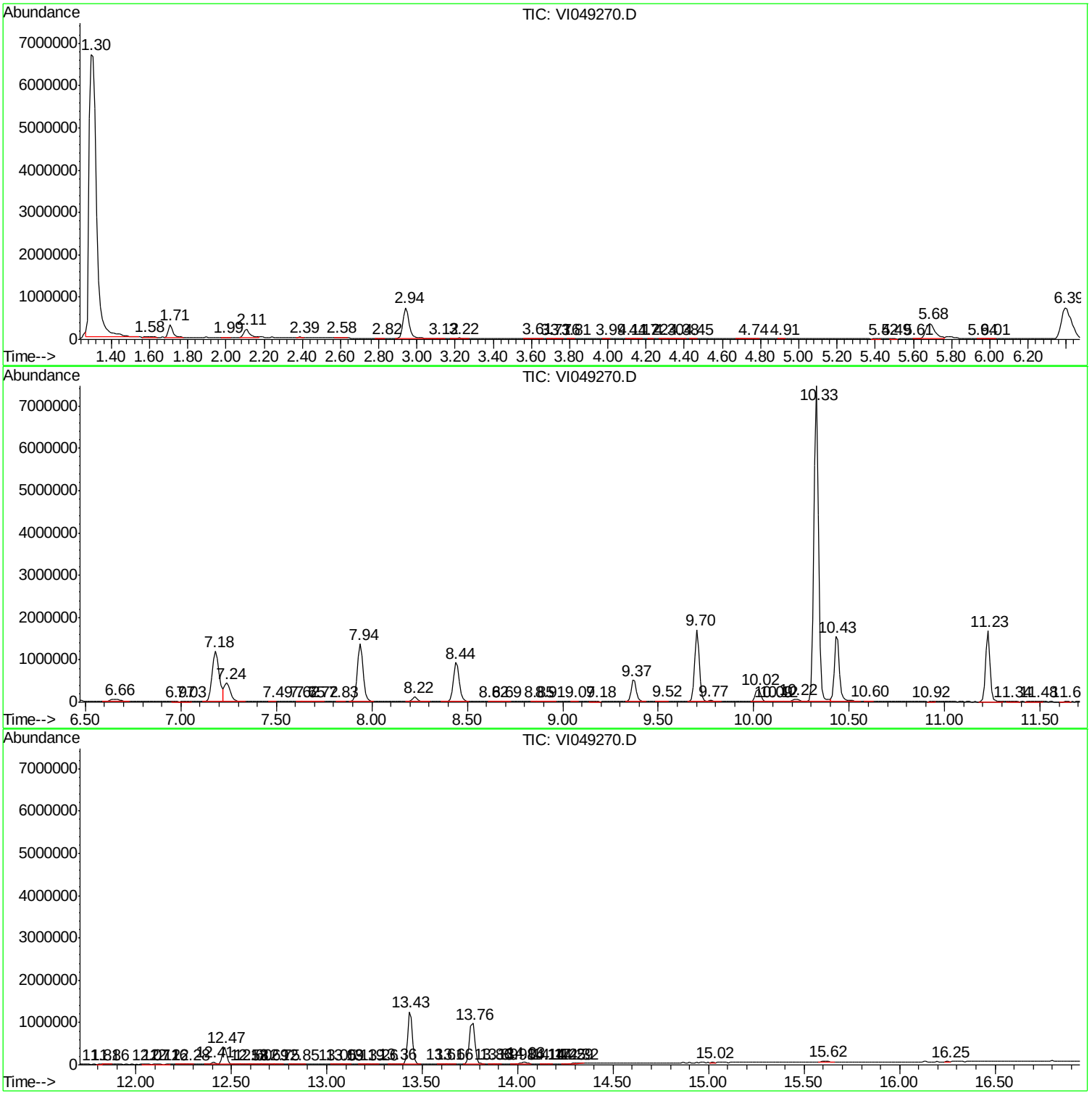
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049270.D
Acq On : 6 May 2016 00:50
Operator : FY/SY
Sample : H2834-18
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 28 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049270.D
Acq On : 6 May 2016 00:50
Operator : FY/SY
Sample : H2834-18
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 28 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4102

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049270.D
Acq On : 6 May 2016 00:50
Operator : FY/SY
Sample : H2834-18
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 28 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4102DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049281.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4102DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049281.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	23	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4102DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049281.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H4102DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-18DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049281.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/06/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 5.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 07 04:37:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4102DL

Manual Integrations APPROVED
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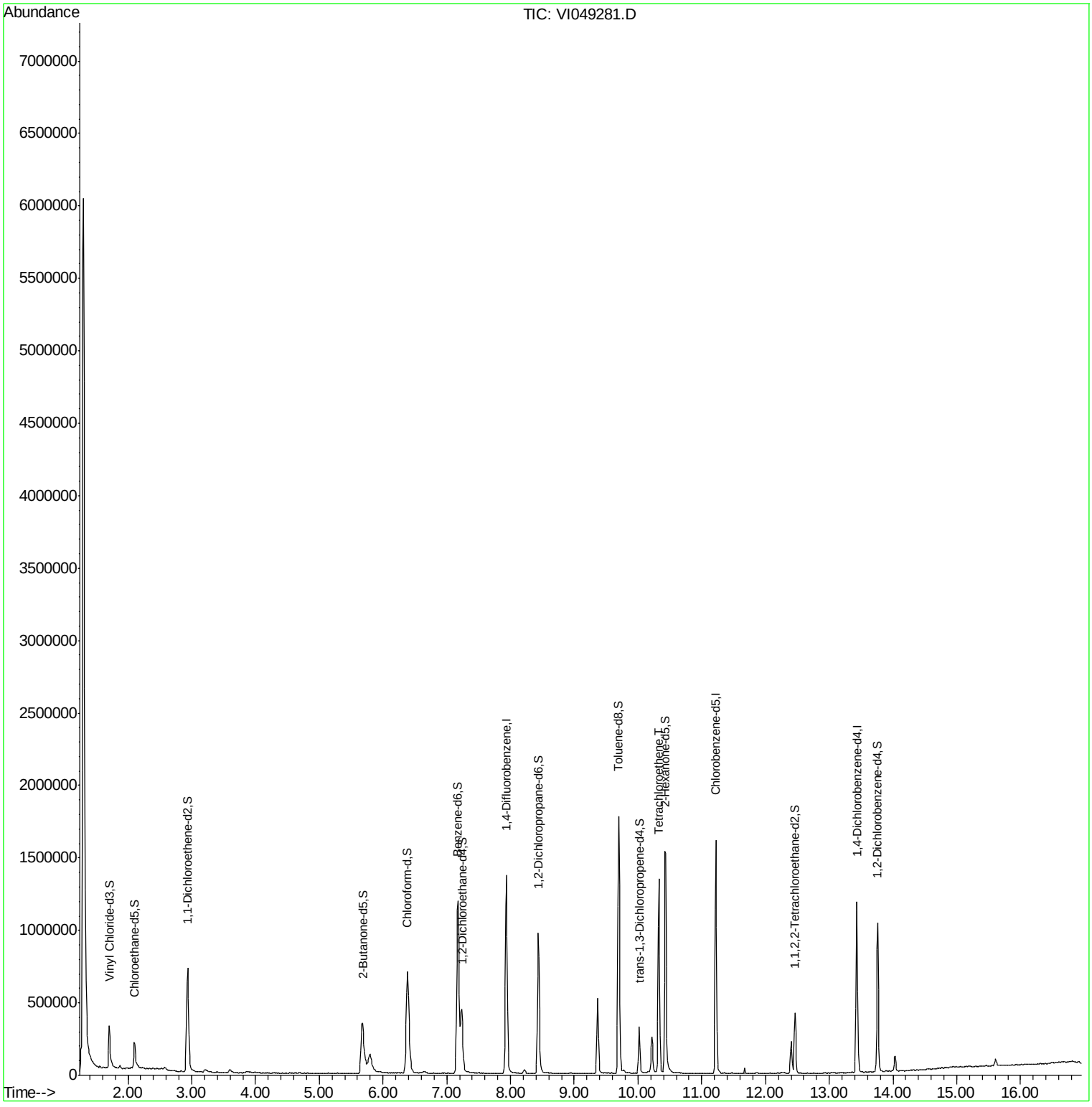
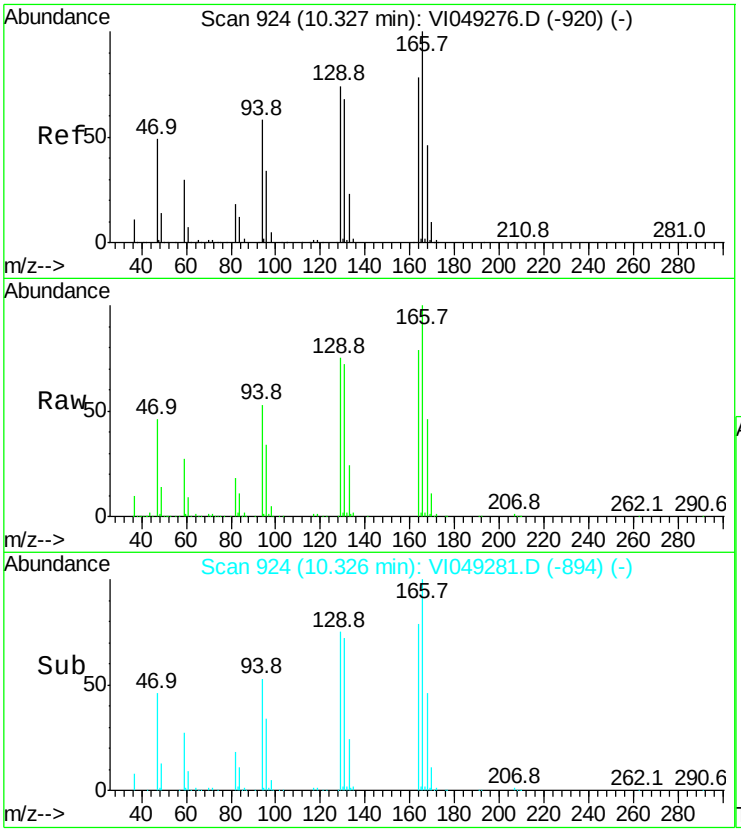
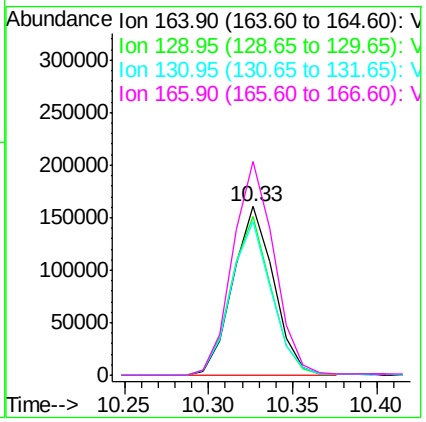




#47
Tetrachloroethene
Concen: 4.52 ug/L
RT: 10.33 min Scan# 924
Delta R.T. -0.00 min
Lab File: VI049281.D
Acq: 6 May 2016 13:52

Tgt Ion:164 Resp: 270682

Ion	Ratio	Lower	Upper
164	100		
129	94.5	62.1	115.3
131	90.9	60.6	112.6
166	126.7	85.9	159.5



Instrument :
MSVOA_I
ClientSampleId :
H4102DL

Manual Integrations APPROVED
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5/9/2016 12:05:12 PM

Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102DL

Manual Integrations APPROVED
feifei
5/9/2016 12:05:12 PM

Quant Time: May 07 04:37:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1200218	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	767967	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	282692	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.70	65	317423	4.30	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 86.00%			
7) Chloroethane-d5	2.11	69	200132	4.89	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 97.80%			
11) 1,1-Dichloroethene-d2	2.94	63	569404	3.27	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 65.40%			
20) 2-Butanone-d5	5.68	46	879445	54.97	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 109.94%			
24) Chloroform-d	6.38	84	885950	4.71	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 94.20%			
26) 1,2-Dichloroethane-d4	7.24	65	413037m	5.37	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 107.40%			
32) Benzene-d6	7.18	84	1550586	5.18	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 103.60%			
36) 1,2-Dichloropropane-d6	8.44	67	435455	5.18	ug/L	-0.01
Spiked Amount 5.000	Range 60 - 140		Recovery = 103.60%			
41) Toluene-d8	9.70	98	1061452	4.81	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.20%			
43) trans-1,3-Dichloropropene-	10.02	79	159612	4.82	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 96.40%			
46) 2-Hexanone-d5	10.42	63	564470	54.00	ug/L	-0.01
Spiked Amount 50.000	Range 45 - 130		Recovery = 108.00%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	187613	4.90	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 98.00%			
63) 1,2-Dichlorobenzene-d4	13.76	152	235455	4.75	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 95.00%			
Target Compounds						Qvalue
47) Tetrachloroethene	10.33	164	270682	4.52	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.301	3	7	31	rVB	5998648	14354415	100.00%	28.849%
2	1.557	31	33	36	rVB	16669	24987	0.17%	0.050%
3	1.606	36	38	40	rBV3	7750	8523	0.06%	0.017%
4	1.705	45	48	58	rBV	288827	504842	3.52%	1.015%
5	1.872	63	65	69	rVB	24730	39024	0.27%	0.078%
6	1.931	69	71	72	rVB	6939	5905	0.04%	0.012%
7	1.971	72	75	76	rBV3	7053	10548	0.07%	0.021%
8	2.049	81	83	85	rBV2	9484	10820	0.08%	0.022%
9	2.099	85	88	96	rBV	182949	392003	2.73%	0.788%
10	2.295	106	108	111	rBV4	6040	12421	0.09%	0.025%
11	2.453	123	124	127	rVB3	6309	5770	0.04%	0.012%
12	2.571	134	136	149	rVB5	26520	89073	0.62%	0.179%
13	2.719	149	151	154	rVB4	5252	7728	0.05%	0.016%
14	2.837	160	163	165	rVB3	5043	8959	0.06%	0.018%
15	2.935	167	173	187	rBV	718862	1644557	11.46%	3.305%
16	3.201	197	200	208	rBV3	18375	63709	0.44%	0.128%
17	3.329	212	213	217	rVB4	3660	6578	0.05%	0.013%
18	3.595	235	240	248	rBV	24296	75365	0.53%	0.151%
19	3.703	248	251	254	rVB3	4938	9548	0.07%	0.019%
20	3.762	254	257	260	rVB4	3487	6472	0.05%	0.013%
21	3.890	263	270	272	rBV6	10319	35148	0.24%	0.071%
22	4.057	284	287	290	rVB4	3529	7313	0.05%	0.015%
23	4.126	293	294	297	rBV3	3543	5309	0.04%	0.011%
24	4.283	304	310	313	rBV3	5722	15768	0.11%	0.032%
25	4.480	328	330	334	rVB4	4102	5443	0.04%	0.011%
26	4.529	334	335	337	rVB2	4650	5408	0.04%	0.011%
27	4.569	337	339	341	rBV3	4036	6177	0.04%	0.012%
28	4.687	349	351	357	rVB7	3621	10250	0.07%	0.021%
29	5.140	394	397	400	rVB3	4229	6089	0.04%	0.012%
30	5.228	400	406	408	rVB6	3446	8182	0.06%	0.016%
31	5.327	414	416	419	rVB3	4415	7213	0.05%	0.014%
32	5.386	419	422	423	rBV3	3386	5678	0.04%	0.011%
33	5.435	423	427	429	rBV4	3823	8816	0.06%	0.018%
34	5.563	436	440	443	rVB5	3024	7847	0.05%	0.016%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	5.681	443	452	458	rBV	348756	1257326	8.76%	2.527%
36	5.789	458	463	479	rVB	124370	561424	3.91%	1.128%
37	6.203	502	505	506	rBV3	4523	5402	0.04%	0.011%
38	6.380	516	523	536	rBV	699542	2275730	15.85%	4.574%
39	6.527	536	538	541	rVB4	3732	7293	0.05%	0.015%
40	6.655	546	551	557	rVB4	14368	49765	0.35%	0.100%
41	6.764	557	562	563	rBV4	2224	5061	0.04%	0.010%
42	6.823	566	568	572	rVB5	3006	5158	0.04%	0.010%
43	6.960	581	582	585	rVB3	5092	5143	0.04%	0.010%
44	7.020	585	588	589	rBV3	5637	6212	0.04%	0.012%
45	7.177	597	604	607	rBV	1189683	3151642	21.96%	6.334%
46	7.236	607	610	619	rVB	434053	1095024	7.63%	2.201%
47	7.492	635	636	640	rBV4	3764	5464	0.04%	0.011%
48	7.758	662	663	666	rBV3	3230	5053	0.04%	0.010%
49	7.935	675	681	691	rBV	1369470	2956052	20.59%	5.941%
50	8.220	705	710	713	rBV3	25169	57342	0.40%	0.115%
51	8.338	720	722	724	rVB3	3307	5453	0.04%	0.011%
52	8.368	724	725	727	rBV2	5231	7566	0.05%	0.015%
53	8.437	727	732	741	rBV	966621	2078012	14.48%	4.176%
54	8.614	749	750	754	rVB3	4514	6943	0.05%	0.014%
55	8.732	758	762	765	rVB6	3855	8732	0.06%	0.018%
56	8.791	765	768	769	rBV3	3276	6236	0.04%	0.013%
57	8.929	777	782	785	rVB7	3496	10229	0.07%	0.021%
58	9.254	812	815	816	rBV3	5205	8333	0.06%	0.017%
59	9.362	822	826	834	rBV	521823	1025954	7.15%	2.062%
60	9.539	842	844	847	rVB4	4681	6893	0.05%	0.014%
61	9.578	847	848	850	rBV2	4165	5465	0.04%	0.011%
62	9.697	855	860	866	rBV	1777439	3118189	21.72%	6.267%
63	9.775	866	868	874	rVB4	18424	37922	0.26%	0.076%
64	10.021	889	893	899	rBV	322513	553196	3.85%	1.112%
65	10.130	902	904	905	rVV2	6765	9541	0.07%	0.019%
66	10.169	905	908	909	rVV3	8027	17520	0.12%	0.035%
67	10.218	909	913	919	rVV	247722	506914	3.53%	1.019%
68	10.326	919	924	931	rVV	1339524	2321600	16.17%	4.666%
69	10.425	931	934	948	rVB	1526293	2924052	20.37%	5.877%
70	10.720	961	964	969	rVB7	3602	11648	0.08%	0.023%
71	11.222	1011	1015	1023	rVV	1611330	2681601	18.68%	5.389%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.350	1027	1028	1034	rVB6	7878	10743	0.07%	0.022%
73	11.468	1038	1040	1046	rBV4	5364	14208	0.10%	0.029%
74	11.576	1047	1051	1053	rVB4	3346	6873	0.05%	0.014%
75	11.675	1059	1061	1062	rVB	38075	22636	0.16%	0.045%
76	11.734	1065	1067	1070	rVB4	2845	5025	0.04%	0.010%
77	11.852	1074	1079	1084	rVB9	8931	28724	0.20%	0.058%
78	11.941	1086	1088	1091	rBV3	2886	5671	0.04%	0.011%
79	12.068	1098	1101	1102	rVB2	6056	7227	0.05%	0.015%
80	12.118	1104	1106	1108	rBV3	3145	5498	0.04%	0.011%
81	12.196	1112	1114	1116	rBV2	7079	9084	0.06%	0.018%
82	12.285	1119	1123	1130	rVB9	7065	12146	0.08%	0.024%
83	12.403	1130	1135	1138	rBV	220362	402386	2.80%	0.809%
84	12.462	1138	1141	1147	rVB	417847	693465	4.83%	1.394%
85	12.551	1147	1150	1152	rVB4	3548	5294	0.04%	0.011%
86	12.935	1187	1189	1191	rVB3	3346	5378	0.04%	0.011%
87	12.984	1193	1194	1197	rBV3	4856	5537	0.04%	0.011%
88	13.063	1197	1202	1203	rBV5	4951	11844	0.08%	0.024%
89	13.181	1211	1214	1216	rBV3	2730	5459	0.04%	0.011%
90	13.358	1227	1232	1235	rBV7	5750	14890	0.10%	0.030%
91	13.437	1235	1240	1250	rBV	1180908	2120441	14.77%	4.262%
92	13.761	1268	1273	1279	rBV	1029735	1779231	12.40%	3.576%
93	14.037	1296	1301	1306	rVB	108080	208787	1.45%	0.420%
94	14.106	1306	1308	1309	rBV2	4658	6735	0.05%	0.014%
95	14.194	1316	1317	1320	rBV3	5446	8040	0.06%	0.016%
96	14.283	1323	1326	1327	rBV2	4952	9343	0.07%	0.019%
97	14.421	1338	1340	1341	rBV2	4988	7356	0.05%	0.015%
98	14.765	1373	1375	1378	rVB3	8126	15272	0.11%	0.031%
99	14.814	1378	1380	1382	rBV3	8731	13910	0.10%	0.028%
100	15.612	1457	1461	1465	rBV	52209	98461	0.69%	0.198%

Sum of corrected areas: 49756642

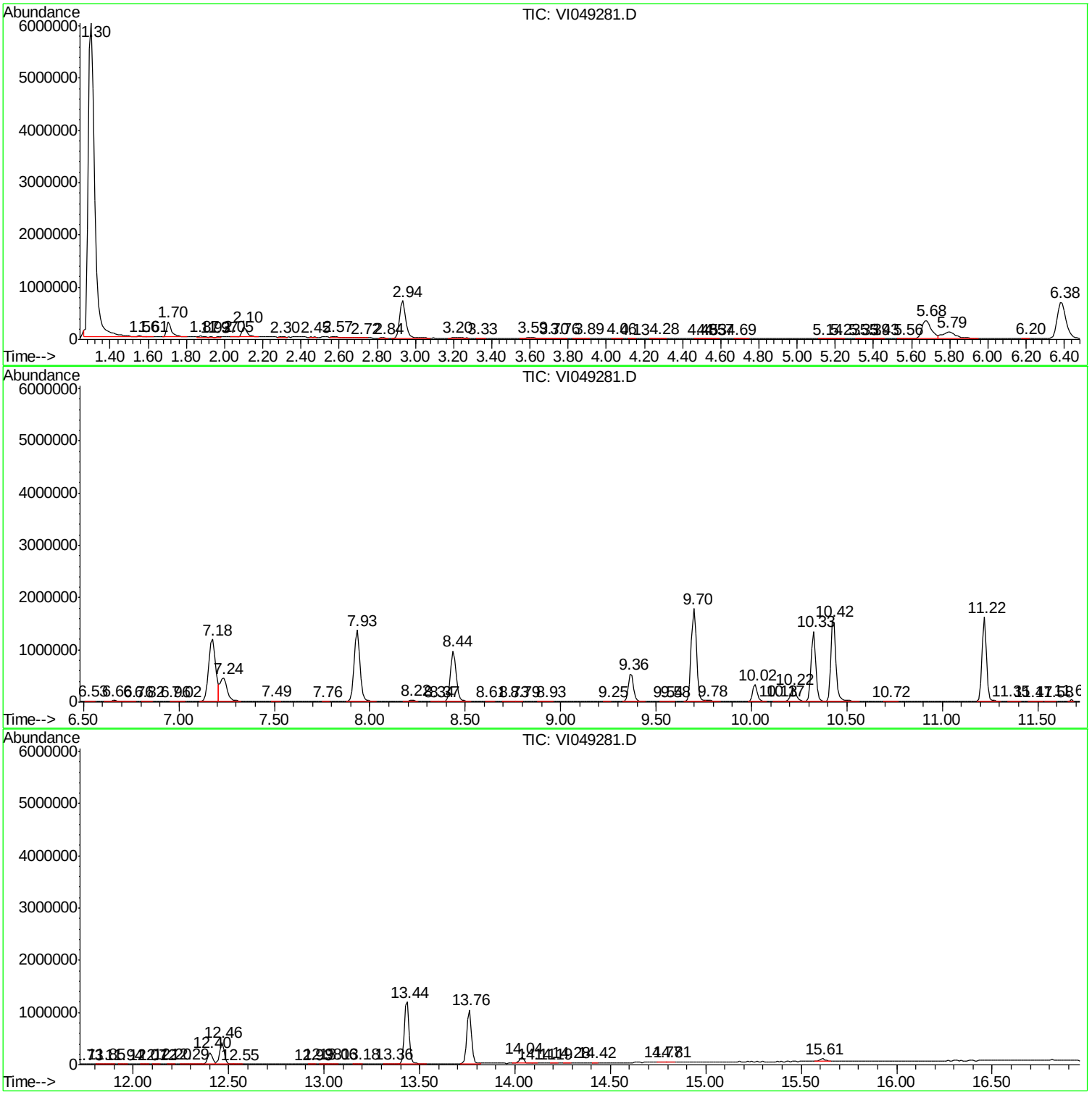
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4102DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4102DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 07 04:37:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4102DL

Manual Integrations APPROVED
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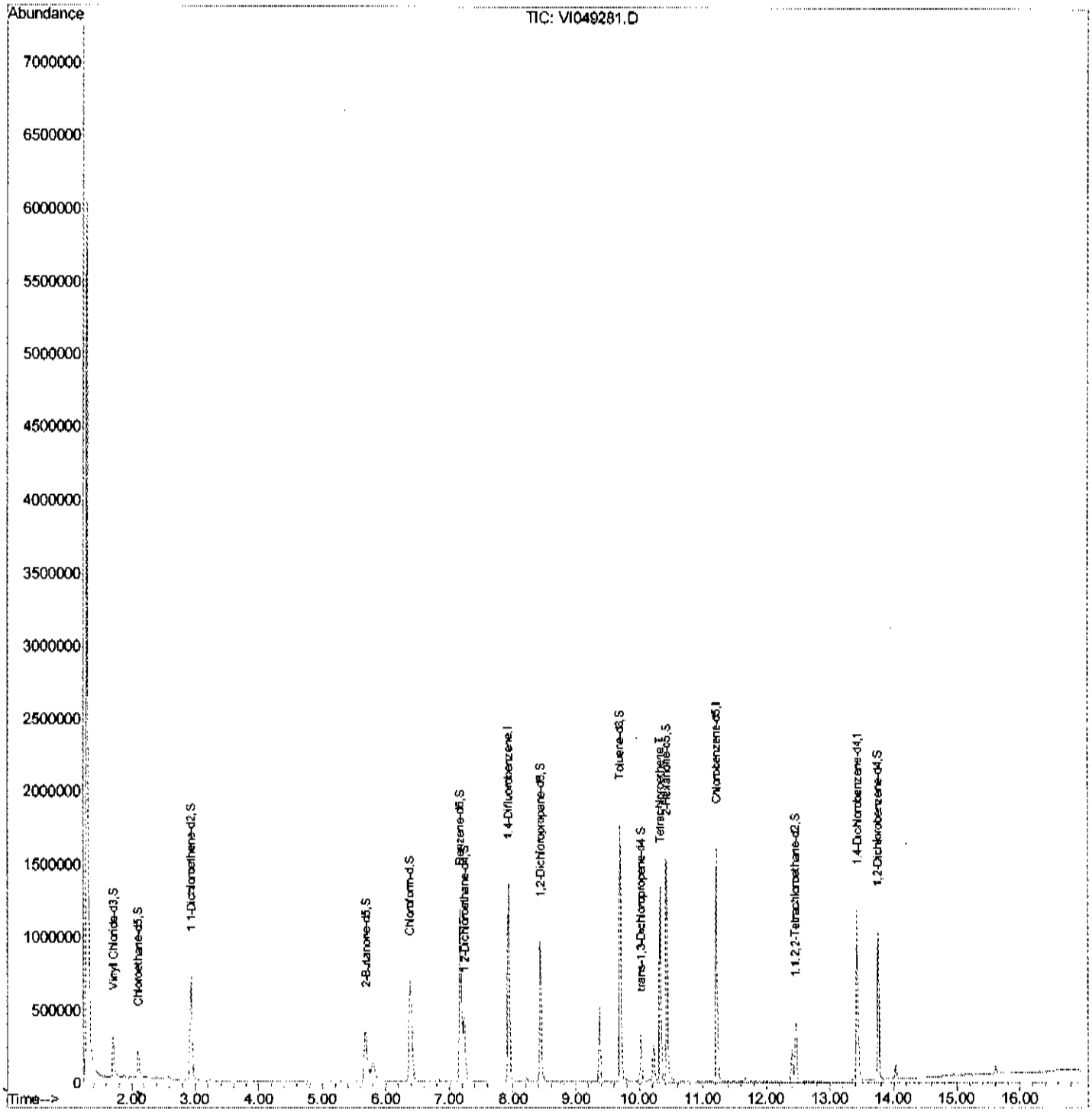
5/9/2016 12:05:12 PM



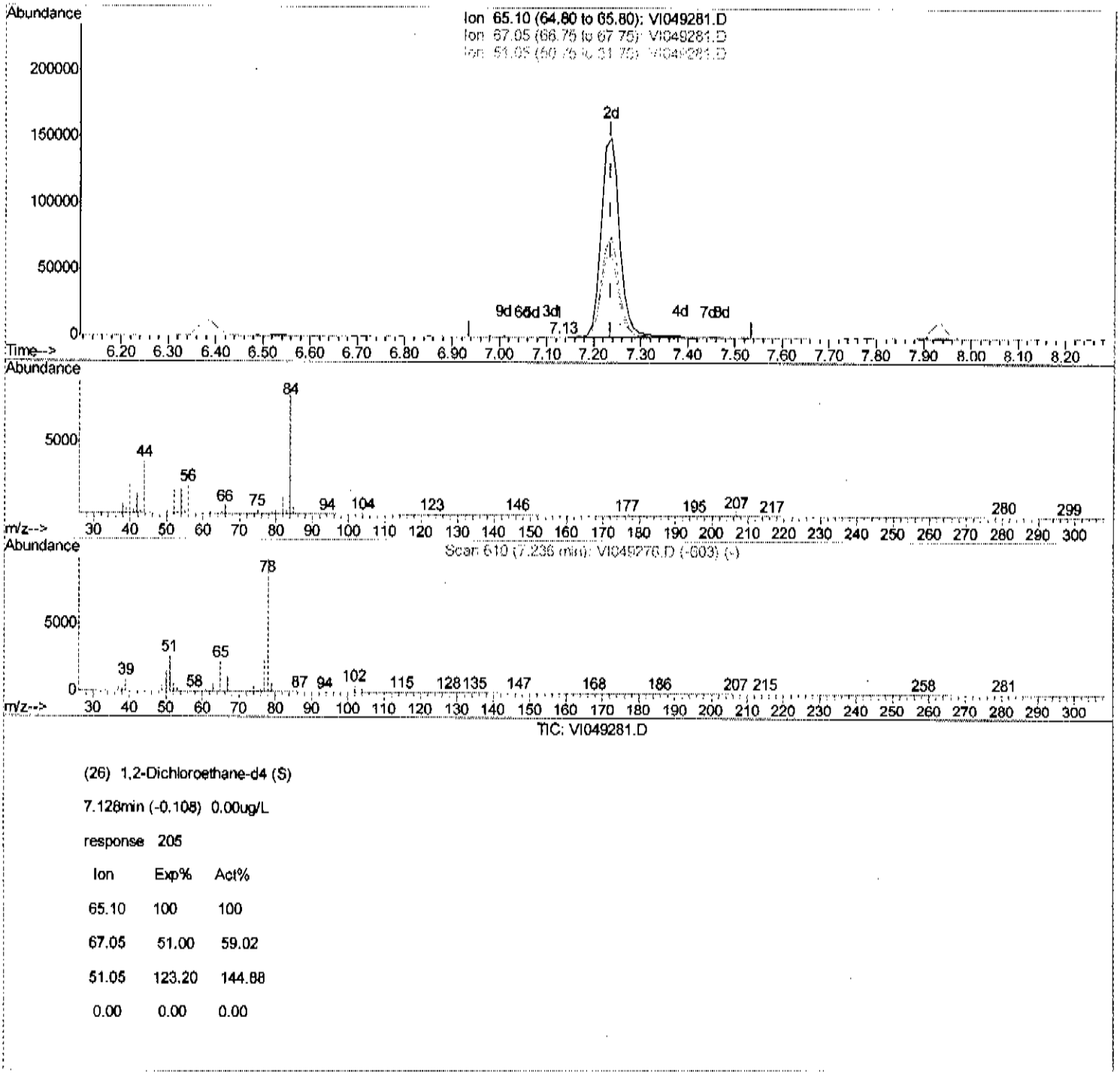
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 07 04:13:31 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4102DL

Manual Integrations APPROVED
feifei
5/9/2016 12:05:12 PM



(26) 1,2-Dichloroethane-d4 (S)

7.128min (-0.108) 0.00ug/L

response 205

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	59.02
51.05	123.20	144.88
0.00	0.00	0.00

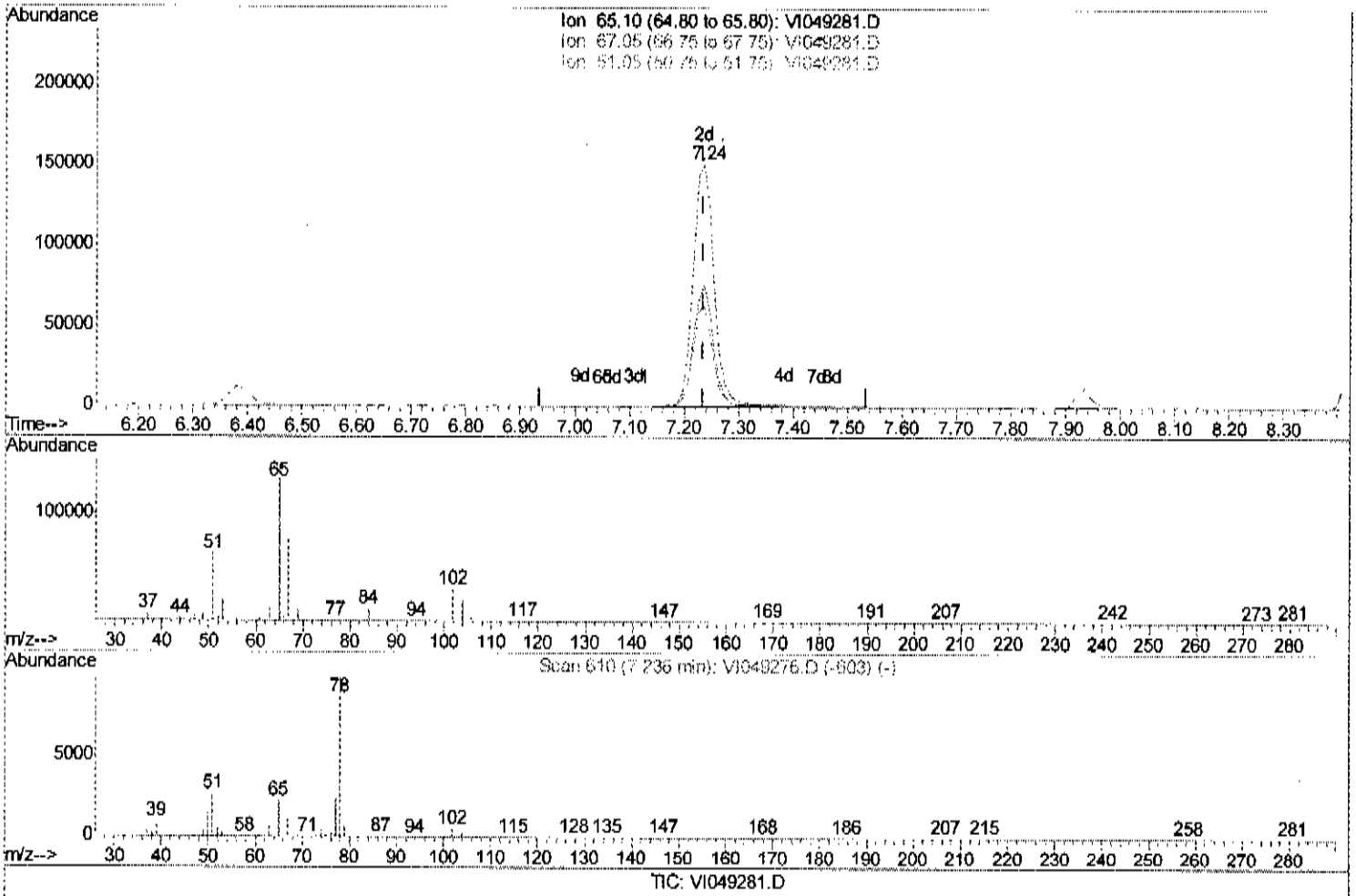
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 07 04:13:31 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4102DL

Manual Integrations APPROVED
feifei
5/9/2016 12:05:12 PM



(26) 1,2-Dichloroethane-d4 (S)

7.236min (-0.000) 5.37ug/L m

response 413037

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	0.03#
51.05	123.20	0.07#
0.00	0.00	0.00

FT
5/16/2016

Quantitation Report (QT Reviewed)

Instrument :
MSVOA_I
ClientSampleId :
H4102DL

Manual Integrations APPROVED
feifei
5/9/2016 12:05:12 PM

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049281.D
Acq On : 6 May 2016 13:52
Operator : FY/SY
Sample : H2834-18DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 07 04:37:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1200218	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	767967	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	282692	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.70	65	317423	4.30	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 86.00%			
7) Chloroethane-d5	2.11	69	200132	4.89	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 97.80%			
11) 1,1-Dichloroethene-d2	2.94	63	569404	3.27	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 65.40%			
20) 2-Butanone-d5	5.68	46	879445	54.97	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 109.94%			
24) Chloroform-d	6.38	84	885950	4.71	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 94.20%			
26) 1,2-Dichloroethane-d4	7.24	65	413037m	5.37	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 107.40%			
32) Benzene-d6	7.18	84	1550586	5.18	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 103.60%			
36) 1,2-Dichloropropane-d6	8.44	67	435455	5.18	ug/L	-0.01
Spiked Amount 5.000	Range 60 - 140		Recovery = 103.60%			
41) Toluene-d8	9.70	98	1061452	4.81	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.20%			
43) trans-1,3-Dichloropropene-	10.02	79	159612	4.82	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 96.40%			
46) 2-Hexanone-d5	10.42	43	564470	54.00	ug/L	-0.01
Spiked Amount 50.000	Range 45 - 130		Recovery = 108.00%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	187613	4.90	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 98.00%			
63) 1,2-Dichlorobenzene-d4	13.76	152	235455	4.75	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 95.00%			
Target Compounds						Qvalue
47) Tetrachloroethene	10.33	164	270682	4.52	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FY 5/16/2016

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049271.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	2.8	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.6	
71-55-6	1,1,1-Trichloroethane	0.57	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.30	J

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049271.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.12	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	34	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049271.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049271.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/06/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	5.79	0.31	J
2	E966796	Total Alkanes	N/A	0.0	

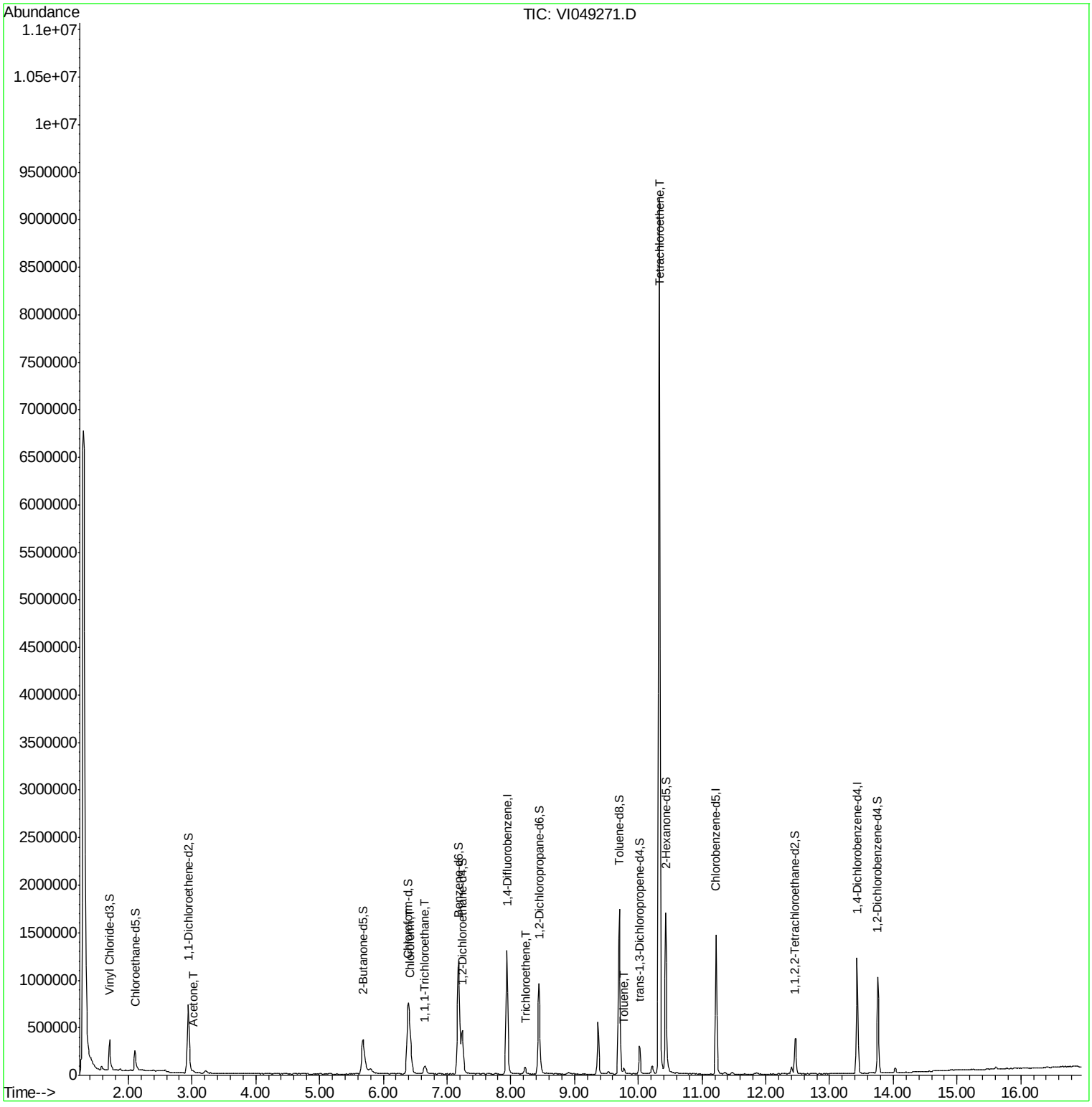
EPA-designated Registry Number.

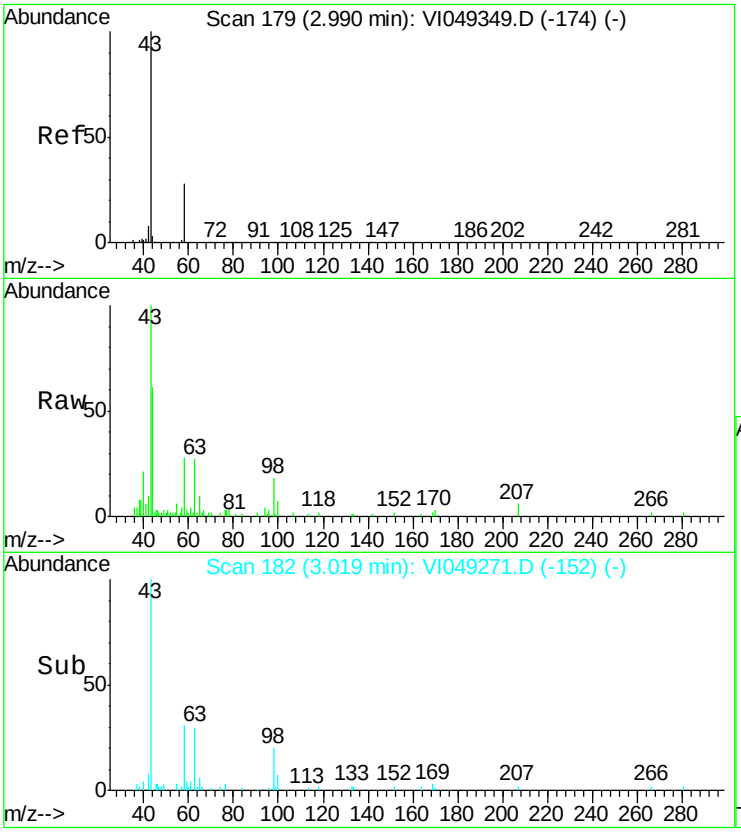
Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049271.D
Acq On : 6 May 2016 1:22
Operator : FY/SY
Sample : H2834-19
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 29 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116

Quant Time: May 18 18:04:56 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration



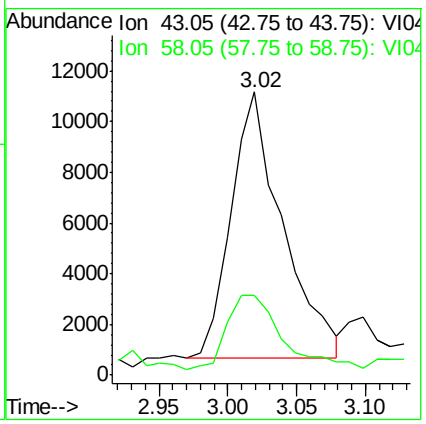


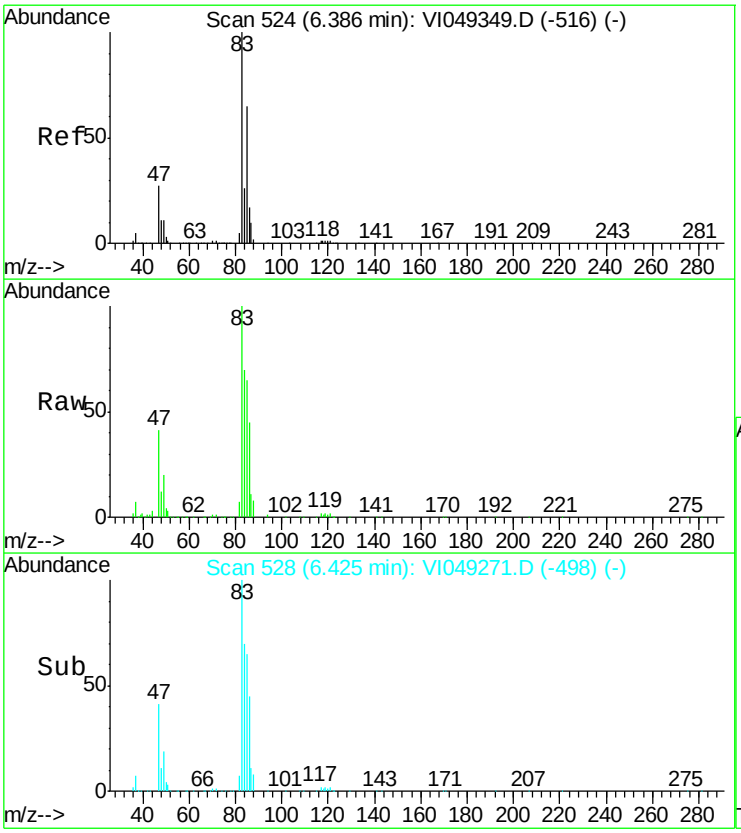
#13
Acetone
Concen: 2.83 ug/L
RT: 3.02 min Scan# 182
Delta R.T. -0.00 min
Lab File: VI049271.D
Acq: 6 May 2016 1:22

Instrument : MSVOA_I
ClientSampleId : H4116

Tgt Ion: 43 Resp: 27189

Ion	Ratio	Lower	Upper
43	100		
58	35.9	0.0	62.0

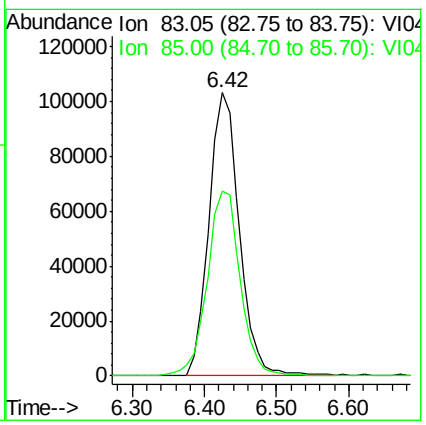


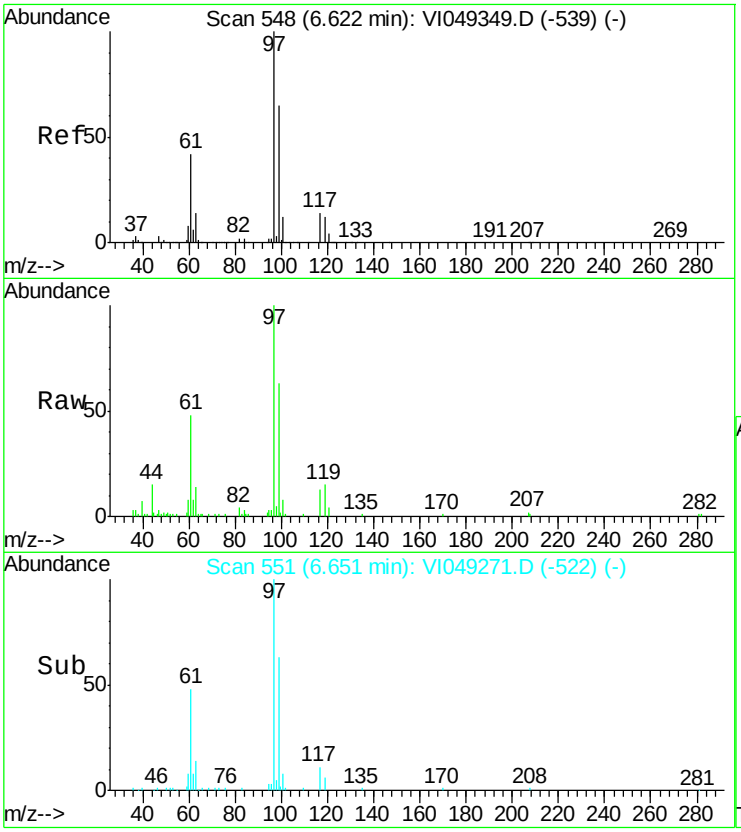


#25
Chloroform
Concen: 1.60 ug/L
RT: 6.42 min Scan# 528
Delta R.T. -0.00 min
Lab File: VI049271.D
Acq: 6 May 2016 1:22

Tgt Ion: 83 Resp: 299469

Ion	Ratio	Lower	Upper
83	100		
85	65.2	47.3	87.8



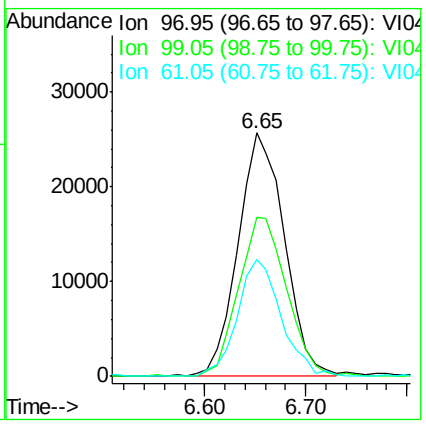


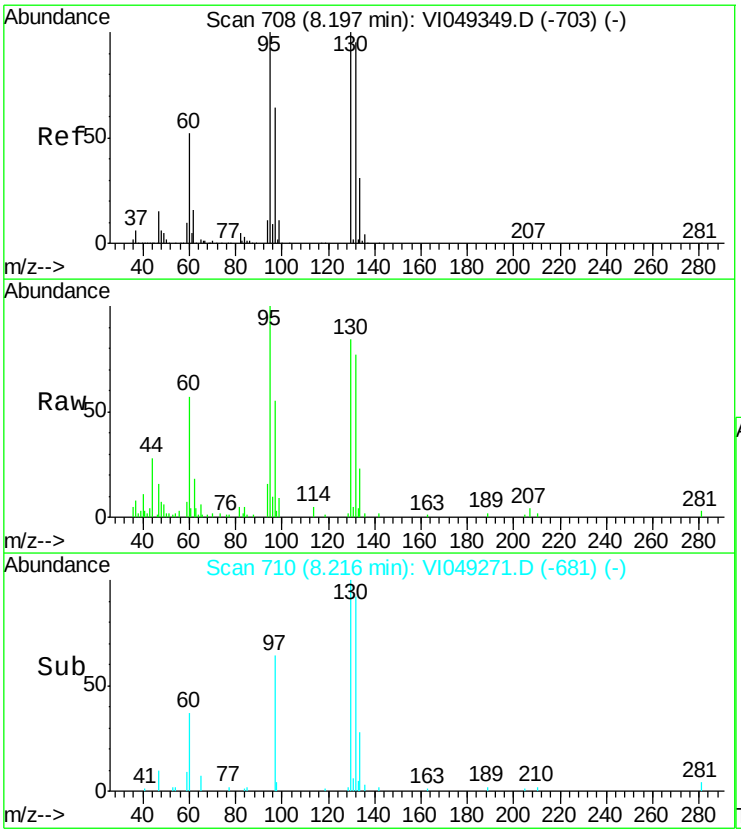
#29
1,1,1-Trichloroethane
Concen: 0.57 ug/L
RT: 6.65 min Scan# 551
Delta R.T. -0.01 min
Lab File: VI049271.D
Acq: 6 May 2016 1:22

Instrument : MSVOA_I
ClientSampleId : H4116

Tgt Ion: 97 Resp: 81947

Ion	Ratio	Lower	Upper
97	100		
99	67.6	51.1	76.7
61	45.0	33.3	49.9

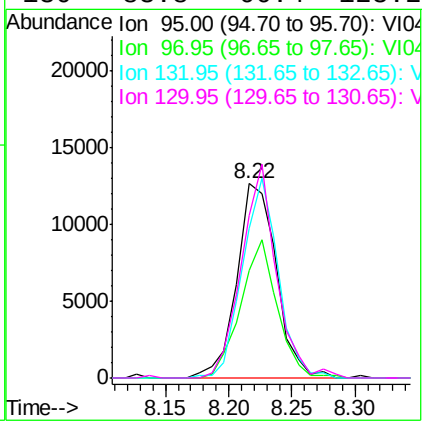


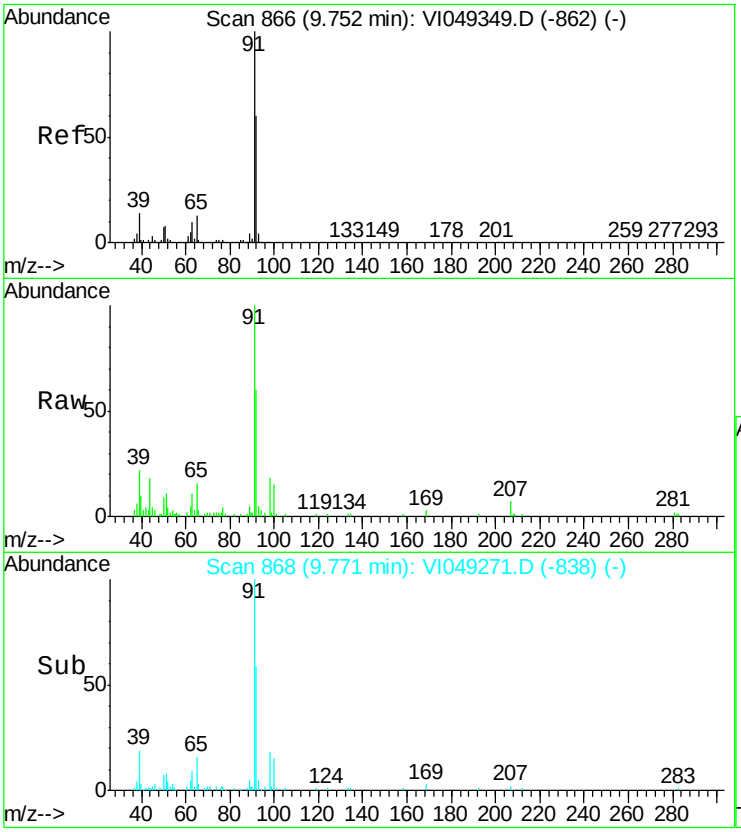


#34
Trichloroethene
Concen: 0.30 ug/L
RT: 8.22 min Scan# 710
Delta R.T. -0.01 min
Lab File: VI049271.D
Acq: 6 May 2016 1:22

Tgt Ion: 95 Resp: 27546

Ion	Ratio	Lower	Upper
95	100		
97	55.2	45.8	85.2
132	77.1	63.9	118.7
130	83.8	66.4	123.2



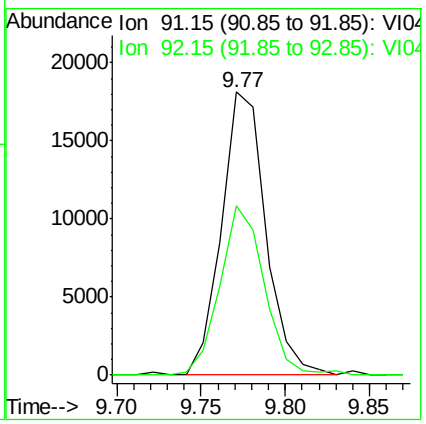


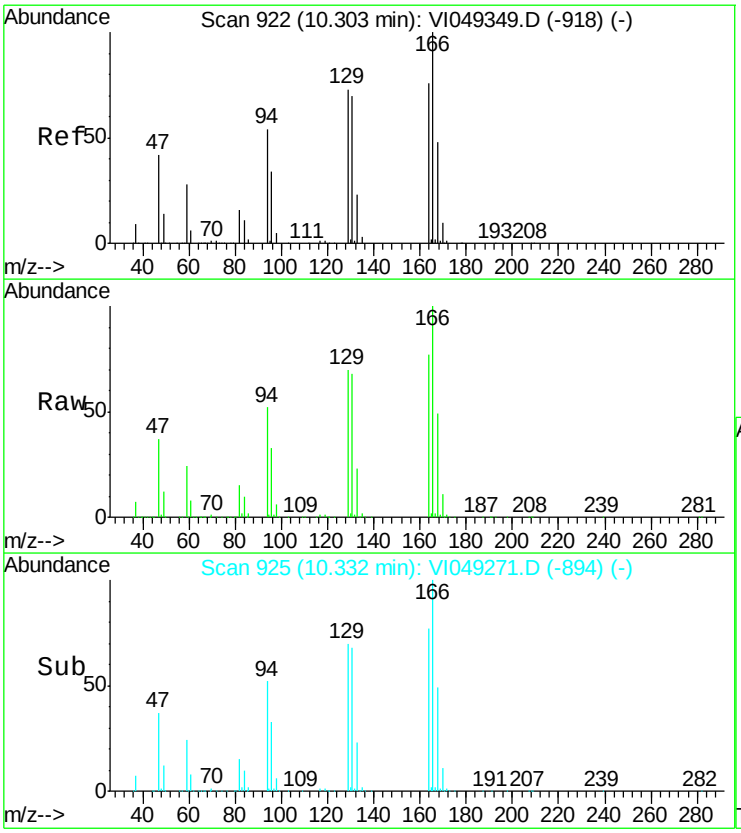
#42
Toluene
Concen: 0.12 ug/L
RT: 9.77 min Scan# 868
Delta R.T. -0.00 min
Lab File: VI049271.D
Acq: 6 May 2016 1:22

Instrument : MSVOA_I
ClientSampleId : H4116

Tgt Ion: 91 Resp: 33112

Ion	Ratio	Lower	Upper
91	100		
92	59.8	41.2	76.4

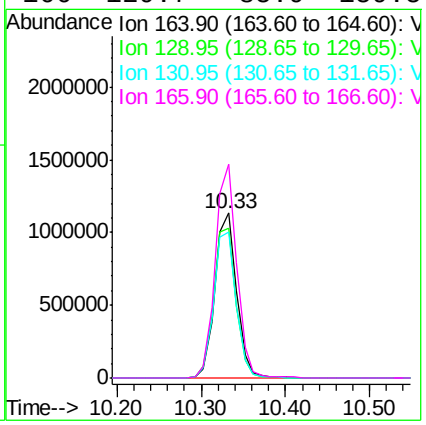




#47
Tetrachloroethene
Concen: 34.15 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.00 min
Lab File: VI049271.D
Acq: 6 May 2016 1:22

Tgt Ion:164 Resp: 2027476

Ion	Ratio	Lower	Upper
164	100		
129	91.1	62.1	115.3
131	88.6	60.6	112.6
166	129.7	85.9	159.5



Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049271.D
Acq On : 6 May 2016 1:22
Operator : FY/SY
Sample : H2834-19
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 29 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116

Quant Time: May 18 18:04:56 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1164003	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	760683	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	269617	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	327540	4.57	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 91.40%			
7) Chloroethane-d5	2.10	69	216109	5.44	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 108.80%			
11) 1,1-Dichloroethene-d2	2.94	63	578263	3.43	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 68.60%			
20) 2-Butanone-d5	5.68	46	866783	55.87	ug/L	-0.01
Spiked Amount 50.000	Range 40 - 130		Recovery = 111.74%			
24) Chloroform-d	6.40	84	897778	4.92	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.40%			
26) 1,2-Dichloroethane-d4	7.24	65	392227	5.26	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 105.20%			
32) Benzene-d6	7.18	84	1523831	5.14	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 102.80%			
36) 1,2-Dichloropropane-d6	8.44	67	435867	5.23	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 104.60%			
41) Toluene-d8	9.70	98	1058032	4.84	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.80%			
43) trans-1,3-Dichloropropene-	10.02	79	148184	4.51	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 90.20%			
46) 2-Hexanone-d5	10.43	63	541983	52.34	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 104.68%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	180671	4.77	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 95.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	226328	4.79	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 95.80%			
Target Compounds						Qvalue
13) Acetone	3.02	43	27189	2.83	ug/L	91
25) Chloroform	6.42	83	299469	1.60	ug/L	97
29) 1,1,1-Trichloroethane	6.65	97	81947	0.57	ug/L	95
34) Trichloroethene	8.22	95	27546	0.30	ug/L	87
42) Toluene	9.77	91	33112	0.12	ug/L	99
47) Tetrachloroethene	10.33	164	2027476	34.15	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049271.D
Acq On : 6 May 2016 1:22
Operator : FY/SY
Sample : H2834-19
Misc : 25mL/MSVOA I/WATER
ALS Vial : 29 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.297	3	7	18	rBV	6611264	17639929	100.00%	26.113%
2	1.582	33	36	38	rBV2	40615	59022	0.33%	0.087%
3	1.710	46	49	58	rBV	322623	535012	3.03%	0.792%
4	1.878	64	66	70	rVB2	28067	45018	0.26%	0.067%
5	1.956	73	74	75	rVB	9119	5629	0.03%	0.008%
6	2.104	86	89	96	rBV	210506	410266	2.33%	0.607%
7	2.390	115	118	120	rBV4	8803	20352	0.12%	0.030%
8	2.576	135	137	142	rVB	18564	26004	0.15%	0.038%
9	2.941	168	174	188	rBV	723780	1727221	9.79%	2.557%
10	3.128	191	193	196	rVV4	9214	13885	0.08%	0.021%
11	3.216	196	202	207	rVV2	25400	85393	0.48%	0.126%
12	3.285	207	209	213	rVV5	7117	14558	0.08%	0.022%
13	3.413	221	222	224	rBV2	4407	5592	0.03%	0.008%
14	3.580	237	239	240	rBV2	6352	7750	0.04%	0.011%
15	3.610	240	242	243	rVV	8023	10368	0.06%	0.015%
16	3.689	247	250	253	rVV4	3304	8348	0.05%	0.012%
17	3.748	254	256	258	rVB3	2934	4213	0.02%	0.006%
18	3.954	275	277	279	rBV3	2424	4935	0.03%	0.007%
19	3.994	279	281	286	rVV6	3079	6554	0.04%	0.010%
20	4.141	294	296	297	rBV	4013	4283	0.02%	0.006%
21	4.309	309	313	315	rBV5	6574	12625	0.07%	0.019%
22	4.368	317	319	321	rVB3	4067	5062	0.03%	0.007%
23	4.397	321	322	324	rBV2	4122	5772	0.03%	0.009%
24	4.446	324	327	328	rBV3	3355	5812	0.03%	0.009%
25	4.594	340	342	343	rBV2	3217	5020	0.03%	0.007%
26	4.722	353	355	358	rBV3	3364	6039	0.03%	0.009%
27	4.811	362	364	368	rBV3	4225	7331	0.04%	0.011%
28	5.145	396	398	403	rVB4	3913	9591	0.05%	0.014%
29	5.273	407	411	414	rVB6	2776	7663	0.04%	0.011%
30	5.480	429	432	433	rBV2	4216	5066	0.03%	0.007%
31	5.687	446	453	460	rBV	366469	1260170	7.14%	1.865%
32	5.795	461	464	473	rVB3	49501	176396	1.00%	0.261%
33	6.070	491	492	495	rVB2	5555	6601	0.04%	0.010%
34	6.110	495	496	497	rBV	6628	5422	0.03%	0.008%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049271.D
Acq On : 6 May 2016 1:22
Operator : FY/SY
Sample : H2834-19
Misc : 25mL/MSVOA I/WATER
ALS Vial : 29 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.208	505	506	509	rBV3	4154	6512	0.04%	0.010%
36	6.257	509	511	513	rVB3	3368	5052	0.03%	0.007%
37	6.395	518	525	539	rBV2	751060	2856999	16.20%	4.229%
38	6.651	544	551	558	rVV2	79239	263425	1.49%	0.390%
39	6.818	566	568	571	rBV4	2940	4551	0.03%	0.007%
40	7.045	589	591	594	rBV4	4241	7908	0.04%	0.012%
41	7.183	598	605	608	rBV	1184465	3125224	17.72%	4.626%
42	7.242	608	611	619	rVB	452593	1104082	6.26%	1.634%
43	7.576	641	645	648	rVB5	5612	12884	0.07%	0.019%
44	7.655	648	653	660	rVB10	5352	18799	0.11%	0.028%
45	7.753	660	663	667	rBV5	6472	13529	0.08%	0.020%
46	7.940	676	682	695	rBV	1297056	2873814	16.29%	4.254%
47	8.226	705	711	718	rVB	74867	162412	0.92%	0.240%
48	8.344	721	723	725	rBV3	2907	4552	0.03%	0.007%
49	8.442	727	733	743	rBV	951392	2096339	11.88%	3.103%
50	8.560	743	745	749	rVV4	10034	19125	0.11%	0.028%
51	8.639	749	753	756	rVV6	4123	9518	0.05%	0.014%
52	8.708	758	760	762	rVB3	3196	4790	0.03%	0.007%
53	8.915	776	781	786	rBV7	16925	51755	0.29%	0.077%
54	9.053	794	795	799	rVB5	3330	5119	0.03%	0.008%
55	9.131	799	803	805	rVB4	3797	6765	0.04%	0.010%
56	9.367	822	827	833	rBV	545517	961828	5.45%	1.424%
57	9.525	839	843	847	rVV2	24998	47200	0.27%	0.070%
58	9.702	856	861	866	rBV	1732323	3063719	17.37%	4.535%
59	9.771	866	868	875	rVV	59388	112526	0.64%	0.167%
60	10.017	889	893	901	rBV	292331	524384	2.97%	0.776%
61	10.165	904	908	909	rVV4	4854	11760	0.07%	0.017%
62	10.224	909	914	920	rVV	82613	191653	1.09%	0.284%
63	10.332	920	925	931	rVV	9207587	17181771	97.40%	25.435%
64	10.430	931	935	946	rVV	1692632	2963537	16.80%	4.387%
65	10.598	949	952	958	rVB6	7741	23188	0.13%	0.034%
66	10.814	971	974	976	rBV3	3797	6936	0.04%	0.010%
67	10.952	986	988	989	rVB2	4428	4337	0.02%	0.006%
68	11.139	1003	1007	1009	rVB5	4557	7507	0.04%	0.011%
69	11.218	1011	1015	1022	rBV	1465988	2659092	15.07%	3.936%
70	11.356	1025	1029	1035	rVB2	18573	48424	0.27%	0.072%
71	11.474	1037	1041	1044	rBV4	20273	39812	0.23%	0.059%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049271.D
Acq On : 6 May 2016 1:22
Operator : FY/SY
Sample : H2834-19
Misc : 25mL/MSVOA I/WATER
ALS Vial : 29 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.562	1048	1050	1053	rVB4	2814	5043	0.03%	0.007%
73	11.720	1062	1066	1069	rVB5	3629	8013	0.05%	0.012%
74	11.759	1069	1070	1072	rBV2	3868	5956	0.03%	0.009%
75	11.858	1074	1080	1085	rBV7	14907	45153	0.26%	0.067%
76	11.917	1085	1086	1090	rVB4	5398	7446	0.04%	0.011%
77	12.113	1103	1106	1107	rBV3	4920	6530	0.04%	0.010%
78	12.192	1113	1114	1118	rBV3	3298	4777	0.03%	0.007%
79	12.271	1118	1122	1123	rBV3	3840	7791	0.04%	0.012%
80	12.409	1132	1136	1138	rBV2	74167	140038	0.79%	0.207%
81	12.458	1138	1141	1148	rVB	371752	676748	3.84%	1.002%
82	12.655	1158	1161	1163	rVB3	5841	7271	0.04%	0.011%
83	12.911	1185	1187	1189	rVB3	3760	5723	0.03%	0.008%
84	12.940	1189	1190	1193	rBV3	3195	4936	0.03%	0.007%
85	13.088	1201	1205	1208	rVB5	4402	11263	0.06%	0.017%
86	13.235	1216	1220	1221	rBV4	3896	5569	0.03%	0.008%
87	13.275	1221	1224	1227	rBV5	5164	11887	0.07%	0.018%
88	13.334	1227	1230	1231	rBV3	5162	7941	0.05%	0.012%
89	13.373	1231	1234	1236	rBV4	5273	10057	0.06%	0.015%
90	13.432	1236	1240	1247	rBV	1215872	1993985	11.30%	2.952%
91	13.659	1262	1263	1268	rVB5	5554	8758	0.05%	0.013%
92	13.757	1268	1273	1280	rBV	1007726	1719190	9.75%	2.545%
93	14.033	1297	1301	1307	rVB	50643	99877	0.57%	0.148%
94	14.200	1316	1318	1322	rVB5	8539	17516	0.10%	0.026%
95	14.269	1322	1325	1326	rBV3	4996	11233	0.06%	0.017%
96	14.318	1326	1330	1331	rBV4	7824	14033	0.08%	0.021%
97	14.416	1339	1340	1343	rBV3	5355	8413	0.05%	0.012%
98	14.466	1343	1345	1346	rBV2	4363	5878	0.03%	0.009%
99	14.564	1354	1355	1356	rBV	8951	6741	0.04%	0.010%
100	15.607	1459	1461	1465	rVB3	21124	40449	0.23%	0.060%

Sum of corrected areas: 67551945

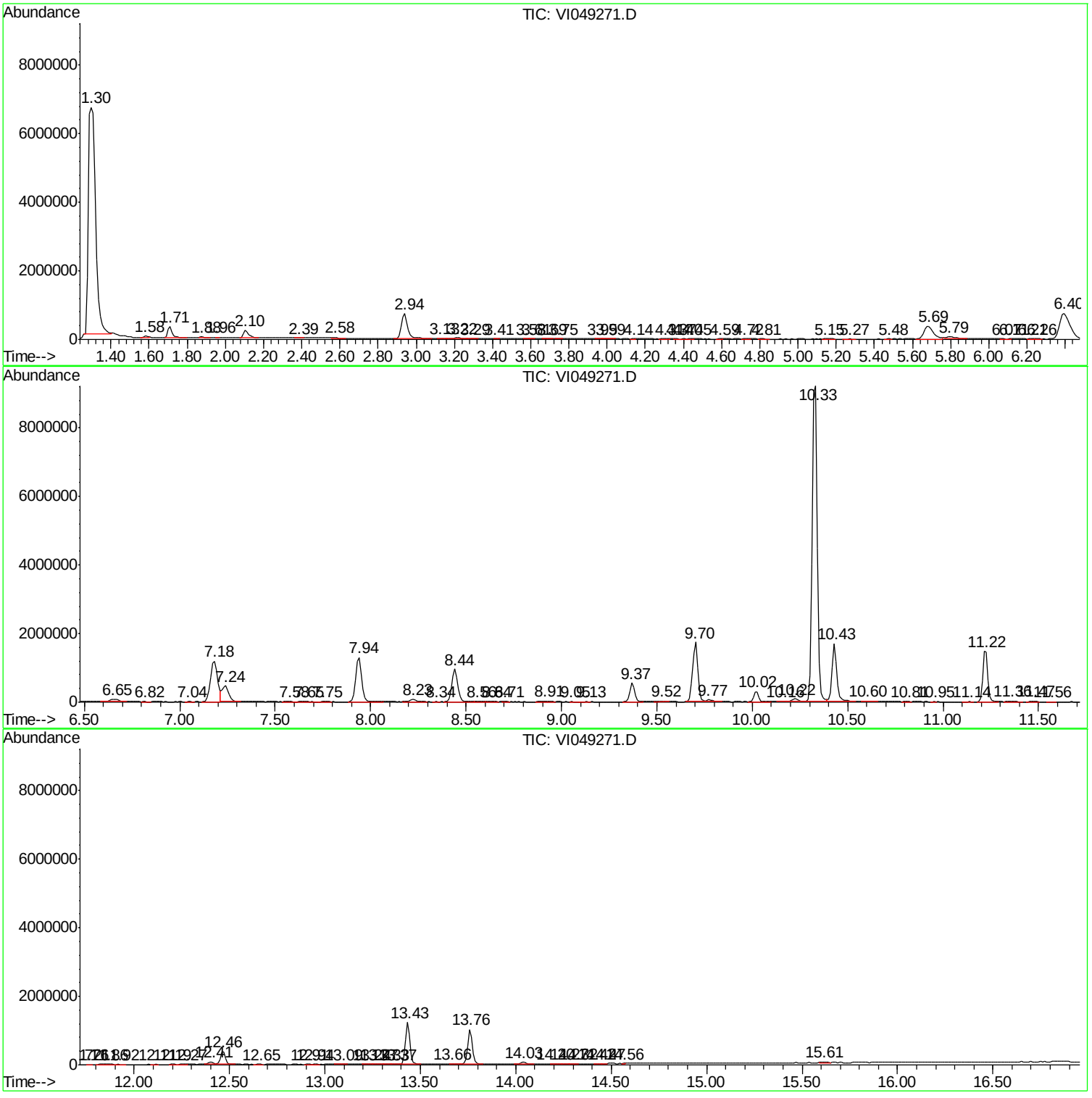
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049271.D
Acq On : 6 May 2016 1:22
Operator : FY/SY
Sample : H2834-19
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 29 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049271.D
Acq On : 6 May 2016 1:22
Operator : FY/SY
Sample : H2834-19
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 29 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

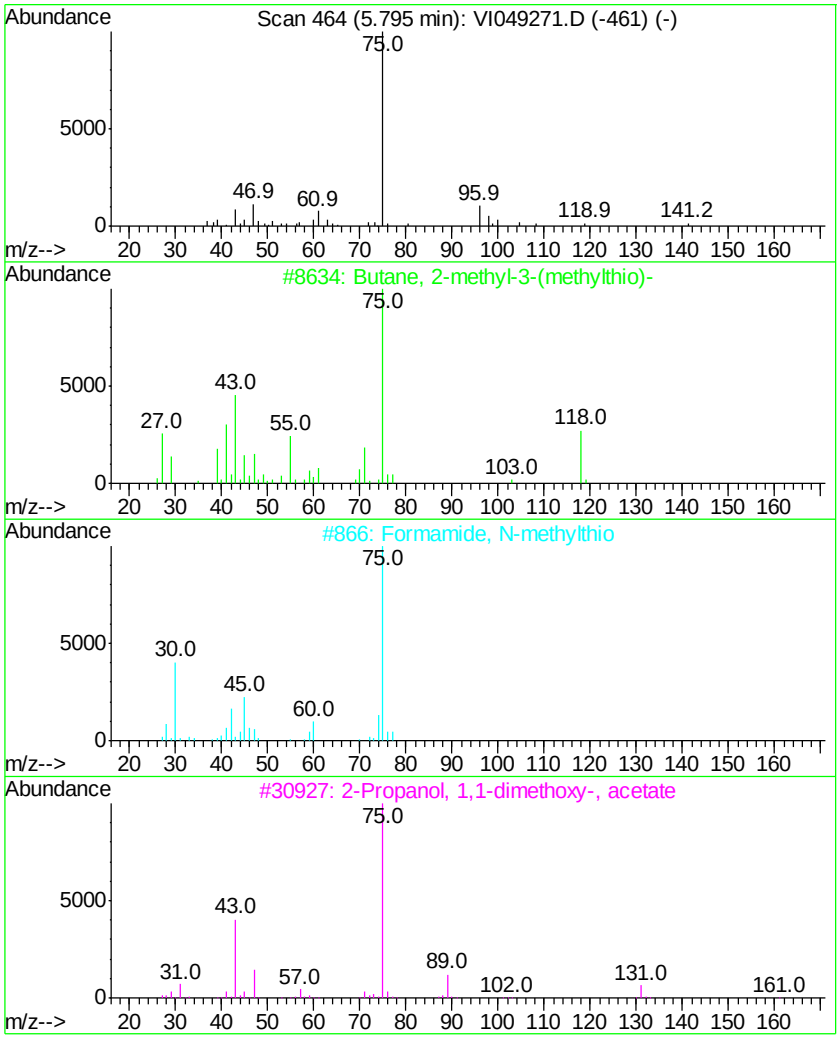
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

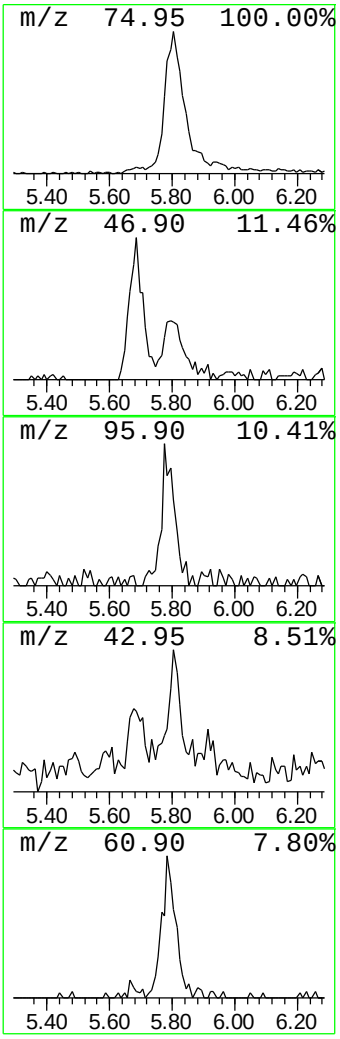
****

Peak Number 2 unknown-01 Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.79	0.31 ug/L	176396	1,4-Difluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methyl-3-(methylthio)-	118	C6H14S	053897-51-1	39
2	Formamide, N-methylthio	75	C2H5NS	018952-41-5	9
3	2-Propanol, 1,1-dimethoxy-, acetate	162	C7H14O4	074495-37-7	9
4	Silane, trimethyl(1-methylethoxy)-	132	C6H16OSi	001825-64-5	9
5	2-Octanol, 8,8-dimethoxy-2,6-dim...	218	C12H26O3	000141-92-4	9





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049271.D
Acq On : 6 May 2016 1:22
Operator : FY/SY
Sample : H2834-19
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 29 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
unknown-01	5.79	0.3	ug/L	176396	1	7.94	2873810	5.0

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4116DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049286.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4116DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049286.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	23	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4116DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049286.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4116DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-19DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049286.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/06/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 5.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

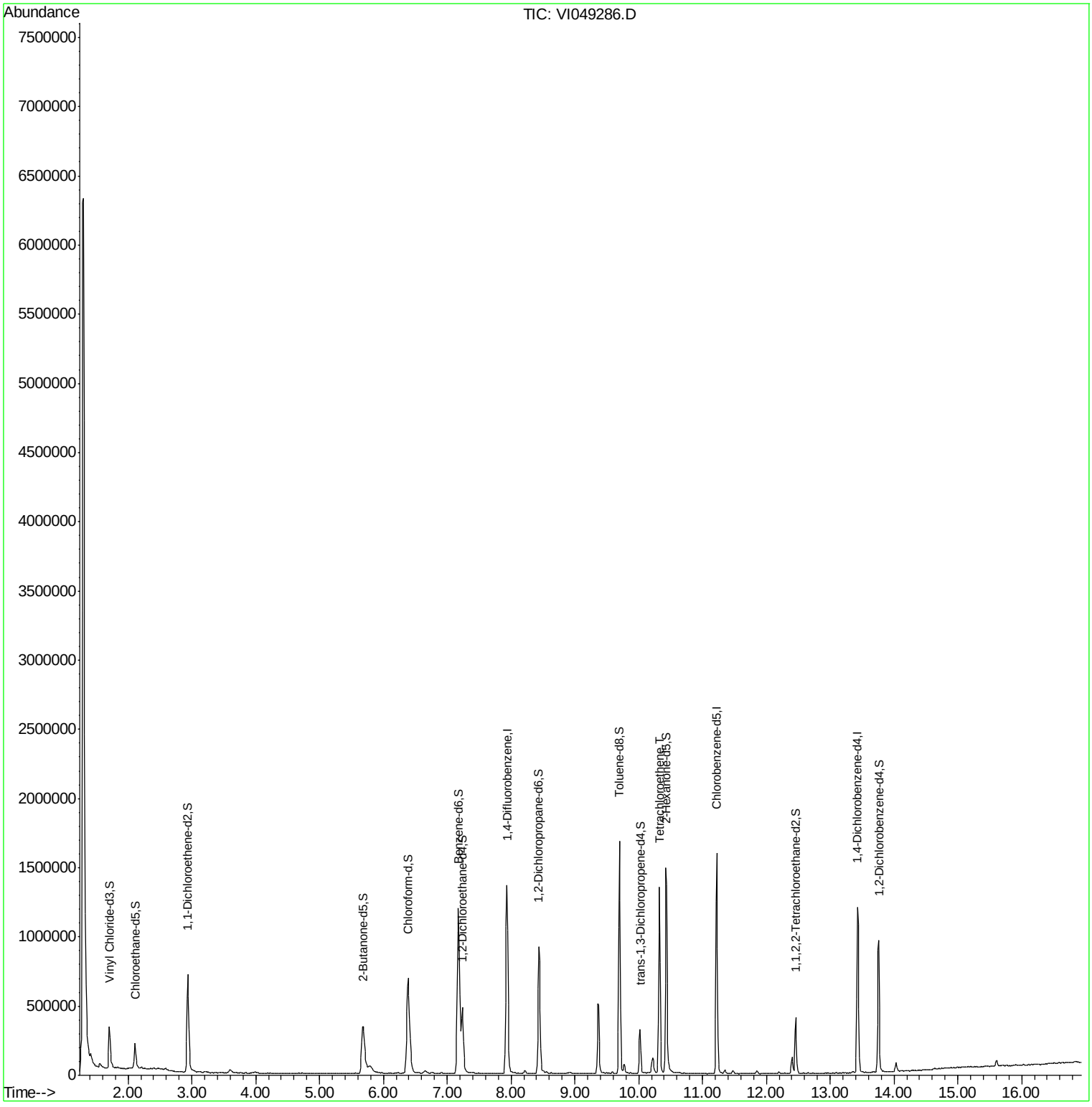
EPA-designated Registry Number.

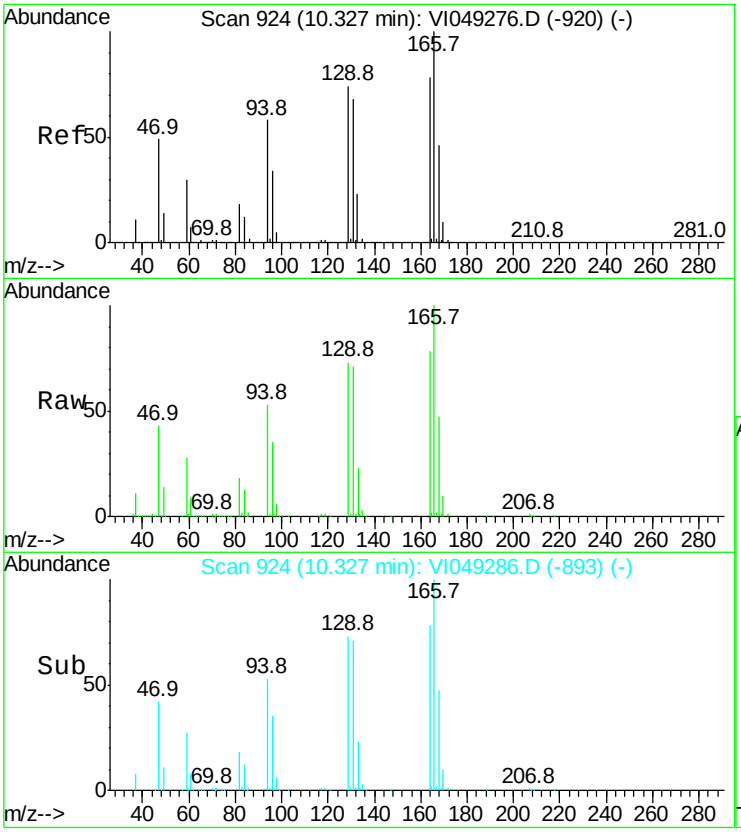
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049286.D
Acq On : 6 May 2016 17:09
Operator : FY/SY
Sample : H2834-19DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116DL

Quant Time: May 07 05:05:29 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration



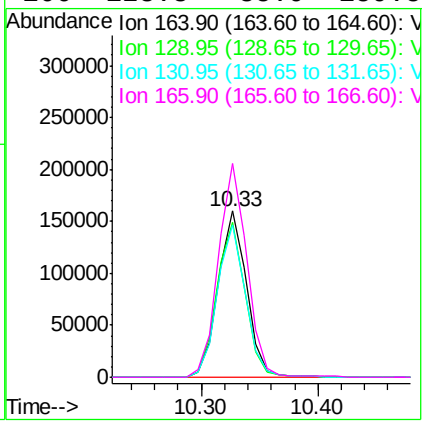


#47
Tetrachloroethene
Concen: 4.52 ug/L
RT: 10.33 min Scan# 924
Delta R.T. 0.00 min
Lab File: VI049286.D
Acq: 6 May 2016 17:09

Instrument :
MSVOA_I
ClientSampleId :
H4116DL

Tgt Ion:164 Resp: 269266

Ion	Ratio	Lower	Upper
164	100		
129	93.5	62.1	115.3
131	92.1	60.6	112.6
166	128.8	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049286.D
Acq On : 6 May 2016 17:09
Operator : FY/SY
Sample : H2834-19DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116DL

Quant Time: May 07 05:05:29 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1179943	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	763648	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	276848	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	308480	4.25	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 85.00%			
7) Chloroethane-d5	2.11	69	207332	5.15	ug/L	0.01
Spiked Amount 5.000	Range 65 - 130		Recovery = 103.00%			
11) 1,1-Dichloroethene-d2	2.94	63	549655	3.21	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 64.20%			
20) 2-Butanone-d5	5.67	46	838699	53.33	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 106.66%			
24) Chloroform-d	6.39	84	848433	4.59	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 91.80%			
26) 1,2-Dichloroethane-d4	7.24	65	388170	5.13	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.60%			
32) Benzene-d6	7.18	84	1463331	4.92	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.40%			
36) 1,2-Dichloropropane-d6	8.44	67	423647	5.06	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 101.20%			
41) Toluene-d8	9.70	98	1023270	4.66	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 93.20%			
43) trans-1,3-Dichloropropene-	10.02	79	145673	4.42	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 88.40%			
46) 2-Hexanone-d5	10.43	63	520865	50.11	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 100.22%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	178835	4.70	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 94.00%			
63) 1,2-Dichlorobenzene-d4	13.76	152	225908	4.65	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 93.00%			
Target Compounds						Qvalue
47) Tetrachloroethene	10.33	164	269266	4.52	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049286.D
Acq On : 6 May 2016 17:09
Operator : FY/SY
Sample : H2834-19DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.302	3	7	17	rVB	6196678	14590670	100.00%	30.159%
2	1.558	30	33	37	rBV3	30649	50812	0.35%	0.105%
3	1.705	45	48	57	rBV	297950	494787	3.39%	1.023%
4	2.109	85	89	97	rVB	179865	361989	2.48%	0.748%
5	2.463	123	125	131	rVV7	8323	26097	0.18%	0.054%
6	2.591	134	138	146	rVB3	22893	72800	0.50%	0.150%
7	2.936	168	173	187	rVB	705555	1588871	10.89%	3.284%
8	3.221	198	202	204	rVV3	6435	13944	0.10%	0.029%
9	3.280	206	208	209	rVB2	6354	6183	0.04%	0.013%
10	3.428	221	223	226	rBV4	3879	7458	0.05%	0.015%
11	3.595	236	240	251	rVB4	23204	71790	0.49%	0.148%
12	3.851	263	266	267	rBV2	4169	6844	0.05%	0.014%
13	3.989	278	280	284	rVV5	5797	10577	0.07%	0.022%
14	4.589	337	341	344	rBV6	3606	6945	0.05%	0.014%
15	4.727	353	355	358	rVB3	3792	6556	0.04%	0.014%
16	5.150	396	398	400	rVB3	3908	5870	0.04%	0.012%
17	5.681	445	452	460	rBV	340296	1226891	8.41%	2.536%
18	5.927	476	477	480	rVB3	5805	5856	0.04%	0.012%
19	5.977	480	482	488	rVB6	4967	14092	0.10%	0.029%
20	6.114	494	496	500	rVB4	3370	7963	0.05%	0.016%
21	6.203	502	505	506	rBV2	4377	7169	0.05%	0.015%
22	6.233	506	508	514	rVB6	4326	10863	0.07%	0.022%
23	6.390	516	524	538	rBV	685395	2177616	14.92%	4.501%
24	6.656	544	551	554	rBV4	19015	61667	0.42%	0.127%
25	6.744	558	560	561	rBV2	4692	5815	0.04%	0.012%
26	6.912	572	577	579	rBV4	6318	15449	0.11%	0.032%
27	6.941	579	580	584	rVB4	5117	9299	0.06%	0.019%
28	7.010	584	587	590	rBV4	3980	10060	0.07%	0.021%
29	7.059	590	592	596	rBV4	2861	6443	0.04%	0.013%
30	7.177	597	604	608	rVV	1194429	3176904	21.77%	6.567%
31	7.236	608	610	620	rVV	480708	1039458	7.12%	2.149%
32	7.355	620	622	625	rVV4	10287	24459	0.17%	0.051%
33	7.404	625	627	630	rVV4	6456	14893	0.10%	0.031%
34	7.463	630	633	634	rVV3	2935	6056	0.04%	0.013%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049286.D
Acq On : 6 May 2016 17:09
Operator : FY/SY
Sample : H2834-19DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	7.492	634	636	637	rVV	4678	6288	0.04%	0.013%
36	7.522	637	639	640	rVV2	4173	5590	0.04%	0.012%
37	7.847	670	672	675	rBV4	2727	5729	0.04%	0.012%
38	7.935	675	681	692	rVV	1359926	2920007	20.01%	6.036%
39	8.053	692	693	694	rVV	7553	7666	0.05%	0.016%
40	8.112	697	699	702	rVV3	4686	8372	0.06%	0.017%
41	8.221	705	710	716	rVV4	20685	52681	0.36%	0.109%
42	8.329	718	721	723	rVB4	4204	6970	0.05%	0.014%
43	8.437	727	732	741	rVV	916647	2035892	13.95%	4.208%
44	8.555	742	744	748	rVV5	13912	28126	0.19%	0.058%
45	8.624	750	751	754	rVV3	5764	10291	0.07%	0.021%
46	8.831	769	772	775	rBV4	3648	9709	0.07%	0.020%
47	8.900	775	779	780	rVV4	7378	13116	0.09%	0.027%
48	8.998	787	789	792	rVB4	4232	6882	0.05%	0.014%
49	9.047	792	794	796	rVB3	4783	6754	0.05%	0.014%
50	9.077	796	797	800	rBV3	3226	5475	0.04%	0.011%
51	9.126	800	802	806	rBV5	2575	6324	0.04%	0.013%
52	9.362	822	826	833	rBV	503474	961804	6.59%	1.988%
53	9.490	838	839	842	rVV3	3898	6901	0.05%	0.014%
54	9.589	845	849	852	rVB3	11914	21590	0.15%	0.045%
55	9.697	855	860	865	rBV	1680323	2930920	20.09%	6.058%
56	9.776	865	868	872	rVV	66241	129714	0.89%	0.268%
57	9.835	872	874	876	rVV3	5235	8315	0.06%	0.017%
58	9.874	876	878	884	rVB6	5045	13393	0.09%	0.028%
59	10.022	888	893	900	rBV	317351	539282	3.70%	1.115%
60	10.110	900	902	903	rVV2	6750	8193	0.06%	0.017%
61	10.130	903	904	907	rVV3	8042	17202	0.12%	0.036%
62	10.219	909	913	919	rVV	115445	267286	1.83%	0.552%
63	10.327	919	924	930	rVV	1345710	2322345	15.92%	4.800%
64	10.425	930	934	948	rVV	1486034	2814161	19.29%	5.817%
65	10.573	948	949	950	rVV	8569	7903	0.05%	0.016%
66	10.602	950	952	954	rVV3	7661	14961	0.10%	0.031%
67	10.632	954	955	960	rVV5	7255	13215	0.09%	0.027%
68	10.858	977	978	982	rVB4	4871	7684	0.05%	0.016%
69	10.976	985	990	991	rBV4	3500	6371	0.04%	0.013%
70	11.134	1002	1006	1008	rBV5	2456	5713	0.04%	0.012%
71	11.222	1011	1015	1024	rBV	1591002	2696048	18.48%	5.573%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049286.D
Acq On : 6 May 2016 17:09
Operator : FY/SY
Sample : H2834-19DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.350	1025	1028	1034	rVB2	26466	47980	0.33%	0.099%
73	11.469	1034	1040	1044	rBV2	21377	51998	0.36%	0.107%
74	11.518	1044	1045	1050	rVB5	4655	8411	0.06%	0.017%
75	11.852	1074	1079	1084	rVB4	20800	56948	0.39%	0.118%
76	12.049	1096	1099	1102	rBV4	4353	9585	0.07%	0.020%
77	12.197	1108	1114	1117	rBV3	14667	31795	0.22%	0.066%
78	12.285	1121	1123	1127	rVB4	5480	9702	0.07%	0.020%
79	12.403	1131	1135	1138	rBV	117617	219963	1.51%	0.455%
80	12.463	1138	1141	1146	rVB	405562	682706	4.68%	1.411%
81	12.581	1151	1153	1155	rVB3	4581	5896	0.04%	0.012%
82	12.659	1155	1161	1163	rBV7	6501	14300	0.10%	0.030%
83	12.955	1190	1191	1196	rBV4	3677	8866	0.06%	0.018%
84	13.083	1203	1204	1209	rVB5	5441	10729	0.07%	0.022%
85	13.161	1209	1212	1214	rBV4	4122	7909	0.05%	0.016%
86	13.201	1214	1216	1218	rBV3	3020	5467	0.04%	0.011%
87	13.230	1218	1219	1221	rVB2	5981	6155	0.04%	0.013%
88	13.358	1228	1232	1235	rBV5	12005	29308	0.20%	0.061%
89	13.427	1235	1239	1250	rVV	1193205	2097239	14.37%	4.335%
90	13.555	1250	1252	1255	rVB3	3923	5957	0.04%	0.012%
91	13.673	1263	1264	1268	rBV4	4872	9903	0.07%	0.020%
92	13.762	1268	1273	1279	rBV	947895	1700474	11.65%	3.515%
93	14.027	1297	1300	1306	rBV2	66060	127518	0.87%	0.264%
94	14.096	1306	1307	1311	rBV4	4376	8986	0.06%	0.019%
95	14.185	1314	1316	1318	rBV3	5066	6599	0.05%	0.014%
96	14.283	1322	1326	1327	rBV4	10108	18661	0.13%	0.039%
97	14.303	1327	1328	1330	rBV2	7301	9710	0.07%	0.020%
98	14.480	1344	1346	1347	rBV2	5019	6172	0.04%	0.013%
99	15.612	1457	1461	1466	rBV	42994	92390	0.63%	0.191%
100	16.104	1509	1511	1514	rBV4	10100	15667	0.11%	0.032%

Sum of corrected areas: 48379013

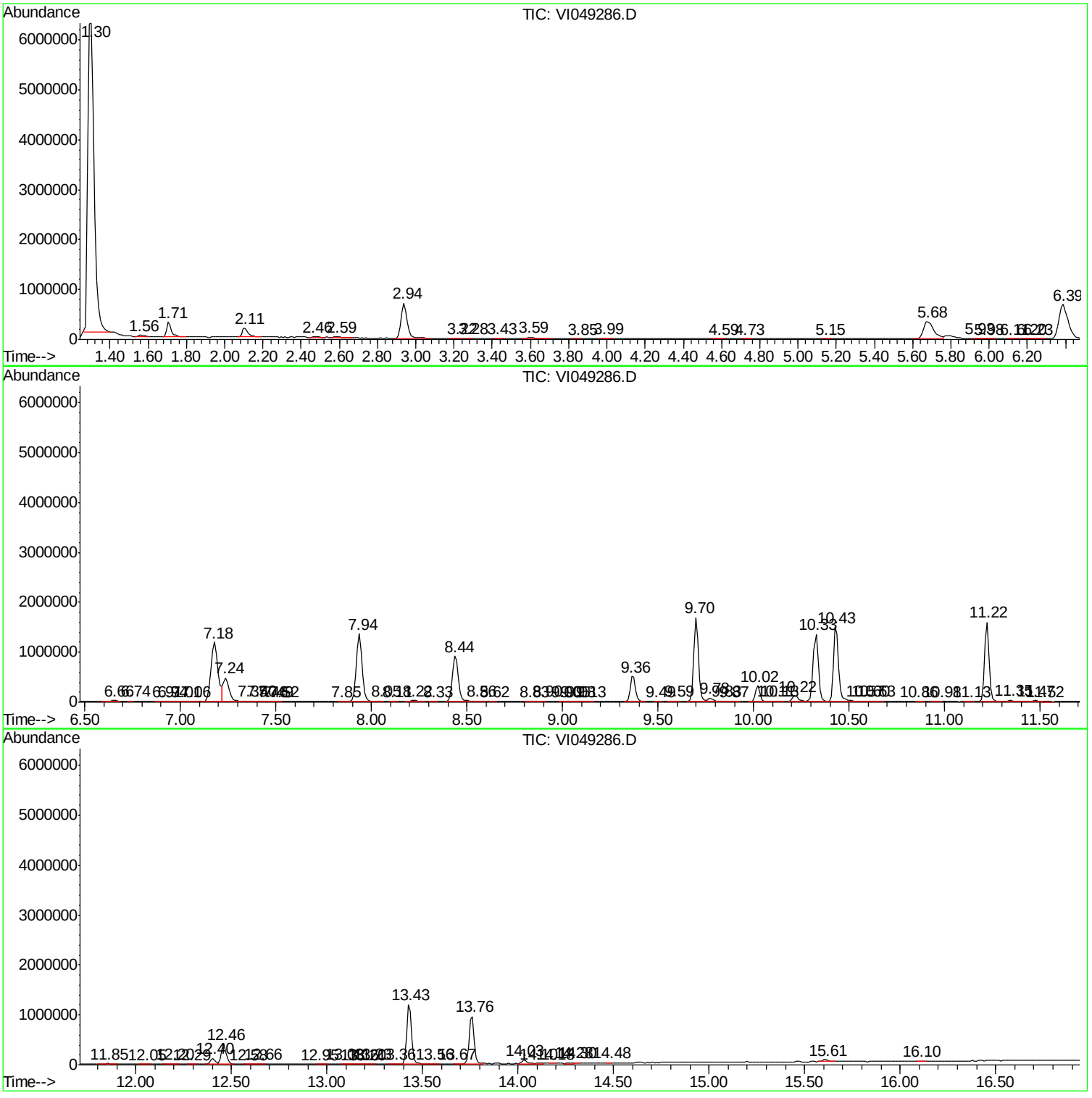
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049286.D
Acq On : 6 May 2016 17:09
Operator : FY/SY
Sample : H2834-19DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049286.D
Acq On : 6 May 2016 17:09
Operator : FY/SY
Sample : H2834-19DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4116DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049286.D
Acq On : 6 May 2016 17:09
Operator : FY/SY
Sample : H2834-19DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4116DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049280.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	4.8	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.57	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.8	
71-55-6	1,1,1-Trichloroethane	0.37	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.61	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049280.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	19	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049280.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049280.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/06/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000067-63-0	Isopropyl Alcohol	3.22	0.26	JN
2	E966796	Total Alkanes	N/A	0.0	

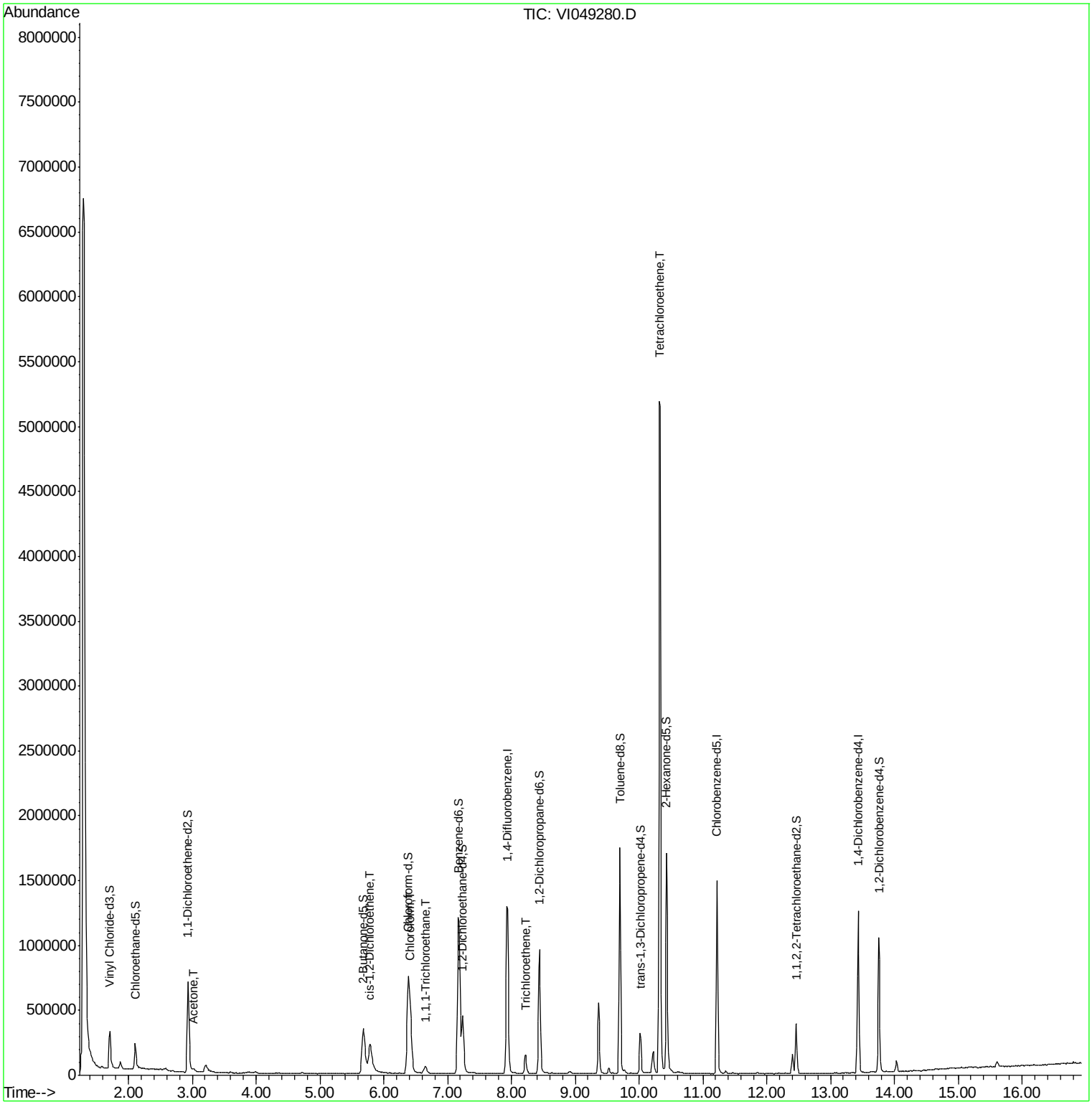
EPA-designated Registry Number.

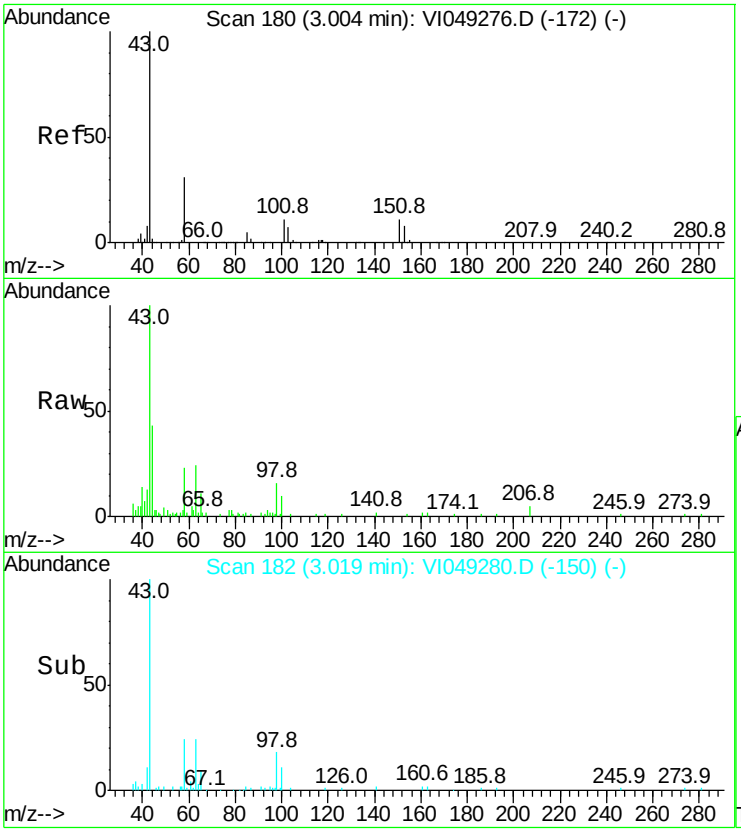
Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049280.D
Acq On : 6 May 2016 13:20
Operator : FY/SY
Sample : H2834-20
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4117

Quant Time: May 07 04:32:13 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration



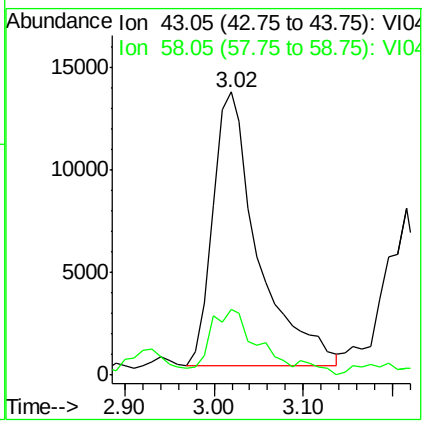


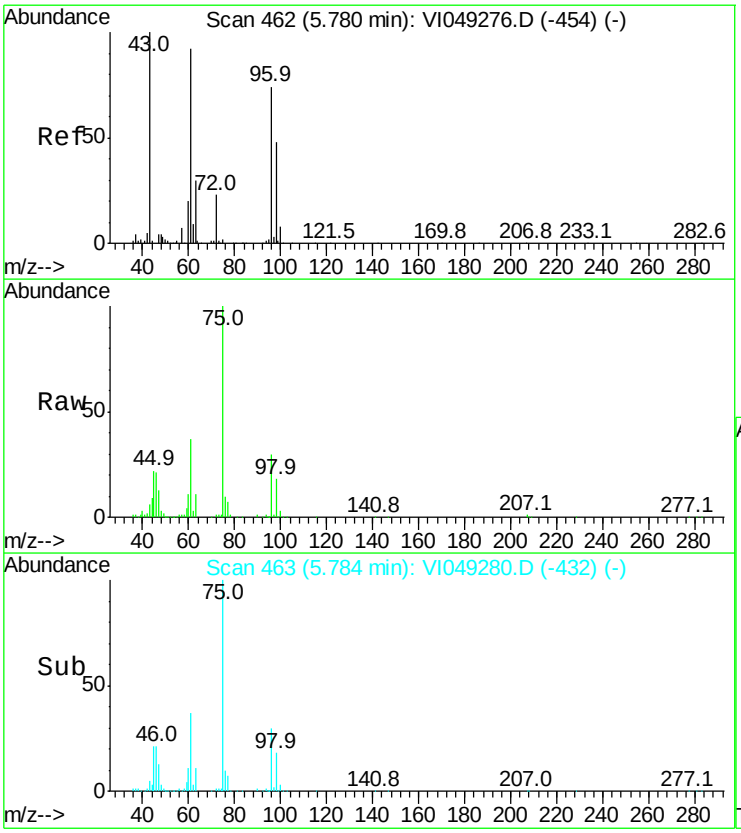
#13
Acetone
Concen: 4.81 ug/L
RT: 3.02 min Scan# 182
Delta R.T. 0.01 min
Lab File: VI049280.D
Acq: 6 May 2016 13:20

Instrument : MSVOA_I
ClientSampleId : H4117

Tgt Ion: 43 Resp: 46749

Ion	Ratio	Lower	Upper
43	100		
58	19.4	0.0	62.0

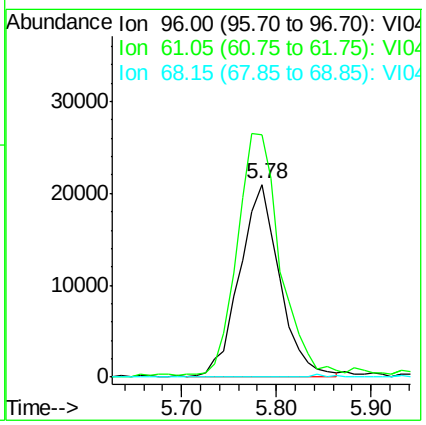


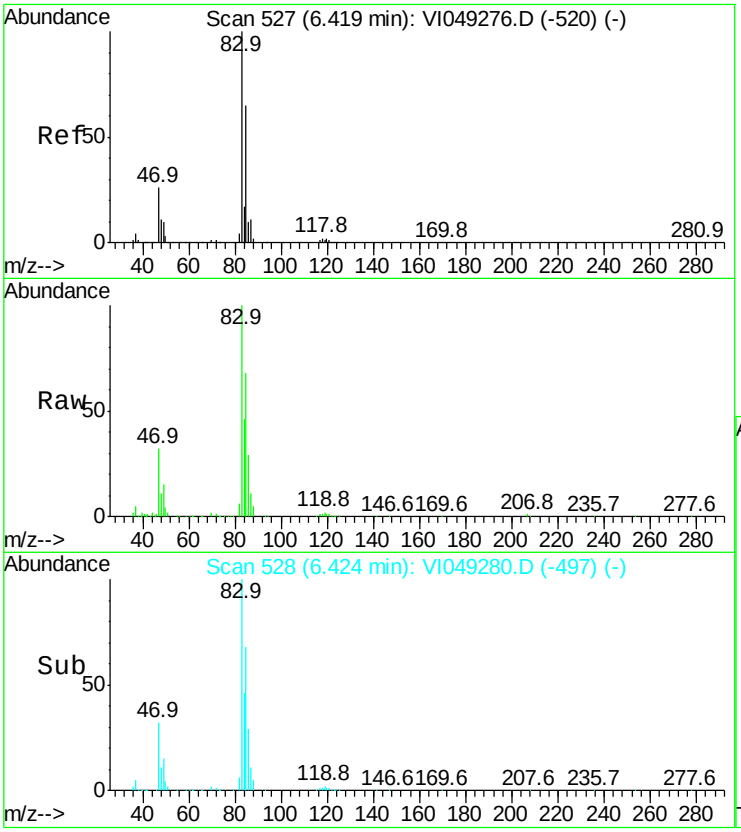


#22
cis-1,2-Dichloroethene
Concen: 0.57 ug/L
RT: 5.78 min Scan# 463
Delta R.T. 0.00 min
Lab File: VI049280.D
Acq: 6 May 2016 13:20

Tgt Ion: 96 Resp: 61750

Ion	Ratio	Lower	Upper
96	100		
61	125.7	82.1	152.5
68	0.0	0.0	0.0



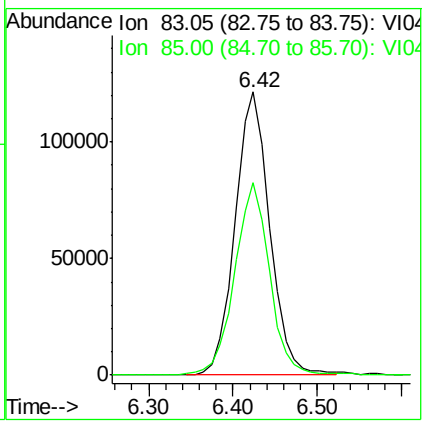


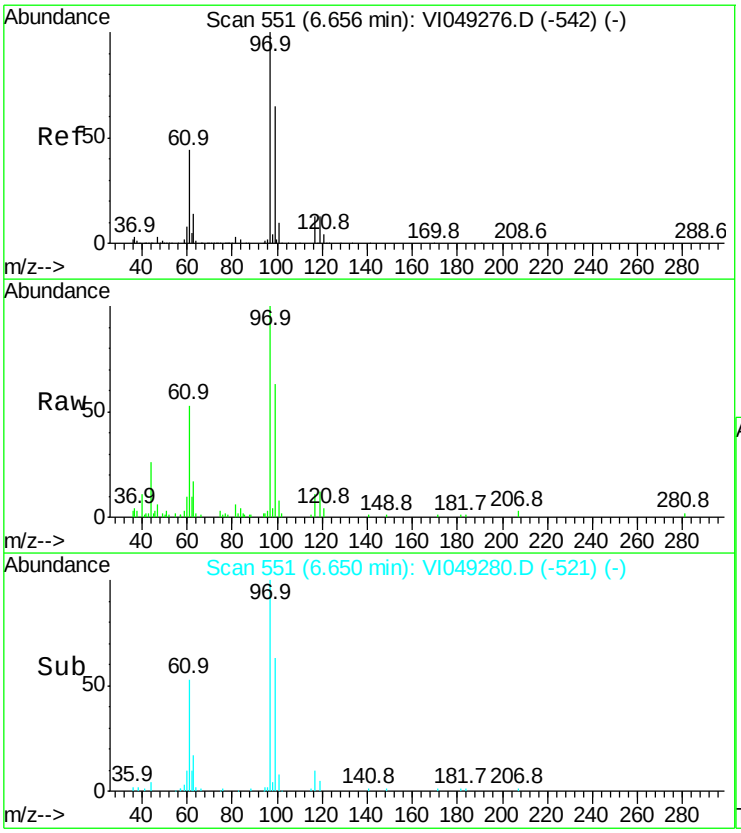
#25
Chloroform
Concen: 1.84 ug/L
RT: 6.42 min Scan# 528
Delta R.T. 0.00 min
Lab File: VI049280.D
Acq: 6 May 2016 13:20

Instrument :
MSVOA_I
ClientSampleId :
H4117

Tgt Ion: 83 Resp: 348289

Ion	Ratio	Lower	Upper
83	100		
85	68.1	47.3	87.8

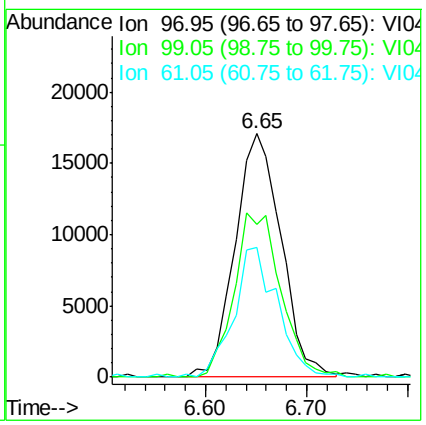


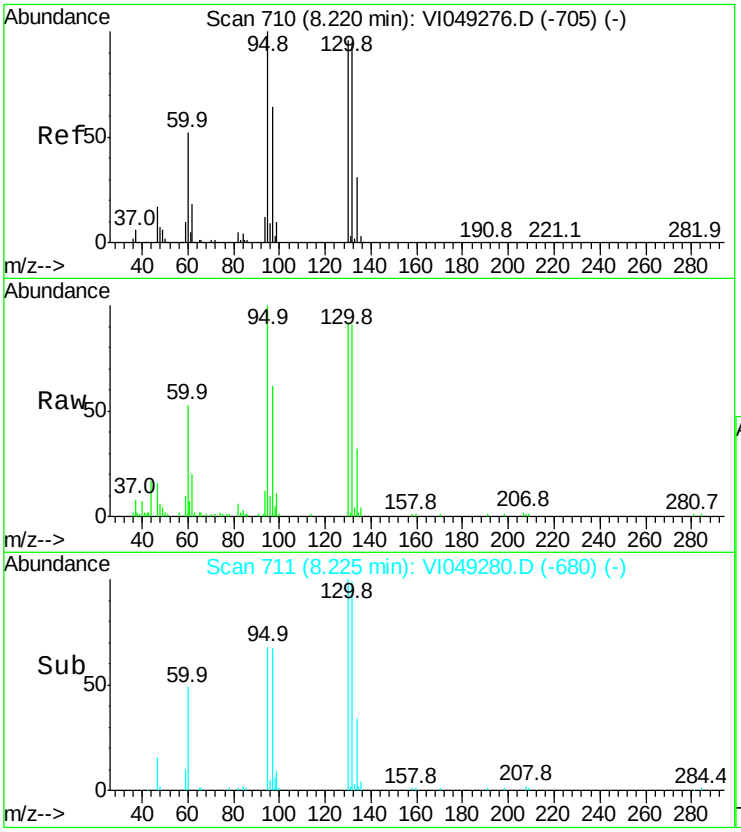


#29
1,1,1-Trichloroethane
Concen: 0.37 ug/L
RT: 6.65 min Scan# 551
Delta R.T. -0.01 min
Lab File: VI049280.D
Acq: 6 May 2016 13:20

Tgt Ion: 97 Resp: 54148

Ion	Ratio	Lower	Upper
97	100		
99	68.4	51.1	76.7
61	50.1	33.3	49.9#



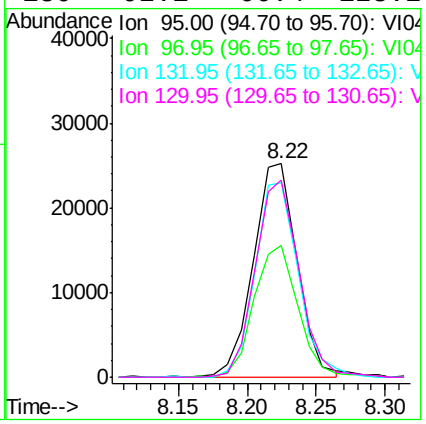


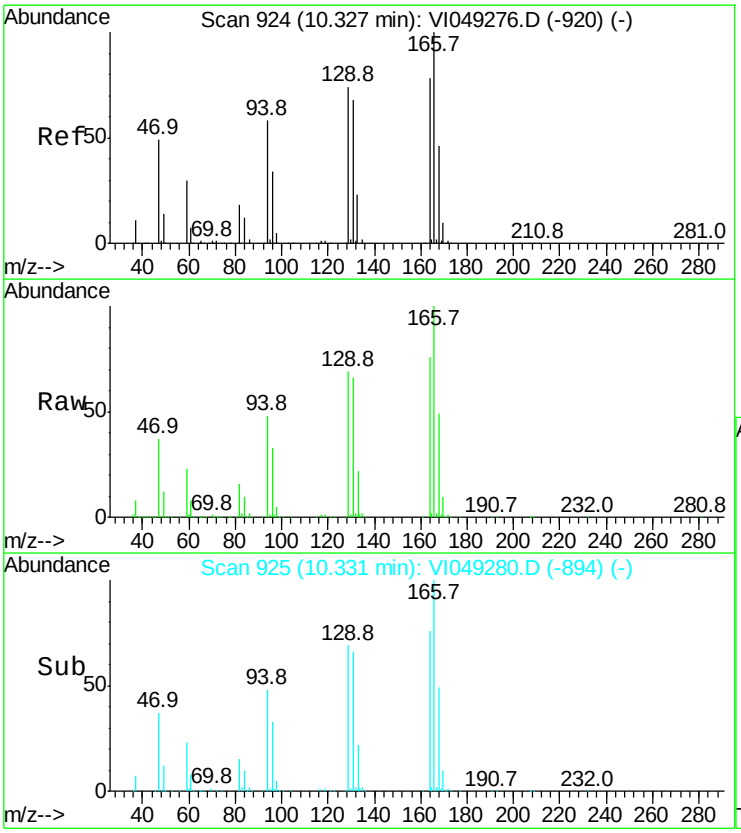
#34
Trichloroethene
Concen: 0.61 ug/L
RT: 8.22 min Scan# 711
Delta R.T. 0.00 min
Lab File: VI049280.D
Acq: 6 May 2016 13:20

Instrument :
MSVOA_I
ClientSampleId :
H4117

Tgt Ion: 95 Resp: 55769

Ion	Ratio	Lower	Upper
95	100		
97	61.6	45.8	85.2
132	91.4	63.9	118.7
130	92.1	66.4	123.2

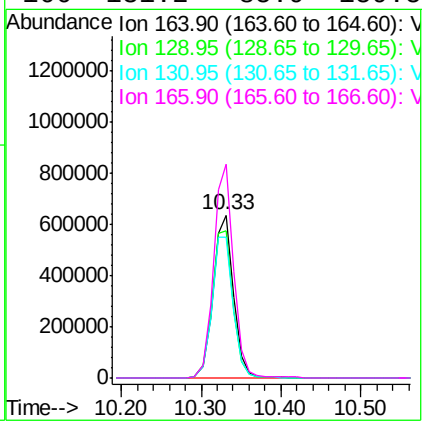




#47
Tetrachloroethene
Concen: 18.94 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.00 min
Lab File: VI049280.D
Acq: 6 May 2016 13:20

Tgt Ion:164 Resp: 1141954

Ion	Ratio	Lower	Upper
164	100		
129	90.4	62.1	115.3
131	86.6	60.6	112.6
166	131.2	85.9	159.5



Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049280.D
Acq On : 6 May 2016 13:20
Operator : FY/SY
Sample : H2834-20
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4117

Quant Time: May 07 04:32:13 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1176009	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	772722	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	283431	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	326239	4.51	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 90.20%			
7) Chloroethane-d5	2.10	69	221858	5.53	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 110.60%			
11) 1,1-Dichloroethene-d2	2.93	63	575855	3.38	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 67.60%			
20) 2-Butanone-d5	5.68	46	871451	55.60	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 111.20%			
24) Chloroform-d	6.38	84	900211	4.89	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 97.80%			
26) 1,2-Dichloroethane-d4	7.24	65	394771	5.24	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 104.80%			
32) Benzene-d6	7.17	84	1549546	5.15	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 103.00%			
36) 1,2-Dichloropropane-d6	8.44	67	431422	5.10	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 102.00%			
41) Toluene-d8	9.70	98	1081605	4.87	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.40%			
43) trans-1,3-Dichloropropene-	10.02	79	150046	4.50	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 90.00%			
46) 2-Hexanone-d5	10.43	63	546353	51.94	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 103.88%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	183776	4.77	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 95.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	233830	4.71	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 94.20%			
Target Compounds						Qvalue
13) Acetone	3.02	43	46749	4.81	ug/L	79
22) cis-1,2-Dichloroethene	5.78	96	61750	0.57	ug/L	92
25) Chloroform	6.42	83	348289	1.84	ug/L	99
29) 1,1,1-Trichloroethane	6.65	97	54148	0.37	ug/L #	91
34) Trichloroethene	8.22	95	55769	0.61	ug/L	98
47) Tetrachloroethene	10.33	164	1141954	18.94	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049280.D
Acq On : 6 May 2016 13:20
Operator : FY/SY
Sample : H2834-20
Misc : 25mL/MSVOA I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4117

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.296	3	7	28	rVB	6687103	18685629	100.00%	29.812%
2	1.582	34	36	40	rBV2	17382	28373	0.15%	0.045%
3	1.710	46	49	60	rVV	282340	515939	2.76%	0.823%
4	1.877	63	66	71	rVB	59822	109096	0.58%	0.174%
5	2.103	85	89	95	rBV	200001	402187	2.15%	0.642%
6	2.487	126	128	129	rBV2	6885	9589	0.05%	0.015%
7	2.556	133	135	136	rVV2	13131	18893	0.10%	0.030%
8	2.586	136	138	146	rVB2	24183	54644	0.29%	0.087%
9	2.930	168	173	181	rBV	695389	1641915	8.79%	2.620%
10	3.215	197	202	206	rBV2	50089	150921	0.81%	0.241%
11	3.540	233	235	238	rVB3	4709	8544	0.05%	0.014%
12	3.599	238	241	245	rBV5	9300	23719	0.13%	0.038%
13	3.875	263	269	270	rBV5	8966	20462	0.11%	0.033%
14	3.993	276	281	285	rVB5	11172	30059	0.16%	0.048%
15	4.259	305	308	309	rBV2	3720	5125	0.03%	0.008%
16	4.308	309	313	316	rBV3	7079	13360	0.07%	0.021%
17	4.357	316	318	319	rVB2	4888	4471	0.02%	0.007%
18	4.534	334	336	339	rVB4	3173	6313	0.03%	0.010%
19	4.574	339	340	343	rBV3	3200	6346	0.03%	0.010%
20	4.633	343	346	348	rVB3	3320	5770	0.03%	0.009%
21	4.721	351	355	360	rBV5	5808	14497	0.08%	0.023%
22	4.820	364	365	370	rVB4	4467	7242	0.04%	0.012%
23	4.918	373	375	377	rBV3	2818	5217	0.03%	0.008%
24	4.967	379	380	382	rBV	4199	5665	0.03%	0.009%
25	5.184	399	402	403	rVB2	2778	4435	0.02%	0.007%
26	5.223	403	406	409	rVB5	2254	4401	0.02%	0.007%
27	5.272	409	411	414	rBV4	3475	4740	0.03%	0.008%
28	5.341	416	418	420	rBV2	3680	5032	0.03%	0.008%
29	5.371	420	421	423	rVB	3982	4587	0.02%	0.007%
30	5.420	423	426	428	rBV4	5305	11145	0.06%	0.018%
31	5.489	429	433	435	rVB4	4852	11057	0.06%	0.018%
32	5.518	435	436	438	rBV2	4278	6018	0.03%	0.010%
33	5.676	446	452	459	rBV	347293	1236299	6.62%	1.972%
34	5.784	459	463	477	rVV3	217533	914210	4.89%	1.459%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049280.D
Acq On : 6 May 2016 13:20
Operator : FY/SY
Sample : H2834-20
Misc : 25mL/MSVOA I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4117

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	5.932	477	478	481	rVV3	8532	12946	0.07%	0.021%
36	6.089	492	494	498	rVB5	3010	5463	0.03%	0.009%
37	6.247	506	510	511	rVB4	3197	6337	0.03%	0.010%
38	6.385	517	524	545	rVV2	747376	2960696	15.84%	4.724%
39	6.650	545	551	559	rVB	56211	183212	0.98%	0.292%
40	6.739	559	560	563	rBV3	3255	6043	0.03%	0.010%
41	6.916	576	578	581	rVB3	4592	6790	0.04%	0.011%
42	7.014	586	588	592	rVB5	2855	4232	0.02%	0.007%
43	7.172	597	604	608	rBV	1205924	3199026	17.12%	5.104%
44	7.231	608	610	620	rVB	434831	1044818	5.59%	1.667%
45	7.487	633	636	638	rBV4	3162	6486	0.03%	0.010%
46	7.762	660	664	667	rVB5	4278	8565	0.05%	0.014%
47	7.930	675	681	691	rBV	1294360	2911911	15.58%	4.646%
48	8.058	693	694	696	rVB2	4429	4812	0.03%	0.008%
49	8.225	703	711	719	rVB2	145573	341210	1.83%	0.544%
50	8.441	727	733	742	rBV	956633	2076031	11.11%	3.312%
51	8.629	750	752	754	rVB3	5561	8297	0.04%	0.013%
52	8.914	776	781	785	rBV5	16333	56611	0.30%	0.090%
53	8.973	785	787	789	rVB2	3817	5526	0.03%	0.009%
54	9.189	805	809	810	rVB3	4986	7537	0.04%	0.012%
55	9.258	812	816	818	rVB4	3265	6015	0.03%	0.010%
56	9.367	823	827	836	rBV	546489	982439	5.26%	1.567%
57	9.524	840	843	848	rVB	37673	70991	0.38%	0.113%
58	9.583	848	849	853	rVB4	8568	14070	0.08%	0.022%
59	9.701	856	861	867	rBV	1741026	3101700	16.60%	4.949%
60	9.770	867	868	877	rVB4	24728	43525	0.23%	0.069%
61	9.869	877	878	880	rVB2	4435	4939	0.03%	0.008%
62	10.016	888	893	899	rBV	310392	549037	2.94%	0.876%
63	10.124	902	904	905	rBV2	3211	4018	0.02%	0.006%
64	10.223	909	914	920	rVV	163220	353155	1.89%	0.563%
65	10.321	920	924	931	rVV	5174814	9684073	51.83%	15.450%
66	10.430	931	935	948	rVV	1696670	2976298	15.93%	4.748%
67	10.607	951	953	957	rVB5	8556	18200	0.10%	0.029%
68	10.981	987	991	992	rBV4	3774	5895	0.03%	0.009%
69	11.217	1011	1015	1025	rBV	1484947	2693753	14.42%	4.298%
70	11.355	1025	1029	1033	rVB2	23964	47957	0.26%	0.077%
71	11.473	1038	1041	1044	rVB4	8583	13078	0.07%	0.021%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049280.D
Acq On : 6 May 2016 13:20
Operator : FY/SY
Sample : H2834-20
Misc : 25mL/MSVOA I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4117

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.591	1049	1053	1054	rBV3	2014	4768	0.03%	0.008%
73	11.680	1060	1062	1065	rBV3	3226	5877	0.03%	0.009%
74	11.788	1072	1073	1076	rBV3	3498	5737	0.03%	0.009%
75	11.857	1076	1080	1084	rVB7	7945	21146	0.11%	0.034%
76	11.935	1084	1088	1091	rVB6	2536	6930	0.04%	0.011%
77	11.994	1091	1094	1096	rBV2	3319	5434	0.03%	0.009%
78	12.132	1106	1108	1109	rBV2	3816	5085	0.03%	0.008%
79	12.191	1109	1114	1116	rBV5	7470	11577	0.06%	0.018%
80	12.260	1120	1121	1123	rVV2	2602	4481	0.02%	0.007%
81	12.408	1131	1136	1138	rBV2	150746	281964	1.51%	0.450%
82	12.467	1138	1142	1150	rVB	383424	708732	3.79%	1.131%
83	12.575	1150	1153	1157	rVB4	3240	7614	0.04%	0.012%
84	12.713	1163	1167	1169	rBV5	3799	9396	0.05%	0.015%
85	13.057	1201	1202	1204	rBV2	5253	6601	0.04%	0.011%
86	13.097	1204	1206	1209	rVB4	3919	5348	0.03%	0.009%
87	13.274	1222	1224	1225	rVB2	3570	4038	0.02%	0.006%
88	13.303	1225	1227	1228	rBV2	3429	4816	0.03%	0.008%
89	13.363	1231	1233	1235	rVB3	5614	6993	0.04%	0.011%
90	13.431	1236	1240	1247	rBV	1247789	2071532	11.09%	3.305%
91	13.628	1257	1260	1261	rBV3	5900	9638	0.05%	0.015%
92	13.756	1269	1273	1282	rBV	1033208	1784317	9.55%	2.847%
93	13.874	1283	1285	1290	rVB6	8394	17222	0.09%	0.027%
94	13.973	1292	1295	1296	rBV3	6508	10008	0.05%	0.016%
95	14.032	1297	1301	1305	rVV2	84161	154050	0.82%	0.246%
96	14.091	1305	1307	1309	rVB3	4638	5339	0.03%	0.009%
97	14.307	1327	1329	1331	rBV2	6266	10156	0.05%	0.016%
98	14.425	1340	1341	1342	rBV	6092	7018	0.04%	0.011%
99	14.514	1349	1350	1354	rBV4	6986	14527	0.08%	0.023%
100	15.606	1458	1461	1465	rBV	37432	87216	0.47%	0.139%

Sum of corrected areas: 62679152

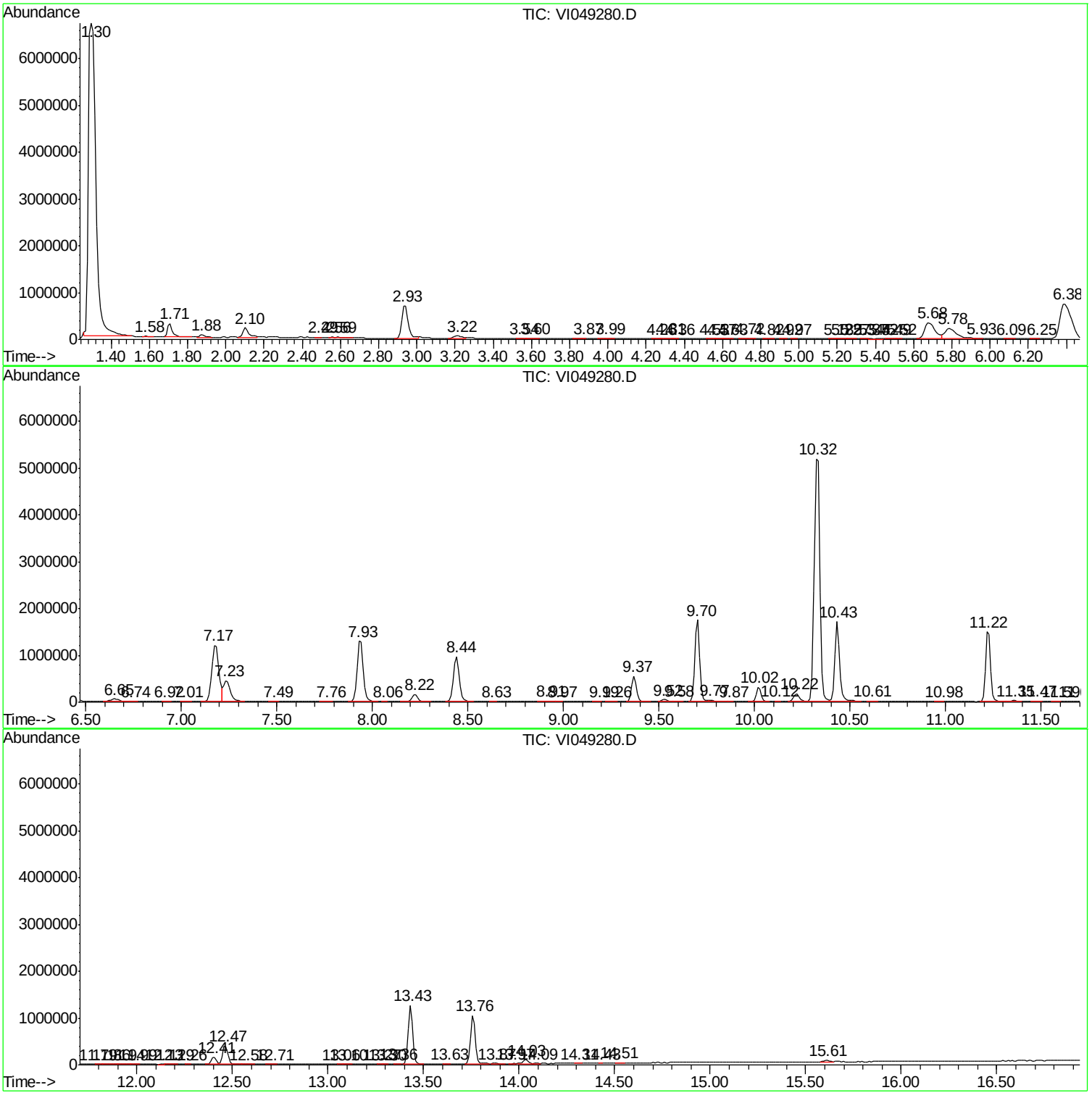
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049280.D
Acq On : 6 May 2016 13:20
Operator : FY/SY
Sample : H2834-20
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4117

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049280.D
Acq On : 6 May 2016 13:20
Operator : FY/SY
Sample : H2834-20
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4117

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

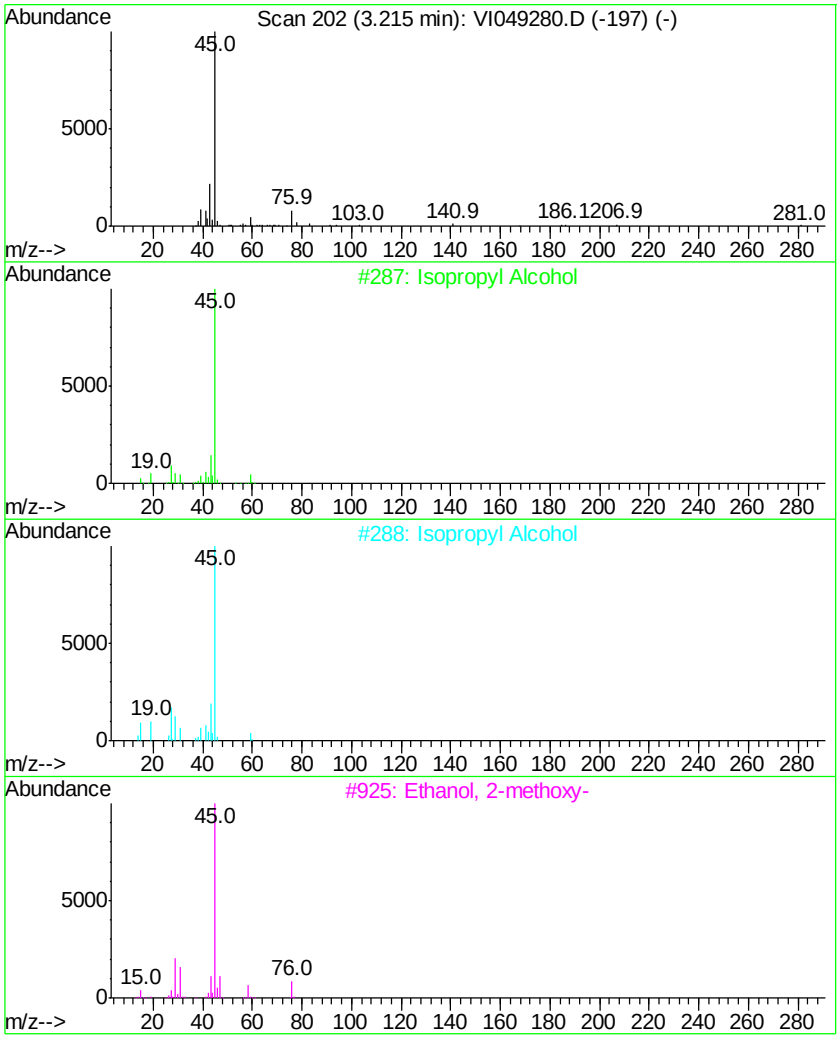
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

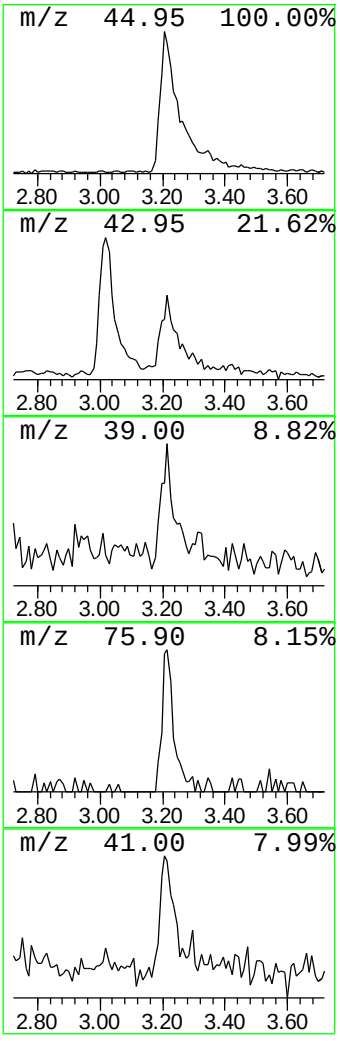
****

Peak Number 2 Isopropyl Alcohol Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.22	0.26 ug/L	150921	1,4-Difluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Isopropyl Alcohol	60	C3H8O	000067-63-0	80
2	Isopropyl Alcohol	60	C3H8O	000067-63-0	72
3	Ethanol, 2-methoxy-	76	C3H8O2	000109-86-4	56
4	Propane, 2-ethoxy-	88	C5H12O	000625-54-7	40
5	2-Pentanol	88	C5H12O	006032-29-7	40





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049280.D
Acq On : 6 May 2016 13:20
Operator : FY/SY
Sample : H2834-20
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4117

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Isopropyl Alcohol	3.22	0.3	ug/L	150921	1	7.94	2911910	5.0

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049278.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.56	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.3	
71-55-6	1,1,1-Trichloroethane	0.29	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.66	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049278.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	16	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049278.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049278.D
% Solids :
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/06/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

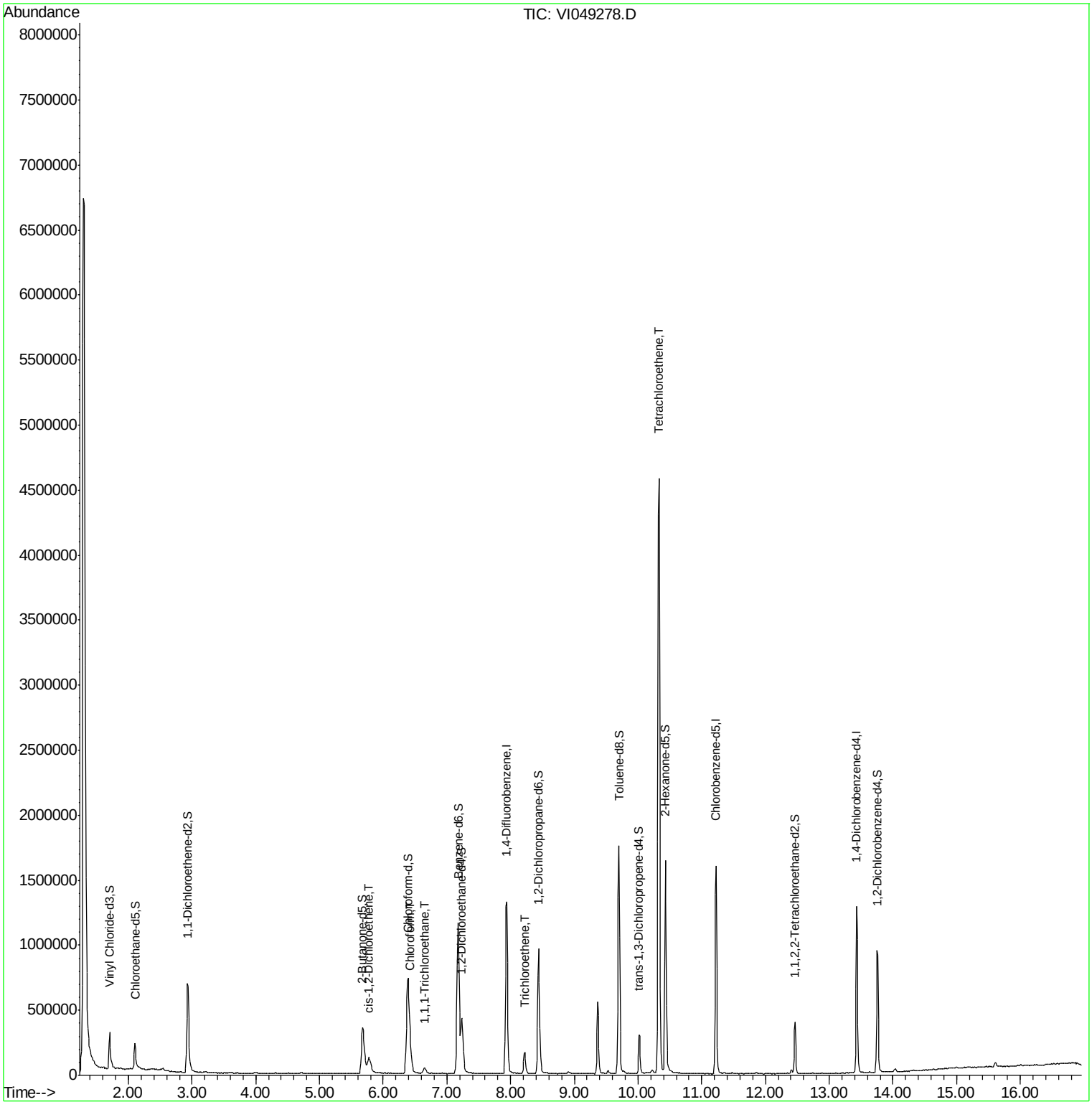
EPA-designated Registry Number.

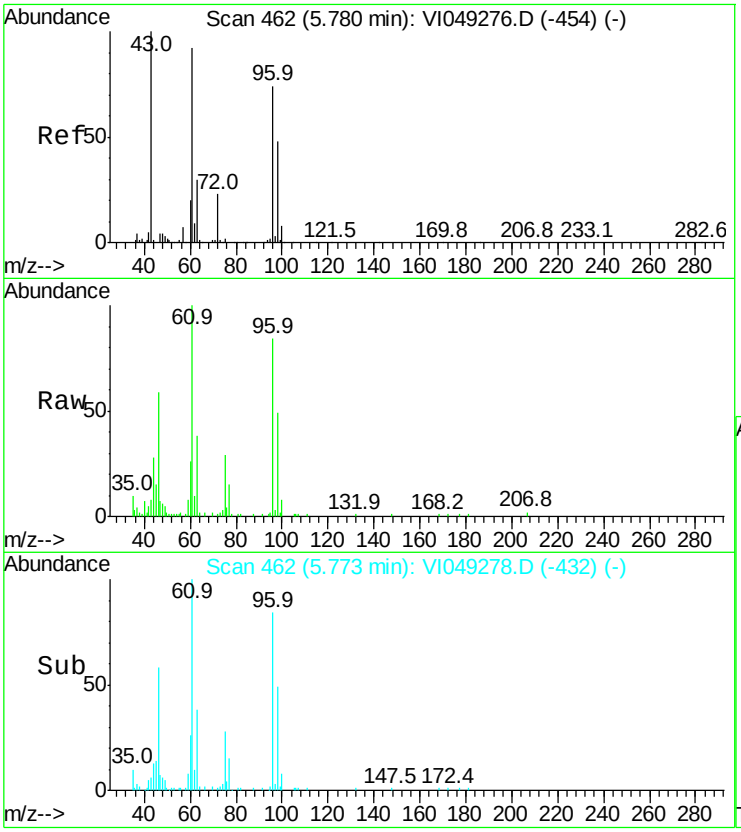
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049278.D
Acq On : 6 May 2016 12:17
Operator : FY/SY
Sample : H2834-21
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4118

Quant Time: May 07 04:22:24 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration



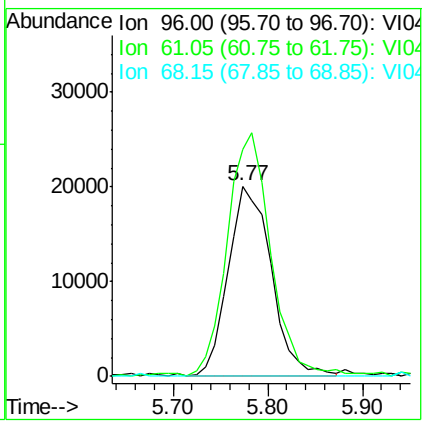


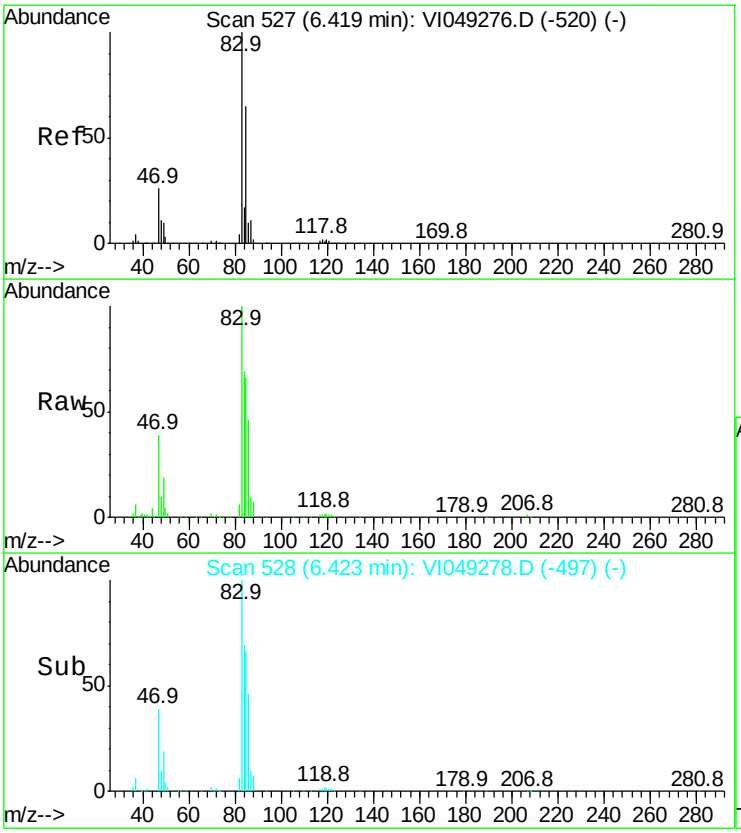
#22
cis-1,2-Dichloroethene
Concen: 0.56 ug/L
RT: 5.77 min Scan# 462
Delta R.T. -0.01 min
Lab File: VI049278.D
Acq: 6 May 2016 12:17

Instrument :
MSVOA_I
ClientSampleId :
H4118

Tgt Ion: 96 Resp: 63427

Ion	Ratio	Lower	Upper
96	100		
61	119.4	82.1	152.5
68	0.0	0.0	0.0

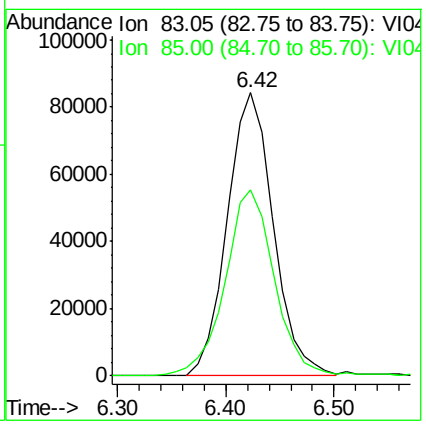


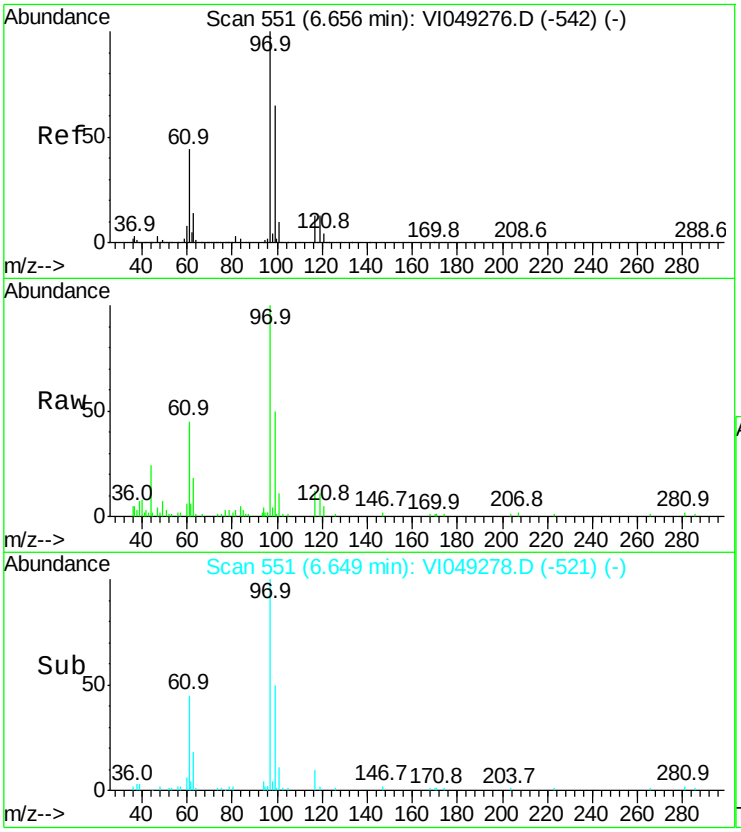


#25
Chloroform
Concen: 1.26 ug/L
RT: 6.42 min Scan# 528
Delta R.T. 0.00 min
Lab File: VI049278.D
Acq: 6 May 2016 12:17

Tgt Ion: 83 Resp: 249131

Ion	Ratio	Lower	Upper
83	100		
85	65.9	47.3	87.8



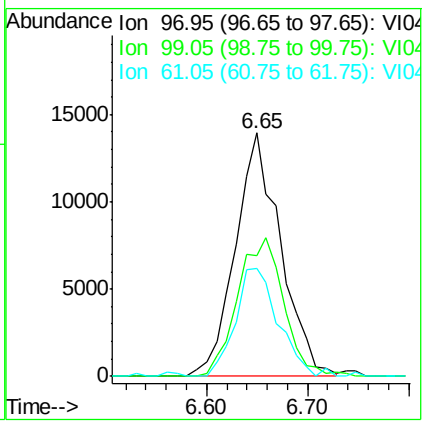


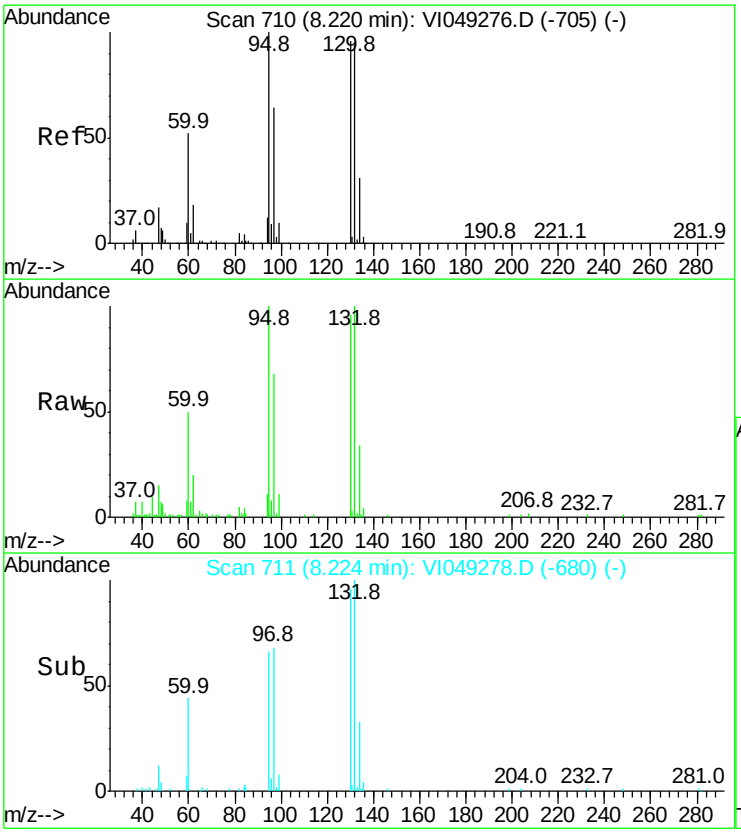
#29
1,1,1-Trichloroethane
Concen: 0.29 ug/L
RT: 6.65 min Scan# 551
Delta R.T. -0.01 min
Lab File: VI049278.D
Acq: 6 May 2016 12:17

Instrument : MSVOA_I
ClientSampleId : H4118

Tgt Ion: 97 Resp: 43392

Ion	Ratio	Lower	Upper
97	100		
99	57.8	51.1	76.7
61	41.8	33.3	49.9

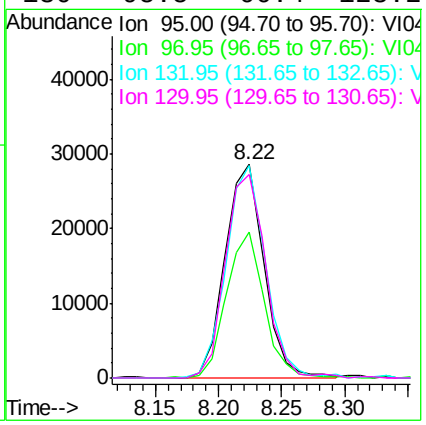


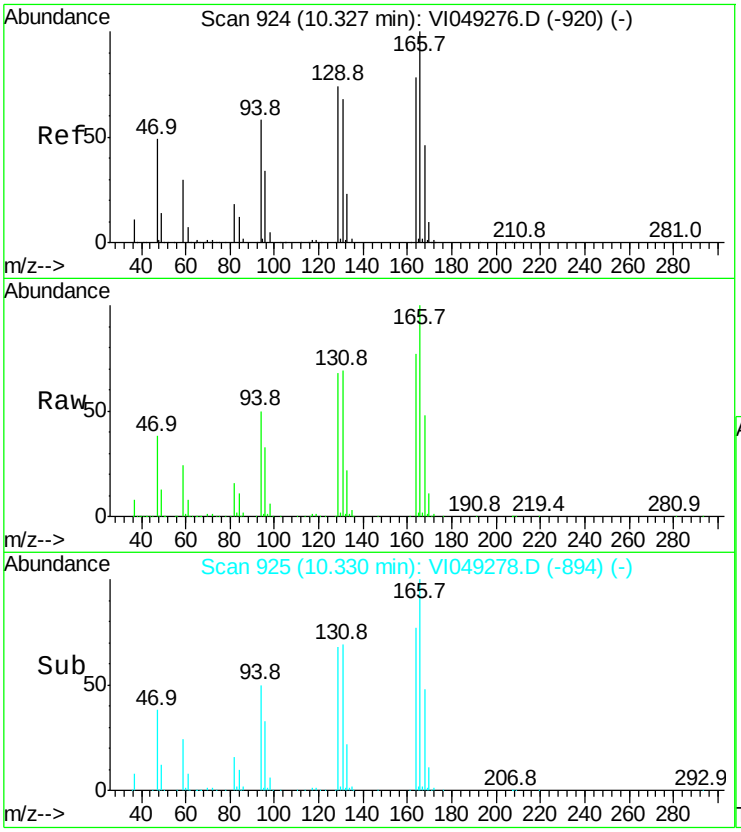


#34
Trichloroethene
Concen: 0.66 ug/L
RT: 8.22 min Scan# 711
Delta R.T. 0.00 min
Lab File: VI049278.D
Acq: 6 May 2016 12:17

Tgt Ion: 95 Resp: 61058

Ion	Ratio	Lower	Upper
95	100		
97	68.5	45.8	85.2
132	99.7	63.9	118.7
130	95.5	66.4	123.2



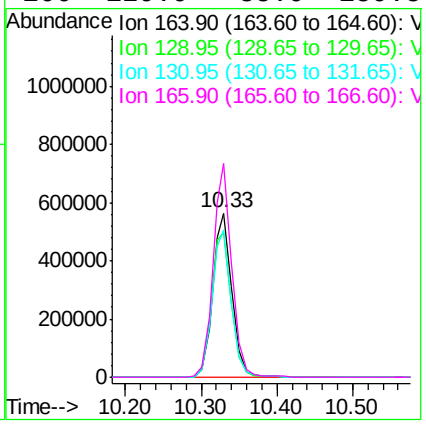


#47
Tetrachloroethene
Concen: 16.37 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.00 min
Lab File: VI049278.D
Acq: 6 May 2016 12:17

Instrument :
MSVOA_I
ClientSampleId :
H4118

Tgt Ion:164 Resp: 999583

Ion	Ratio	Lower	Upper
164	100		
129	88.2	62.1	115.3
131	89.3	60.6	112.6
166	129.9	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049278.D
Acq On : 6 May 2016 12:17
Operator : FY/SY
Sample : H2834-21
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4118

Quant Time: May 07 04:22:24 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1232391	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	782569	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	286122	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	317279	4.18	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 83.60%			
7) Chloroethane-d5	2.10	69	214701	5.11	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 102.20%			
11) 1,1-Dichloroethene-d2	2.93	63	571493	3.20	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 64.00%			
20) 2-Butanone-d5	5.67	46	853164	51.94	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 103.88%			
24) Chloroform-d	6.38	84	880124	4.56	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 91.20%			
26) 1,2-Dichloroethane-d4	7.24	65	390729	4.95	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.00%			
32) Benzene-d6	7.18	84	1505604	4.94	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.80%			
36) 1,2-Dichloropropane-d6	8.44	67	418910	4.89	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 97.80%			
41) Toluene-d8	9.70	98	1044302	4.64	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 92.80%			
43) trans-1,3-Dichloropropene-	10.03	79	152814	4.52	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 90.40%			
46) 2-Hexanone-d5	10.43	63	547135	51.36	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 102.72%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	178437	4.58	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 91.60%			
63) 1,2-Dichlorobenzene-d4	13.77	152	227541	4.54	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 90.80%			
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	5.77	96	63427	0.56	ug/L	98
25) Chloroform	6.42	83	249131	1.26	ug/L	98
29) 1,1,1-Trichloroethane	6.65	97	43392	0.29	ug/L	95
34) Trichloroethene	8.22	95	61058	0.66	ug/L	96
47) Tetrachloroethene	10.33	164	999583	16.37	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049278.D
Acq On : 6 May 2016 12:17
Operator : FY/SY
Sample : H2834-21
Misc : 25mL/MSVOA I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4118

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.295	4	7	34	rVB	6684316	19103638	100.00%	31.655%
2	1.650	41	43	45	rVB3	8090	10066	0.05%	0.017%
3	1.709	46	49	58	rVB	282648	500081	2.62%	0.829%
4	2.102	85	89	100	rVB	195482	394358	2.06%	0.653%
5	2.506	128	130	131	rBV2	6315	6775	0.04%	0.011%
6	2.545	132	134	139	rVB3	20206	33829	0.18%	0.056%
7	2.673	145	147	150	rVB4	5168	5484	0.03%	0.009%
8	2.811	159	161	168	rVB6	6006	15322	0.08%	0.025%
9	2.929	168	173	188	rVV	686722	1655257	8.66%	2.743%
10	3.116	191	192	193	rVV	6934	6086	0.03%	0.010%
11	3.175	196	198	199	rVV2	5411	7566	0.04%	0.013%
12	3.205	199	201	205	rVV4	10993	24164	0.13%	0.040%
13	3.293	209	210	212	rVB2	7056	6026	0.03%	0.010%
14	3.342	212	215	221	rVB5	3519	10909	0.06%	0.018%
15	3.500	229	231	234	rVB3	2688	5250	0.03%	0.009%
16	3.588	237	240	248	rBV5	7941	31678	0.17%	0.052%
17	3.992	277	281	288	rBV8	9764	31666	0.17%	0.052%
18	4.149	293	297	298	rBV3	3877	8058	0.04%	0.013%
19	4.307	312	313	316	rVV3	4671	7098	0.04%	0.012%
20	4.356	316	318	322	rVB3	3749	5291	0.03%	0.009%
21	4.455	325	328	330	rVB4	4833	8859	0.05%	0.015%
22	4.514	330	334	335	rBV3	5503	9538	0.05%	0.016%
23	4.612	342	344	346	rBV3	6027	10367	0.05%	0.017%
24	4.710	352	354	360	rVB5	8556	22917	0.12%	0.038%
25	4.976	377	381	383	rBV4	3565	8432	0.04%	0.014%
26	5.449	426	429	432	rBV5	2354	5659	0.03%	0.009%
27	5.508	432	435	438	rBV4	3607	7026	0.04%	0.012%
28	5.675	442	452	458	rBV	353716	1203676	6.30%	1.995%
29	5.773	458	462	476	rVV3	123626	494609	2.59%	0.820%
30	5.931	476	478	482	rVV5	6213	14646	0.08%	0.024%
31	5.980	482	483	485	rVB2	5305	5195	0.03%	0.009%
32	6.029	485	488	491	rBV5	4151	8010	0.04%	0.013%
33	6.393	516	525	538	rVV2	737930	2703962	14.15%	4.481%
34	6.541	538	540	544	rVV4	8109	18467	0.10%	0.031%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049278.D
Acq On : 6 May 2016 12:17
Operator : FY/SY
Sample : H2834-21
Misc : 25mL/MSVOA I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4118

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.649	544	551	560	rVV3	43401	153725	0.80%	0.255%
36	6.758	560	562	565	rVV4	4779	8172	0.04%	0.014%
37	6.895	572	576	578	rBV6	4408	10850	0.06%	0.018%
38	6.925	578	579	583	rVB3	6017	7410	0.04%	0.012%
39	6.974	583	584	587	rVB3	4762	5978	0.03%	0.010%
40	7.033	587	590	592	rBV4	4571	10464	0.05%	0.017%
41	7.181	598	605	608	rVV	1160400	3144881	16.46%	5.211%
42	7.230	608	610	621	rVV	424757	1105913	5.79%	1.833%
43	7.348	621	622	627	rVV4	11301	21890	0.11%	0.036%
44	7.417	627	629	632	rVB4	7124	11944	0.06%	0.020%
45	7.574	644	645	647	rBV2	4169	5632	0.03%	0.009%
46	7.653	650	653	655	rBV3	3550	7017	0.04%	0.012%
47	7.939	676	682	693	rVV	1323227	3017985	15.80%	5.001%
48	8.067	693	695	698	rVV4	4486	10580	0.06%	0.018%
49	8.106	698	699	702	rVB3	5099	5906	0.03%	0.010%
50	8.224	705	711	716	rBV	166970	377321	1.98%	0.625%
51	8.293	716	718	721	rVV3	2768	5193	0.03%	0.009%
52	8.441	725	733	742	rBV	961348	2064916	10.81%	3.422%
53	8.539	742	743	749	rVV6	10258	25552	0.13%	0.042%
54	8.696	758	759	763	rVB3	4746	7998	0.04%	0.013%
55	8.903	776	780	785	rVB5	11896	31694	0.17%	0.053%
56	8.962	785	786	790	rVB4	3604	5967	0.03%	0.010%
57	9.041	790	794	795	rBV3	5767	8644	0.05%	0.014%
58	9.130	799	803	804	rVB3	3893	6560	0.03%	0.011%
59	9.238	809	814	817	rBV5	2205	6243	0.03%	0.010%
60	9.277	817	818	822	rVB2	4042	7215	0.04%	0.012%
61	9.366	822	827	834	rBV	555050	1025848	5.37%	1.700%
62	9.454	834	836	838	rVB2	5207	7158	0.04%	0.012%
63	9.533	840	844	847	rVV2	18261	36890	0.19%	0.061%
64	9.700	856	861	867	rBV	1752438	3047460	15.95%	5.050%
65	10.015	888	893	902	rBV	295465	569286	2.98%	0.943%
66	10.153	902	907	908	rVV5	8105	23879	0.12%	0.040%
67	10.222	910	914	920	rVV	28475	85493	0.45%	0.142%
68	10.330	920	925	931	rVV	4580052	8419312	44.07%	13.951%
69	10.429	931	935	949	rVV	1636893	2970886	15.55%	4.923%
70	10.576	949	950	951	rVV	6975	7767	0.04%	0.013%
71	10.606	951	953	956	rVV4	8700	18968	0.10%	0.031%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049278.D
Acq On : 6 May 2016 12:17
Operator : FY/SY
Sample : H2834-21
Misc : 25mL/MSVOA I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4118

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	10.655	956	958	961	rVV4	7207	11935	0.06%	0.020%
73	10.704	961	963	965	rVV3	3777	5077	0.03%	0.008%
74	10.862	975	979	981	rBV3	3302	5798	0.03%	0.010%
75	11.226	1011	1016	1026	rBV	1602046	2783551	14.57%	4.612%
76	11.354	1026	1029	1033	rVB3	10098	18910	0.10%	0.031%
77	11.472	1038	1041	1045	rVB5	6914	16957	0.09%	0.028%
78	11.551	1045	1049	1052	rVB4	3109	8888	0.05%	0.015%
79	11.856	1076	1080	1084	rBV6	12524	24555	0.13%	0.041%
80	12.121	1105	1107	1110	rBV3	2828	5224	0.03%	0.009%
81	12.200	1110	1115	1118	rBV5	6647	19166	0.10%	0.032%
82	12.348	1129	1130	1132	rBV2	5035	6069	0.03%	0.010%
83	12.407	1132	1136	1138	rBV2	24026	42938	0.22%	0.071%
84	12.466	1138	1142	1146	rVB	390520	656873	3.44%	1.088%
85	12.545	1149	1150	1155	rVB4	3498	5646	0.03%	0.009%
86	12.742	1167	1170	1171	rBV2	4515	6517	0.03%	0.011%
87	12.771	1171	1173	1174	rVB2	5287	5305	0.03%	0.009%
88	12.801	1174	1176	1177	rBV2	4940	6182	0.03%	0.010%
89	12.889	1182	1185	1187	rBV3	6064	7573	0.04%	0.013%
90	12.958	1189	1192	1193	rBV3	3553	5076	0.03%	0.008%
91	13.017	1196	1198	1200	rBV3	3480	5407	0.03%	0.009%
92	13.273	1221	1224	1227	rBV5	4206	7126	0.04%	0.012%
93	13.371	1229	1234	1235	rBV4	4548	7945	0.04%	0.013%
94	13.430	1236	1240	1247	rBV	1278614	2110143	11.05%	3.497%
95	13.755	1269	1273	1283	rBV	934285	1758334	9.20%	2.914%
96	14.031	1297	1301	1307	rVB	22080	42834	0.22%	0.071%
97	14.277	1324	1326	1328	rBV3	4110	8480	0.04%	0.014%
98	14.326	1328	1331	1332	rVV3	6786	10969	0.06%	0.018%
99	14.877	1385	1387	1388	rBV2	7512	11161	0.06%	0.018%
100	15.606	1458	1461	1465	rBV2	29535	65554	0.34%	0.109%

Sum of corrected areas: 60348755

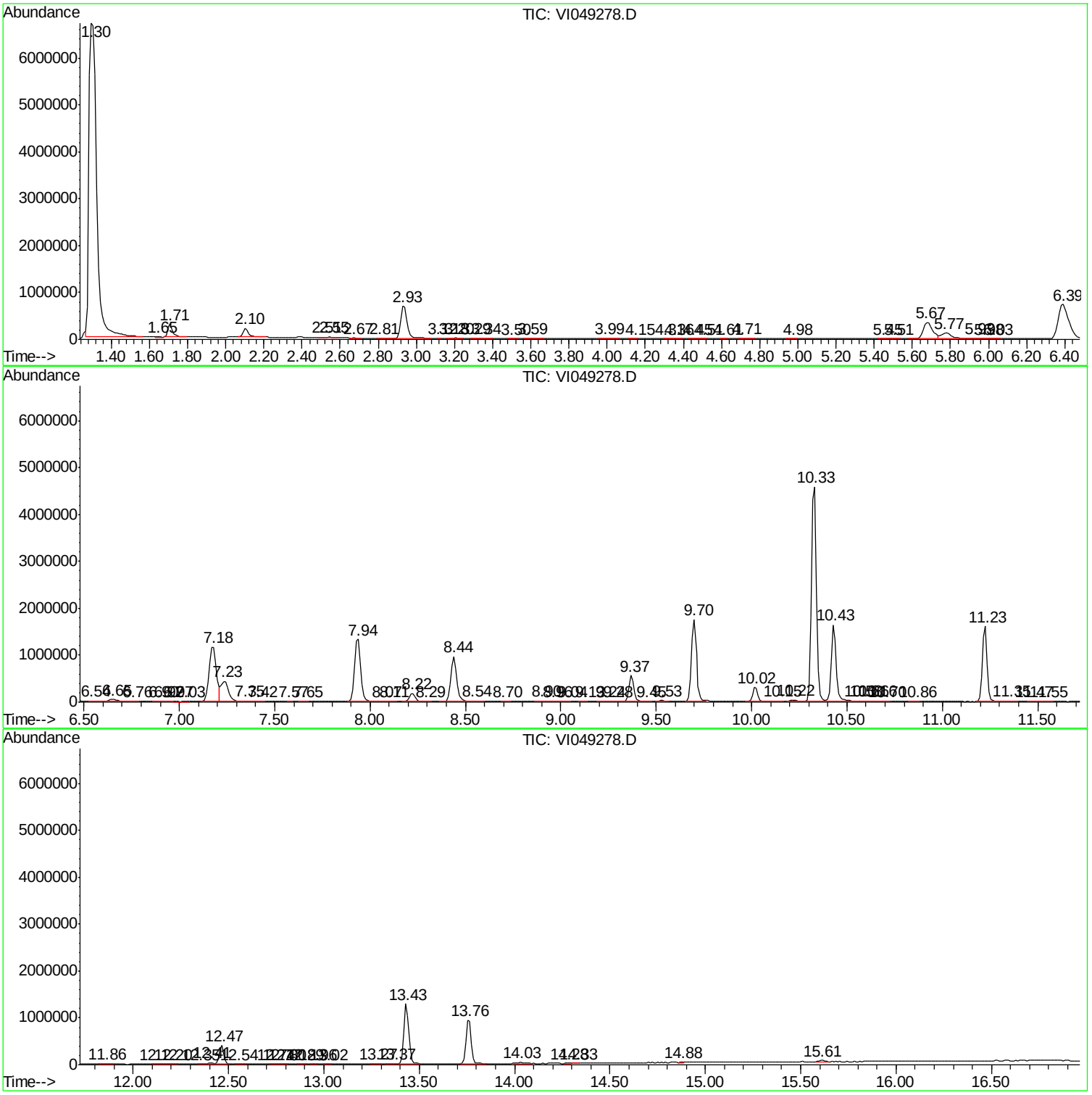
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049278.D
Acq On : 6 May 2016 12:17
Operator : FY/SY
Sample : H2834-21
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4118

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049278.D
Acq On : 6 May 2016 12:17
Operator : FY/SY
Sample : H2834-21
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4118

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049278.D
Acq On : 6 May 2016 12:17
Operator : FY/SY
Sample : H2834-21
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4118

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard		
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4121

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049238.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.27	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.97	
71-55-6	1,1,1-Trichloroethane	0.31	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.20	J
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.48	J

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4121

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049238.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.34	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	21	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.080	J
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.12	J
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4121

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049238.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4121

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049238.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000067-63-0	Isopropyl Alcohol	3.21	0.35	JN
2	E966796	Total Alkanes	N/A	0.28	

EPA-designated Registry Number.

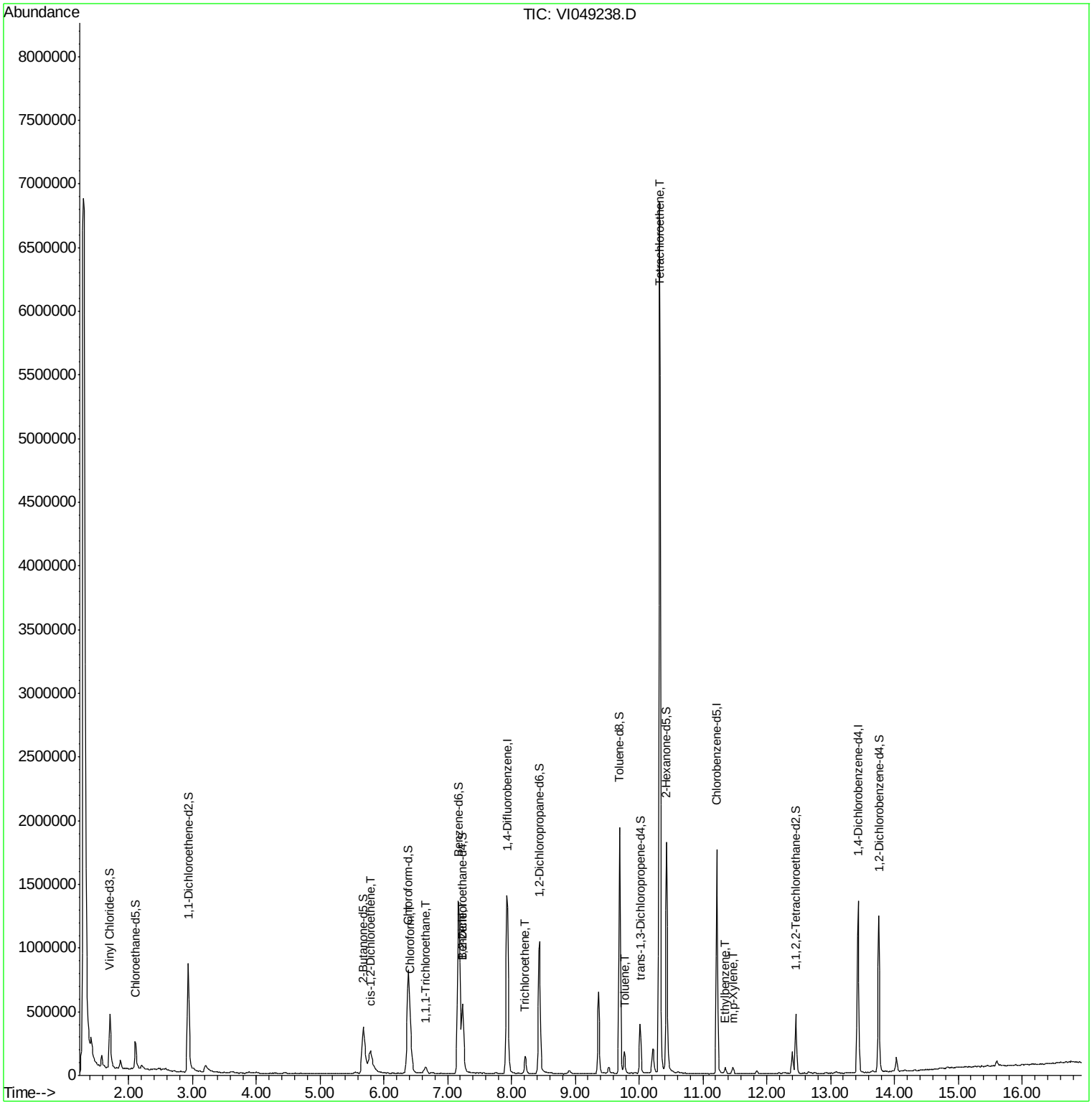
Quantitation Report (QT/LSC Reviewed)

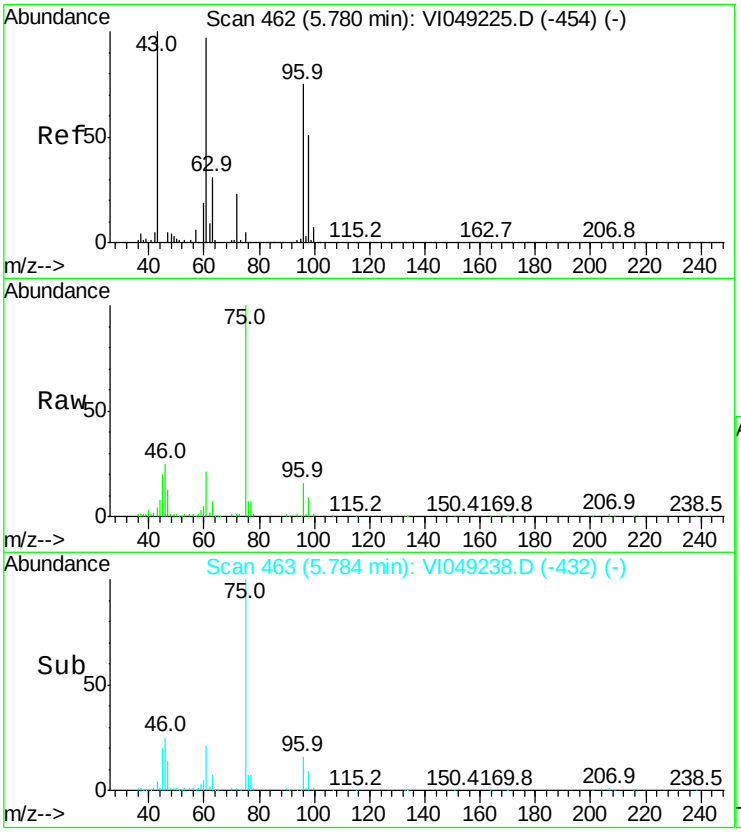
Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 05 06:42:52 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4121

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:28 AM

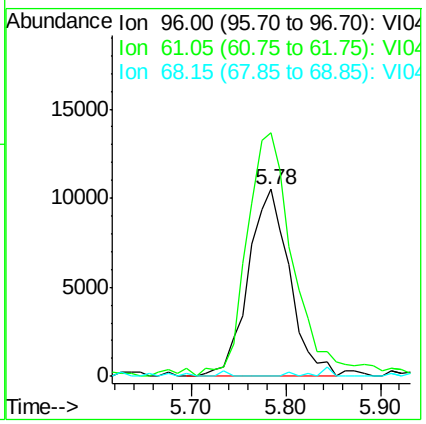




#22
cis-1,2-Dichloroethene
Concen: 0.27 ug/L
RT: 5.78 min Scan# 463
Delta R.T. 0.00 min
Lab File: VI049238.D
Acq: 4 May 2016 21:33

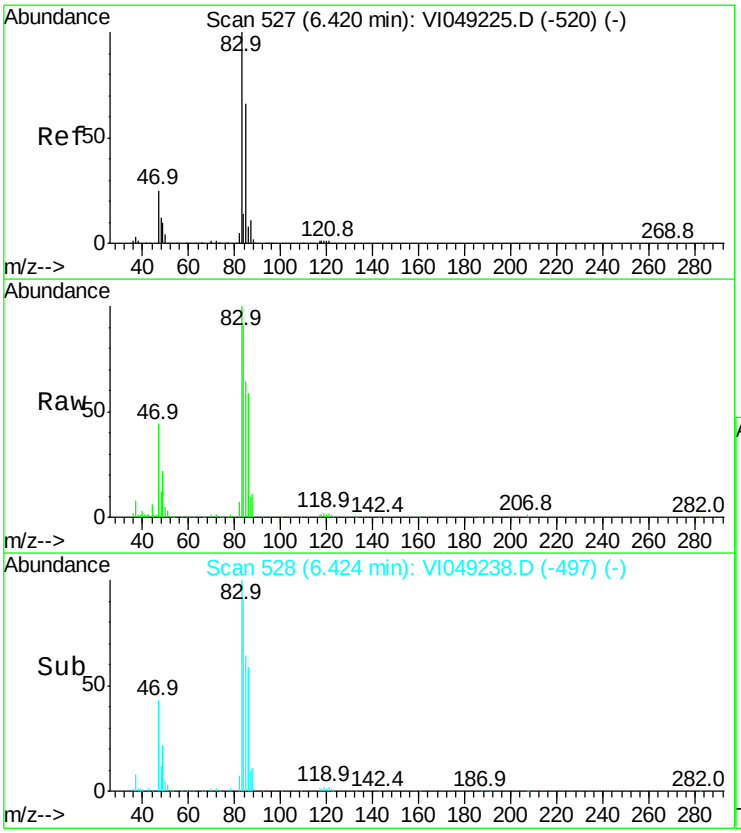
Tgt Ion: 96 Resp: 31742

Ion	Ratio	Lower	Upper
96	100		
61	130.1	82.1	152.5
68	0.0	0.0	0.0



Instrument :
MSVOA_I
ClientSampleId :
H4121

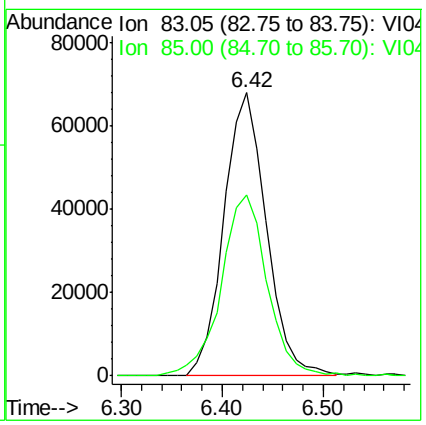
Manual Integrations APPROVED
mohammad
5/5/2016 9:01:28 AM

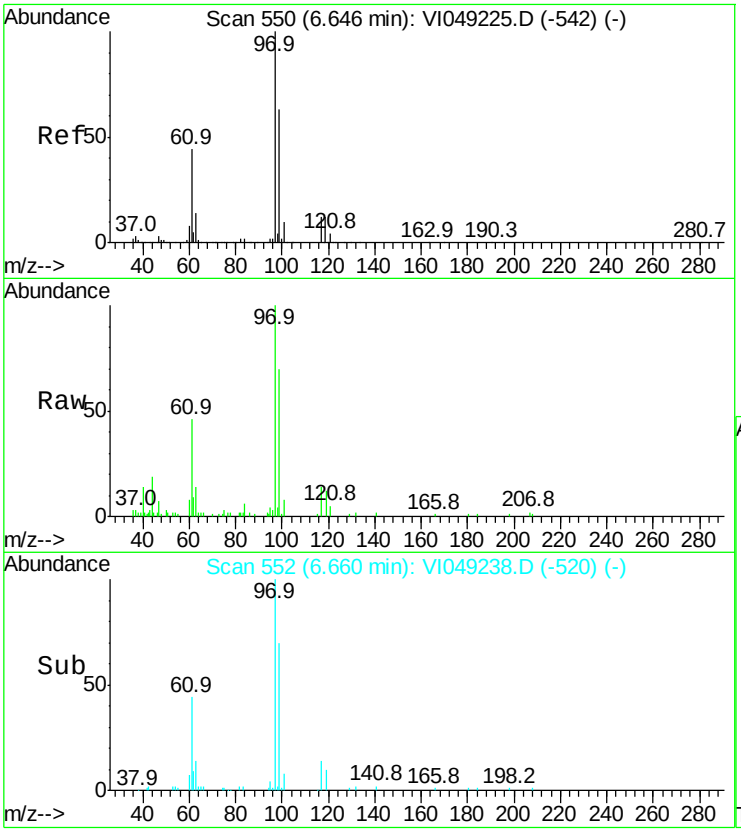


#25
Chloroform
Concen: 0.97 ug/L
RT: 6.42 min Scan# 528
Delta R.T. 0.00 min
Lab File: VI049238.D
Acq: 4 May 2016 21:33

Tgt Ion: 83 Resp: 198998

Ion	Ratio	Lower	Upper
83	100		
85	64.0	47.3	87.8

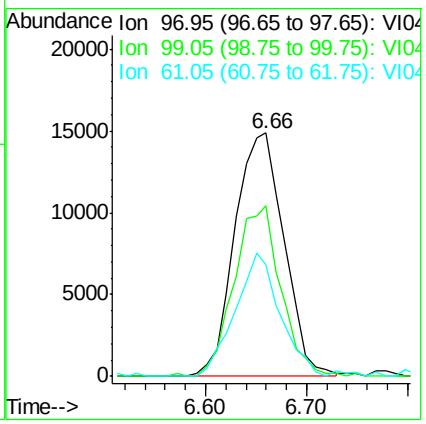




#29
1,1,1-Trichloroethane
Concen: 0.31 ug/L
RT: 6.66 min Scan# 552
Delta R.T. 0.01 min
Lab File: VI049238.D
Acq: 4 May 2016 21:33

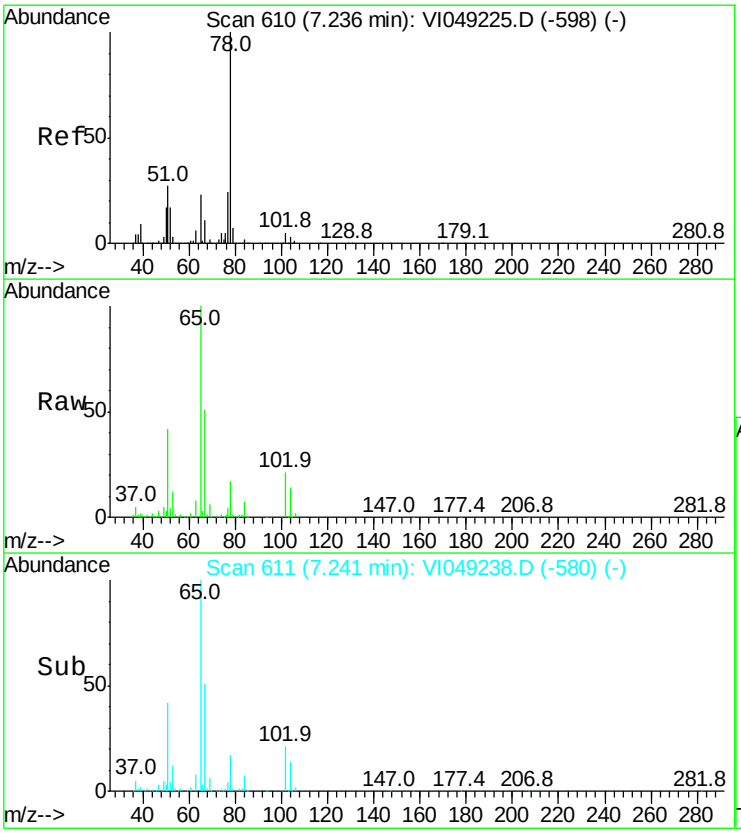
Tgt Ion: 97 Resp: 50314

Ion	Ratio	Lower	Upper
97	100		
99	66.3	51.1	76.7
61	46.3	33.3	49.9



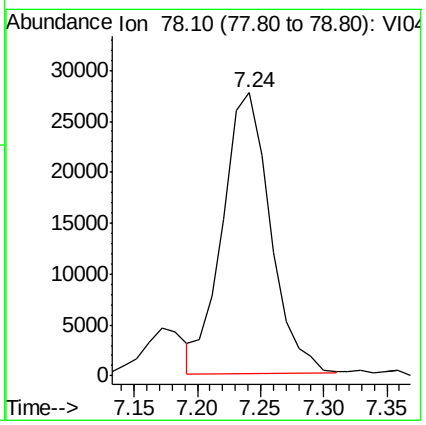
Instrument :
MSVOA_I
ClientSampleId :
H4121

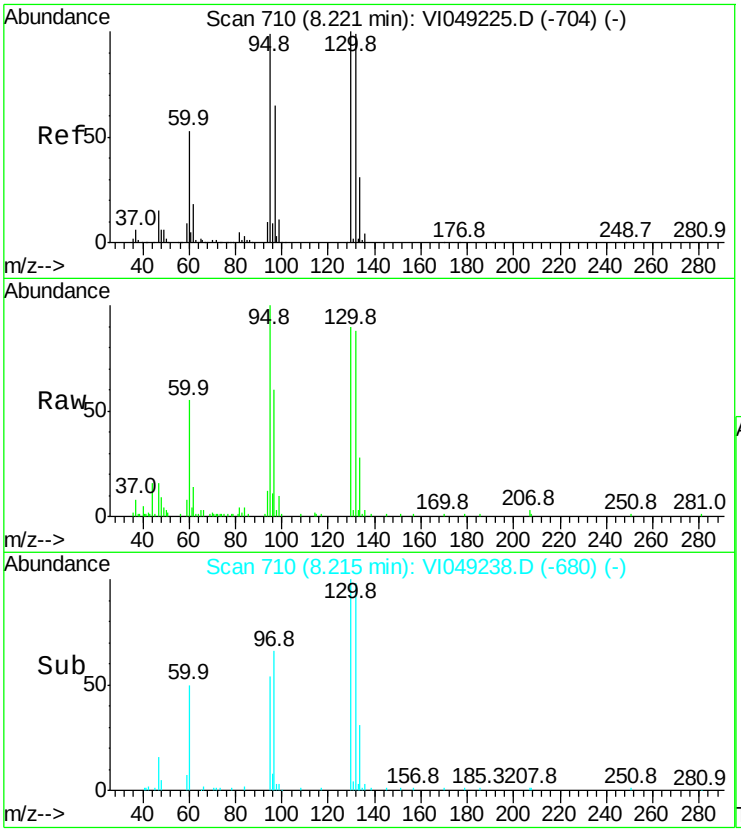
Manual Integrations APPROVED
mohammad
5/5/2016 9:01:28 AM



#33
Benzene
Concen: 0.20 ug/L
RT: 7.24 min Scan# 611
Delta R.T. 0.00 min
Lab File: VI049238.D
Acq: 4 May 2016 21:33

Tgt Ion: 78 Resp: 72575

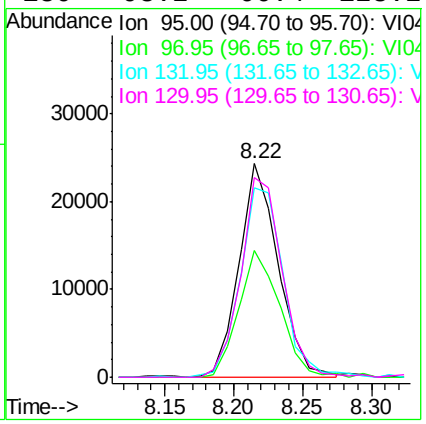




#34
Trichloroethene
Concen: 0.48 ug/L
RT: 8.22 min Scan# 710
Delta R.T. -0.01 min
Lab File: VI049238.D
Acq: 4 May 2016 21:33

Tgt Ion: 95 Resp: 48349

Ion	Ratio	Lower	Upper
95	100		
97	59.5	45.8	85.2
132	88.4	63.9	118.7
130	93.2	66.4	123.2



Instrument :
MSVOA_I
ClientSampleId :
H4121

Manual Integrations APPROVED
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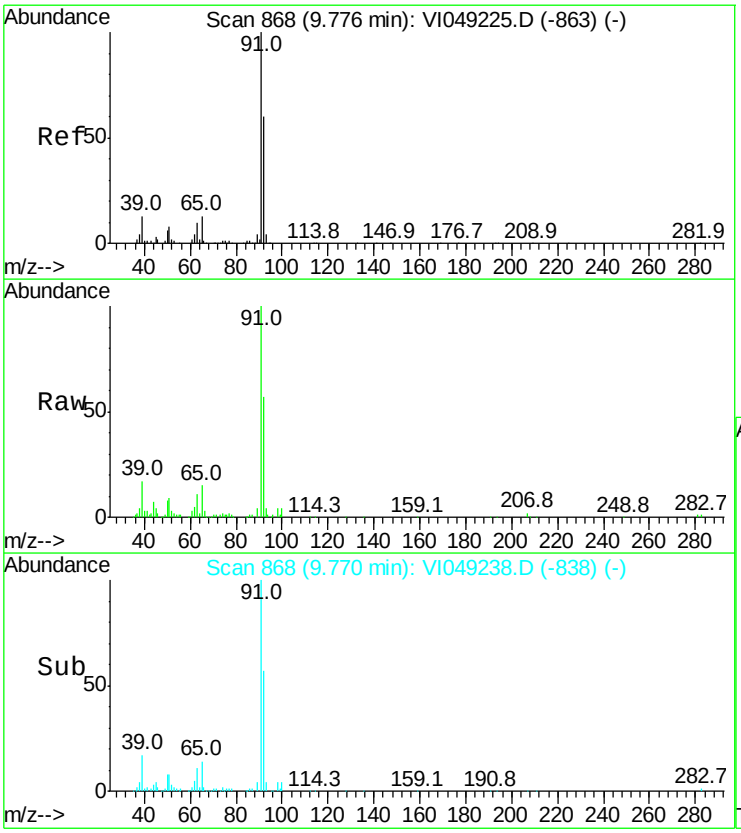
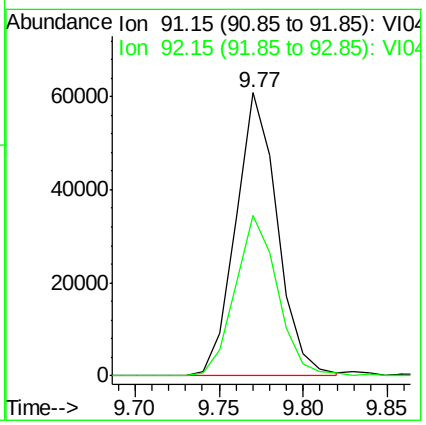
5/5/2016 9:01:28 AM

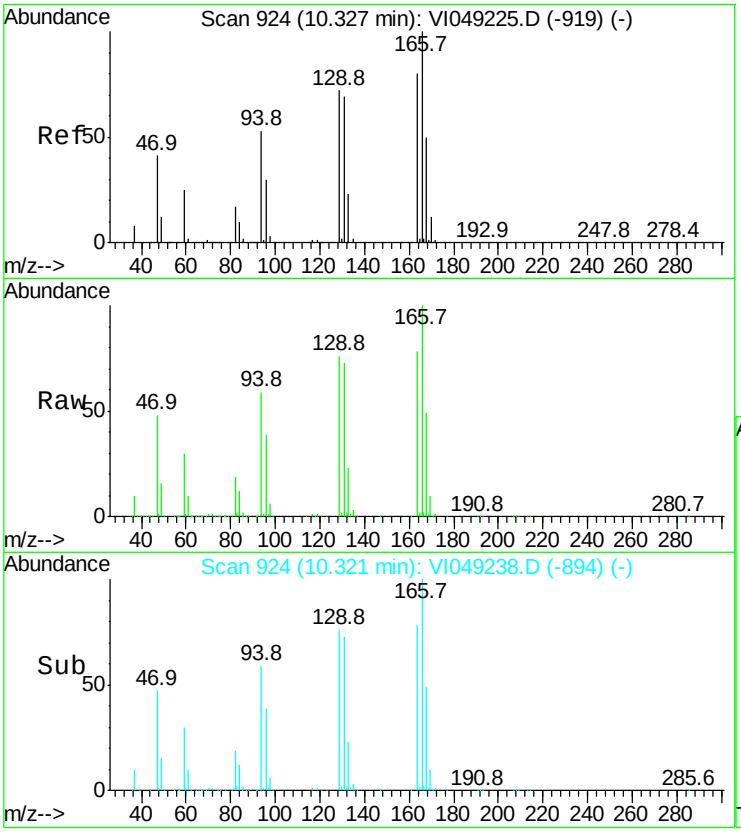


#42
Toluene
Concen: 0.34 ug/L
RT: 9.77 min Scan# 868
Delta R.T. -0.01 min
Lab File: VI049238.D
Acq: 4 May 2016 21:33

Tgt Ion: 91 Resp: 104314

Ion	Ratio	Lower	Upper
91	100		
92	56.5	41.2	76.4

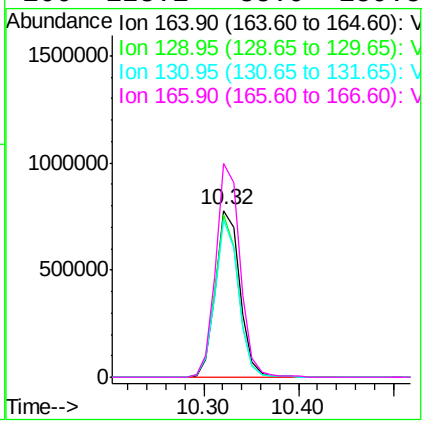




#47
Tetrachloroethene
Concen: 20.99 ug/L
RT: 10.32 min Scan# 924
Delta R.T. -0.01 min
Lab File: VI049238.D
Acq: 4 May 2016 21:33

Tgt Ion:164 Resp: 1390839

Ion	Ratio	Lower	Upper
164	100		
129	97.5	62.1	115.3
131	94.1	60.6	112.6
166	128.1	85.9	159.5



Instrument :
MSVOA_I
ClientSampleId :
H4121

Manual Integrations APPROVED
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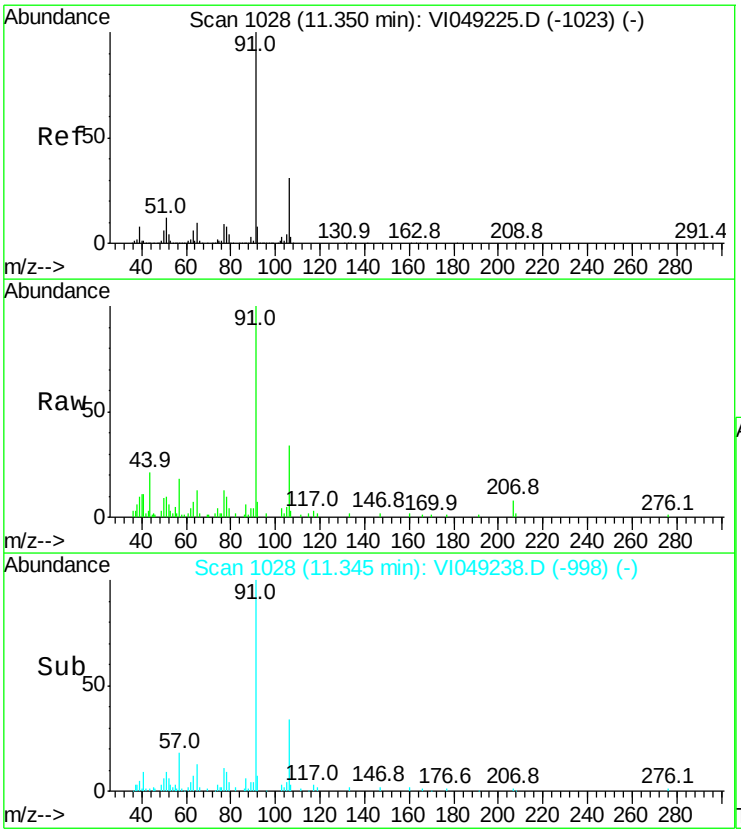
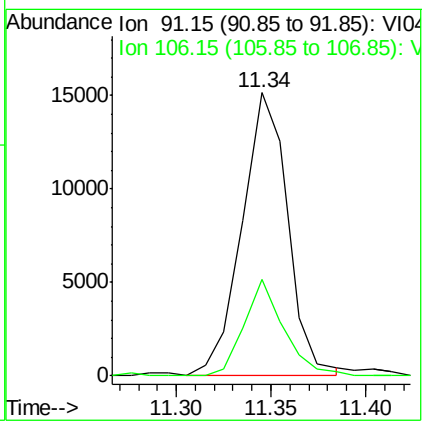
5/5/2016 9:01:28 AM

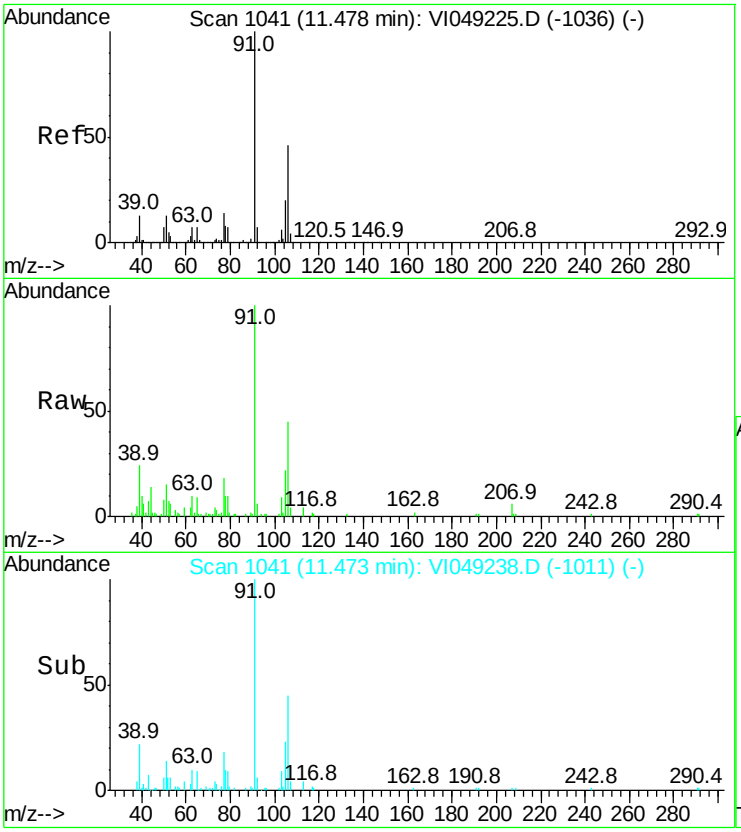


#52
Ethylbenzene
Concen: 0.08 ug/L
RT: 11.34 min Scan# 1028
Delta R.T. -0.01 min
Lab File: VI049238.D
Acq: 4 May 2016 21:33

Tgt Ion: 91 Resp: 25501

Ion	Ratio	Lower	Upper
91	100		
106	34.0	20.5	38.1

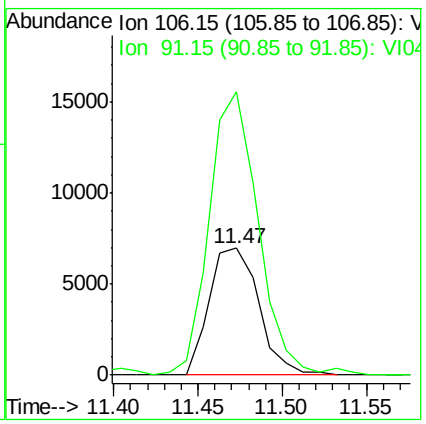




#53
m,p-Xylene
Concen: 0.12 ug/L
RT: 11.47 min Scan# 1041
Delta R.T. -0.01 min
Lab File: VI049238.D
Acq: 4 May 2016 21:33

Tgt Ion:106 Resp: 14314

Ion	Ratio	Lower	Upper
106	100		
91	223.1	155.0	287.9



Instrument :
MSVOA_I
ClientSampleId :
H4121

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:28 AM

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 05 06:42:52 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4121

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:28 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1273049	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	848972	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	309434	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	397332	5.07	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 101.40%			
7) Chloroethane-d5	2.10	69	234802	5.41	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 108.20%			
11) 1,1-Dichloroethene-d2	2.94	63	699003	3.79	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 75.80%			
20) 2-Butanone-d5	5.68	46	935555	55.14	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 110.28%			
24) Chloroform-d	6.38	84	1013253	5.08	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 101.60%			
26) 1,2-Dichloroethane-d4	7.23	65	446328m	5.47	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 109.40%			
32) Benzene-d6	7.17	84	1738940	5.26	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 105.20%			
36) 1,2-Dichloropropane-d6	8.44	67	497480	5.35	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 107.00%			
41) Toluene-d8	9.69	98	1241763	5.09	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.80%			
43) trans-1,3-Dichloropropene-	10.02	79	183791	5.02	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 100.40%			
46) 2-Hexanone-d5	10.43	63	600515	51.96	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 103.92%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	203052	4.80	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 96.00%			
63) 1,2-Dichlorobenzene-d4	13.76	152	274271	5.06	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 101.20%			
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	5.78	96	31742	0.27	ug/L	88
25) Chloroform	6.42	83	198998	0.97	ug/L	96
29) 1,1,1-Trichloroethane	6.66	97	50314	0.31	ug/L	95
33) Benzene	7.24	78	72575	0.20	ug/L	100
34) Trichloroethene	8.22	95	48349	0.48	ug/L	96
42) Toluene	9.77	91	104314	0.34	ug/L	97
47) Tetrachloroethene	10.32	164	1390839	20.99	ug/L	93
52) Ethylbenzene	11.34	91	25501	0.08	ug/L	91
53) m,p-Xylene	11.47	106	14314	0.12	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA I/WATER
ALS Vial : 20 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.296	4	7	18	rBV	6702457	19406668	100.00%	27.566%
2	1.414	18	19	33	rVB2	227554	562976	2.90%	0.800%
3	1.582	33	36	43	rVB2	95566	177249	0.91%	0.252%
4	1.710	46	49	57	rVB	421784	693768	3.57%	0.985%
5	1.877	63	66	70	rVB	69038	123379	0.64%	0.175%
6	2.103	86	89	97	rVV	208229	422258	2.18%	0.600%
7	2.202	97	99	108	rVB2	28889	78206	0.40%	0.111%
8	2.359	113	115	116	rBV2	8050	9149	0.05%	0.013%
9	2.477	125	127	131	rVB3	17399	35147	0.18%	0.050%
10	2.586	137	138	148	rVB8	24903	68127	0.35%	0.097%
11	2.822	158	162	168	rVB9	9594	22956	0.12%	0.033%
12	2.940	168	174	180	rBV	851572	1982977	10.22%	2.817%
13	3.206	197	201	217	rVB2	51598	220891	1.14%	0.314%
14	3.501	227	231	232	rVB4	6067	9824	0.05%	0.014%
15	3.619	236	243	245	rVV8	10927	35786	0.18%	0.051%
16	3.678	247	249	255	rVB6	9074	21068	0.11%	0.030%
17	3.776	258	259	262	rVB2	5453	6558	0.03%	0.009%
18	3.855	262	267	268	rBV5	10061	20778	0.11%	0.030%
19	3.885	268	270	275	rVV5	9640	27668	0.14%	0.039%
20	4.003	279	282	288	rVB7	10691	23882	0.12%	0.034%
21	4.436	324	326	327	rBV2	4184	6154	0.03%	0.009%
22	4.702	349	353	355	rBV4	4150	6515	0.03%	0.009%
23	4.839	364	367	370	rVB3	3307	5794	0.03%	0.008%
24	4.889	370	372	376	rBV4	3927	5622	0.03%	0.008%
25	5.016	381	385	386	rBV3	2608	5574	0.03%	0.008%
26	5.115	391	395	397	rBV4	2521	7437	0.04%	0.011%
27	5.371	418	421	424	rVB5	3506	5251	0.03%	0.007%
28	5.558	436	440	446	rBV6	13639	39096	0.20%	0.056%
29	5.676	446	452	459	rBV	366234	1278156	6.59%	1.816%
30	5.794	459	464	477	rVB2	169261	731602	3.77%	1.039%
31	6.060	489	491	494	rBV4	3345	5886	0.03%	0.008%
32	6.306	514	516	517	rBV2	4601	5929	0.03%	0.008%
33	6.385	517	524	537	rVV2	814081	2817027	14.52%	4.001%
34	6.522	537	538	541	rVB3	4997	5720	0.03%	0.008%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA I/WATER
ALS Vial : 20 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.650	545	551	558	rVB2	48576	155985	0.80%	0.222%
36	6.749	558	561	567	rVB7	8073	25577	0.13%	0.036%
37	7.054	587	592	596	rBV8	4252	8443	0.04%	0.012%
38	7.172	596	604	608	rBV	1355041	3643454	18.77%	5.175%
39	7.231	608	610	619	rVB	532529	1276498	6.58%	1.813%
40	7.556	642	643	649	rVB6	6538	15316	0.08%	0.022%
41	7.664	651	654	657	rVB4	2698	5122	0.03%	0.007%
42	7.762	661	664	667	rBV3	8349	16206	0.08%	0.023%
43	7.930	676	681	696	rBV	1397256	3138425	16.17%	4.458%
44	8.215	704	710	717	rBV	133634	285881	1.47%	0.406%
45	8.441	726	733	743	rBV	1036220	2368769	12.21%	3.365%
46	8.619	749	751	755	rVB5	6031	11460	0.06%	0.016%
47	8.707	759	760	762	rBV2	3477	4980	0.03%	0.007%
48	8.776	765	767	771	rVB5	6215	15987	0.08%	0.023%
49	8.845	771	774	776	rBV4	6092	14899	0.08%	0.021%
50	8.904	776	780	786	rVB8	22765	63098	0.33%	0.090%
51	9.170	804	807	809	rBV4	3562	5838	0.03%	0.008%
52	9.268	812	817	818	rVB3	4269	9107	0.05%	0.013%
53	9.288	818	819	822	rBV3	3544	5685	0.03%	0.008%
54	9.367	822	827	835	rBV	644850	1169991	6.03%	1.662%
55	9.524	838	843	847	rBV2	49465	98639	0.51%	0.140%
56	9.593	848	850	852	rVB3	6139	9881	0.05%	0.014%
57	9.691	856	860	865	rBV	1932869	3619405	18.65%	5.141%
58	9.770	865	868	875	rVB	169347	313620	1.62%	0.445%
59	9.869	877	878	882	rBV4	4166	6839	0.04%	0.010%
60	10.016	889	893	900	rBV	384850	623393	3.21%	0.885%
61	10.213	909	913	920	rBV	184634	410206	2.11%	0.583%
62	10.321	920	924	931	rVV	6832585	11704639	60.31%	16.626%
63	10.430	931	935	950	rVV	1806492	3221440	16.60%	4.576%
64	10.607	950	953	955	rVB3	8130	11593	0.06%	0.016%
65	10.971	986	990	992	rBV4	3794	8062	0.04%	0.011%
66	11.128	1003	1006	1008	rBV4	5044	10203	0.05%	0.014%
67	11.217	1011	1015	1025	rBV	1757514	2960386	15.25%	4.205%
68	11.345	1025	1028	1032	rVB3	46643	88590	0.46%	0.126%
69	11.473	1036	1041	1045	rBV	51604	100487	0.52%	0.143%
70	11.532	1045	1047	1048	rVB2	5747	6368	0.03%	0.009%
71	11.630	1054	1057	1059	rVB3	2900	5733	0.03%	0.008%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA I/WATER
ALS Vial : 20 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.748	1066	1069	1070	rBV3	4545	5183	0.03%	0.007%
73	11.837	1075	1078	1083	rVB4	25629	53147	0.27%	0.075%
74	12.063	1095	1101	1103	rBV5	4621	12217	0.06%	0.017%
75	12.191	1110	1114	1118	rBV5	9835	22797	0.12%	0.032%
76	12.250	1118	1120	1121	rBV	4628	5312	0.03%	0.008%
77	12.339	1128	1129	1130	rBV	6100	5143	0.03%	0.007%
78	12.398	1131	1135	1138	rVV	170496	320047	1.65%	0.455%
79	12.457	1138	1141	1148	rVV	467668	790285	4.07%	1.123%
80	12.654	1157	1161	1163	rBV4	16033	28188	0.15%	0.040%
81	12.683	1163	1164	1167	rVB2	9130	14781	0.08%	0.021%
82	12.742	1167	1170	1175	rBV7	6111	16483	0.08%	0.023%
83	12.920	1185	1188	1190	rBV3	7050	11581	0.06%	0.016%
84	12.979	1192	1194	1196	rVB2	4420	5250	0.03%	0.007%
85	13.018	1196	1198	1199	rBV	4662	7033	0.04%	0.010%
86	13.087	1199	1205	1208	rBV2	14889	30391	0.16%	0.043%
87	13.126	1208	1209	1217	rVB7	4146	10379	0.05%	0.015%
88	13.254	1217	1222	1226	rBV6	5265	16863	0.09%	0.024%
89	13.353	1229	1232	1233	rBV3	4344	8036	0.04%	0.011%
90	13.431	1235	1240	1246	rBV	1355112	2276619	11.73%	3.234%
91	13.648	1258	1262	1266	rBV5	15369	37723	0.19%	0.054%
92	13.697	1266	1267	1269	rBV2	3451	5071	0.03%	0.007%
93	13.756	1269	1273	1278	rVV	1223640	2045138	10.54%	2.905%
94	13.933	1287	1291	1292	rBV4	4332	7968	0.04%	0.011%
95	14.032	1297	1301	1306	rVB	110952	205890	1.06%	0.292%
96	14.101	1306	1308	1310	rBV3	4818	7510	0.04%	0.011%
97	14.170	1312	1315	1316	rVV2	6524	9982	0.05%	0.014%
98	14.307	1327	1329	1334	rBV6	9100	17782	0.09%	0.025%
99	15.360	1435	1436	1438	rBV2	10523	10714	0.06%	0.015%
100	15.607	1457	1461	1465	rBV2	43235	98526	0.51%	0.140%

Sum of corrected areas: 70401322

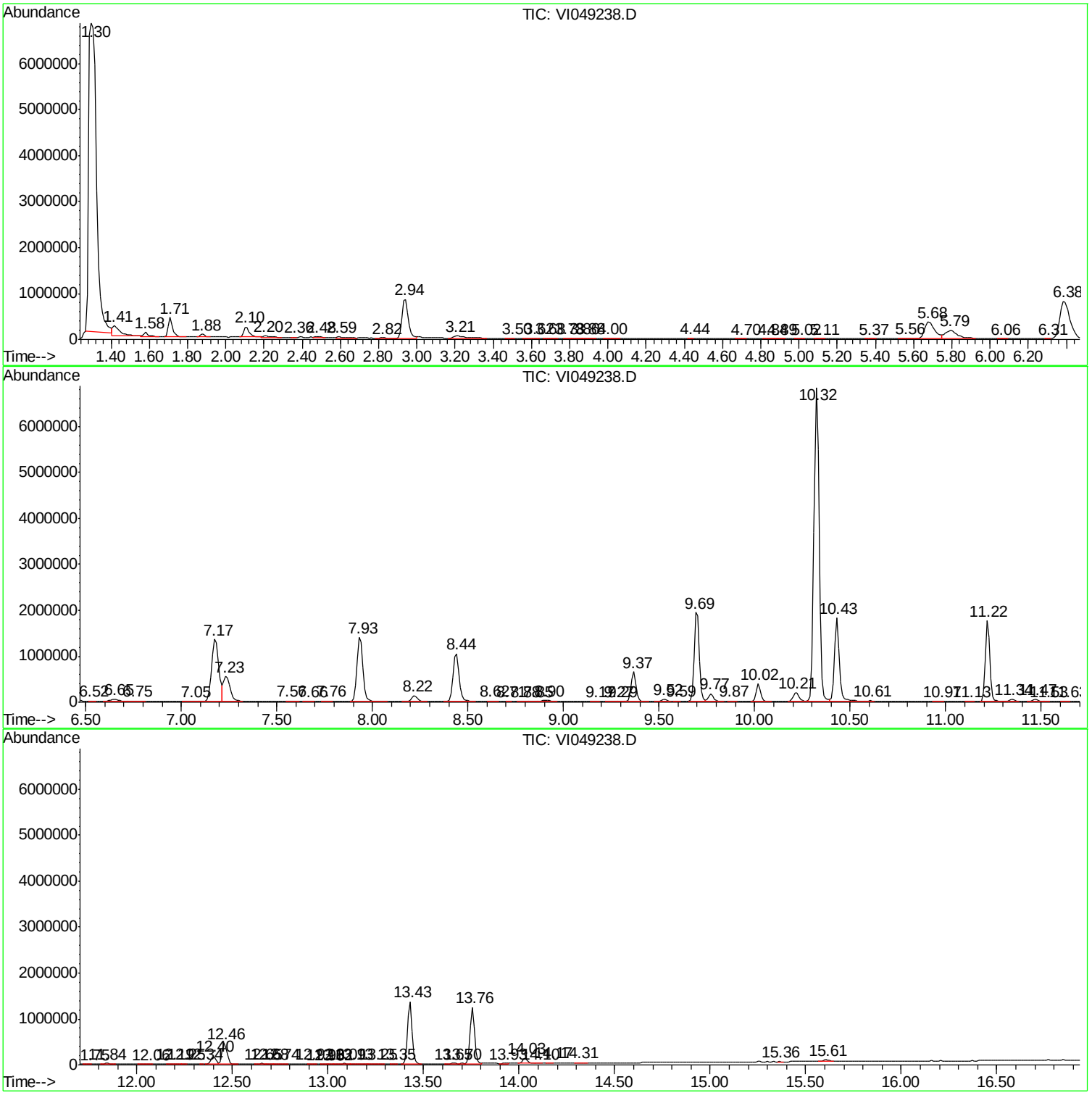
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

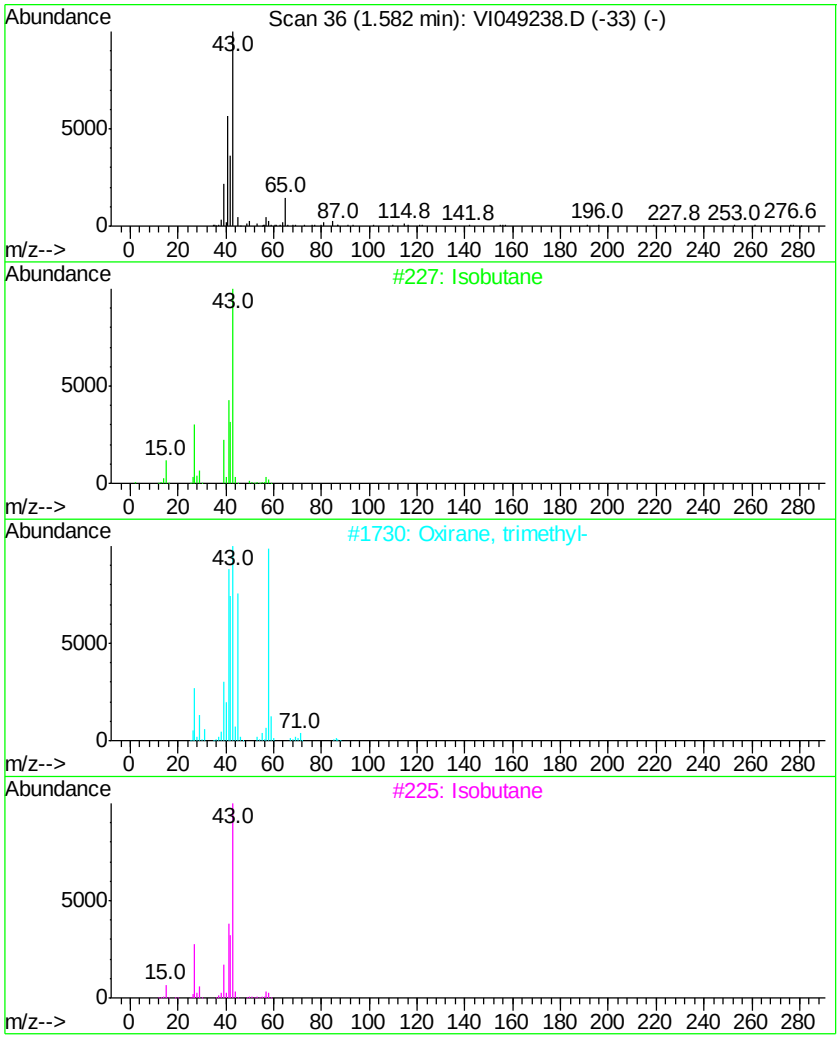
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

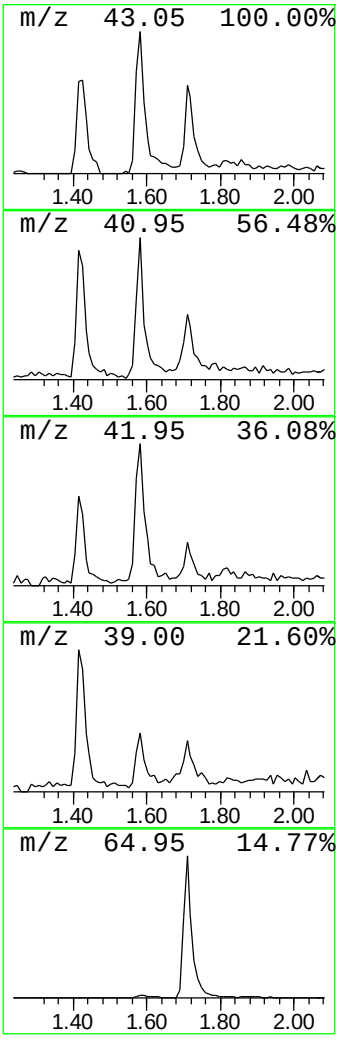
****

Peak Number 3 (DEL) Alkane: Straight-Chai... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.58	0.28 ug/L	177249	1,4-Difluorobenzene	7.93

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Isobutane	58	C4H10	000075-28-5	38
2	Oxirane, trimethyl-	86	C5H10O	005076-19-7	9
3	Isobutane	58	C4H10	000075-28-5	9
4	Isobutane	58	C4H10	000075-28-5	9
5	Propane, 1-chloro-2-methyl-	92	C4H9Cl	000513-36-0	9





Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

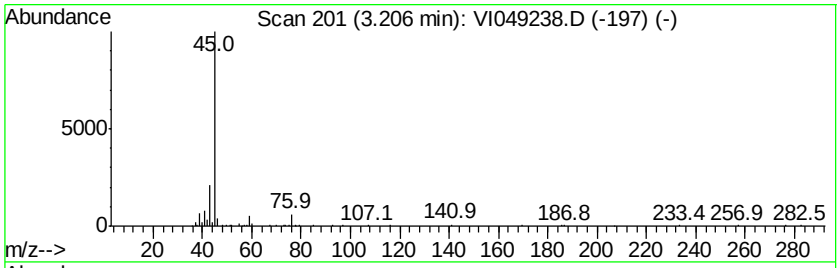
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

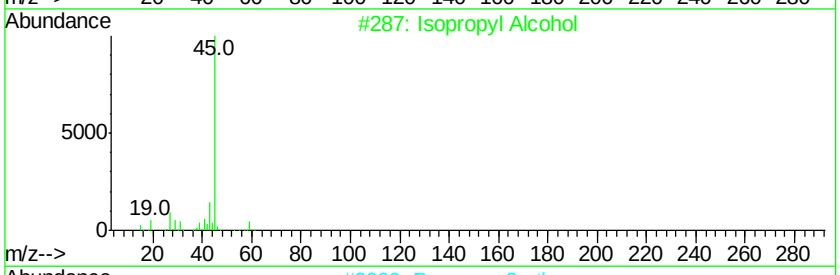
****

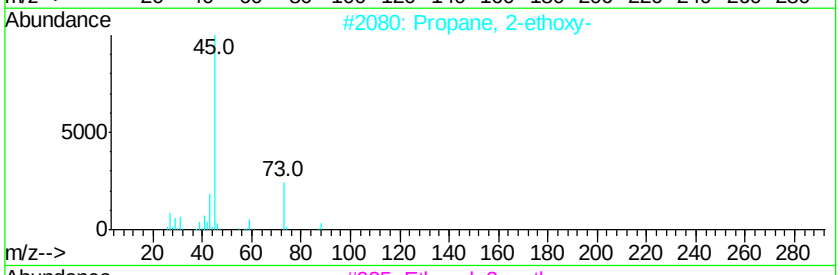
Peak Number 4 Isopropyl Alcohol Concentration Rank 7

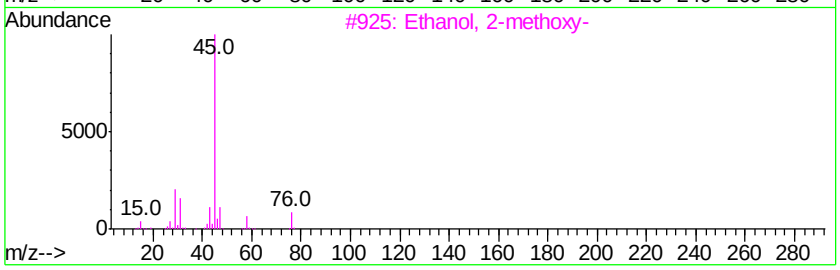
R.T.	EstConc	Area	Relative to ISTD	R.T.
3.21	0.35 ug/L	220891	1,4-Difluorobenzene	7.93

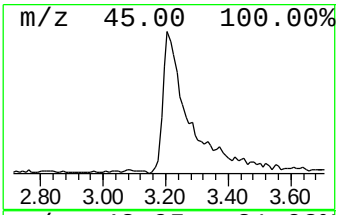
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Isopropyl Alcohol	60	C3H8O	000067-63-0	64
2	Propane, 2-ethoxy-	88	C5H12O	000625-54-7	50
3	Ethanol, 2-methoxy-	76	C3H8O2	000109-86-4	50
4	Ethanol, 2-methoxy-	76	C3H8O2	000109-86-4	50
5	Ethanol, 2-methoxy-	76	C3H8O2	000109-86-4	9

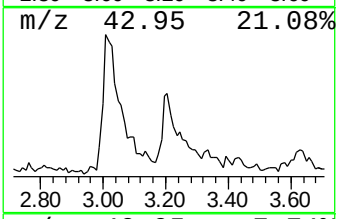


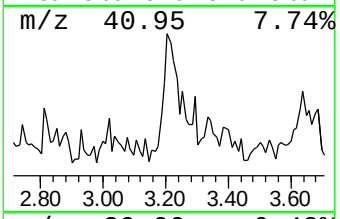


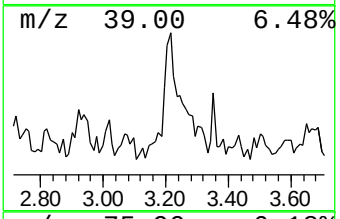


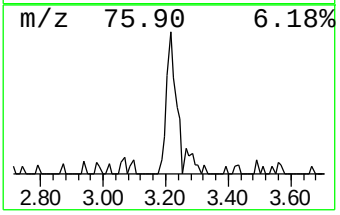












Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
(DEL) Alkane: Str...	1.58	0.3	ug/L	177249	1	7.93	3138430	5.0
Isopropyl Alcohol	3.21	0.3	ug/L	220891	1	7.93	3138430	5.0

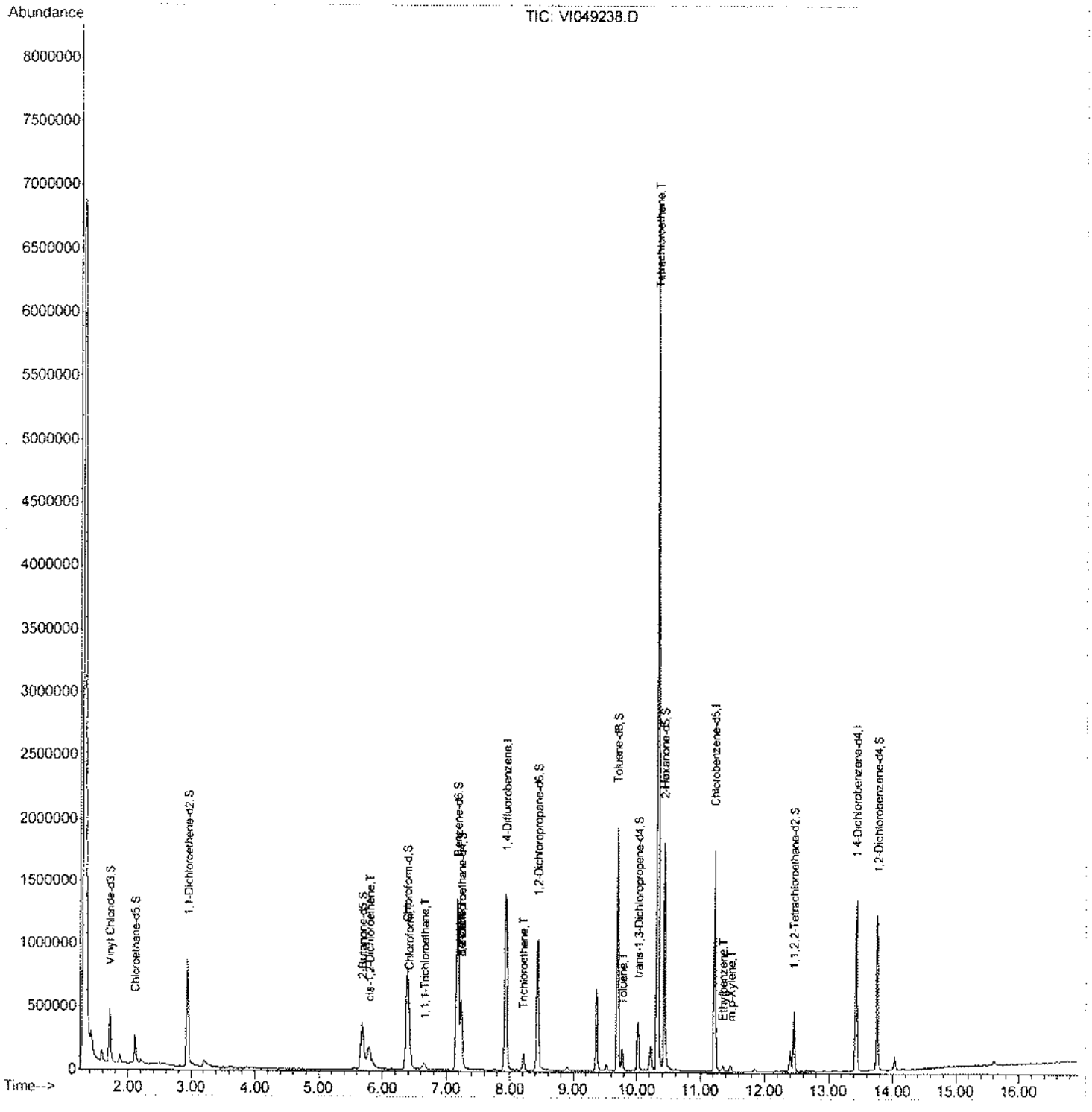
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 05 06:42:52 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4121

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:28 AM



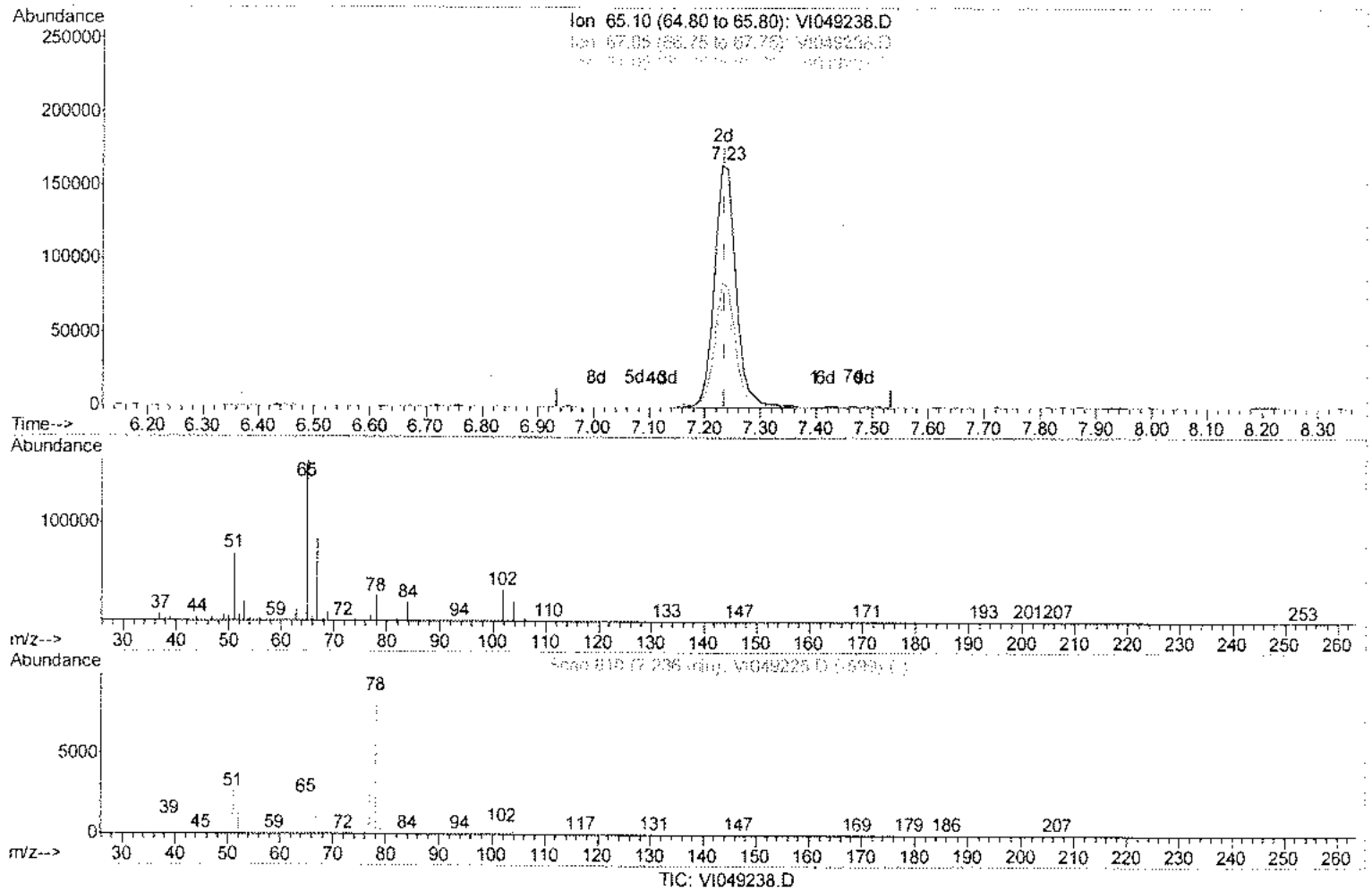
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 05 05:24:27 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4121

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:28 AM



TIC: VI049238.D

(26) 1,2-Dichloroethane-d4 (S)

7.231min (-0.006) 5.47ug/L m

M.D 05/07/16

response 446328

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	0.10#
51.05	123.20	0.20#
0.00	0.00	0.00

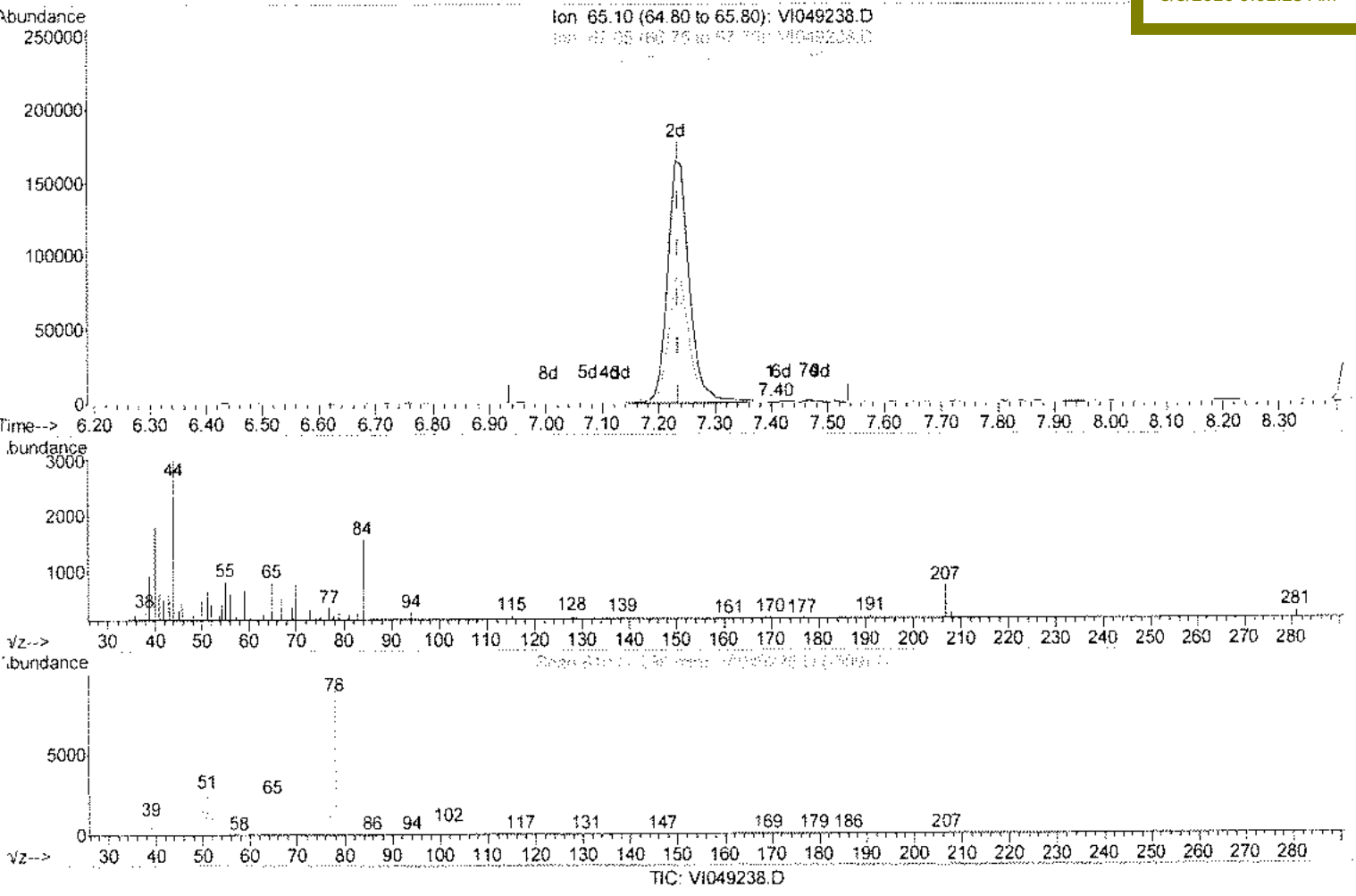
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 05 05:24:27 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4121

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:28 AM



TIC: VI049238.D

(26) 1,2-Dichloroethane-d4 (S)

7.398min (+0.162) 0.01ug/L

response 669

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	65.62
51.05	123.20	130.49
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049238.D
Acq On : 4 May 2016 21:33
Operator : FY/SY
Sample : H2834-06
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 05 06:42:52 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4121

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:28 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1273049	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	848972	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	309434	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	397332	5.07	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 101.40%			
7) Chloroethane-d5	2.10	69	234802	5.41	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 108.20%			
11) 1,1-Dichloroethene-d2	2.94	63	699003	3.79	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 75.80%			
20) 2-Butanone-d5	5.68	46	935555	55.14	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 110.28%			
24) Chloroform-d	6.38	84	1013253	5.08	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 101.60%			
26) 1,2-Dichloroethane-d4	7.23	65	446328m	5.47	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 109.40%			
32) Benzene-d6	7.17	84	1738940	5.26	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 105.20%			
36) 1,2-Dichloropropane-d6	8.44	67	497480	5.35	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 107.00%			
41) Toluene-d8	9.69	98	1241763	5.09	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.80%			
43) trans-1,3-Dichloropropene-	10.02	79	183791	5.02	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 100.40%			
46) 2-Hexanone-d5	10.43	63	600515	51.96	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 103.92%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	203052	4.80	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 96.00%			
63) 1,2-Dichlorobenzene-d4	13.76	152	274271	5.06	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 101.20%			
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	5.78	96	31742	0.27	ug/L	88
25) Chloroform	6.42	83	198998	0.97	ug/L	96
29) 1,1,1-Trichloroethane	6.66	97	50314	0.31	ug/L	95
33) Benzene	7.24	78	72575	0.20	ug/L	100
34) Trichloroethene	8.22	95	48349	0.48	ug/L	96
42) Toluene	9.77	91	104314	0.34	ug/L	97
47) Tetrachloroethene	10.32	164	1390839	20.99	ug/L	93
52) Ethylbenzene	11.34	91	25501	0.08	ug/L	91
53) m,p-Xylene	11.47	106	14314	0.12	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

M.D 05/07/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4121DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049257.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 2.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1.0	U
79-20-9	Methyl Acetate	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	D
71-55-6	1,1,1-Trichloroethane	0.34	JD
110-82-7	Cyclohexane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	0.48	JD

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4121DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049257.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 2.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	20	D
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
95-47-6	o-Xylene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-trichlorobenzene	1.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4121DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049257.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 2.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	1.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4121DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-06DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049257.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

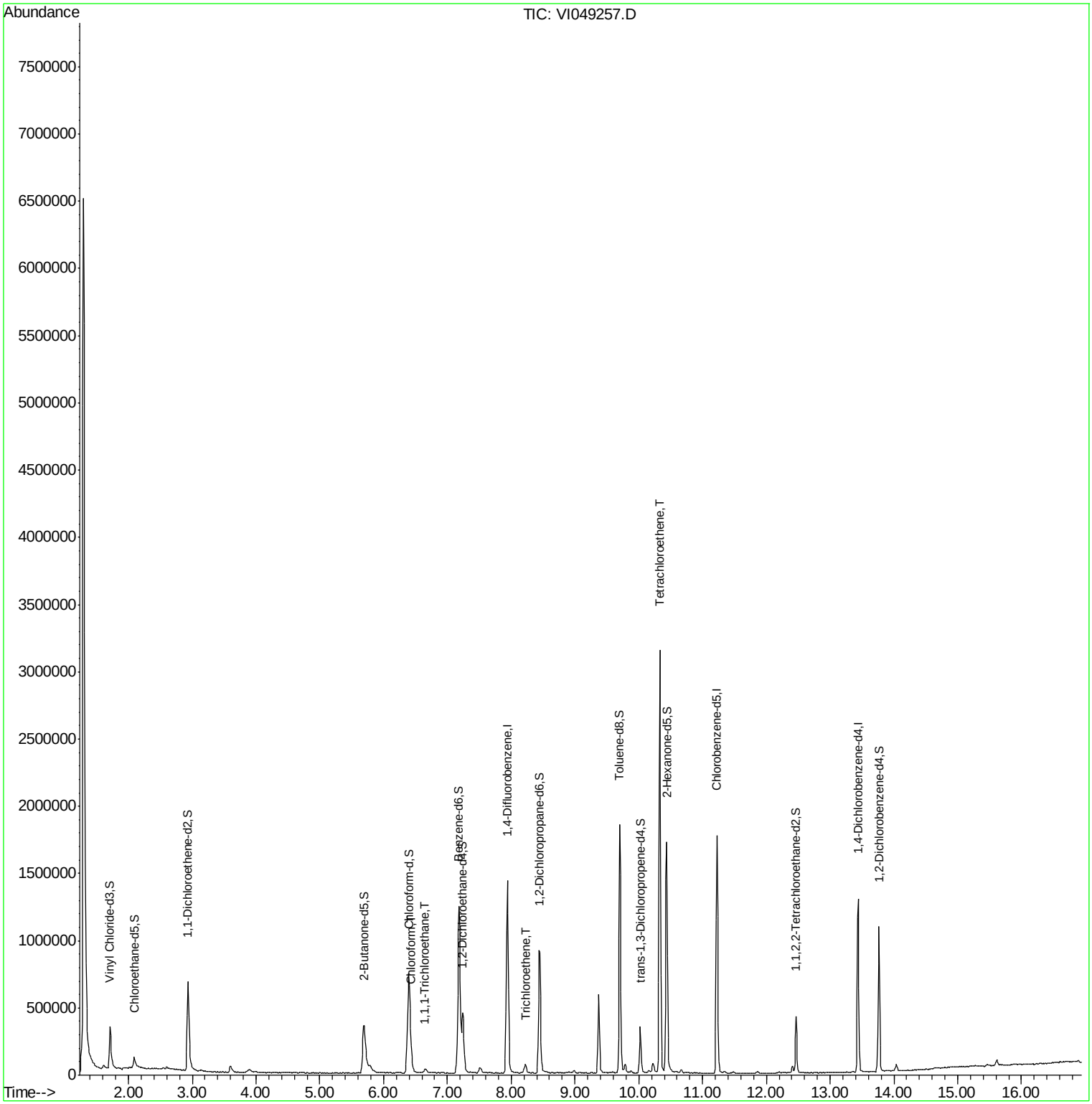
EPA-designated Registry Number.

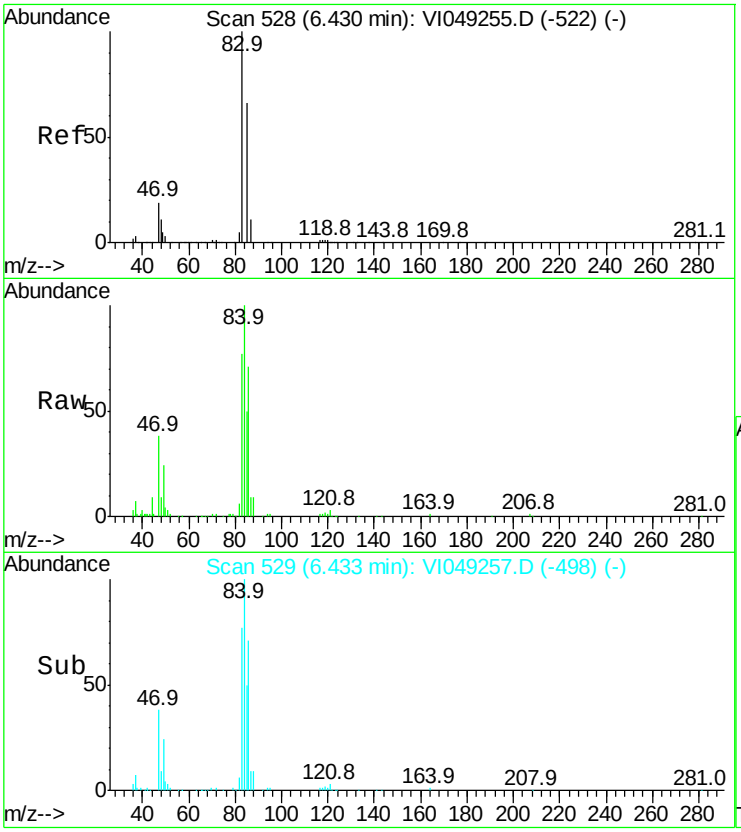
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049257.D
Acq On : 5 May 2016 17:59
Operator : FY/SY
Sample : H2834-06DL 2X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121DL

Quant Time: May 06 10:17:17 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration



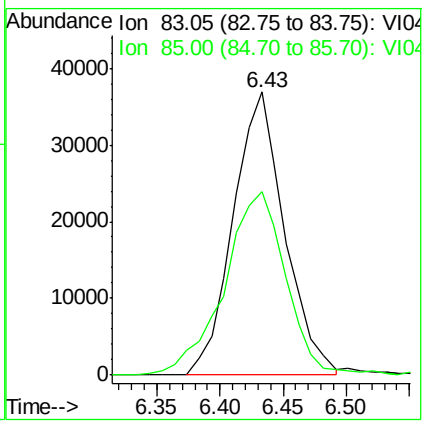


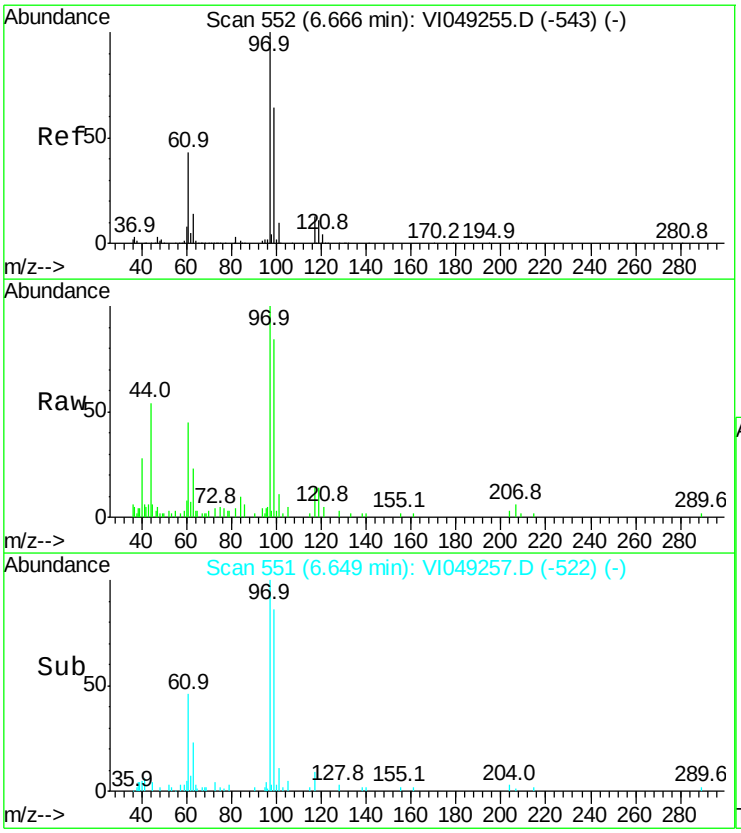
#25
Chloroform
Concen: 0.51 ug/L
RT: 6.43 min Scan# 529
Delta R.T. 0.00 min
Lab File: VI049257.D
Acq: 5 May 2016 17:59

Instrument : MSVOA_I
ClientSampleId : H4121DL

Tgt Ion: 83 Resp: 104227

Ion	Ratio	Lower	Upper
83	100		
85	64.7	47.3	87.8

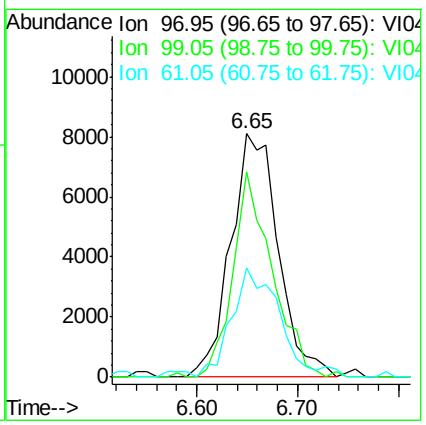


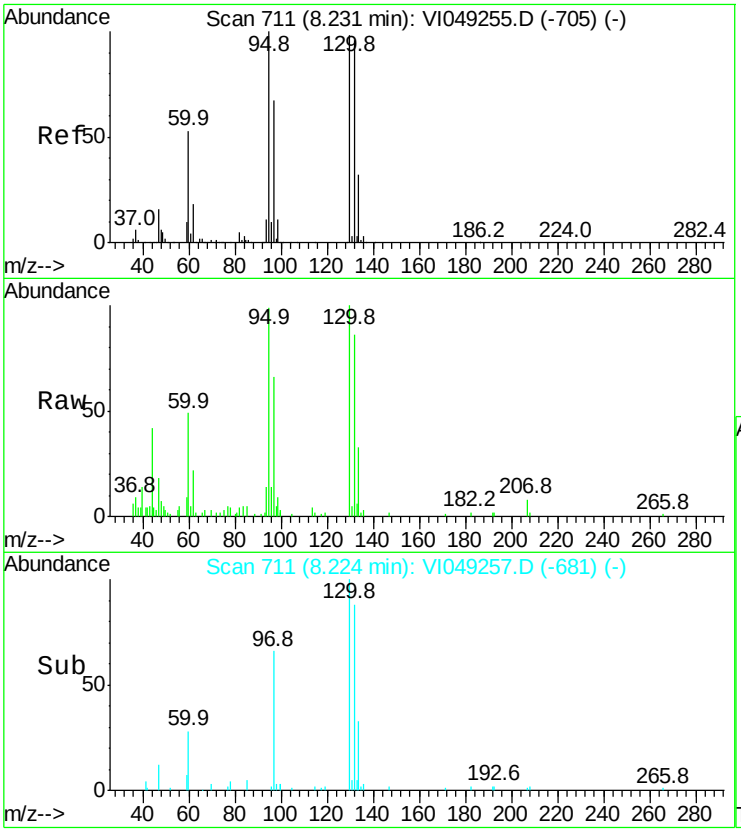


#29
1,1,1-Trichloroethane
Concen: 0.17 ug/L
RT: 6.65 min Scan# 551
Delta R.T. -0.02 min
Lab File: VI049257.D
Acq: 5 May 2016 17:59

Tgt Ion: 97 Resp: 26586

Ion	Ratio	Lower	Upper
97	100		
99	69.1	51.1	76.7
61	43.7	33.3	49.9



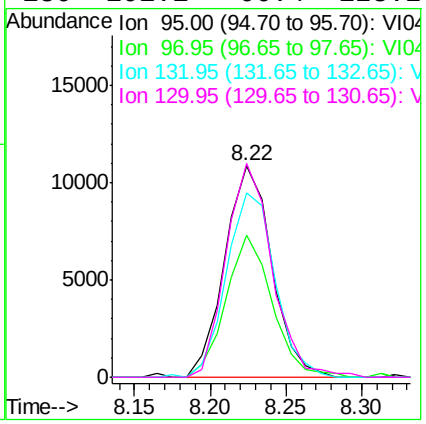


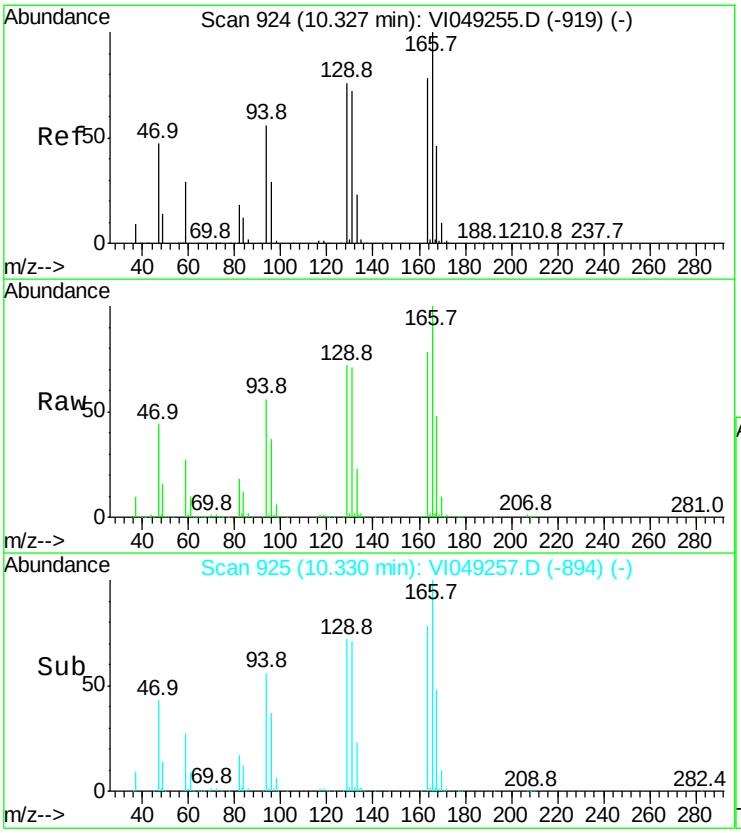
#34
Trichloroethene
Concen: 0.24 ug/L
RT: 8.22 min Scan# 711
Delta R.T. -0.01 min
Lab File: VI049257.D
Acq: 5 May 2016 17:59

Instrument : MSVOA_I
ClientSampleId : H4121DL

Tgt Ion: 95 Resp: 23547

Ion	Ratio	Lower	Upper
95	100		
97	67.2	45.8	85.2
132	87.4	63.9	118.7
130	101.1	66.4	123.2

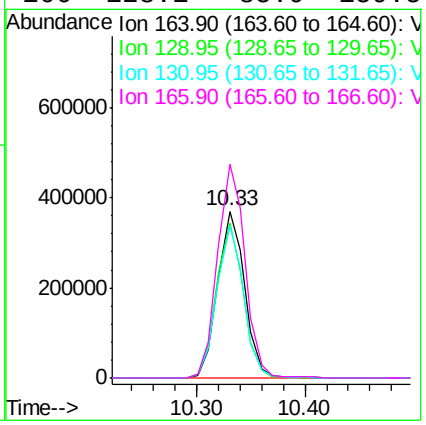




#47
Tetrachloroethene
Concen: 9.78 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.00 min
Lab File: VI049257.D
Acq: 5 May 2016 17:59

Tgt Ion:164 Resp: 641296

Ion	Ratio	Lower	Upper
164	100		
129	92.7	62.1	115.3
131	91.0	60.6	112.6
166	128.1	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049257.D
Acq On : 5 May 2016 17:59
Operator : FY/SY
Sample : H2834-06DL 2X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121DL

Quant Time: May 06 10:17:17 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1269772	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	839822	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	302518	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	368222	4.71	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 94.20%			
7) Chloroethane-d5	2.09	69	87297	2.02	ug/L	-0.02
Spiked Amount 5.000	Range 65 - 130		Recovery = 40.40%#			
11) 1,1-Dichloroethene-d2	2.93	63	583023	3.17	ug/L	-0.02
Spiked Amount 5.000	Range 60 - 125		Recovery = 63.40%			
20) 2-Butanone-d5	5.69	46	885820	52.34	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 104.68%			
24) Chloroform-d	6.39	84	894771	4.50	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 90.00%			
26) 1,2-Dichloroethane-d4	7.24	65	400959	4.93	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.60%			
32) Benzene-d6	7.18	84	1555185	4.75	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.00%			
36) 1,2-Dichloropropane-d6	8.44	67	446987	4.86	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 97.20%			
41) Toluene-d8	9.70	98	1098519	4.55	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 91.00%			
43) trans-1,3-Dichloropropene-	10.03	79	163582	4.51	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 90.20%			
46) 2-Hexanone-d5	10.44	63	565963	49.51	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 99.02%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	184006	4.40	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 88.00%			
63) 1,2-Dichlorobenzene-d4	13.76	152	237917	4.49	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 89.80%			
Target Compounds						Qvalue
25) Chloroform	6.43	83	104227	0.51	ug/L	97
29) 1,1,1-Trichloroethane	6.65	97	26586	0.17	ug/L	95
34) Trichloroethene	8.22	95	23547	0.24	ug/L	96
47) Tetrachloroethene	10.33	164	641296	9.78	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049257.D
Acq On : 5 May 2016 17:59
Operator : FY/SY
Sample : H2834-06DL 2X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.295	4	7	28	rVB	6460704	14389713	100.00%	26.980%
2	1.610	37	39	44	rVV	26584	42789	0.30%	0.080%
3	1.708	46	49	60	rVB	314037	593510	4.12%	1.113%
4	1.915	68	70	72	rBV3	14780	24647	0.17%	0.046%
5	2.014	78	80	82	rBV3	10940	15546	0.11%	0.029%
6	2.043	82	83	84	rBV	7447	5810	0.04%	0.011%
7	2.092	84	88	92	rBV	78842	168578	1.17%	0.316%
8	2.368	114	116	118	rBV2	8409	10504	0.07%	0.020%
9	2.594	137	139	142	rBV2	11862	21043	0.15%	0.039%
10	2.752	153	155	156	rVB2	6257	7079	0.05%	0.013%
11	2.929	168	173	187	rBV	662520	1632585	11.35%	3.061%
12	3.116	189	192	193	rBV2	6829	11501	0.08%	0.022%
13	3.264	205	207	211	rVB5	5105	7861	0.05%	0.015%
14	3.332	213	214	219	rVB5	4620	8904	0.06%	0.017%
15	3.480	226	229	231	rBV4	4056	4911	0.03%	0.009%
16	3.519	231	233	235	rVB3	5189	5472	0.04%	0.010%
17	3.598	237	241	248	rVV2	45165	125287	0.87%	0.235%
18	3.677	248	249	251	rVV2	5500	5383	0.04%	0.010%
19	3.884	264	270	278	rBV3	19288	83672	0.58%	0.157%
20	3.992	278	281	286	rVB6	9332	25937	0.18%	0.049%
21	4.149	295	297	298	rVB2	4655	4990	0.03%	0.009%
22	4.199	298	302	306	rBV6	4683	16699	0.12%	0.031%
23	4.267	306	309	311	rBV3	4236	6410	0.04%	0.012%
24	4.356	317	318	321	rBV3	4168	6198	0.04%	0.012%
25	4.533	335	336	339	rVB3	4153	5500	0.04%	0.010%
26	4.730	352	356	357	rBV4	4236	7453	0.05%	0.014%
27	4.996	382	383	385	rBV2	5272	5112	0.04%	0.010%
28	5.370	419	421	423	rVB2	4096	6163	0.04%	0.012%
29	5.409	423	425	427	rBV3	5038	6565	0.05%	0.012%
30	5.695	448	454	462	rBV	353468	1309296	9.10%	2.455%
31	5.931	476	478	481	rVB3	5760	10054	0.07%	0.019%
32	6.187	502	504	506	rBV3	4734	6498	0.05%	0.012%
33	6.256	509	511	516	rVB4	8385	17328	0.12%	0.032%
34	6.393	518	525	538	rBV	742624	2355029	16.37%	4.416%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049257.D
Acq On : 5 May 2016 17:59
Operator : FY/SY
Sample : H2834-06DL 2X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.649	545	551	557	rBV3	27357	80865	0.56%	0.152%
36	6.846	570	571	575	rBV4	2666	6660	0.05%	0.012%
37	6.915	575	578	585	rVB8	3952	9907	0.07%	0.019%
38	7.181	598	605	609	rBV	1243069	3304706	22.97%	6.196%
39	7.240	609	611	620	rVV	445356	1017757	7.07%	1.908%
40	7.358	622	623	626	rVB3	6689	8988	0.06%	0.017%
41	7.515	633	639	648	rBV2	41976	122661	0.85%	0.230%
42	7.683	654	656	659	rVB4	3673	5533	0.04%	0.010%
43	7.939	675	682	696	rBV	1431896	3120142	21.68%	5.850%
44	8.224	701	711	720	rBV5	66216	187962	1.31%	0.352%
45	8.322	720	721	724	rVB3	3217	5421	0.04%	0.010%
46	8.440	728	733	742	rBV	914033	2120392	14.74%	3.976%
47	8.716	759	761	764	rVV4	3182	5544	0.04%	0.010%
48	8.854	774	775	778	rBV2	2660	5769	0.04%	0.011%
49	8.903	778	780	785	rVV3	14013	24652	0.17%	0.046%
50	8.982	785	788	795	rVB5	21987	47829	0.33%	0.090%
51	9.070	795	797	800	rBV3	3789	8634	0.06%	0.016%
52	9.307	819	821	823	rVB2	3969	5156	0.04%	0.010%
53	9.375	823	828	839	rBV	589015	1106404	7.69%	2.074%
54	9.494	839	840	842	rVB2	4608	4564	0.03%	0.009%
55	9.543	842	845	846	rBV3	4495	7134	0.05%	0.013%
56	9.592	846	850	854	rVV4	9220	19251	0.13%	0.036%
57	9.700	857	861	867	rVV	1846375	3225515	22.42%	6.048%
58	9.789	867	870	875	rVV2	65178	140673	0.98%	0.264%
59	9.877	877	879	883	rVV2	20633	34061	0.24%	0.064%
60	9.966	886	888	890	rVV3	4277	5723	0.04%	0.011%
61	10.025	890	894	899	rVV	344617	590566	4.10%	1.107%
62	10.104	901	902	904	rVV2	7070	10347	0.07%	0.019%
63	10.153	904	907	911	rVV3	19217	56959	0.40%	0.107%
64	10.222	911	914	920	rVV	71355	169942	1.18%	0.319%
65	10.330	920	925	932	rVV	3146726	5471526	38.02%	10.259%
66	10.438	932	936	948	rVV	1716959	3059930	21.26%	5.737%
67	10.576	948	950	951	rVV2	11440	18502	0.13%	0.035%
68	10.665	954	959	963	rVV5	26075	70508	0.49%	0.132%
69	10.724	963	965	966	rVV2	7557	9863	0.07%	0.018%
70	10.753	966	968	970	rVV3	5634	10079	0.07%	0.019%
71	10.862	977	979	981	rVV3	3599	5559	0.04%	0.010%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049257.D
Acq On : 5 May 2016 17:59
Operator : FY/SY
Sample : H2834-06DL 2X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.009	993	994	998	rVB4	4767	6095	0.04%	0.011%
73	11.068	998	1000	1004	rBV5	4418	10427	0.07%	0.020%
74	11.226	1012	1016	1026	rBV	1769143	2929081	20.36%	5.492%
75	11.354	1026	1029	1035	rVB5	13732	30691	0.21%	0.058%
76	11.482	1035	1042	1045	rVB4	11044	27943	0.19%	0.052%
77	11.590	1051	1053	1056	rVB4	3561	5437	0.04%	0.010%
78	11.738	1067	1068	1071	rBV2	3033	5473	0.04%	0.010%
79	11.865	1077	1081	1086	rBV6	10174	25523	0.18%	0.048%
80	11.984	1088	1093	1095	rVB5	2712	5601	0.04%	0.011%
81	12.200	1112	1115	1118	rBV4	9255	15899	0.11%	0.030%
82	12.407	1131	1136	1139	rBV	49225	97262	0.68%	0.182%
83	12.466	1139	1142	1148	rVB	421024	687165	4.78%	1.288%
84	12.574	1150	1153	1156	rVB5	2467	6421	0.04%	0.012%
85	12.771	1168	1173	1174	rBV4	4565	9516	0.07%	0.018%
86	12.889	1183	1185	1188	rBV4	3184	4823	0.03%	0.009%
87	12.958	1188	1192	1193	rBV3	2362	5005	0.03%	0.009%
88	13.056	1200	1202	1204	rBV3	4399	4924	0.03%	0.009%
89	13.234	1215	1220	1221	rBV5	4266	9537	0.07%	0.018%
90	13.263	1221	1223	1228	rVB6	5792	11950	0.08%	0.022%
91	13.361	1228	1233	1236	rBV7	12203	27641	0.19%	0.052%
92	13.440	1236	1241	1246	rBV	1294050	2245654	15.61%	4.211%
93	13.637	1258	1261	1262	rBV3	6937	10110	0.07%	0.019%
94	13.765	1269	1274	1281	rBV	1081637	1853004	12.88%	3.474%
95	13.972	1293	1295	1296	rBV2	6385	6656	0.05%	0.012%
96	14.041	1296	1302	1305	rVV2	49208	101476	0.71%	0.190%
97	14.641	1358	1363	1367	rBV7	9353	35743	0.25%	0.067%
98	14.749	1372	1374	1375	rBV2	6867	8288	0.06%	0.016%
99	14.848	1383	1384	1386	rBV	8036	9966	0.07%	0.019%
100	15.615	1459	1462	1466	rVB	42513	76983	0.53%	0.144%

Sum of corrected areas: 53334005

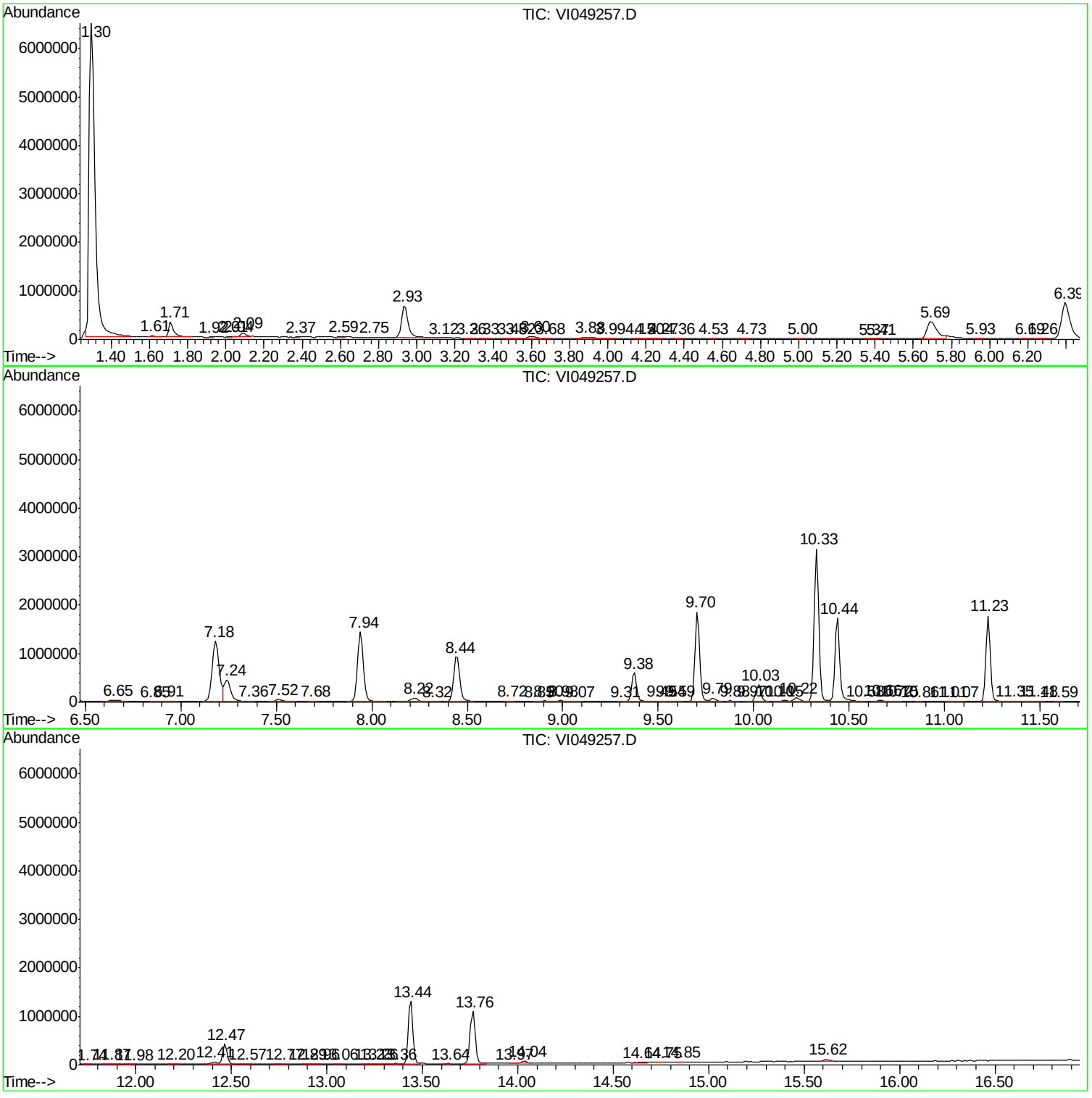
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049257.D
Acq On : 5 May 2016 17:59
Operator : FY/SY
Sample : H2834-06DL 2X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049257.D
Acq On : 5 May 2016 17:59
Operator : FY/SY
Sample : H2834-06DL 2X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4121DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049257.D
Acq On : 5 May 2016 17:59
Operator : FY/SY
Sample : H2834-06DL 2X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4121DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard		
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4123

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049239.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.15	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	2.1	
71-55-6	1,1,1-Trichloroethane	0.61	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.78	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4123

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049239.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.11	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	42	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4123

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049239.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4123

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049239.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000066-25-1	Hexanal	10.6	0.85	JN
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

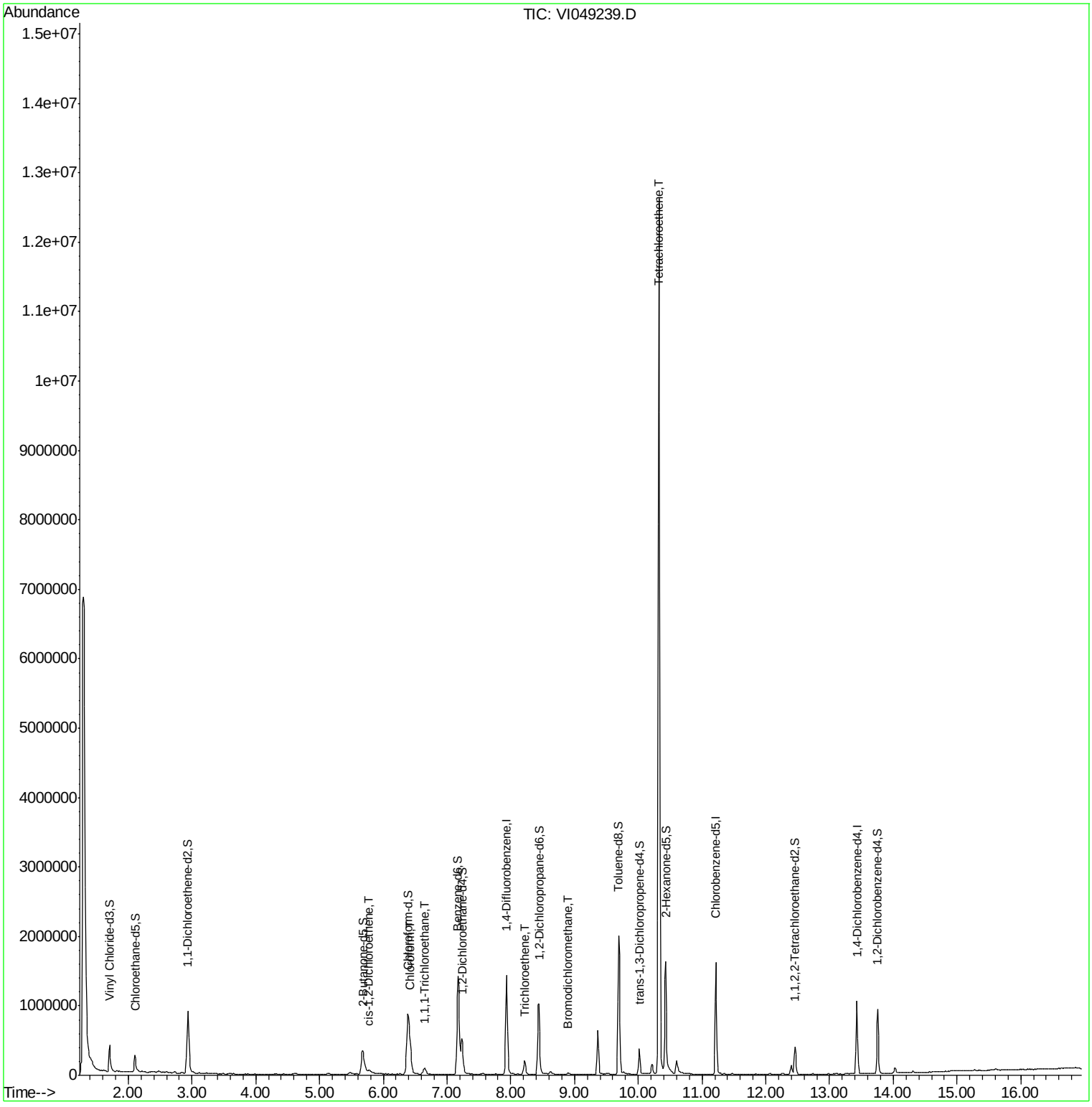
Quantitation Report (QT/LSC Reviewed)

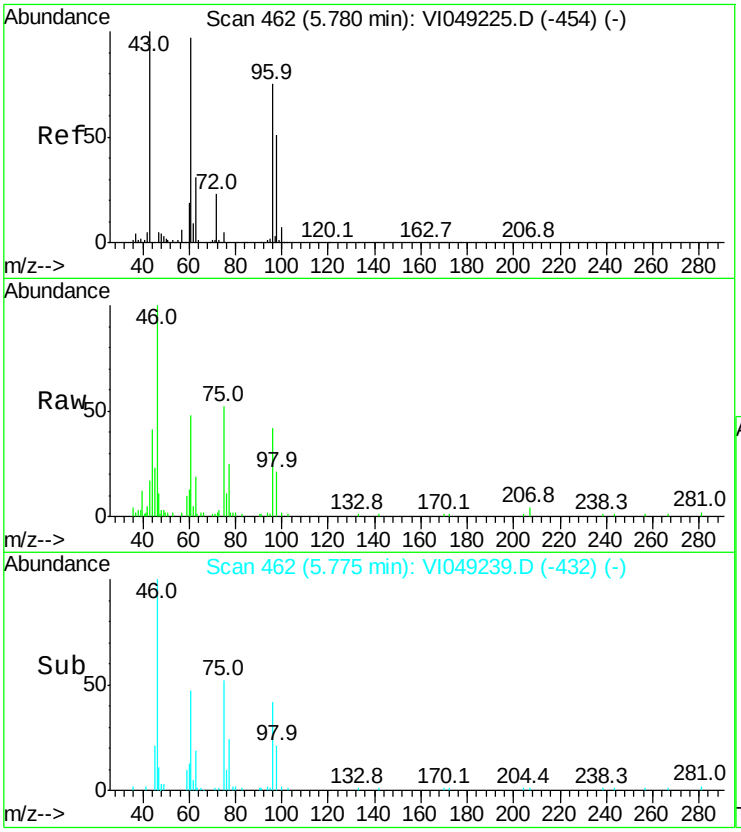
Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 05 06:46:46 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4123

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:26 AM

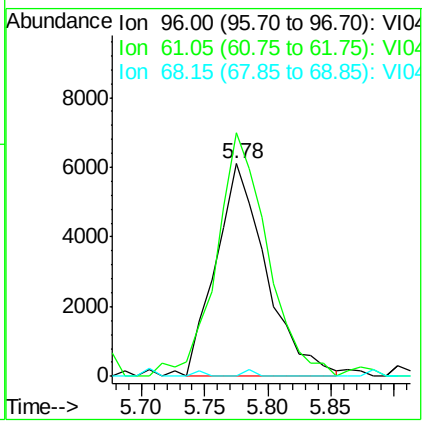




#22
cis-1,2-Dichloroethene
Concen: 0.15 ug/L
RT: 5.78 min Scan# 462
Delta R.T. -0.00 min
Lab File: VI049239.D
Acq: 4 May 2016 22:05

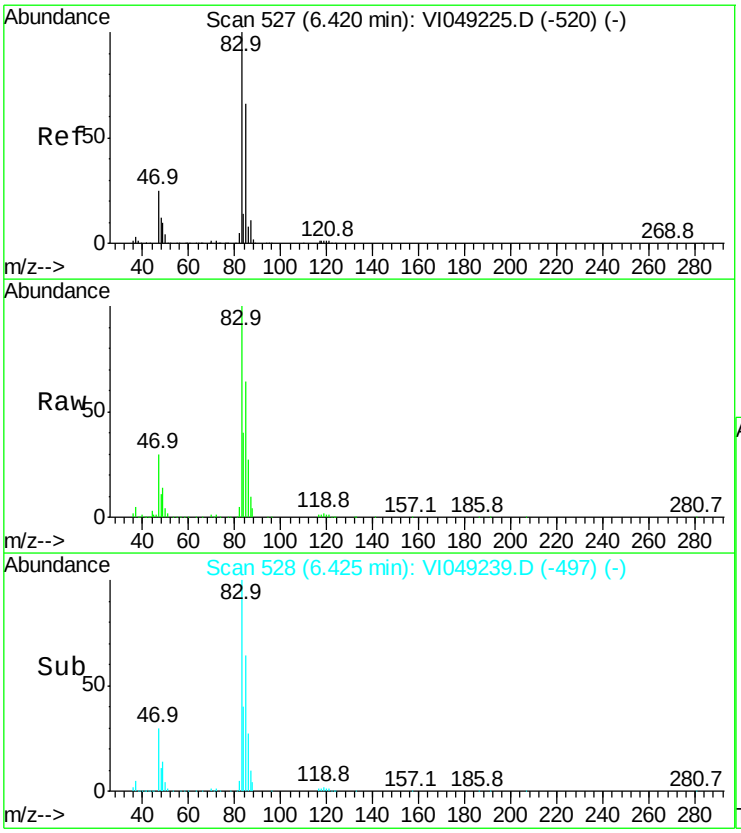
Tgt Ion: 96 Resp: 16883

Ion	Ratio	Lower	Upper
96	100		
61	114.4	82.1	152.5
68	0.0	0.0	0.0



Instrument :
MSVOA_I
ClientSampleId :
H4123

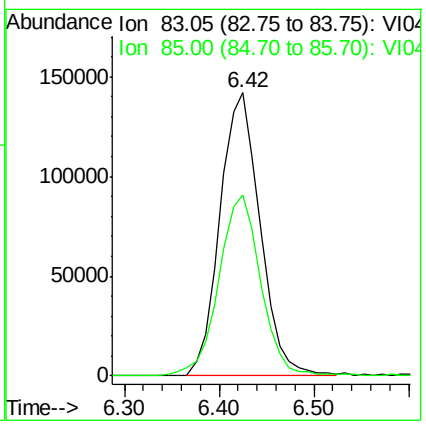
Manual Integrations APPROVED
mohammad
5/5/2016 9:01:26 AM

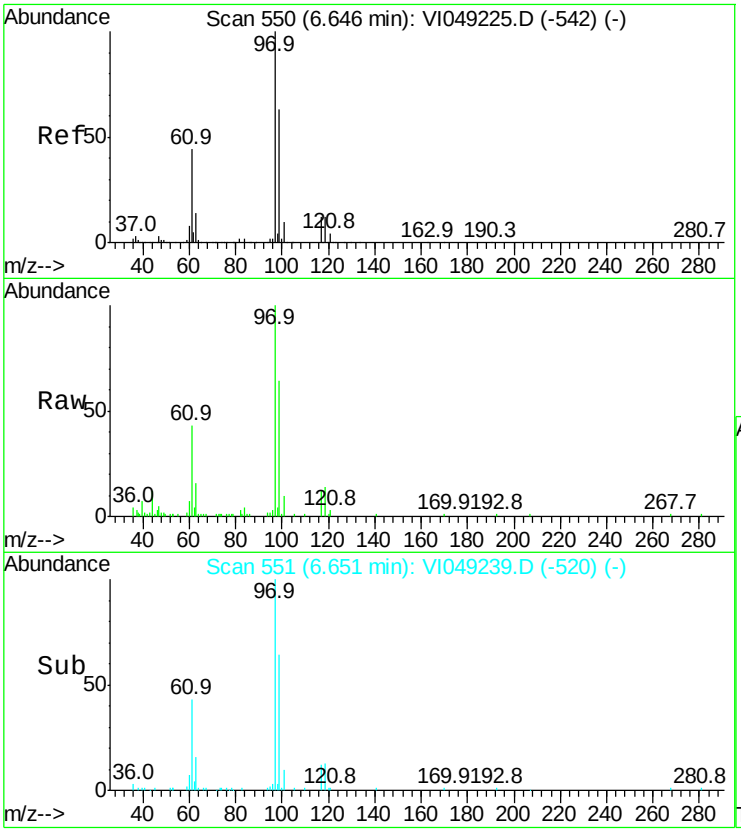


#25
Chloroform
Concen: 2.08 ug/L
RT: 6.42 min Scan# 528
Delta R.T. 0.01 min
Lab File: VI049239.D
Acq: 4 May 2016 22:05

Tgt Ion: 83 Resp: 416286

Ion	Ratio	Lower	Upper
83	100		
85	64.1	47.3	87.8

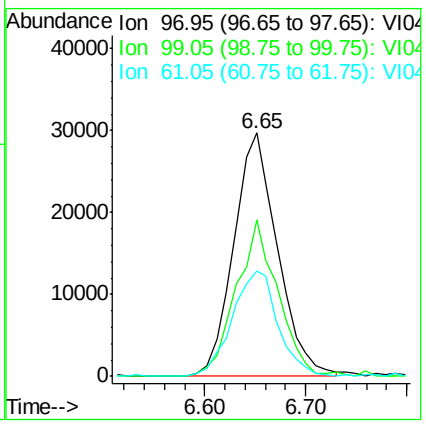




#29
1,1,1-Trichloroethane
Concen: 0.61 ug/L
RT: 6.65 min Scan# 551
Delta R.T. 0.01 min
Lab File: VI049239.D
Acq: 4 May 2016 22:05

Tgt Ion: 97 Resp: 89707

Ion	Ratio	Lower	Upper
97	100		
99	60.6	51.1	76.7
61	45.1	33.3	49.9



Instrument :
MSVOA_I
ClientSampleId :
H4123

Manual Integrations APPROVED
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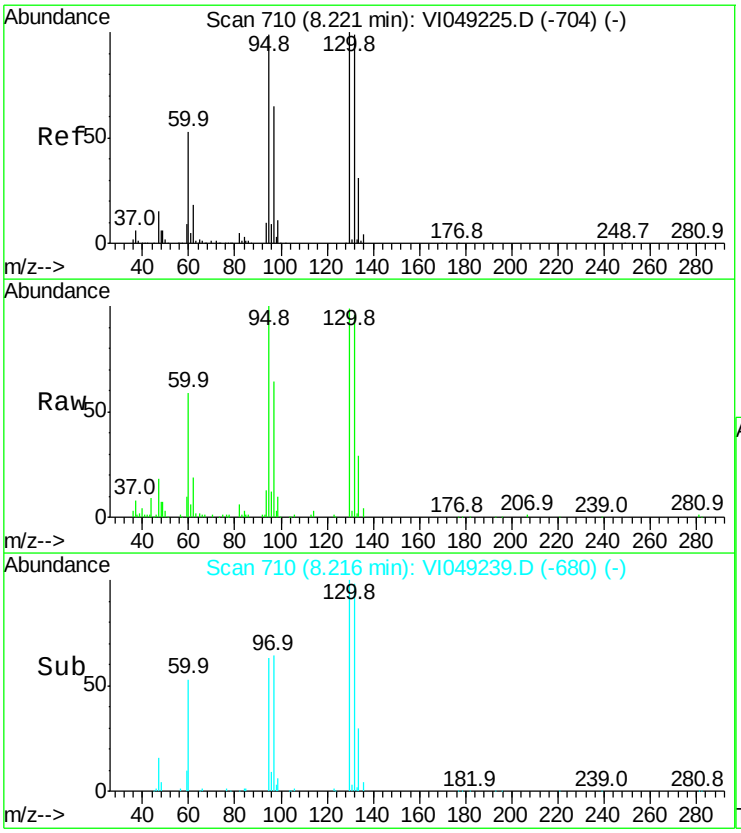
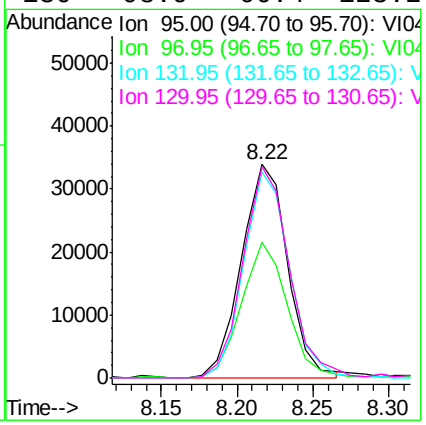
5/5/2016 9:01:26 AM

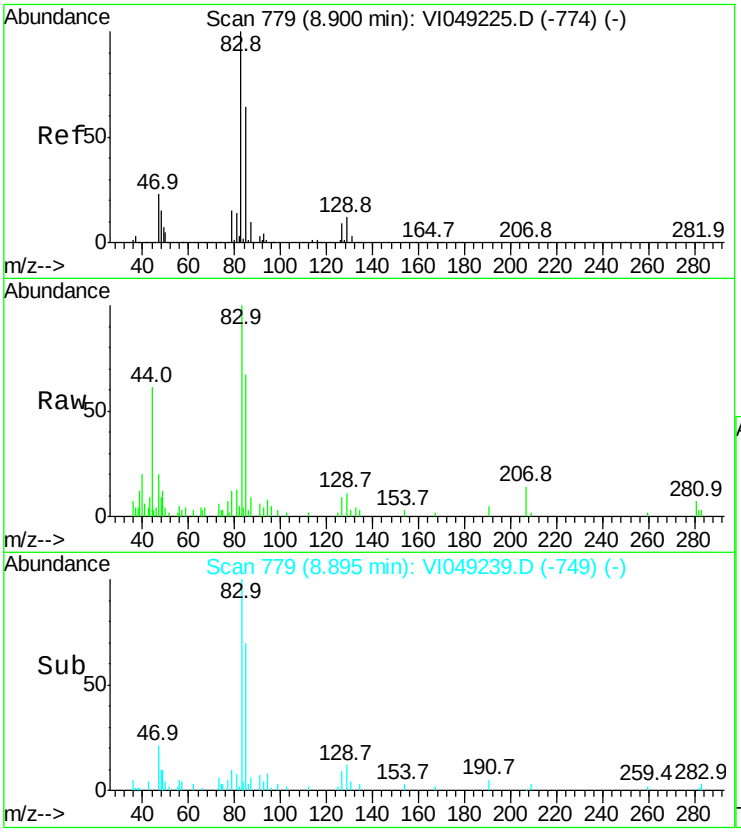


#34
Trichloroethene
Concen: 0.78 ug/L
RT: 8.22 min Scan# 710
Delta R.T. -0.00 min
Lab File: VI049239.D
Acq: 4 May 2016 22:05

Tgt Ion: 95 Resp: 72035

Ion	Ratio	Lower	Upper
95	100		
97	63.6	45.8	85.2
132	96.5	63.9	118.7
130	98.9	66.4	123.2

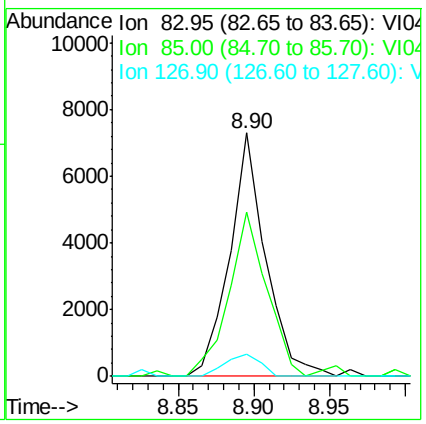




#38
Bromodichloromethane
Concen: 0.11 ug/L
RT: 8.90 min Scan# 779
Delta R.T. -0.00 min
Lab File: VI049239.D
Acq: 4 May 2016 22:05

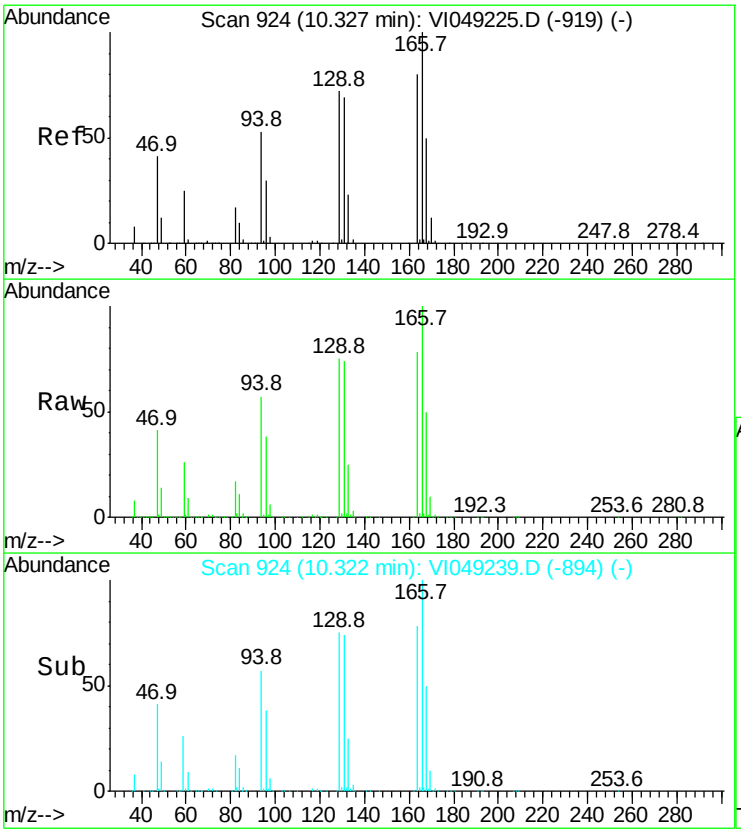
Tgt Ion: 83 Resp: 12084

Ion	Ratio	Lower	Upper
83	100		
85	67.5	44.7	83.1
127	9.1	6.6	9.8



Instrument :
MSVOA_I
ClientSampleId :
H4123

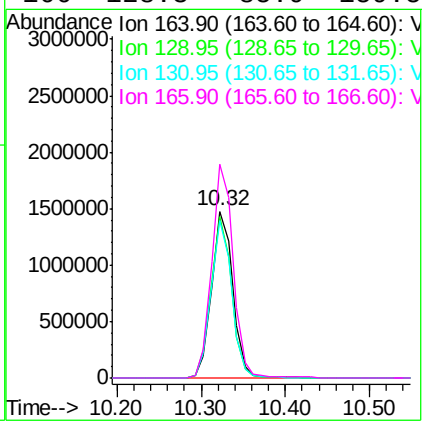
Manual Integrations APPROVED
mohammad
5/5/2016 9:01:26 AM



#47
Tetrachloroethene
Concen: 42.39 ug/L
RT: 10.32 min Scan# 924
Delta R.T. -0.00 min
Lab File: VI049239.D
Acq: 4 May 2016 22:05

Tgt Ion:164 Resp: 2582290

Ion	Ratio	Lower	Upper
164	100		
129	96.7	62.1	115.3
131	94.3	60.6	112.6
166	128.3	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 05 06:46:46 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4123

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:26 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1242119	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	780602	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	244069	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	397862	5.20	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 104.00%			
7) Chloroethane-d5	2.10	69	249900	5.90	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 118.00%			
11) 1,1-Dichloroethene-d2	2.93	63	712316	3.95	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 79.00%			
20) 2-Butanone-d5	5.68	46	873611	52.77	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 105.54%			
24) Chloroform-d	6.39	84	1009805	5.19	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 103.80%			
26) 1,2-Dichloroethane-d4	7.23	65	446928m	5.61	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 112.20%			
32) Benzene-d6	7.17	84	1765809	5.81	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 116.20%			
36) 1,2-Dichloropropane-d6	8.44	67	491403	5.75	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 115.00%			
41) Toluene-d8	9.69	98	1234739	5.50	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 110.00%			
43) trans-1,3-Dichloropropene-	10.02	79	180120	5.35	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 107.00%			
46) 2-Hexanone-d5	10.43	63	579921	54.58	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 109.16%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	185040	4.76	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 95.20%			
63) 1,2-Dichlorobenzene-d4	13.76	152	203678	4.76	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 95.20%			
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	5.78	96	16883	0.15	ug/L	97
25) Chloroform	6.42	83	416286	2.08	ug/L	96
29) 1,1,1-Trichloroethane	6.65	97	89707	0.61	ug/L	95
34) Trichloroethene	8.22	95	72035	0.78	ug/L	96
38) Bromodichloromethane	8.90	83	12084	0.11	ug/L	96
47) Tetrachloroethene	10.32	164	2582290	42.39	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA I/WATER
ALS Vial : 21 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.297	3	7	33	rVB	6827941	20896954	95.43%	26.204%
2	1.710	46	49	56	rVV	376961	645462	2.95%	0.809%
3	1.819	57	60	62	rVB	12848	18045	0.08%	0.023%
4	2.104	86	89	97	rBV	237438	467021	2.13%	0.586%
5	2.478	123	127	132	rBV3	19771	50112	0.23%	0.063%
6	2.537	132	133	134	rVV	8803	5247	0.02%	0.007%
7	2.596	136	139	145	rVB3	17970	50633	0.23%	0.063%
8	2.714	148	151	160	rVB2	26494	62717	0.29%	0.079%
9	2.852	160	165	168	rBV3	14612	32901	0.15%	0.041%
10	2.931	168	173	180	rBV	895832	2100157	9.59%	2.633%
11	3.118	190	192	196	rVB4	11798	19279	0.09%	0.024%
12	3.226	199	203	206	rBV3	9775	23824	0.11%	0.030%
13	3.472	227	228	229	rBV	5847	5333	0.02%	0.007%
14	3.600	237	241	242	rVV3	9538	19896	0.09%	0.025%
15	3.649	244	246	248	rVV3	4817	8473	0.04%	0.011%
16	3.836	261	265	268	rBV4	5168	11363	0.05%	0.014%
17	3.984	277	280	284	rBV6	4948	12813	0.06%	0.016%
18	4.161	296	298	302	rVB3	4566	9041	0.04%	0.011%
19	4.279	308	310	311	rBV2	4122	6646	0.03%	0.008%
20	4.299	311	312	319	rVB7	7944	19424	0.09%	0.024%
21	4.397	319	322	324	rBV4	3026	7150	0.03%	0.009%
22	4.437	324	326	327	rBV2	5665	7567	0.03%	0.009%
23	4.515	332	334	338	rVB5	5457	7946	0.04%	0.010%
24	4.574	338	340	341	rBV	8152	10192	0.05%	0.013%
25	4.614	341	344	349	rBV8	8823	21048	0.10%	0.026%
26	4.722	353	355	359	rVB4	4320	9212	0.04%	0.012%
27	4.919	372	375	377	rBV3	4062	7686	0.04%	0.010%
28	4.948	377	378	382	rVB4	3601	6042	0.03%	0.008%
29	5.027	382	386	387	rBV4	3028	6081	0.03%	0.008%
30	5.135	392	397	402	rBV5	15299	46096	0.21%	0.058%
31	5.401	422	424	427	rBV3	3902	7820	0.04%	0.010%
32	5.470	427	431	439	rBV4	27440	95973	0.44%	0.120%
33	5.677	446	452	460	rBV	342196	1209659	5.52%	1.517%
34	5.775	460	462	471	rVB4	49746	164119	0.75%	0.206%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA I/WATER
ALS Vial : 21 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.267	508	512	515	rBV6	5269	14080	0.06%	0.018%
36	6.385	517	524	543	rVV2	863007	3356618	15.33%	4.209%
37	6.651	543	551	558	rVV	91119	274792	1.25%	0.345%
38	6.799	564	566	570	rVB4	3235	6366	0.03%	0.008%
39	7.025	588	589	592	rVB3	3997	5098	0.02%	0.006%
40	7.173	598	604	608	rBV	1419696	3712905	16.96%	4.656%
41	7.232	608	610	621	rVB	502776	1156058	5.28%	1.450%
42	7.566	638	644	650	rVB9	11489	31786	0.15%	0.040%
43	7.655	652	653	659	rVB4	6963	15162	0.07%	0.019%
44	7.763	659	664	670	rBV8	10113	36108	0.16%	0.045%
45	7.931	675	681	689	rBV	1422139	3032974	13.85%	3.803%
46	8.108	697	699	701	rVB3	6114	7255	0.03%	0.009%
47	8.216	704	710	726	rVB	201419	470775	2.15%	0.590%
48	8.442	726	733	742	rBV	1017216	2373722	10.84%	2.977%
49	8.551	742	744	747	rVV4	9226	17677	0.08%	0.022%
50	8.629	747	752	759	rVB2	39940	104060	0.48%	0.130%
51	8.728	759	762	767	rVB7	5852	17300	0.08%	0.022%
52	8.836	769	773	775	rBV4	2081	6085	0.03%	0.008%
53	8.895	775	779	785	rVB3	25463	55756	0.25%	0.070%
54	8.974	785	787	790	rVB4	2803	5565	0.03%	0.007%
55	9.368	822	827	835	rBV	639705	1177228	5.38%	1.476%
56	9.495	838	840	841	rBV2	4762	7085	0.03%	0.009%
57	9.525	841	843	846	rVB2	17330	29278	0.13%	0.037%
58	9.594	846	850	853	rVB4	6119	14623	0.07%	0.018%
59	9.692	856	860	866	rBV	1990936	3579102	16.34%	4.488%
60	9.771	866	868	874	rVB2	28006	60662	0.28%	0.076%
61	10.017	889	893	900	rBV	364077	645412	2.95%	0.809%
62	10.145	902	906	909	rBV7	4919	10806	0.05%	0.014%
63	10.214	909	913	920	rBV	137768	296891	1.36%	0.372%
64	10.322	920	924	931	rVV	12606483	21898455	100.00%	27.459%
65	10.430	931	935	949	rVV	1615594	3179141	14.52%	3.986%
66	10.598	949	952	965	rVB	190024	459705	2.10%	0.576%
67	10.795	970	972	975	rVB3	4270	6993	0.03%	0.009%
68	11.041	996	997	1002	rVB4	2689	4905	0.02%	0.006%
69	11.159	1006	1009	1011	rBV4	2428	4910	0.02%	0.006%
70	11.218	1011	1015	1024	rBV	1612811	2707247	12.36%	3.395%
71	11.346	1024	1028	1034	rVB7	9228	27227	0.12%	0.034%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA I/WATER
ALS Vial : 21 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.434	1034	1037	1038	rBV3	2550	4754	0.02%	0.006%
73	11.474	1038	1041	1045	rVB4	11956	23677	0.11%	0.030%
74	11.523	1045	1046	1050	rVB4	4439	9813	0.04%	0.012%
75	11.621	1050	1056	1058	rBV7	7249	22698	0.10%	0.028%
76	11.848	1075	1079	1083	rBV6	9517	24419	0.11%	0.031%
77	11.907	1083	1085	1088	rBV4	2143	5124	0.02%	0.006%
78	12.064	1097	1101	1103	rBV4	13401	32159	0.15%	0.040%
79	12.153	1107	1110	1111	rBV3	3246	5160	0.02%	0.006%
80	12.202	1111	1115	1116	rVB3	3523	4962	0.02%	0.006%
81	12.261	1116	1121	1127	rBV10	9078	27809	0.13%	0.035%
82	12.399	1130	1135	1138	rBV	127098	236832	1.08%	0.297%
83	12.458	1138	1141	1150	rVB	399613	711209	3.25%	0.892%
84	12.566	1150	1152	1155	rVB3	3673	7021	0.03%	0.009%
85	12.743	1166	1170	1173	rBV4	10753	21675	0.10%	0.027%
86	12.871	1180	1183	1186	rBV5	6093	15549	0.07%	0.019%
87	12.920	1186	1188	1191	rBV4	3751	6666	0.03%	0.008%
88	12.980	1193	1194	1197	rVB3	5114	7861	0.04%	0.010%
89	13.058	1199	1202	1204	rBV4	4917	9349	0.04%	0.012%
90	13.265	1220	1223	1227	rVB4	12064	22882	0.10%	0.029%
91	13.432	1235	1240	1245	rVV	1048075	1771713	8.09%	2.222%
92	13.600	1255	1257	1258	rVB2	6396	5928	0.03%	0.007%
93	13.619	1258	1259	1262	rBV3	6163	11411	0.05%	0.014%
94	13.757	1268	1273	1281	rBV	920382	1591235	7.27%	1.995%
95	13.885	1284	1286	1288	rBV3	3881	7017	0.03%	0.009%
96	13.964	1292	1294	1296	rBV3	4632	8418	0.04%	0.011%
97	14.033	1296	1301	1304	rBV2	80434	168835	0.77%	0.212%
98	14.308	1325	1329	1333	rBV5	25092	53672	0.25%	0.067%
99	14.397	1336	1338	1339	rVB2	5250	5314	0.02%	0.007%
100	15.607	1458	1461	1466	rVB	21242	43710	0.20%	0.055%

Sum of corrected areas: 79748616

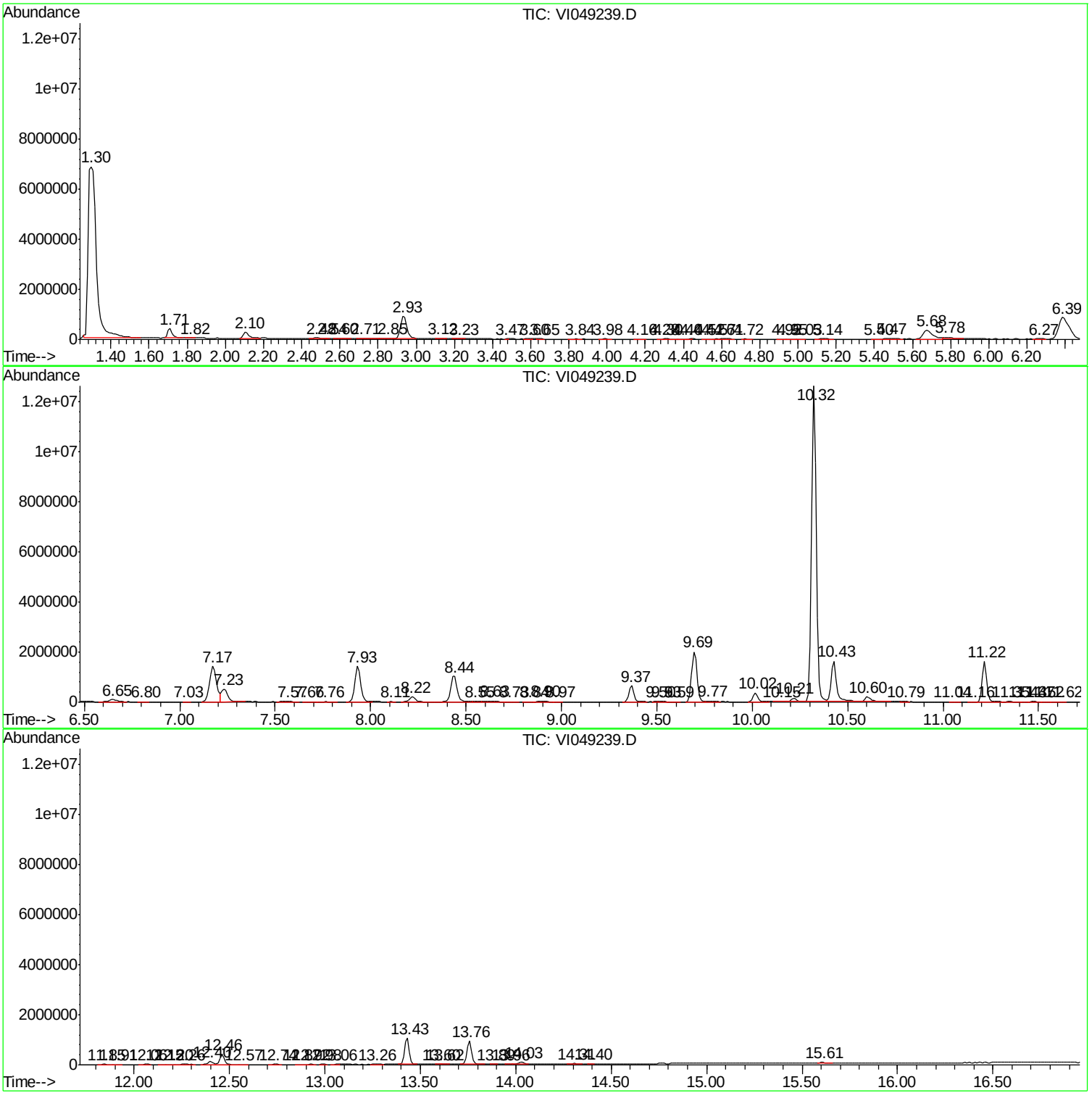
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 21 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 21 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

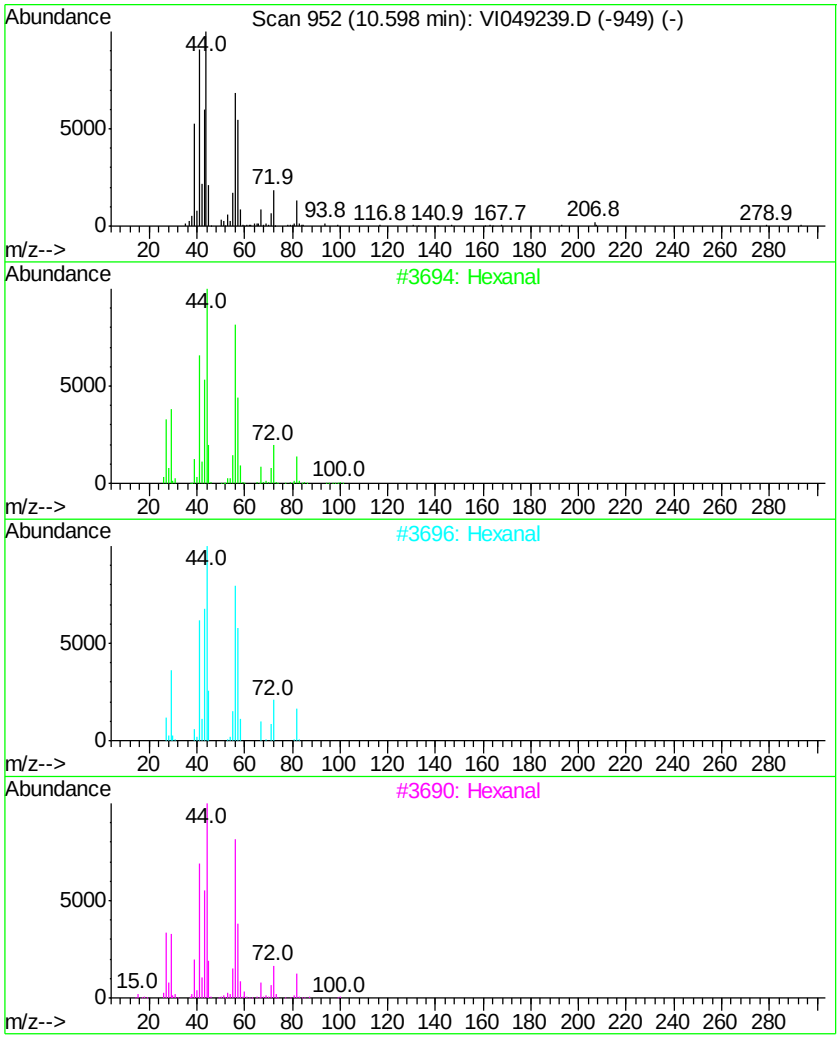
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

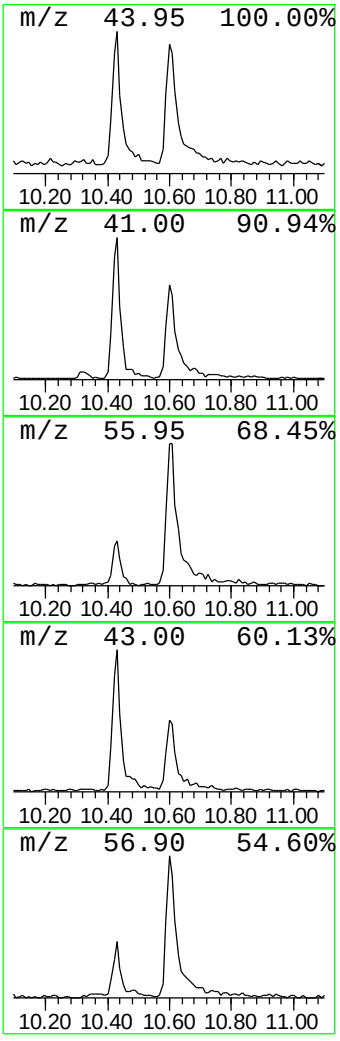
****

Peak Number 4 Hexanal Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.60	0.85 ug/L	459705	Chlorobenzene-d5	11.22

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexanal	100	C6H12O	000066-25-1	59
2	Hexanal	100	C6H12O	000066-25-1	58
3	Hexanal	100	C6H12O	000066-25-1	50
4	Cyclobutanol, 2-ethyl-	100	C6H12O	035301-43-0	42
5	Hexanal	100	C6H12O	000066-25-1	37





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 21 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Hexanal	10.60	0.8	ug/L	459705	2	11.22	2707250	5.0

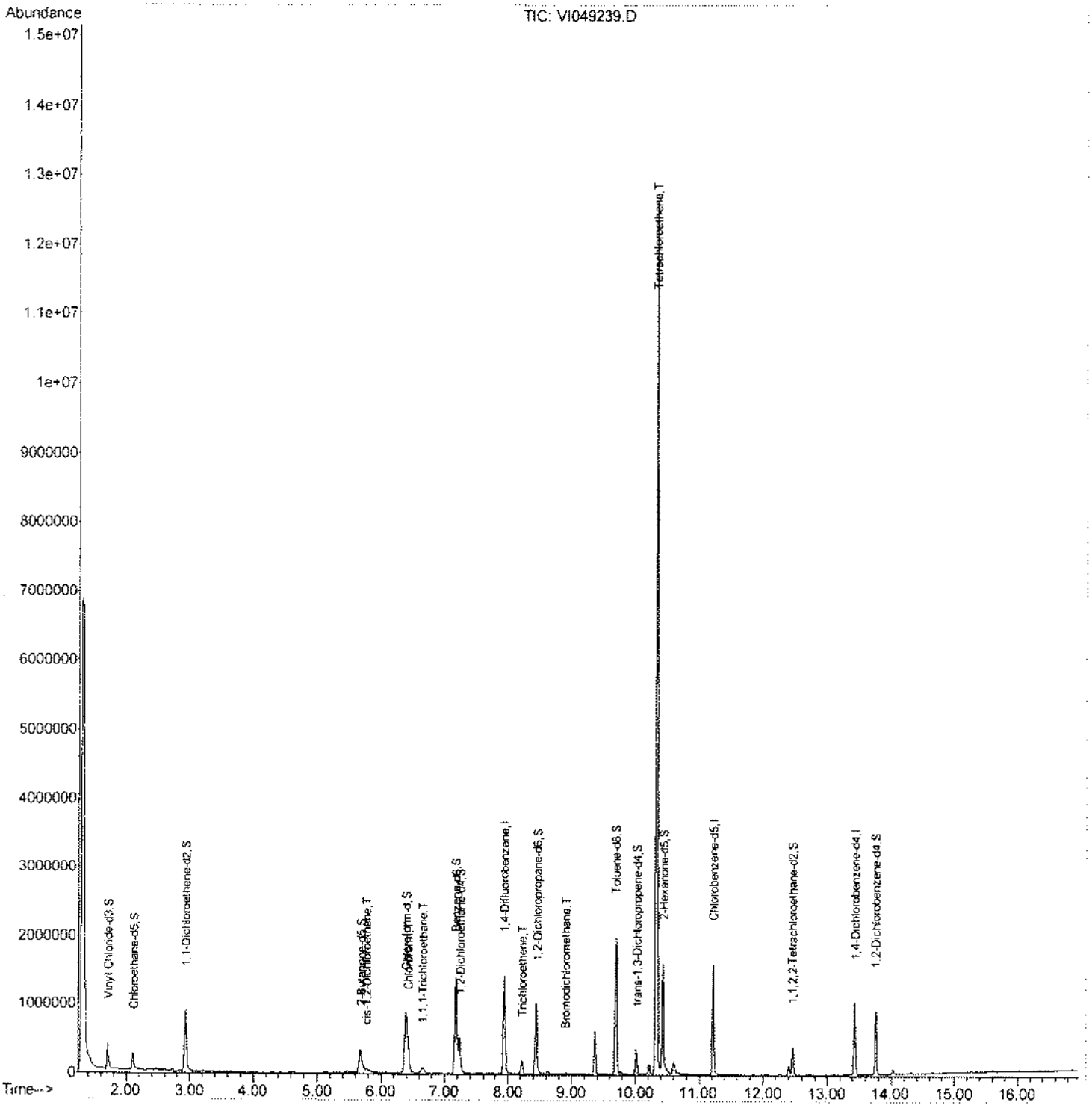
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 05 06:46:46 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4123

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:26 AM



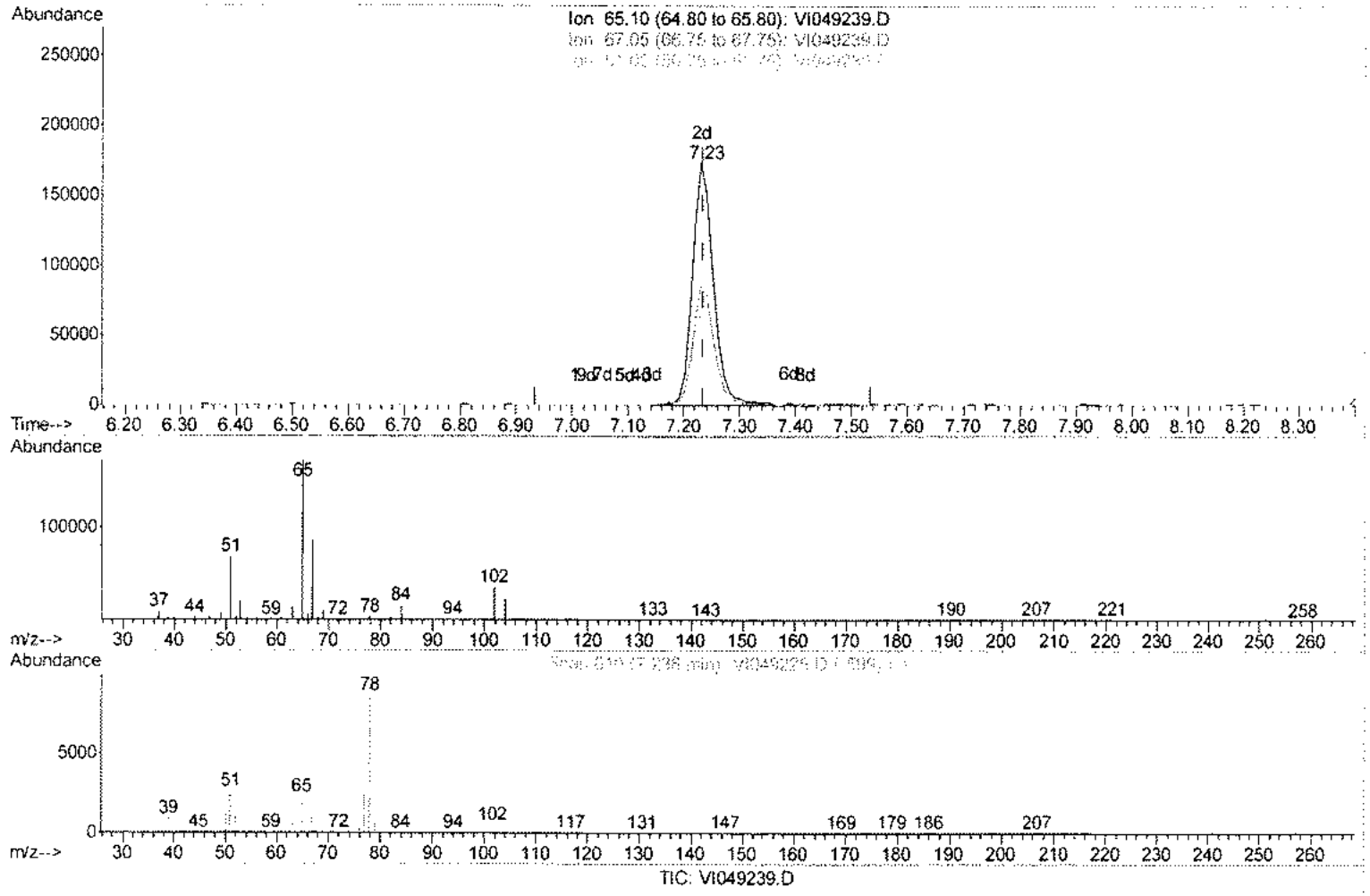
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 05 05:24:36 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4123

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:26 AM



(26) 1,2-Dichloroethane-d4 (S)

7.232min (-0.005) 5.61ug/L m M.D 05/07/16

response 446928

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	0.05#
51.05	123.20	0.08#
0.00	0.00	0.00

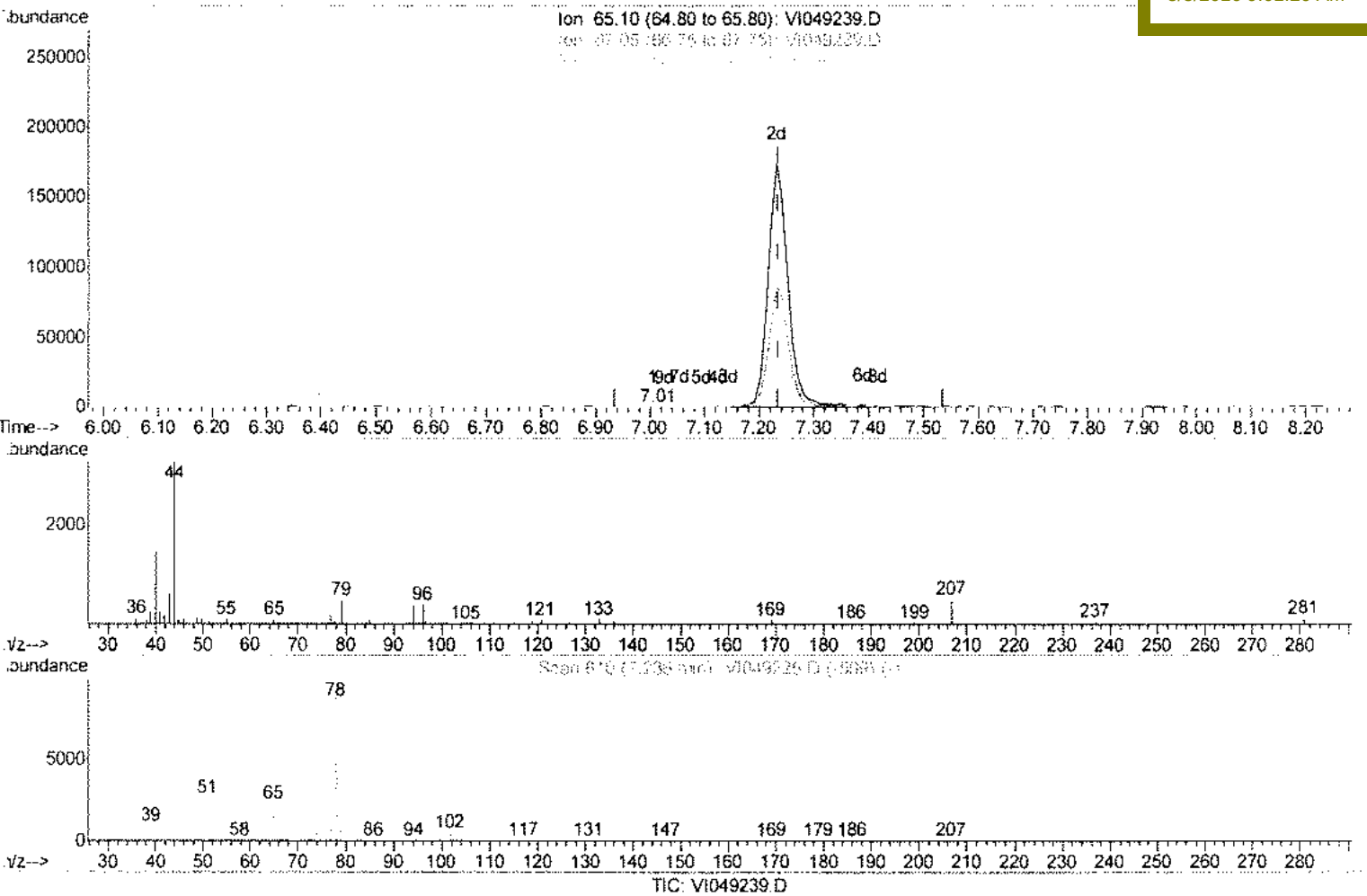
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 05 05:24:36 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4123

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:26 AM



TIC: VI049239.D

(26) 1,2-Dichloroethane-d4 (S)

7.005min (-0.231) 0.00ug/L

response 361

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	65.65
51.05	123.20	94.18
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049239.D
Acq On : 4 May 2016 22:05
Operator : FY/SY
Sample : H2834-07
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 05 06:46:46 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4123

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:26 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1242119	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	780602	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	244069	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	397862	5.20	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 104.00%			
7) Chloroethane-d5	2.10	69	249900	5.90	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 118.00%			
11) 1,1-Dichloroethene-d2	2.93	63	712316	3.95	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 79.00%			
20) 2-Butanone-d5	5.68	46	873611	52.77	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 105.54%			
24) Chloroform-d	6.39	84	1009805	5.19	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 103.80%			
26) 1,2-Dichloroethane-d4	7.23	65	446928m	5.61	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 112.20%			
32) Benzene-d6	7.17	84	1765809	5.81	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 116.20%			
36) 1,2-Dichloropropane-d6	8.44	67	491403	5.75	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 115.00%			
41) Toluene-d8	9.69	98	1234739	5.50	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 110.00%			
43) trans-1,3-Dichloropropene-	10.02	79	180120	5.35	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 107.00%			
46) 2-Hexanone-d5	10.43	63	579921	54.58	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 109.16%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	185040	4.76	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 95.20%			
63) 1,2-Dichlorobenzene-d4	13.76	152	203678	4.76	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 95.20%			
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	5.78	96	16883	0.15	ug/L	97
25) Chloroform	6.42	83	416286	2.08	ug/L	96
29) 1,1,1-Trichloroethane	6.65	97	89707	0.61	ug/L	95
34) Trichloroethene	8.22	95	72035	0.78	ug/L	96
38) Bromodichloromethane	8.90	83	12084	0.11	ug/L	96
47) Tetrachloroethene	10.32	164	2582290	42.39	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

(M.J) 505/07/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4123DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049259.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl Acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl Ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	D
71-55-6	1,1,1-Trichloroethane	0.55	JD
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	0.75	JD

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4123DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049259.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	2.5	U
78-87-5	1,2-Dichloropropane	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	35	D
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-trichlorobenzene	2.5	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4123DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049259.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 5.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	2.5	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4123DL

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-07DL
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049259.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 5.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	1.55	8.7	J
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

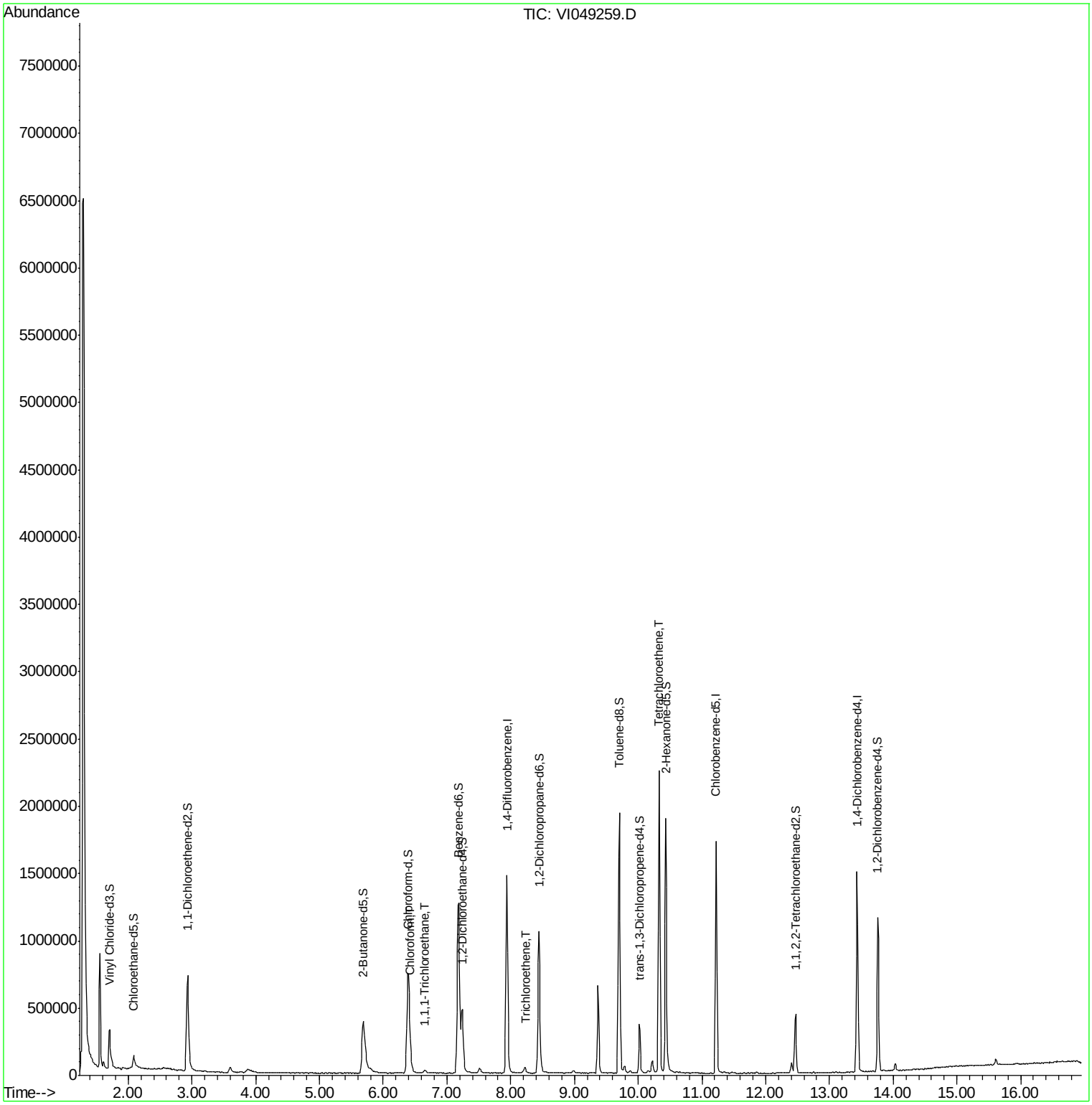
Quantitation Report (QT/LSC Reviewed)

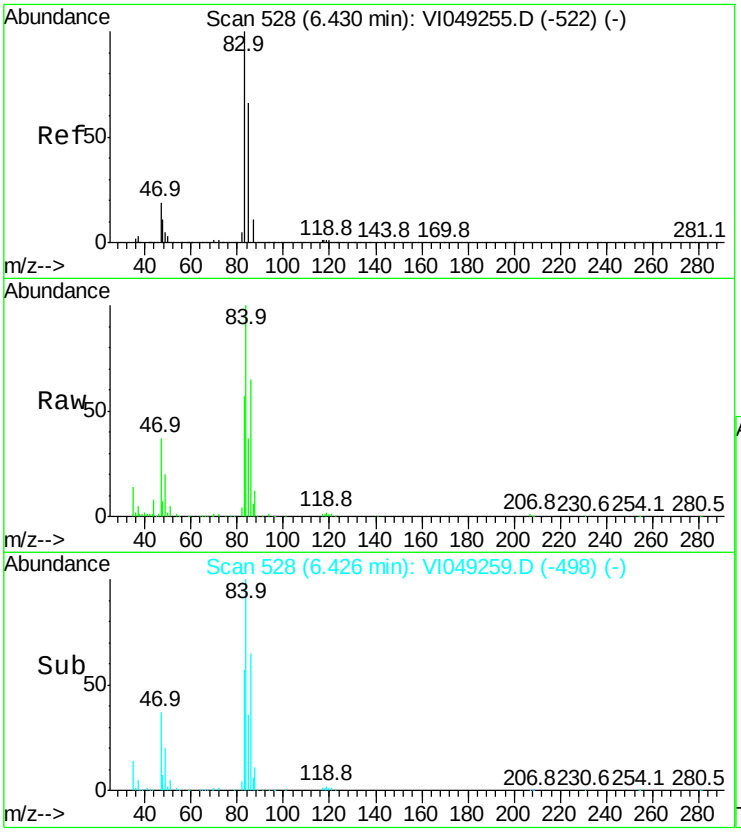
Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 06 05:41:22 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4123DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:16 AM

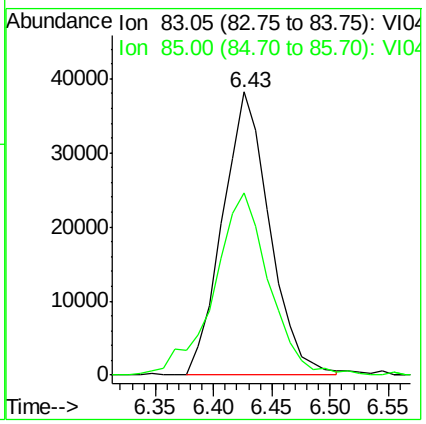




#25
Chloroform
Concen: 0.50 ug/L
RT: 6.43 min Scan# 528
Delta R.T. -0.00 min
Lab File: VI049259.D
Acq: 5 May 2016 19:02

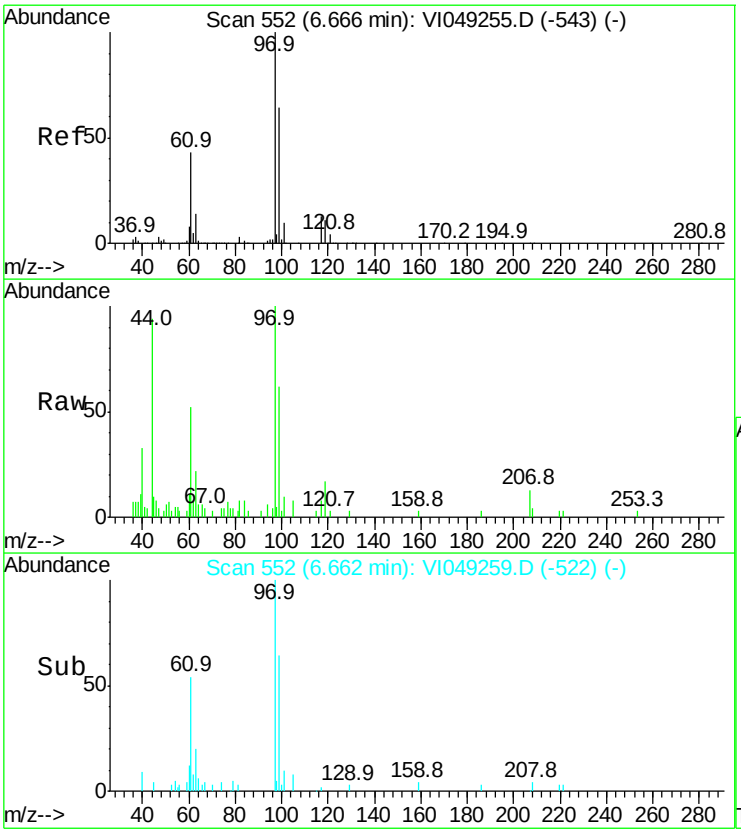
Tgt Ion: 83 Resp: 106918

Ion	Ratio	Lower	Upper
83	100		
85	64.6	47.3	87.8



Instrument :
MSVOA_I
ClientSampleId :
H4123DL

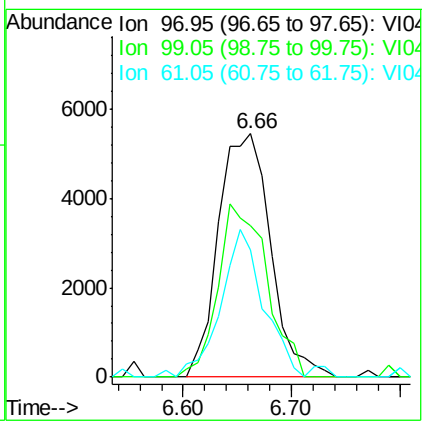
Manual Integrations APPROVED
feifei
5/6/2016 11:44:16 AM

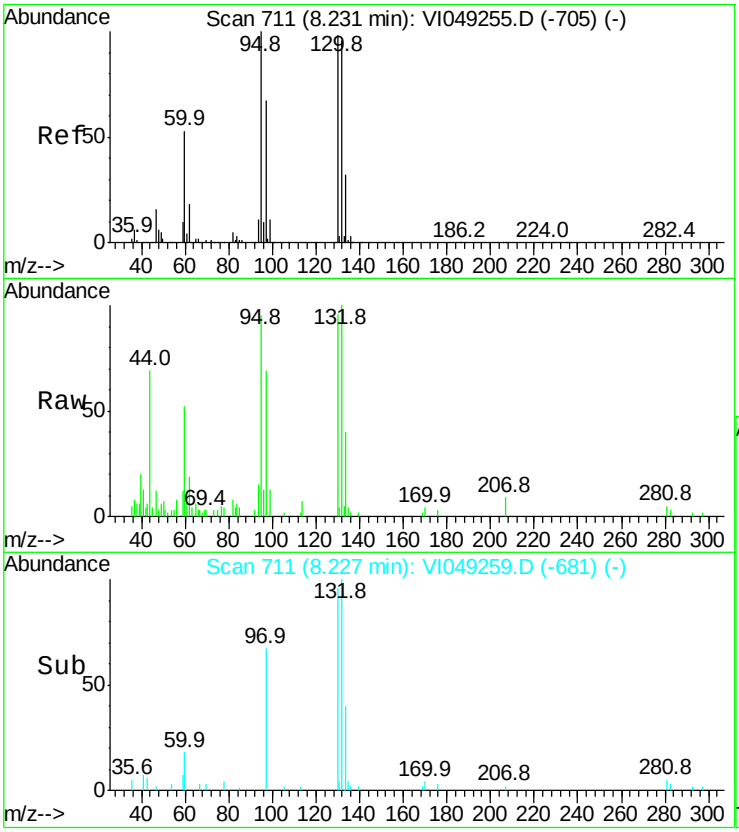


#29
1,1,1-Trichloroethane
Concen: 0.11 ug/L
RT: 6.66 min Scan# 552
Delta R.T. -0.00 min
Lab File: VI049259.D
Acq: 5 May 2016 19:02

Tgt Ion: 97 Resp: 18243

Ion	Ratio	Lower	Upper
97	100		
99	66.6	51.1	76.7
61	49.7	33.3	49.9

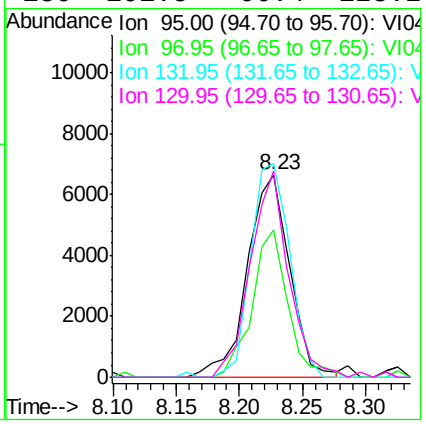




#34
Trichloroethene
Concen: 0.15 ug/L
RT: 8.23 min Scan# 711
Delta R.T. -0.00 min
Lab File: VI049259.D
Acq: 5 May 2016 19:02

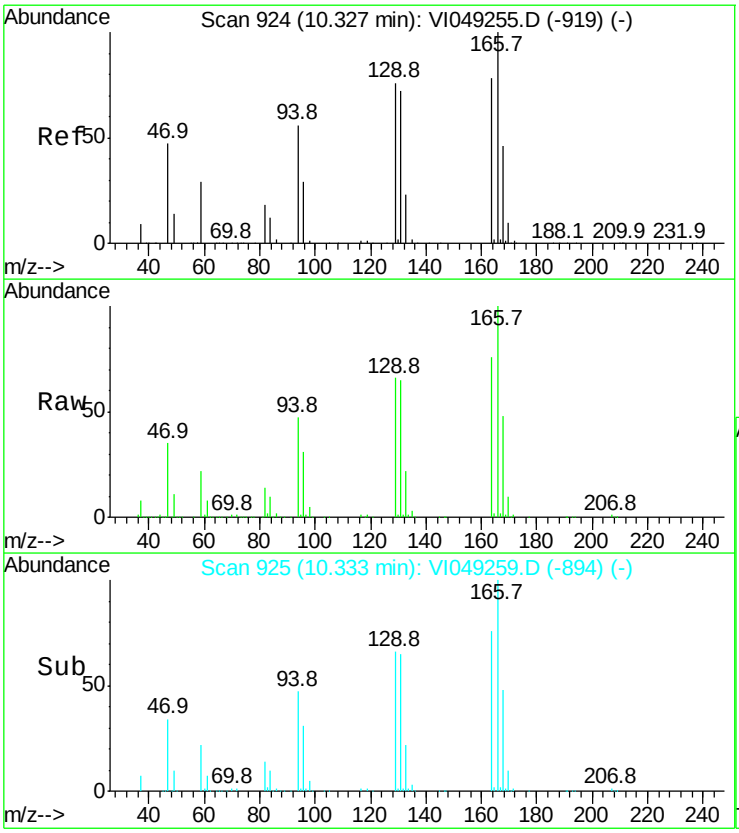
Tgt Ion: 95 Resp: 15519

Ion	Ratio	Lower	Upper
95	100		
97	72.6	45.8	85.2
132	105.3	63.9	118.7
130	101.5	66.4	123.2



Instrument :
MSVOA_I
ClientSampleId :
H4123DL

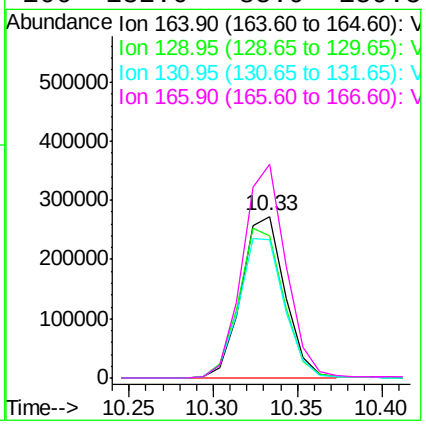
Manual Integrations APPROVED
feifei
5/6/2016 11:44:16 AM



#47
Tetrachloroethene
Concen: 7.00 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.01 min
Lab File: VI049259.D
Acq: 5 May 2016 19:02

Tgt Ion:164 Resp: 491225

Ion	Ratio	Lower	Upper
164	100		
129	87.6	62.1	115.3
131	85.2	60.6	112.6
166	132.0	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 17 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4123DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:16 AM

Quant Time: May 06 05:41:22 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1328744	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	898593	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	339174	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	378653	4.63	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 92.60%			
7) Chloroethane-d5	2.09	69	99787	2.20	ug/L	-0.02
Spiked Amount 5.000	Range 65 - 130		Recovery = 44.00%#			
11) 1,1-Dichloroethene-d2	2.93	63	598673	3.11	ug/L	-0.01
Spiked Amount 5.000	Range 60 - 125		Recovery = 62.20%			
20) 2-Butanone-d5	5.69	46	927020	52.34	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 104.68%			
24) Chloroform-d	6.39	84	936609	4.50	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 90.00%			
26) 1,2-Dichloroethane-d4	7.24	65	435369m	5.11	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.20%			
32) Benzene-d6	7.18	84	1675919	4.79	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.80%			
36) 1,2-Dichloropropane-d6	8.44	67	477715	4.85	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 97.00%			
41) Toluene-d8	9.70	98	1203499	4.66	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 93.20%			
43) trans-1,3-Dichloropropene-	10.02	79	180862	4.66	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 93.20%			
46) 2-Hexanone-d5	10.43	63	627352	51.29	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 102.58%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	204879	4.58	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 91.60%			
63) 1,2-Dichlorobenzene-d4	13.76	152	266821	4.49	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 89.80%			
Target Compounds						Qvalue
25) Chloroform	6.43	83	106918	0.50	ug/L	96
29) 1,1,1-Trichloroethane	6.66	97	18243	0.11	ug/L	93
34) Trichloroethene	8.23	95	15519	0.15	ug/L	90
47) Tetrachloroethene	10.33	164	491225	7.00	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 17 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.298	3	7	30	rVB	6453293	15457889	100.00%	27.390%
2	1.554	30	33	37	rVV	846310	1123685	7.27%	1.991%
3	1.613	37	39	45	rVB	51494	79860	0.52%	0.142%
4	1.712	45	49	60	rVB	286601	601550	3.89%	1.066%
5	1.919	67	70	71	rBV2	16119	22001	0.14%	0.039%
6	2.086	84	87	98	rVB	92411	209149	1.35%	0.371%
7	2.548	133	134	135	rBV	9745	7697	0.05%	0.014%
8	2.716	149	151	152	rVB	8906	8955	0.06%	0.016%
9	2.745	152	154	156	rVB2	5247	7332	0.05%	0.013%
10	2.785	156	158	159	rBV2	6154	6740	0.04%	0.012%
11	2.932	168	173	190	rBV	714079	1694978	10.97%	3.003%
12	3.208	199	201	204	rVB4	9476	15761	0.10%	0.028%
13	3.602	237	241	249	rBV	39876	119872	0.78%	0.212%
14	3.759	254	257	258	rBV3	4847	7742	0.05%	0.014%
15	3.877	263	269	273	rBV3	22037	81620	0.53%	0.145%
16	4.261	304	308	309	rBV4	3265	5041	0.03%	0.009%
17	4.438	324	326	328	rBV3	4347	8543	0.06%	0.015%
18	4.527	333	335	337	rVB3	6177	6147	0.04%	0.011%
19	4.596	339	342	344	rVB3	3517	6606	0.04%	0.012%
20	4.625	344	345	348	rBV3	4133	6690	0.04%	0.012%
21	4.891	370	372	374	rVB3	3754	5368	0.03%	0.010%
22	5.098	390	393	395	rBV4	2321	5187	0.03%	0.009%
23	5.166	395	400	401	rVB4	2720	5605	0.04%	0.010%
24	5.688	444	453	471	rBV	388320	1566308	10.13%	2.775%
25	5.954	479	480	484	rVB4	4031	6801	0.04%	0.012%
26	6.032	487	488	492	rVB4	5652	9372	0.06%	0.017%
27	6.101	492	495	497	rBV4	3664	6982	0.05%	0.012%
28	6.180	501	503	504	rBV2	4855	6547	0.04%	0.012%
29	6.279	511	513	517	rVB5	5310	8752	0.06%	0.016%
30	6.387	517	524	539	rBV	740964	2489783	16.11%	4.412%
31	6.653	546	551	555	rBV4	20244	52864	0.34%	0.094%
32	6.918	574	578	579	rVB4	4249	6827	0.04%	0.012%
33	7.184	597	605	608	rBV	1269322	3431474	22.20%	6.080%
34	7.243	608	611	620	rVB	470131	1164772	7.54%	2.064%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 17 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	7.509	633	638	643	rVV2	36879	86192	0.56%	0.153%
36	7.765	662	664	666	rVB3	3174	4988	0.03%	0.009%
37	7.942	676	682	691	rBV	1471539	3238707	20.95%	5.739%
38	8.227	703	711	714	rBV4	40814	111000	0.72%	0.197%
39	8.444	727	733	740	rVV	1053295	2286803	14.79%	4.052%
40	8.532	740	742	743	rVV2	11381	18342	0.12%	0.033%
41	8.601	747	749	750	rVV2	4287	6830	0.04%	0.012%
42	8.650	753	754	757	rVV3	3443	5739	0.04%	0.010%
43	8.749	762	764	767	rVV4	4274	6073	0.04%	0.011%
44	8.818	767	771	774	rVB5	4927	11328	0.07%	0.020%
45	8.877	774	777	778	rBV2	2796	5121	0.03%	0.009%
46	8.906	778	780	784	rVB4	5777	12320	0.08%	0.022%
47	8.985	784	788	794	rVB3	20164	41838	0.27%	0.074%
48	9.064	794	796	800	rVB5	4174	8858	0.06%	0.016%
49	9.241	810	814	815	rBV4	6254	8198	0.05%	0.015%
50	9.290	817	819	823	rVB5	3908	8933	0.06%	0.016%
51	9.369	823	827	837	rBV	650695	1165208	7.54%	2.065%
52	9.585	848	849	853	rVB3	3370	5623	0.04%	0.010%
53	9.704	856	861	867	rBV	1937945	3519359	22.77%	6.236%
54	9.782	867	869	875	rVV2	53035	115243	0.75%	0.204%
55	9.871	875	878	881	rVV3	16374	30861	0.20%	0.055%
56	9.920	881	883	886	rVV3	3383	6983	0.05%	0.012%
57	10.019	889	893	902	rVV	362765	647534	4.19%	1.147%
58	10.156	903	907	910	rVV5	16846	45681	0.30%	0.081%
59	10.225	910	914	920	rVV	93417	216715	1.40%	0.384%
60	10.324	920	924	931	rVV	2248467	4194828	27.14%	7.433%
61	10.432	931	935	950	rVV	1894963	3286239	21.26%	5.823%
62	10.599	950	952	955	rVV4	8557	17773	0.11%	0.031%
63	10.658	955	958	959	rVB3	7059	11828	0.08%	0.021%
64	10.688	959	961	963	rBV3	6117	7176	0.05%	0.013%
65	10.835	973	976	978	rBV4	3151	6516	0.04%	0.012%
66	10.914	981	984	988	rVB6	2818	6591	0.04%	0.012%
67	11.131	1003	1006	1009	rVB5	4981	9284	0.06%	0.016%
68	11.219	1011	1015	1025	rBV	1727945	3148789	20.37%	5.579%
69	11.347	1025	1028	1032	rVB6	10771	24892	0.16%	0.044%
70	11.475	1036	1041	1044	rBV4	12763	22739	0.15%	0.040%
71	11.652	1056	1059	1063	rVB5	3490	6184	0.04%	0.011%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA I/WATER
ALS Vial : 17 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123DL

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.711	1063	1065	1069	rBV4	3556	7506	0.05%	0.013%
73	11.859	1077	1080	1085	rVB5	8497	17360	0.11%	0.031%
74	11.977	1087	1092	1096	rVB7	3361	9230	0.06%	0.016%
75	12.046	1096	1099	1103	rVB5	3158	8169	0.05%	0.014%
76	12.115	1103	1106	1108	rBV4	3877	7413	0.05%	0.013%
77	12.164	1108	1111	1112	rBV3	4551	6252	0.04%	0.011%
78	12.282	1118	1123	1126	rBV6	5452	15166	0.10%	0.027%
79	12.410	1130	1136	1138	rBV2	75491	152497	0.99%	0.270%
80	12.469	1138	1142	1148	rVB	439386	777730	5.03%	1.378%
81	12.597	1151	1155	1158	rVB5	4088	7461	0.05%	0.013%
82	12.656	1158	1161	1163	rBV4	3896	6035	0.04%	0.011%
83	12.705	1165	1166	1168	rVB2	5601	6446	0.04%	0.011%
84	12.755	1168	1171	1173	rBV4	10815	19662	0.13%	0.035%
85	12.823	1175	1178	1181	rBV5	2212	5221	0.03%	0.009%
86	13.050	1194	1201	1202	rBV6	5891	16897	0.11%	0.030%
87	13.099	1202	1206	1211	rBV8	6372	17074	0.11%	0.030%
88	13.158	1211	1212	1215	rBV3	3322	5307	0.03%	0.009%
89	13.266	1220	1223	1224	rBV3	5753	7129	0.05%	0.013%
90	13.355	1230	1232	1234	rVB3	4783	7128	0.05%	0.013%
91	13.434	1236	1240	1247	rBV	1491187	2463425	15.94%	4.365%
92	13.758	1269	1273	1279	rBV	1143678	2019673	13.07%	3.579%
93	14.034	1297	1301	1307	rVB2	53535	92674	0.60%	0.164%
94	14.103	1307	1308	1310	rVB2	5813	5463	0.04%	0.010%
95	14.152	1310	1313	1316	rBV5	4653	13045	0.08%	0.023%
96	14.497	1346	1348	1350	rBV3	9401	13296	0.09%	0.024%
97	14.556	1350	1354	1355	rBV4	8223	14346	0.09%	0.025%
98	14.644	1361	1363	1365	rBV3	6886	10418	0.07%	0.018%
99	15.569	1455	1457	1458	rBV2	10035	11370	0.07%	0.020%
100	15.609	1458	1461	1465	rVV	45290	91133	0.59%	0.161%

Sum of corrected areas: 56436342

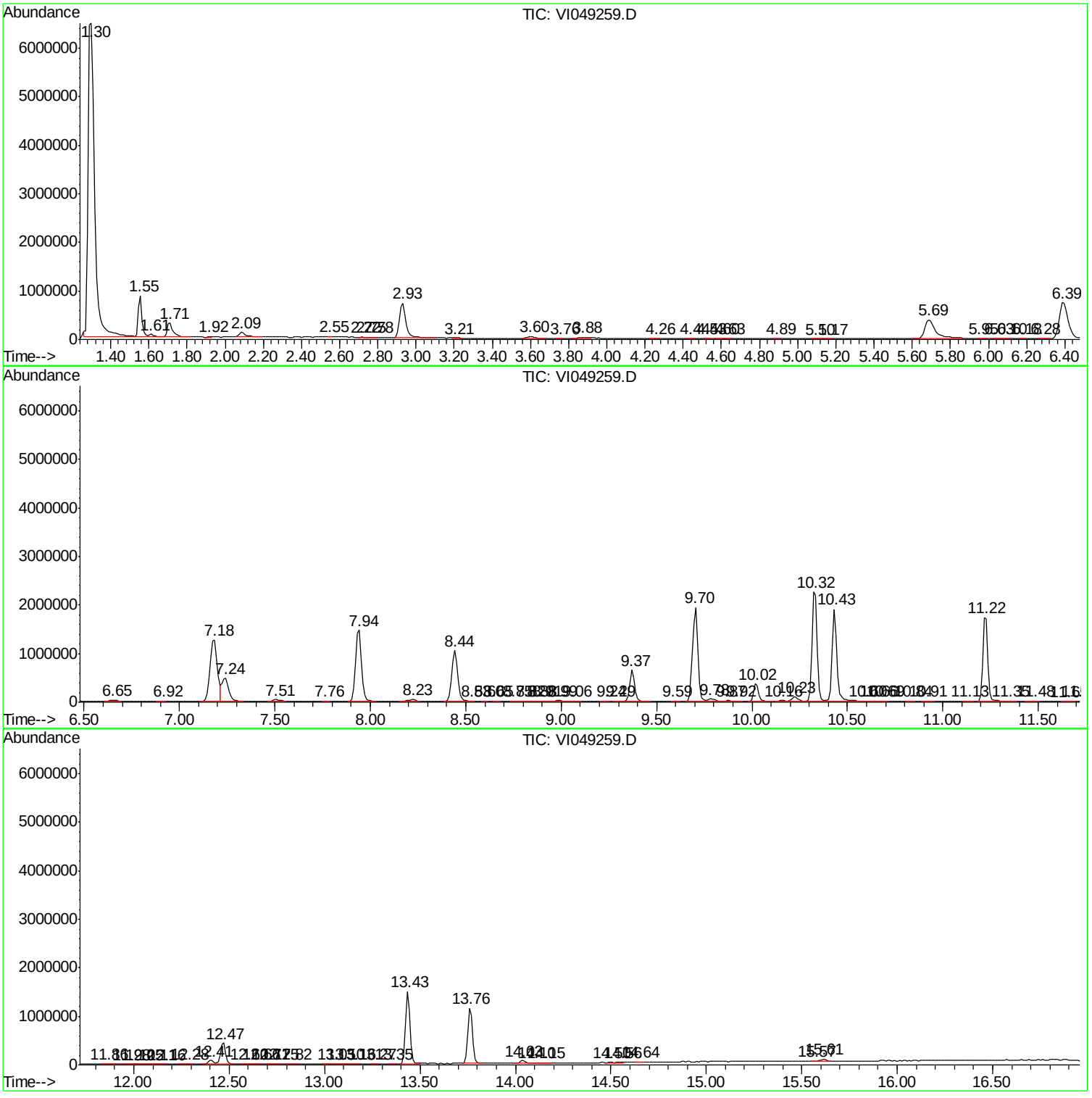
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 17 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 17 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

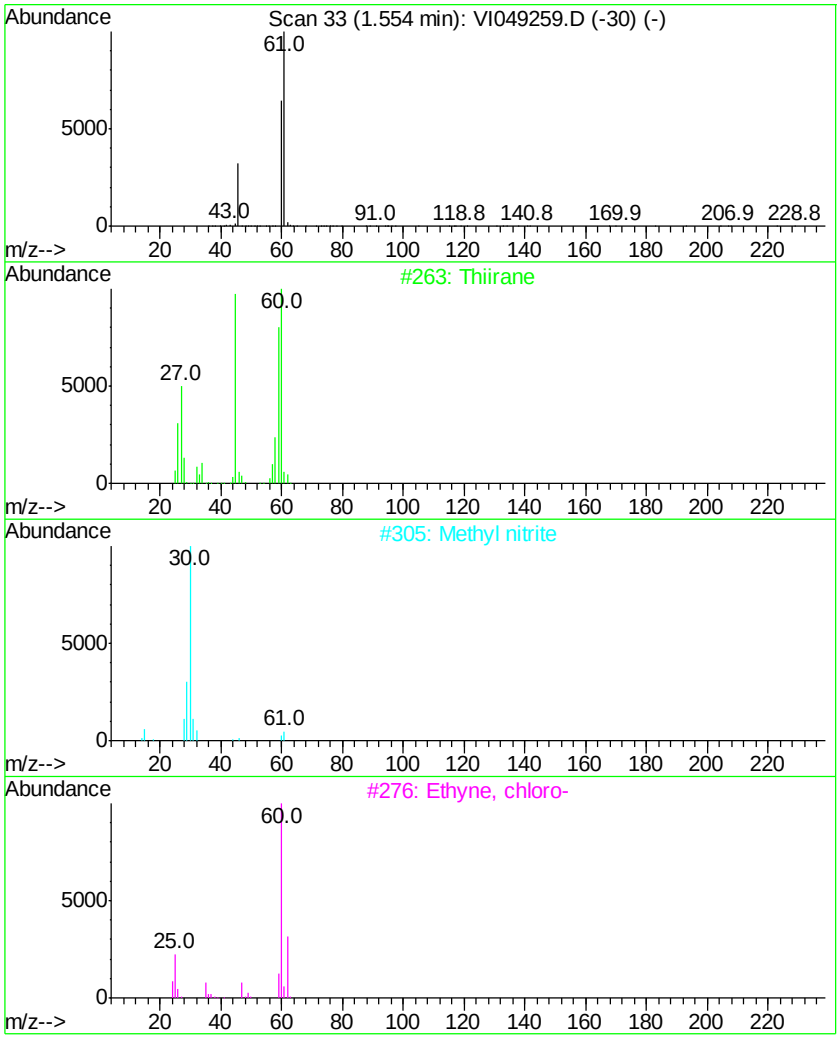
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

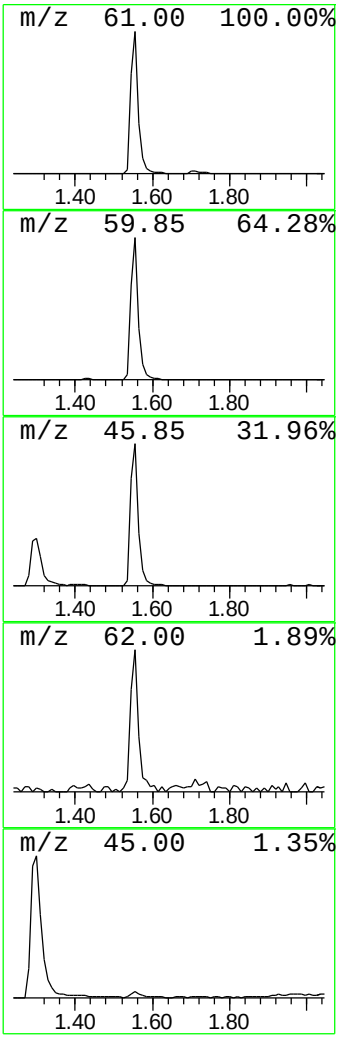
****

Peak Number 2 unknown-01 Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.55	1.73 ug/L	1123690	1,4-Difluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Thiirane	60	C2H4S	000420-12-2	5
2	Methyl nitrite	61	CH3NO2	000624-91-9	5
3	Ethyne, chloro-	60	C2HCl	000593-63-5	4
4	Cyanogen chloride	61	CClN	000506-77-4	4
5	Cyanogen chloride	61	CClN	000506-77-4	4





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 17 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4123DL

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
unknown-01	1.55	1.7	ug/L	1123690	1	7.94	3238710	5.0

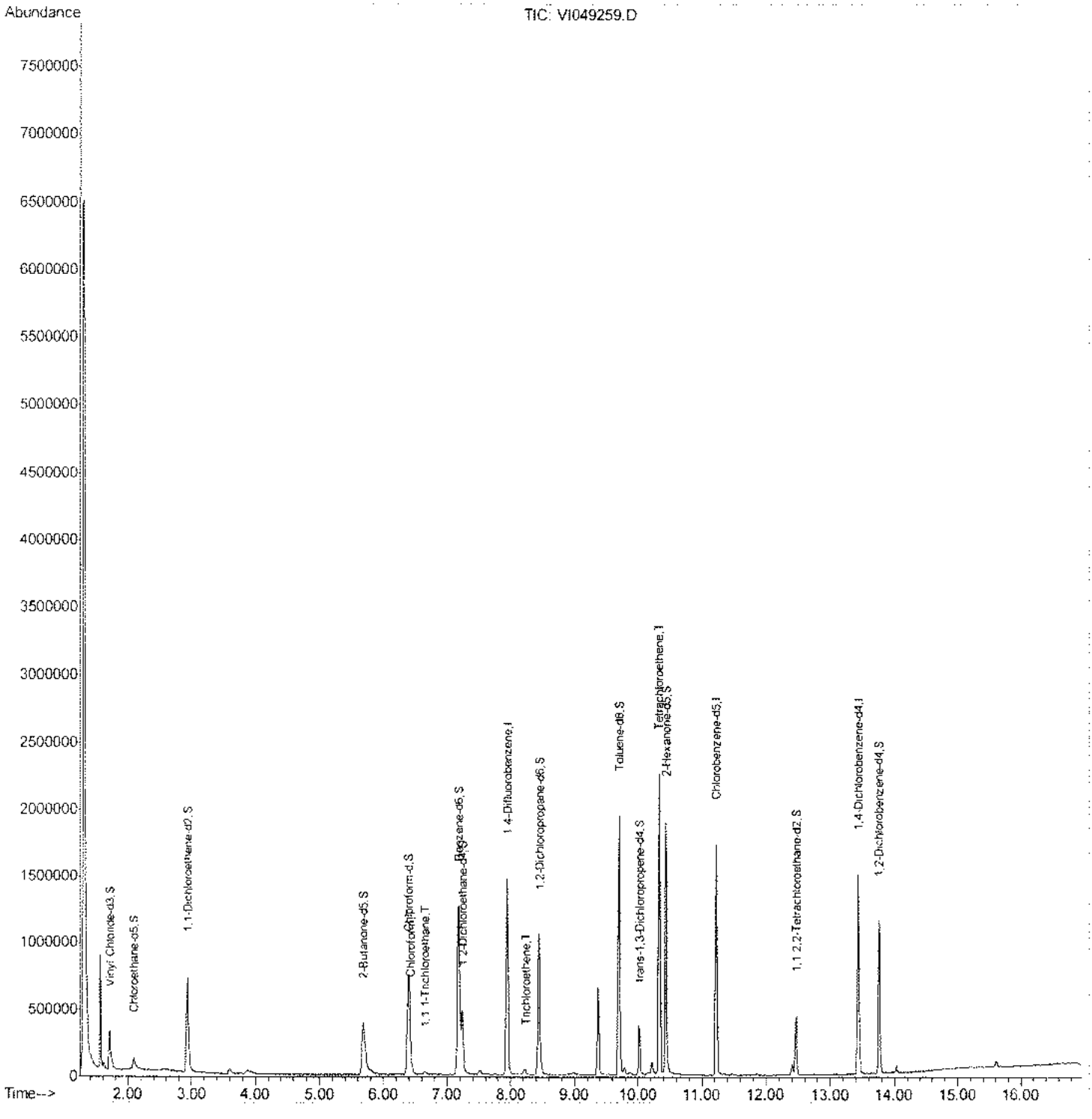
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 06 05:41:22 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4123DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:16 AM



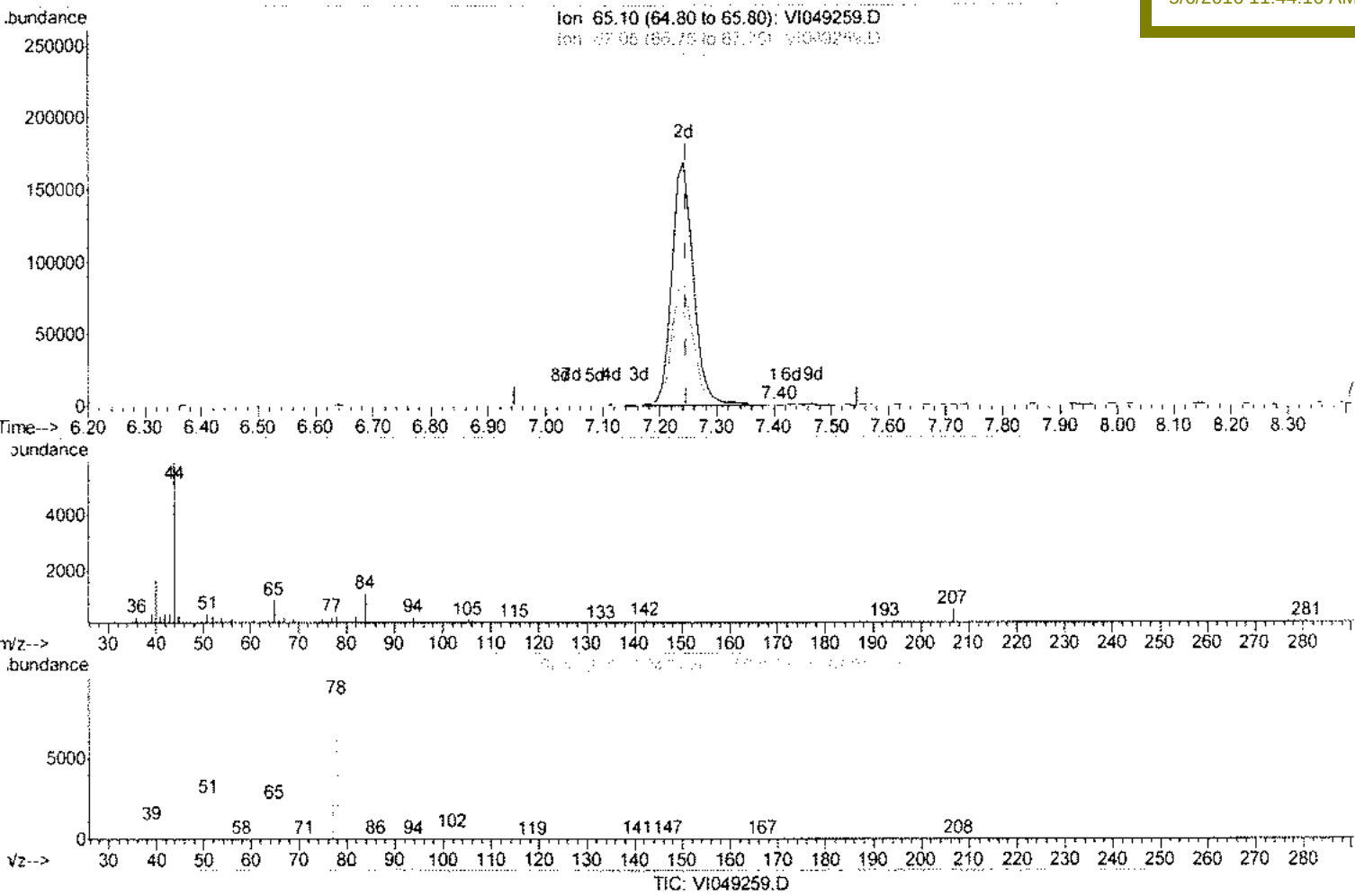
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 06 05:22:19 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4123DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:16 AM



(26) 1,2-Dichloroethane-d4 (S)

7.401min (+0.154) 0.01ug/L

response 976

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	37.81
51.05	123.20	103.59
0.00	0.00	0.00

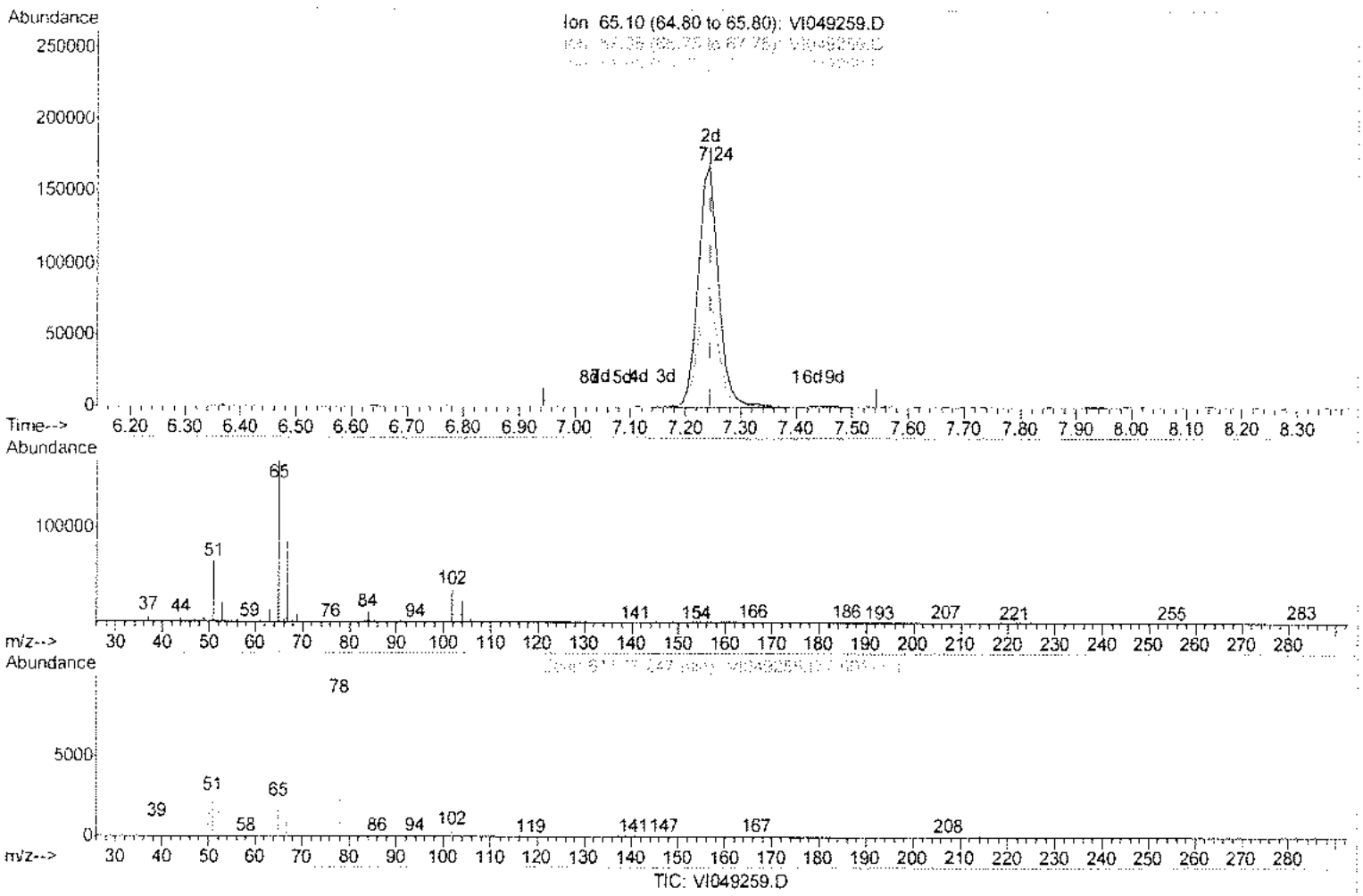
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 06 05:22:19 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4123DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:16 AM



TIC: VI049259.D

(26) 1,2-Dichloroethane-d4 (S)

7.243min (-0.003) 5.11ug/L m

M.D 05/09/16

response 435369

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	0.08#
51.05	123.20	0.23#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049259.D
Acq On : 5 May 2016 19:02
Operator : FY/SY
Sample : H2834-07DL 5X
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 06 05:41:22 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4123DL

Manual Integrations APPROVED
feifei
5/6/2016 11:44:16 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1328744	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	898593	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	339174	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	378653	4.63	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 92.60%			
7) Chloroethane-d5	2.09	69	99787	2.20	ug/L	-0.02
Spiked Amount 5.000	Range 65 - 130		Recovery = 44.00%#			
11) 1,1-Dichloroethene-d2	2.93	63	598673	3.11	ug/L	-0.01
Spiked Amount 5.000	Range 60 - 125		Recovery = 62.20%			
20) 2-Butanone-d5	5.69	46	927020	52.34	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 104.68%			
24) Chloroform-d	6.39	84	936609	4.50	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 90.00%			
26) 1,2-Dichloroethane-d4	7.24	65	435369m	5.11	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.20%			
32) Benzene-d6	7.18	84	1675919	4.79	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.80%			
36) 1,2-Dichloropropane-d6	8.44	67	477715	4.85	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 97.00%			
41) Toluene-d8	9.70	98	1203499	4.66	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 93.20%			
43) trans-1,3-Dichloropropene-	10.02	79	180862	4.66	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 93.20%			
46) 2-Hexanone-d5	10.43	63	627352	51.29	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 102.58%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	204879	4.58	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 91.60%			
63) 1,2-Dichlorobenzene-d4	13.76	152	266821	4.49	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 89.80%			
Target Compounds						Qvalue
25) Chloroform	6.43	83	106918	0.50	ug/L	96
29) 1,1,1-Trichloroethane	6.66	97	18243	0.11	ug/L	93
34) Trichloroethene	8.23	95	15519	0.15	ug/L	90
47) Tetrachloroethene	10.33	164	491225	7.00	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

M.D 05/09/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4124

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049240.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.13	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.9	
71-55-6	1,1,1-Trichloroethane	0.20	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.26	J

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4124

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049240.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.22	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	13	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4124

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049240.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4124

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049240.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

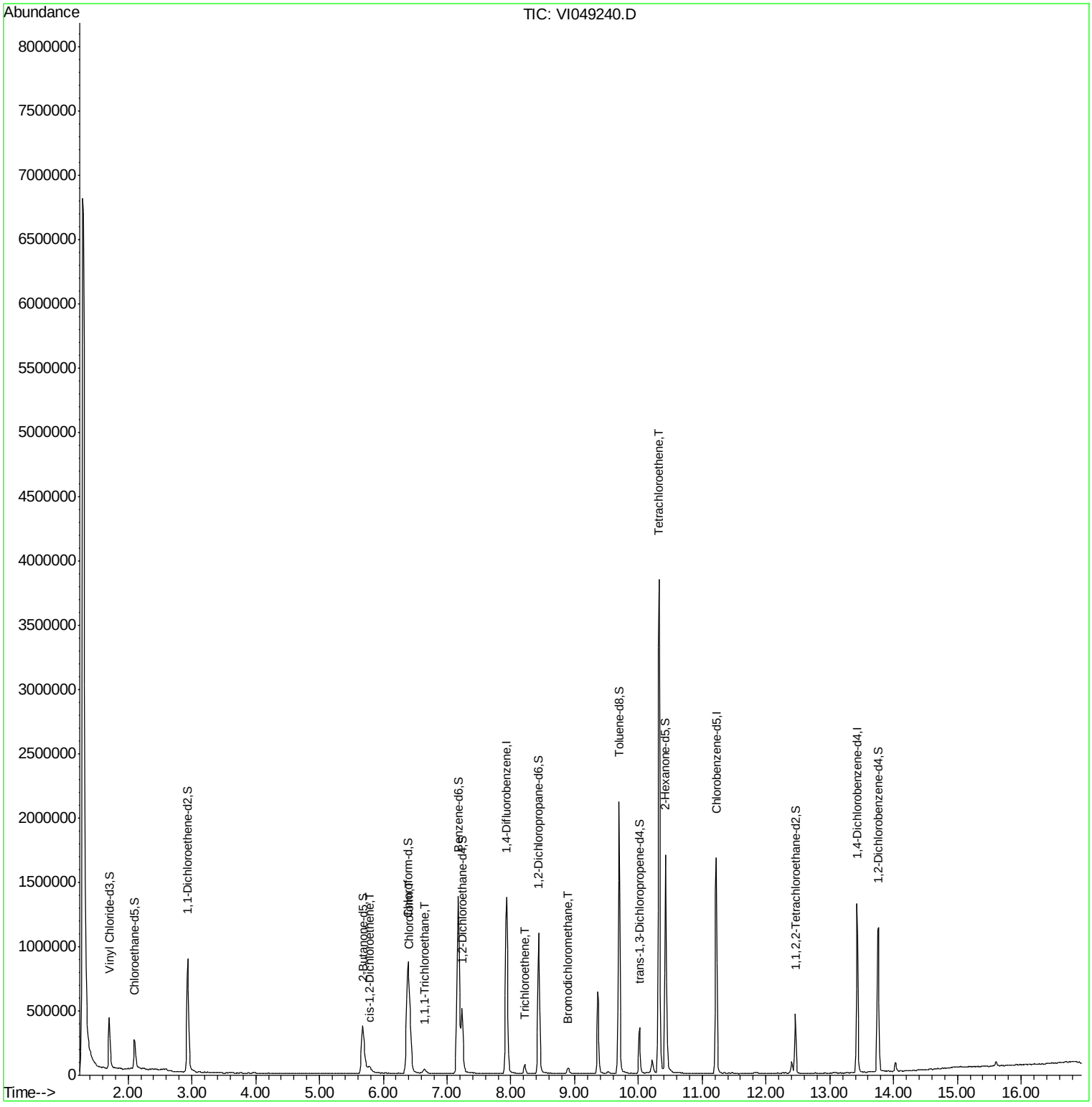
EPA-designated Registry Number.

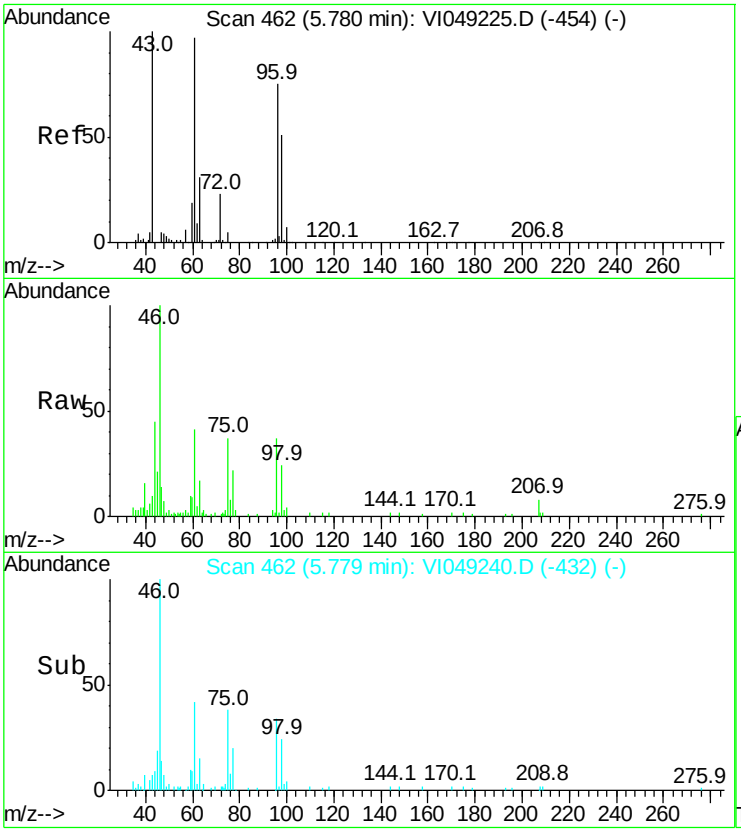
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049240.D
Acq On : 4 May 2016 22:37
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 22 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124

Quant Time: May 05 06:50:20 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration



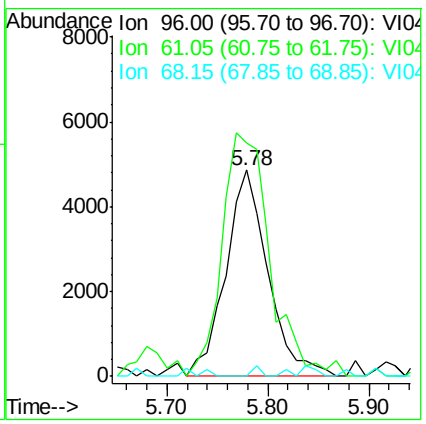


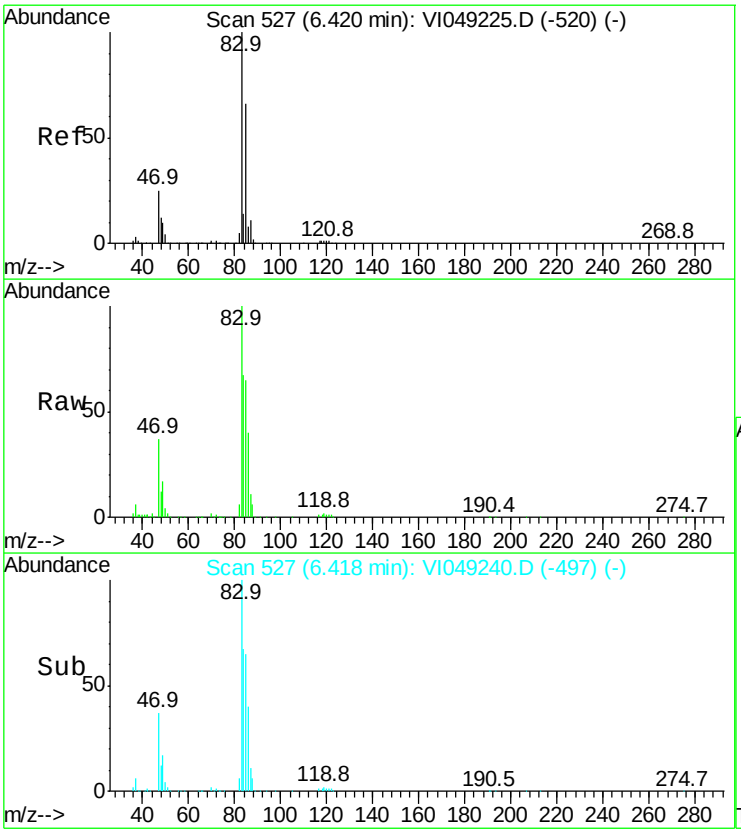
#22
cis-1,2-Dichloroethene
Concen: 0.13 ug/L
RT: 5.78 min Scan# 462
Delta R.T. -0.00 min
Lab File: VI049240.D
Acq: 4 May 2016 22:37

Instrument :
MSVOA_I
ClientSampleId :
H4124

Tgt Ion: 96 Resp: 14154

Ion	Ratio	Lower	Upper
96	100		
61	113.4	82.1	152.5
68	0.0	0.0	0.0

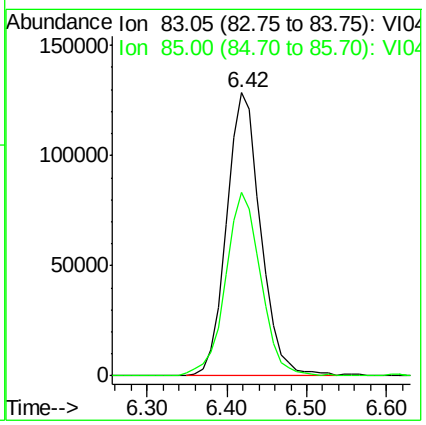


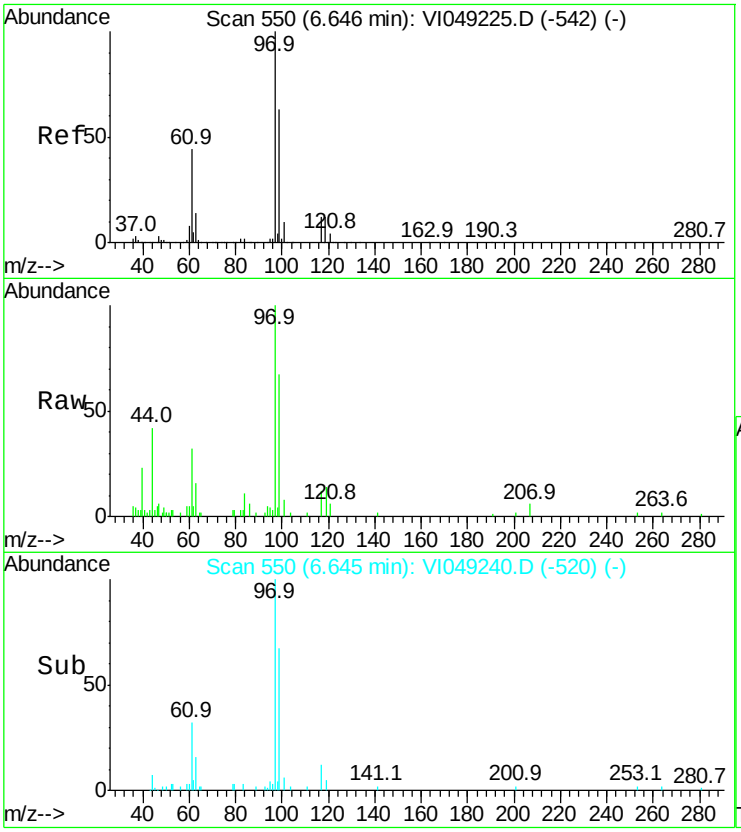


#25
Chloroform
Concen: 1.94 ug/L
RT: 6.42 min Scan# 527
Delta R.T. -0.00 min
Lab File: VI049240.D
Acq: 4 May 2016 22:37

Tgt Ion: 83 Resp: 382607

Ion	Ratio	Lower	Upper
83	100		
85	64.7	47.3	87.8



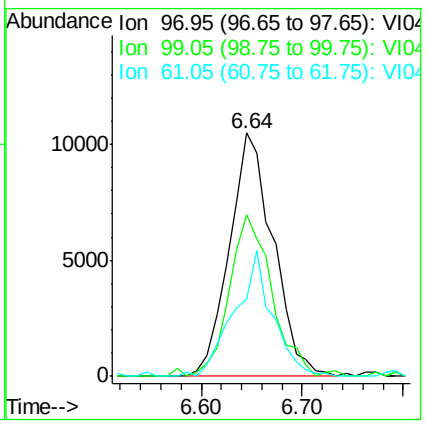


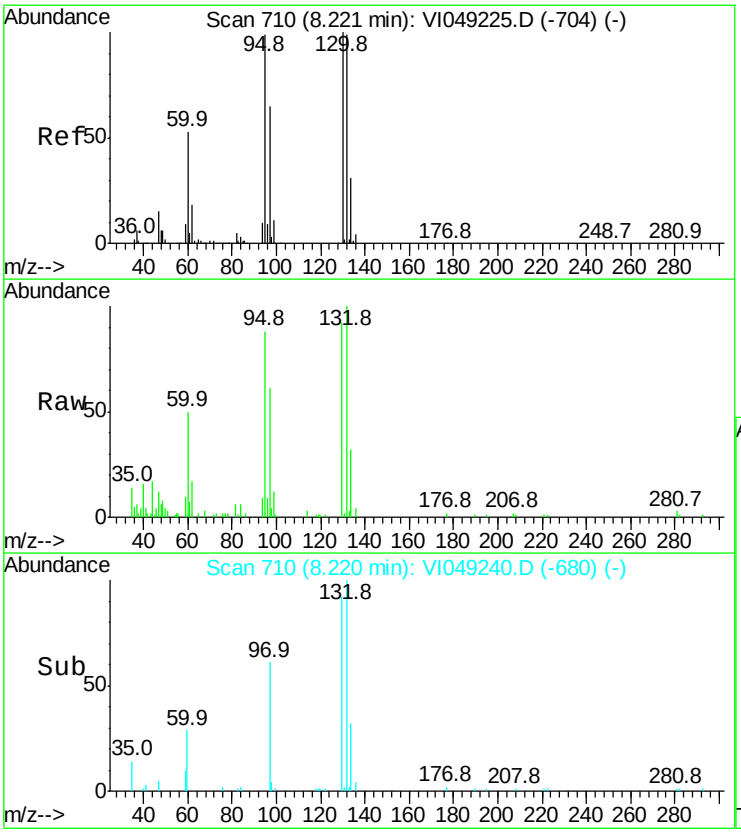
#29
1,1,1-Trichloroethane
Concen: 0.20 ug/L
RT: 6.64 min Scan# 550
Delta R.T. -0.00 min
Lab File: VI049240.D
Acq: 4 May 2016 22:37

Instrument :
MSVOA_I
ClientSampleId :
H4124

Tgt Ion: 97 Resp: 31555

Ion	Ratio	Lower	Upper
97	100		
99	64.0	51.1	76.7
61	44.6	33.3	49.9

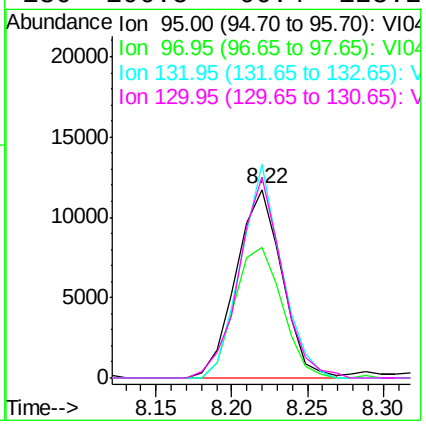


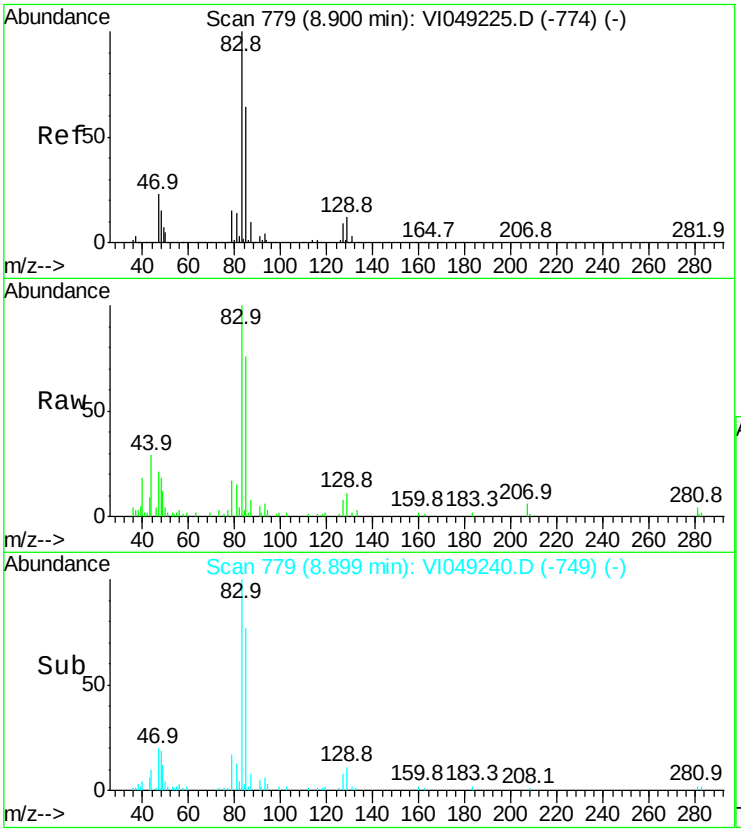


#34
Trichloroethene
Concen: 0.26 ug/L
RT: 8.22 min Scan# 710
Delta R.T. -0.00 min
Lab File: VI049240.D
Acq: 4 May 2016 22:37

Tgt Ion: 95 Resp: 24816

Ion	Ratio	Lower	Upper
95	100		
97	69.6	45.8	85.2
132	113.4	63.9	118.7
130	106.5	66.4	123.2



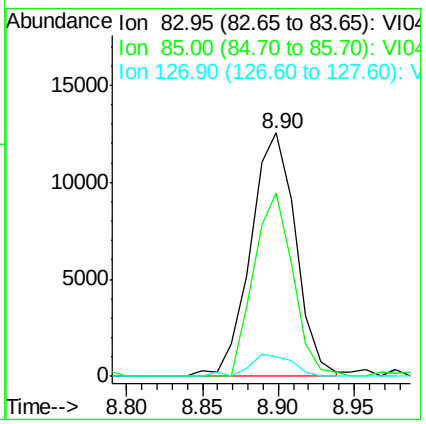


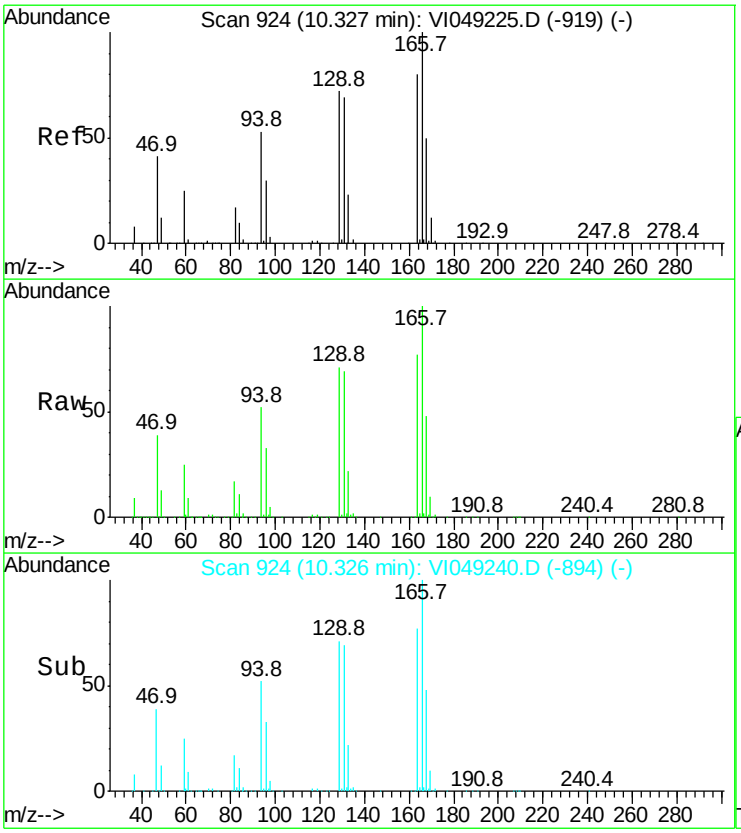
#38
Bromodichloromethane
Concen: 0.22 ug/L
RT: 8.90 min Scan# 779
Delta R.T. -0.00 min
Lab File: VI049240.D
Acq: 4 May 2016 22:37

Instrument : MSVOA_I
ClientSampleId : H4124

Tgt Ion: 83 Resp: 26005

Ion	Ratio	Lower	Upper
83	100		
85	75.6	44.7	83.1
127	8.3	6.6	9.8

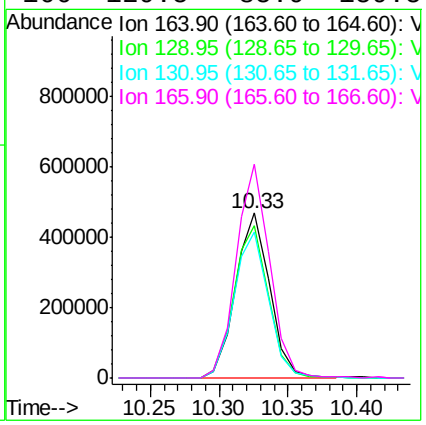




#47
Tetrachloroethene
Concen: 12.65 ug/L
RT: 10.33 min Scan# 924
Delta R.T. -0.00 min
Lab File: VI049240.D
Acq: 4 May 2016 22:37

Tgt Ion:164 Resp: 806559

Ion	Ratio	Lower	Upper
164	100		
129	92.1	62.1	115.3
131	88.7	60.6	112.6
166	129.5	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049240.D
Acq On : 4 May 2016 22:37
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 22 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124

Quant Time: May 05 06:50:20 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1223488	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	817280	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	299035	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.70	65	400312	5.31	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 106.20%			
7) Chloroethane-d5	2.10	69	238974	5.73	ug/L	-0.01
Spiked Amount 5.000	Range 65 - 130		Recovery = 114.60%			
11) 1,1-Dichloroethene-d2	2.93	63	701306	3.95	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 79.00%			
20) 2-Butanone-d5	5.67	46	911457	55.89	ug/L	-0.01
Spiked Amount 50.000	Range 40 - 130		Recovery = 111.78%			
24) Chloroform-d	6.39	84	1011861	5.28	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 105.60%			
26) 1,2-Dichloroethane-d4	7.24	65	445625	5.68	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 113.60%			
32) Benzene-d6	7.18	84	1774862	5.57	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 111.40%			
36) 1,2-Dichloropropane-d6	8.44	67	495325	5.53	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 110.60%			
41) Toluene-d8	9.70	98	1269091	5.40	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 108.00%			
43) trans-1,3-Dichloropropene-	10.02	79	179339	5.08	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 101.60%			
46) 2-Hexanone-d5	10.42	63	599363	53.87	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 107.74%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	206387	5.07	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 101.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	272368	5.19	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 103.80%			
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	5.78	96	14154	0.13	ug/L	96
25) Chloroform	6.42	83	382607	1.94	ug/L	97
29) 1,1,1-Trichloroethane	6.64	97	31555	0.20	ug/L	98
34) Trichloroethene	8.22	95	24816	0.26	ug/L	86
38) Bromodichloromethane	8.90	83	26005	0.22	ug/L	87
47) Tetrachloroethene	10.33	164	806559	12.65	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049240.D
Acq On : 4 May 2016 22:37
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA I/WATER
ALS Vial : 22 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.291	3	6	36	rVB	6759418	19780749	100.00%	31.377%
2	1.704	45	48	58	rBV	396457	644478	3.26%	1.022%
3	2.098	85	88	99	rBV	228652	484400	2.45%	0.768%
4	2.816	159	161	166	rVB6	8232	20349	0.10%	0.032%
5	2.875	166	167	168	rBV	5163	5671	0.03%	0.009%
6	2.934	168	173	188	rVB	885710	2012468	10.17%	3.192%
7	3.092	188	189	191	rBV2	2742	4289	0.02%	0.007%
8	3.200	197	200	201	rBV3	6677	6839	0.03%	0.011%
9	3.328	211	213	216	rVB4	3678	5201	0.03%	0.008%
10	3.407	216	221	222	rVB5	2714	5236	0.03%	0.008%
11	3.594	237	240	242	rBV4	6180	11926	0.06%	0.019%
12	3.722	250	253	255	rVB3	5461	6988	0.04%	0.011%
13	3.761	255	257	258	rBV2	4634	6771	0.03%	0.011%
14	3.840	260	265	268	rVB6	2526	5329	0.03%	0.008%
15	3.879	268	269	272	rBV3	4095	5899	0.03%	0.009%
16	4.106	289	292	293	rVB3	3422	5336	0.03%	0.008%
17	4.135	293	295	296	rBV2	3153	4452	0.02%	0.007%
18	4.165	296	298	301	rVV4	4345	8516	0.04%	0.014%
19	4.283	306	310	312	rBV4	3471	5319	0.03%	0.008%
20	4.470	326	329	330	rVV3	3435	4703	0.02%	0.007%
21	4.499	330	332	336	rVB5	3885	9640	0.05%	0.015%
22	4.686	347	351	353	rBV5	3343	8850	0.04%	0.014%
23	4.726	353	355	359	rVV5	3654	7956	0.04%	0.013%
24	4.883	368	371	373	rBV3	3612	5861	0.03%	0.009%
25	4.962	376	379	383	rBV6	3192	7206	0.04%	0.011%
26	5.021	383	385	387	rVB2	3442	5073	0.03%	0.008%
27	5.523	433	436	437	rVB2	3900	4401	0.02%	0.007%
28	5.680	445	452	460	rBV	370669	1355158	6.85%	2.150%
29	6.044	487	489	492	rVB4	2812	5065	0.03%	0.008%
30	6.182	499	503	504	rBV4	4606	7394	0.04%	0.012%
31	6.389	516	524	538	rBV2	867670	3284561	16.60%	5.210%
32	6.586	542	544	545	rVV2	4622	5874	0.03%	0.009%
33	6.645	545	550	558	rVB4	32697	110350	0.56%	0.175%
34	6.792	562	565	570	rVB6	3218	8426	0.04%	0.013%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049240.D
Acq On : 4 May 2016 22:37
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA I/WATER
ALS Vial : 22 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.871	570	573	574	rBV3	2761	5006	0.03%	0.008%
36	7.088	592	595	596	rVB2	3911	4811	0.02%	0.008%
37	7.176	596	604	608	rBV	1377020	3840164	19.41%	6.091%
38	7.235	608	610	618	rVB	501265	1031790	5.22%	1.637%
39	7.422	628	629	631	rVB2	4011	4402	0.02%	0.007%
40	7.786	665	666	668	rBV2	5277	5727	0.03%	0.009%
41	7.934	675	681	694	rBV	1371287	3008962	15.21%	4.773%
42	8.072	694	695	697	rVB2	4701	5105	0.03%	0.008%
43	8.121	697	700	704	rBV5	4070	11136	0.06%	0.018%
44	8.220	704	710	717	rBV3	75481	165084	0.83%	0.262%
45	8.308	717	719	722	rVB3	3441	5298	0.03%	0.008%
46	8.436	727	732	741	rBV	1090133	2343797	11.85%	3.718%
47	8.731	761	762	765	rBV3	2461	4458	0.02%	0.007%
48	8.771	765	766	769	rBV3	4262	5366	0.03%	0.009%
49	8.899	774	779	784	rBV	43384	99740	0.50%	0.158%
50	9.036	790	793	795	rVB4	2685	5077	0.03%	0.008%
51	9.105	799	800	803	rVB2	2747	4565	0.02%	0.007%
52	9.174	803	807	811	rBV4	3233	10466	0.05%	0.017%
53	9.361	821	826	833	rBV	640143	1177660	5.95%	1.868%
54	9.529	839	843	846	rBV3	15773	30196	0.15%	0.048%
55	9.696	855	860	867	rBV	2116005	3710831	18.76%	5.886%
56	10.021	888	893	900	rBV	357142	635715	3.21%	1.008%
57	10.109	900	902	904	rVV3	5253	10438	0.05%	0.017%
58	10.149	904	906	907	rVV	8124	12560	0.06%	0.020%
59	10.217	907	913	919	rVV	105000	247081	1.25%	0.392%
60	10.326	919	924	930	rVV	3840189	6909452	34.93%	10.960%
61	10.424	930	934	949	rVV	1702388	3264529	16.50%	5.178%
62	10.591	949	951	954	rVV3	7589	16603	0.08%	0.026%
63	10.631	954	955	956	rVV	6426	5511	0.03%	0.009%
64	10.680	959	960	964	rVB4	5802	8367	0.04%	0.013%
65	10.838	973	976	979	rVB4	4263	7331	0.04%	0.012%
66	10.887	979	981	984	rVB4	4091	6429	0.03%	0.010%
67	10.926	984	985	989	rBV4	2873	5412	0.03%	0.009%
68	10.985	989	991	995	rBV4	3315	8478	0.04%	0.013%
69	11.103	999	1003	1005	rBV5	3371	6945	0.04%	0.011%
70	11.221	1010	1015	1025	rBV	1677972	2862636	14.47%	4.541%
71	11.349	1025	1028	1033	rVB6	6822	17253	0.09%	0.027%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049240.D
Acq On : 4 May 2016 22:37
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA I/WATER
ALS Vial : 22 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.418	1033	1035	1037	rVB3	5017	4396	0.02%	0.007%
73	11.467	1037	1040	1045	rVB6	8990	21690	0.11%	0.034%
74	11.536	1045	1047	1049	rBV2	5442	7113	0.04%	0.011%
75	11.605	1051	1054	1055	rBV3	4557	7264	0.04%	0.012%
76	11.763	1068	1070	1073	rBV4	3489	6637	0.03%	0.011%
77	11.812	1073	1075	1076	rBV2	6016	6820	0.03%	0.011%
78	11.841	1076	1078	1084	rVB6	10278	26396	0.13%	0.042%
79	12.107	1102	1105	1108	rBV5	2990	7136	0.04%	0.011%
80	12.235	1115	1118	1119	rBV3	3112	4711	0.02%	0.007%
81	12.402	1128	1135	1138	rBV2	93651	191383	0.97%	0.304%
82	12.461	1138	1141	1146	rVB	460215	769863	3.89%	1.221%
83	12.560	1148	1151	1154	rVB4	2964	6330	0.03%	0.010%
84	12.767	1170	1172	1174	rVB3	3921	5149	0.03%	0.008%
85	12.914	1184	1187	1188	rBV2	3880	5399	0.03%	0.009%
86	13.013	1193	1197	1198	rBV4	3414	5357	0.03%	0.008%
87	13.052	1198	1201	1205	rBV5	3763	6904	0.03%	0.011%
88	13.357	1227	1232	1235	rBV6	5849	17436	0.09%	0.028%
89	13.426	1235	1239	1249	rVV	1317231	2224370	11.25%	3.528%
90	13.544	1249	1251	1254	rBV3	3595	7730	0.04%	0.012%
91	13.642	1254	1261	1262	rBV5	7664	25602	0.13%	0.041%
92	13.761	1268	1273	1280	rBV	1120578	2063989	10.43%	3.274%
93	14.026	1295	1300	1306	rBV2	67326	144231	0.73%	0.229%
94	14.174	1313	1315	1317	rBV3	6145	8807	0.04%	0.014%
95	14.243	1320	1322	1323	rVB2	4559	5298	0.03%	0.008%
96	14.292	1323	1327	1328	rBV4	6063	15233	0.08%	0.024%
97	14.312	1328	1329	1332	rVB3	7740	8441	0.04%	0.013%
98	14.696	1366	1368	1370	rBV2	7987	6957	0.04%	0.011%
99	15.611	1458	1461	1466	rVB	29661	52579	0.27%	0.083%
100	15.749	1473	1475	1476	rBV2	10257	13320	0.07%	0.021%

Sum of corrected areas: 63041656

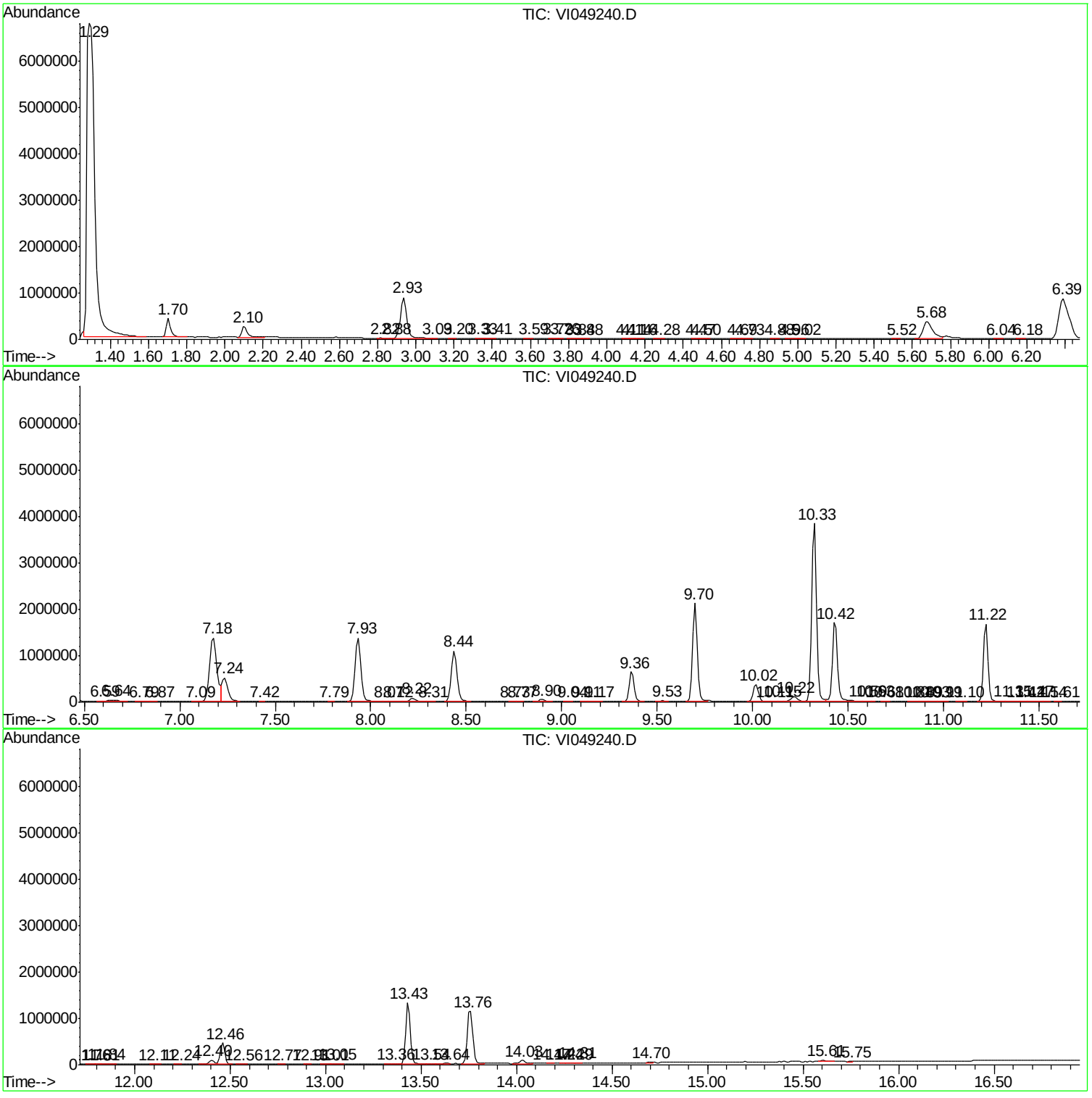
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049240.D
Acq On : 4 May 2016 22:37
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 22 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049240.D
Acq On : 4 May 2016 22:37
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 22 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
H4124

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049240.D
Acq On : 4 May 2016 22:37
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 22 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4124RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08RE
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049251.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.9	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.13	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.9	
71-55-6	1,1,1-Trichloroethane	0.20	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.27	J

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4124RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08RE
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049251.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.22	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	13	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4124RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08RE
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049251.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4124RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-08RE
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049251.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	14.04	0.30	J
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

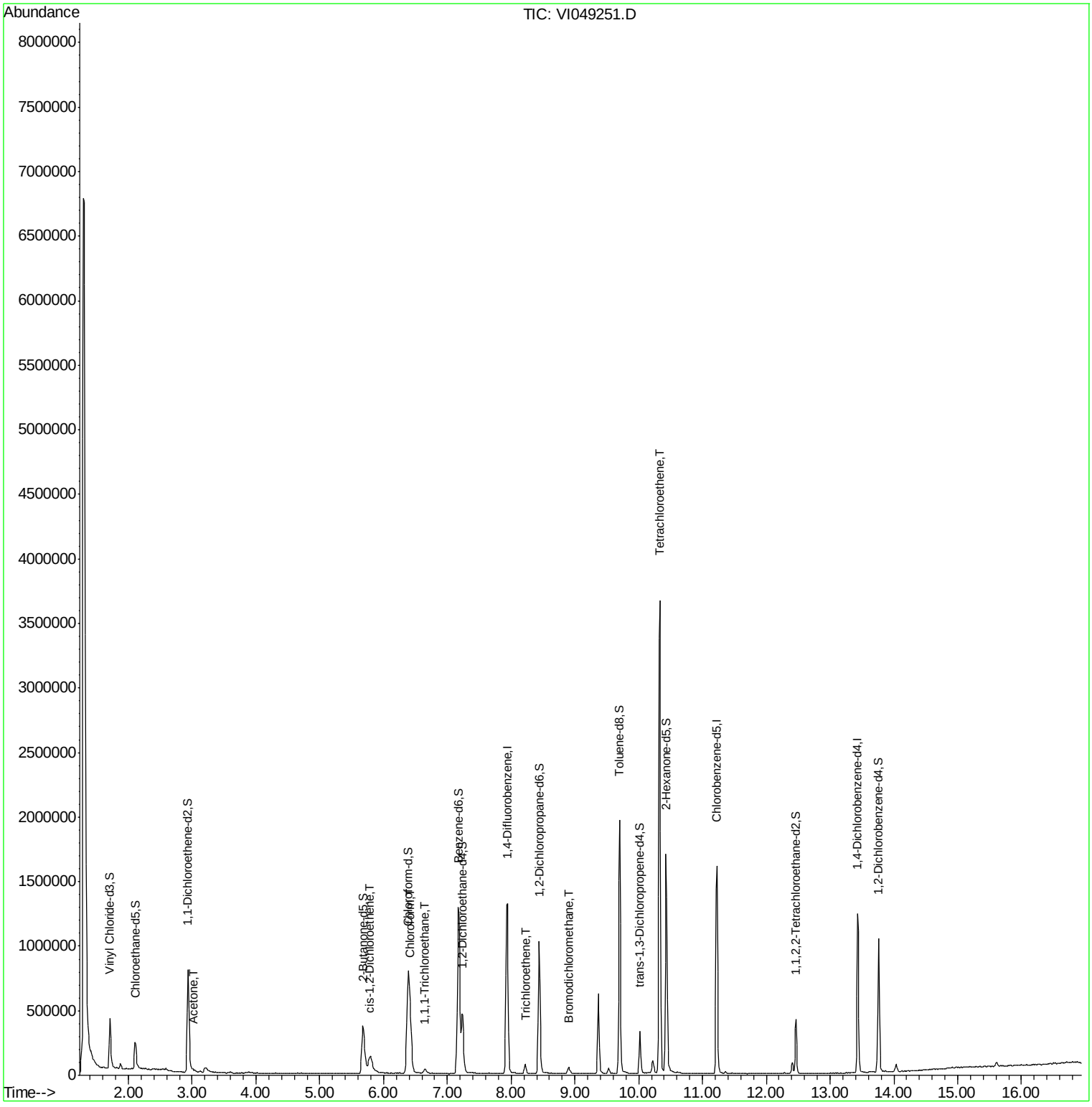
Quantitation Report (QT/LSC Reviewed)

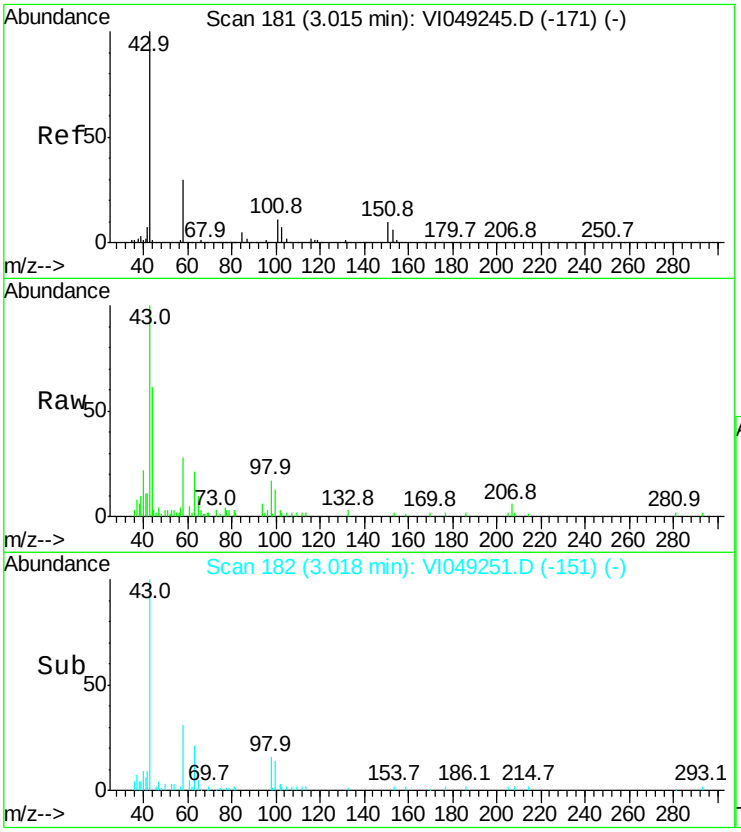
Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA I/WATER
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 05:00:05 2016
Quant Method : W:\HPCHEM1\MSVOA I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4124RE

Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM

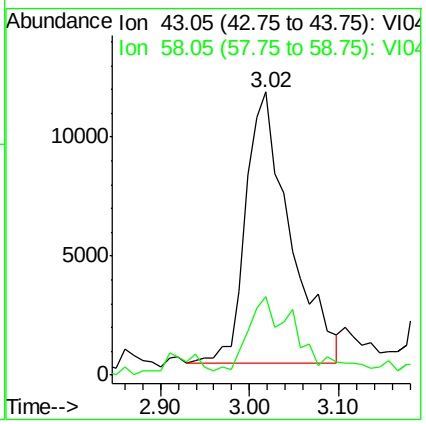




#13
Acetone
Concen: 3.85 ug/L
RT: 3.02 min Scan# 182
Delta R.T. 0.00 min
Lab File: VI049251.D
Acq: 5 May 2016 13:38

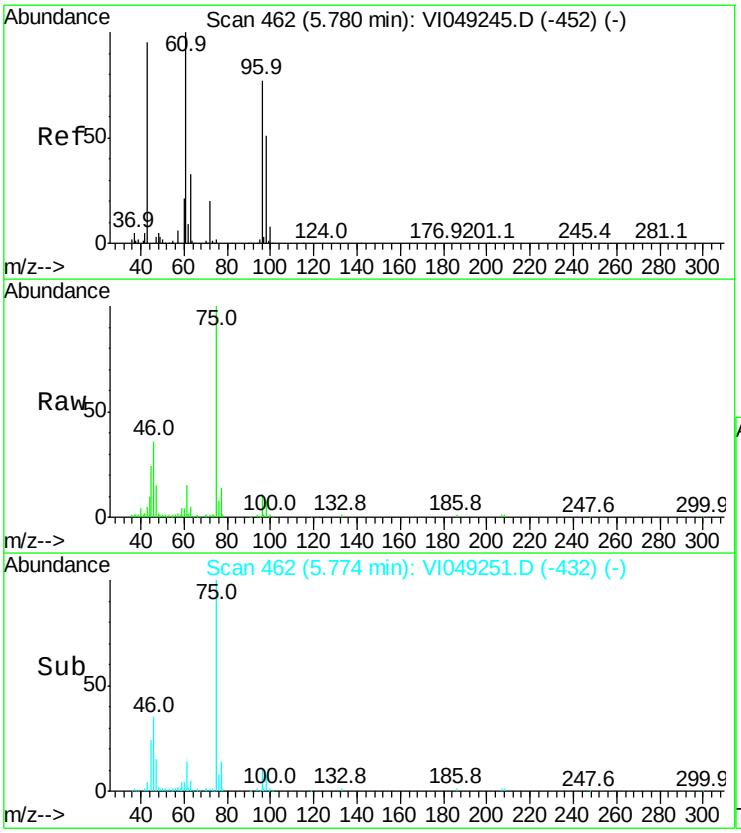
Tgt Ion: 43 Resp: 39090

Ion	Ratio	Lower	Upper
43	100		
58	15.6	0.0	62.0



Instrument :
MSVOA_I
ClientSampleId :
H4124RE

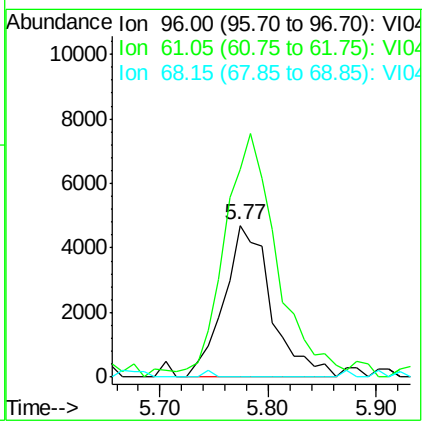
Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM

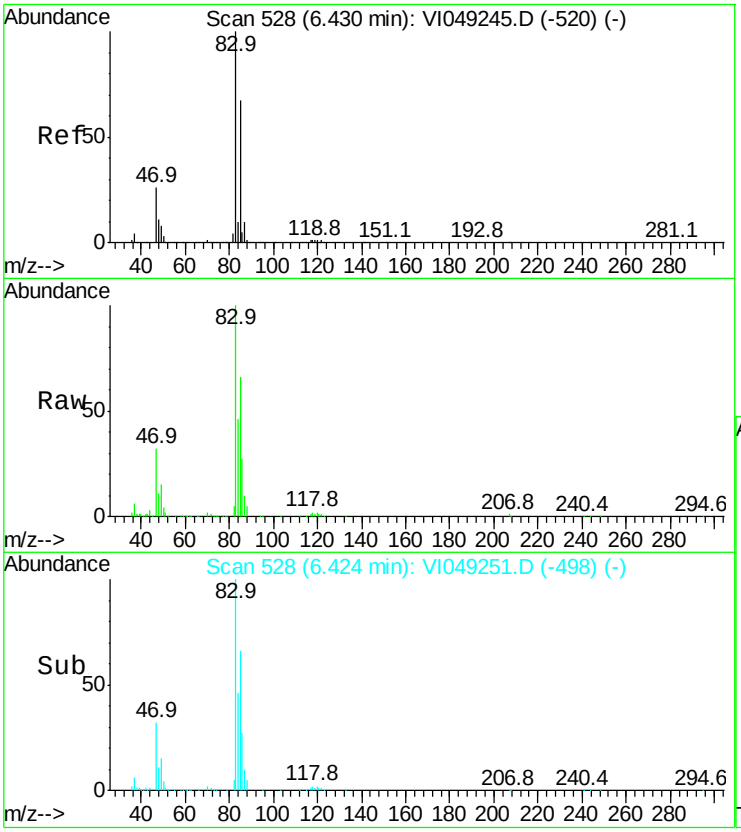


#22
cis-1,2-Dichloroethene
Concen: 0.13 ug/L
RT: 5.77 min Scan# 462
Delta R.T. -0.01 min
Lab File: VI049251.D
Acq: 5 May 2016 13:38

Tgt Ion: 96 Resp: 14311

Ion	Ratio	Lower	Upper
96	100		
61	136.4	82.1	152.5
68	0.0	0.0	0.0

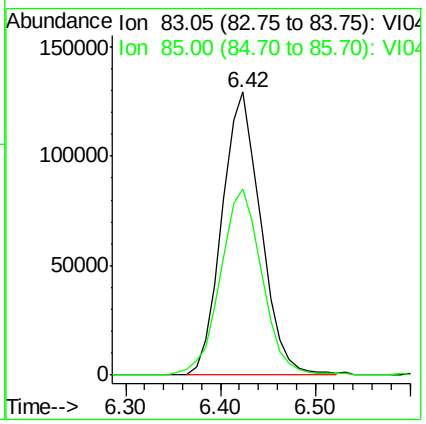




#25
Chloroform
Concen: 1.86 ug/L
RT: 6.42 min Scan# 528
Delta R.T. -0.01 min
Lab File: VI049251.D
Acq: 5 May 2016 13:38

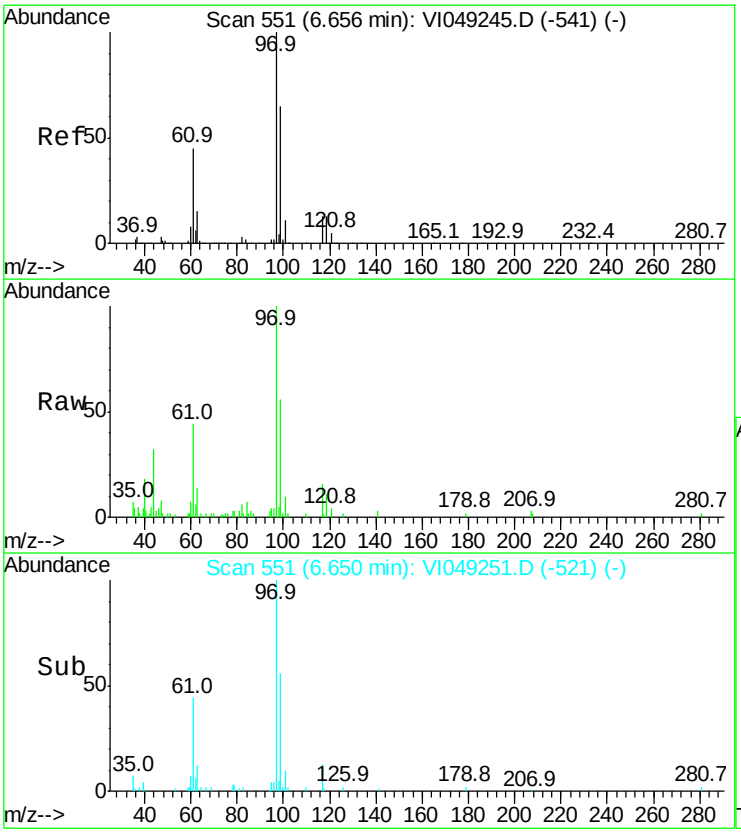
Tgt Ion: 83 Resp: 367916

Ion	Ratio	Lower	Upper
83	100		
85	65.6	47.3	87.8



Instrument :
MSVOA_I
ClientSampleId :
H4124RE

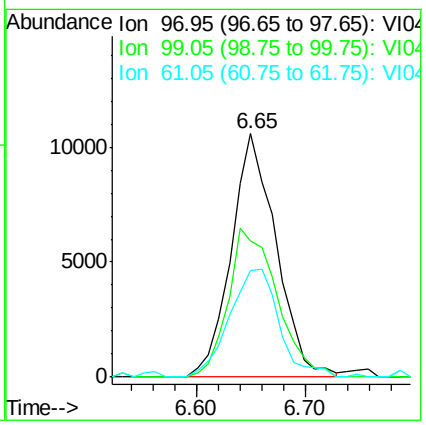
Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM

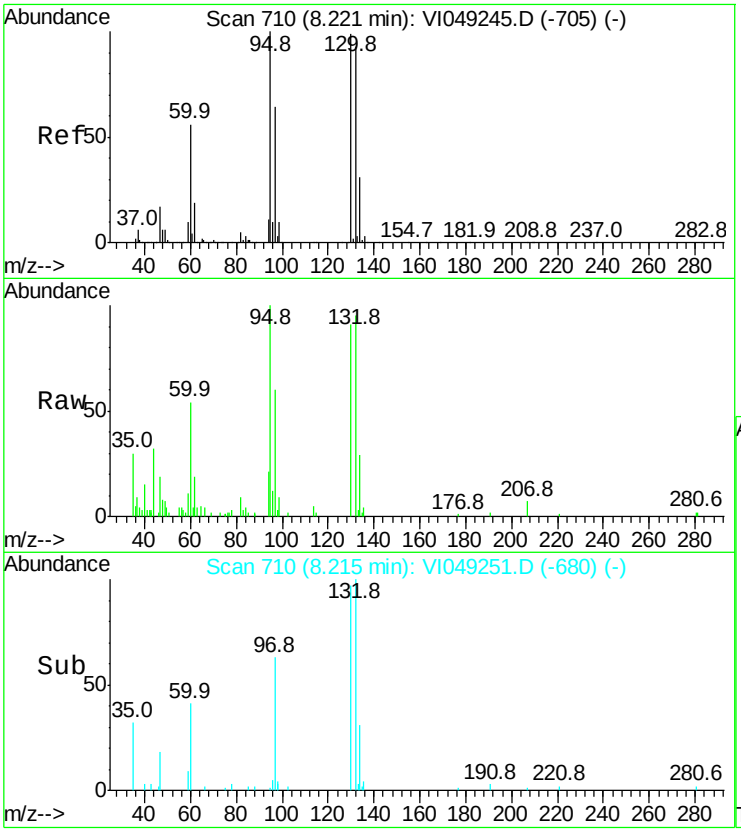


#29
1,1,1-Trichloroethane
Concen: 0.20 ug/L
RT: 6.65 min Scan# 551
Delta R.T. -0.01 min
Lab File: VI049251.D
Acq: 5 May 2016 13:38

Tgt Ion: 97 Resp: 30394

Ion	Ratio	Lower	Upper
97	100		
99	66.5	51.1	76.7
61	49.0	33.3	49.9

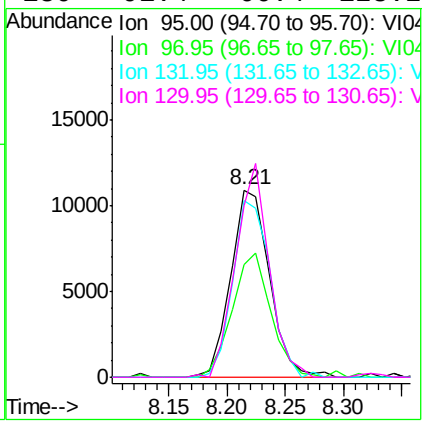




#34
Trichloroethene
Concen: 0.27 ug/L
RT: 8.21 min Scan# 710
Delta R.T. -0.01 min
Lab File: VI049251.D
Acq: 5 May 2016 13:38

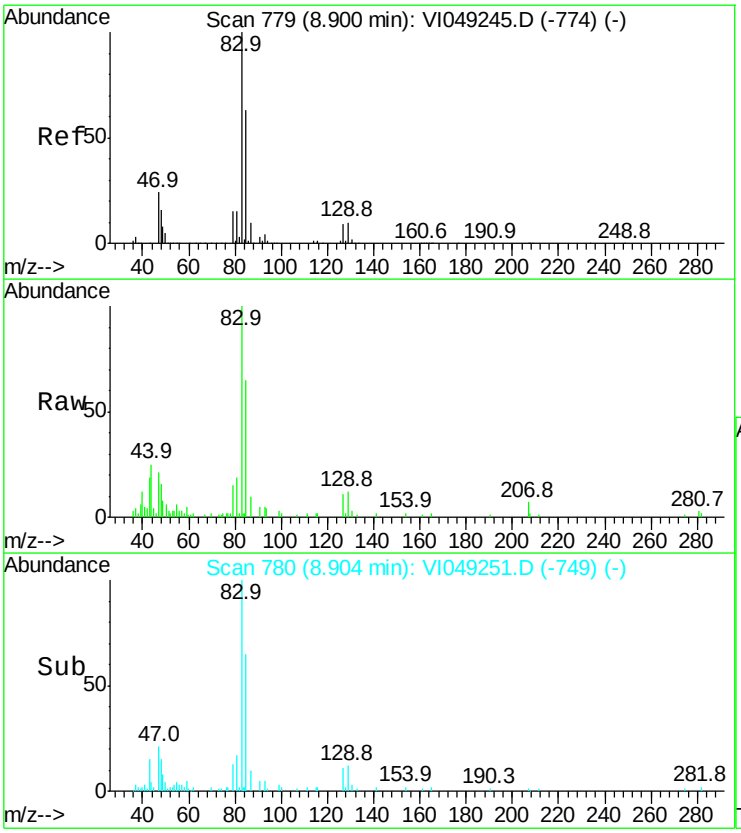
Tgt Ion: 95 Resp: 25184

Ion	Ratio	Lower	Upper
95	100		
97	59.9	45.8	85.2
132	94.7	63.9	118.7
130	91.4	66.4	123.2



Instrument :
MSVOA_I
ClientSampleId :
H4124RE

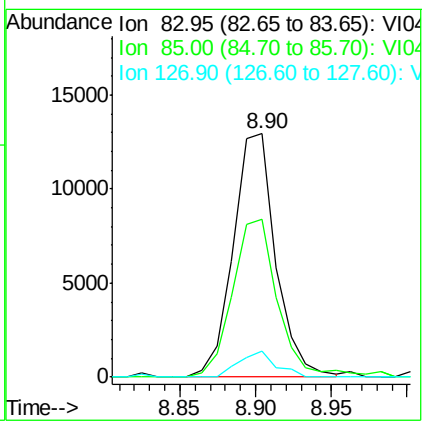
Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM

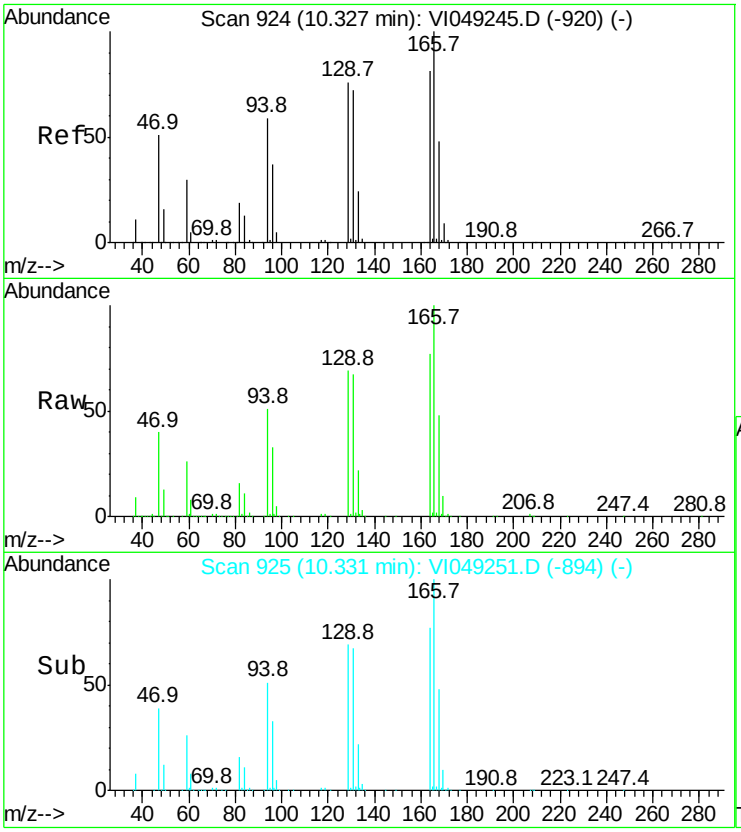


#38
Bromodichloromethane
Concen: 0.22 ug/L
RT: 8.90 min Scan# 780
Delta R.T. 0.00 min
Lab File: VI049251.D
Acq: 5 May 2016 13:38

Tgt Ion: 83 Resp: 25289

Ion	Ratio	Lower	Upper
83	100		
85	65.0	44.7	83.1
127	10.6	6.6	9.8#

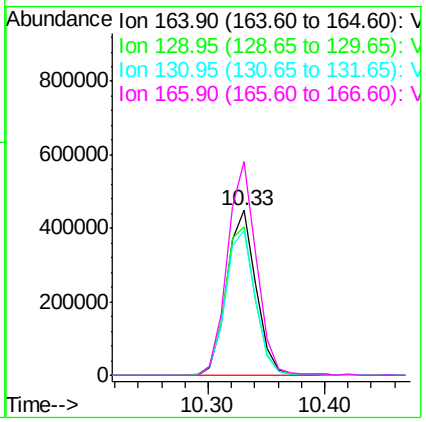




#47
Tetrachloroethene
Concen: 12.69 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.00 min
Lab File: VI049251.D
Acq: 5 May 2016 13:38

Tgt Ion:164 Resp: 781651

Ion	Ratio	Lower	Upper
164	100		
129	89.7	62.1	115.3
131	87.3	60.6	112.6
166	129.4	85.9	159.5



Instrument :
MSVOA_I
ClientSampleId :
H4124RE

Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 05:00:05 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4124RE

Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1227605	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	789169	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	288629	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	375855	4.97	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 99.40%			
7) Chloroethane-d5	2.10	69	230228m	5.50	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 110.00%			
11) 1,1-Dichloroethene-d2	2.93	63	650262	3.65	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 73.00%			
20) 2-Butanone-d5	5.68	46	896534	54.79	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 109.58%			
24) Chloroform-d	6.38	84	943350	4.91	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.20%			
26) 1,2-Dichloroethane-d4	7.24	65	420035m	5.34	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.80%			
32) Benzene-d6	7.17	84	1666766	5.42	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 108.40%			
36) 1,2-Dichloropropane-d6	8.44	67	461722	5.34	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 106.80%			
41) Toluene-d8	9.70	98	1167554	5.15	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.00%			
43) trans-1,3-Dichloropropene-	10.03	79	171165	5.03	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 100.60%			
46) 2-Hexanone-d5	10.43	63	559936	52.12	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 104.24%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	188553	4.80	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 96.00%			
63) 1,2-Dichlorobenzene-d4	13.77	152	248535	4.91	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 98.20%			
Target Compounds						Qvalue
13) Acetone	3.02	43	39090	3.85	ug/L	72
22) cis-1,2-Dichloroethene	5.77	96	14311	0.13	ug/L	83
25) Chloroform	6.42	83	367916	1.86	ug/L	98
29) 1,1,1-Trichloroethane	6.65	97	30394	0.20	ug/L	93
34) Trichloroethene	8.21	95	25184	0.27	ug/L	96
38) Bromodichloromethane	8.90	83	25289	0.22	ug/L #	98
47) Tetrachloroethene	10.33	164	781651	12.69	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124RE

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.296	4	7	35	rVB	6733112	19254596	100.00%	31.445%
2	1.611	37	39	46	rVV5	10629	17302	0.09%	0.028%
3	1.709	46	49	57	rVB	386133	607840	3.16%	0.993%
4	1.877	63	66	70	rVB	47511	79165	0.41%	0.129%
5	2.103	86	89	99	rVB	200194	406228	2.11%	0.663%
6	2.319	109	111	114	rVB4	8859	14208	0.07%	0.023%
7	2.388	114	118	122	rBV6	10183	33203	0.17%	0.054%
8	2.585	137	138	143	rVB	19434	27913	0.14%	0.046%
9	2.821	159	162	165	rVB5	7003	12420	0.06%	0.020%
10	2.930	167	173	181	rBV	795383	1864333	9.68%	3.045%
11	3.126	189	193	196	rVB4	9758	23656	0.12%	0.039%
12	3.205	196	201	206	rBV	37421	132575	0.69%	0.217%
13	3.451	224	226	228	rVB3	3245	4939	0.03%	0.008%
14	3.599	238	241	246	rVB6	8151	17899	0.09%	0.029%
15	3.707	248	252	253	rVB4	2990	5618	0.03%	0.009%
16	3.884	262	270	273	rBV5	8334	26997	0.14%	0.044%
17	4.012	281	283	285	rVB3	4296	5900	0.03%	0.010%
18	4.170	295	299	300	rVB4	3474	5924	0.03%	0.010%
19	4.347	314	317	319	rVB4	3102	5333	0.03%	0.009%
20	4.426	323	325	328	rVB4	2582	5100	0.03%	0.008%
21	4.593	340	342	344	rVB2	4923	6831	0.04%	0.011%
22	4.622	344	345	346	rBV	4544	4532	0.02%	0.007%
23	4.711	353	354	356	rBV2	4092	4907	0.03%	0.008%
24	4.898	370	373	376	rBV5	4654	11851	0.06%	0.019%
25	5.036	386	387	391	rVB4	3925	8397	0.04%	0.014%
26	5.144	396	398	400	rVB3	6003	8385	0.04%	0.014%
27	5.203	400	404	406	rBV3	4180	9933	0.05%	0.016%
28	5.469	429	431	433	rBV2	3804	6941	0.04%	0.011%
29	5.676	444	452	459	rBV	367885	1275009	6.62%	2.082%
30	5.794	459	464	481	rVV	136054	630007	3.27%	1.029%
31	5.971	481	482	486	rVV4	6451	7736	0.04%	0.013%
32	6.040	488	489	491	rBV2	4301	5357	0.03%	0.009%
33	6.118	496	497	499	rVB2	6383	5121	0.03%	0.008%
34	6.256	508	511	515	rVB6	4066	9532	0.05%	0.016%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124RE

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.384	517	524	537	rBV2	794411	3122964	16.22%	5.100%
36	6.650	545	551	559	rVB2	32039	103825	0.54%	0.170%
37	6.758	559	562	563	rVB3	4193	5184	0.03%	0.008%
38	6.896	574	576	577	rBV2	4243	5655	0.03%	0.009%
39	7.034	589	590	592	rBV	4418	6826	0.04%	0.011%
40	7.172	597	604	608	rBV	1285190	3436382	17.85%	5.612%
41	7.231	608	610	618	rVB	455131	1098840	5.71%	1.795%
42	7.496	636	637	641	rVB4	3563	6623	0.03%	0.011%
43	7.555	641	643	647	rVB5	3851	5502	0.03%	0.009%
44	7.654	651	653	658	rVB6	5353	11345	0.06%	0.019%
45	7.762	661	664	667	rBV4	4797	10634	0.06%	0.017%
46	7.939	676	682	688	rBV	1320302	2977583	15.46%	4.863%
47	8.126	700	701	704	rVB3	3855	4575	0.02%	0.007%
48	8.175	704	706	707	rBV2	4022	5613	0.03%	0.009%
49	8.225	707	711	715	rVB	69568	150686	0.78%	0.246%
50	8.294	717	718	722	rVB4	3315	5738	0.03%	0.009%
51	8.441	727	733	742	rBV	1023096	2216409	11.51%	3.620%
52	8.628	749	752	755	rBV4	4368	7315	0.04%	0.012%
53	8.766	763	766	769	rVB4	3395	6936	0.04%	0.011%
54	8.805	769	770	773	rBV3	2720	4776	0.02%	0.008%
55	8.904	776	780	787	rVV2	49500	123253	0.64%	0.201%
56	8.982	787	788	790	rVB2	4684	4671	0.02%	0.008%
57	9.051	793	795	798	rVB4	4525	8215	0.04%	0.013%
58	9.317	818	822	823	rBV4	2953	5340	0.03%	0.009%
59	9.366	823	827	837	rVV	617693	1122148	5.83%	1.833%
60	9.524	839	843	847	rVV	44221	93564	0.49%	0.153%
61	9.583	847	849	855	rVB6	5287	11809	0.06%	0.019%
62	9.701	856	861	876	rVV	1964060	3461020	17.98%	5.652%
63	9.858	876	877	880	rVB3	4000	6363	0.03%	0.010%
64	10.016	889	893	901	rBV	327939	599575	3.11%	0.979%
65	10.114	901	903	904	rVV2	3694	5965	0.03%	0.010%
66	10.144	904	906	907	rVV	8313	10550	0.05%	0.017%
67	10.223	907	914	920	rVV	100699	233158	1.21%	0.381%
68	10.331	920	925	931	rVV	3664509	6661921	34.60%	10.880%
69	10.429	931	935	949	rVV	1699114	3028338	15.73%	4.946%
70	10.606	951	953	955	rVV3	10479	15965	0.08%	0.026%
71	10.636	955	956	959	rVV3	6945	9931	0.05%	0.016%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124RE

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.059	995	999	1000	rVB4	4067	5311	0.03%	0.009%
73	11.148	1004	1008	1011	rVB5	3106	4956	0.03%	0.008%
74	11.226	1011	1016	1026	rBV	1607733	2810940	14.60%	4.591%
75	11.364	1026	1030	1033	rVB3	14470	24917	0.13%	0.041%
76	11.463	1037	1040	1044	rBV6	5765	12368	0.06%	0.020%
77	11.551	1048	1049	1053	rVB4	3239	5168	0.03%	0.008%
78	11.640	1055	1058	1060	rVB3	3394	4532	0.02%	0.007%
79	11.669	1060	1061	1064	rVB3	4409	4879	0.03%	0.008%
80	11.748	1066	1069	1072	rBV4	1732	4755	0.02%	0.008%
81	11.866	1080	1081	1085	rVB3	4630	5628	0.03%	0.009%
82	11.925	1085	1087	1089	rBV2	3480	4593	0.02%	0.008%
83	12.240	1117	1119	1121	rBV3	4867	6712	0.03%	0.011%
84	12.289	1121	1124	1128	rBV7	6750	12601	0.07%	0.021%
85	12.408	1131	1136	1139	rBV	83618	165214	0.86%	0.270%
86	12.467	1139	1142	1147	rVB	415593	695706	3.61%	1.136%
87	13.008	1195	1197	1200	rBV3	3928	5825	0.03%	0.010%
88	13.116	1207	1208	1211	rBV3	3160	4734	0.02%	0.008%
89	13.244	1219	1221	1224	rBV4	2937	4850	0.03%	0.008%
90	13.303	1224	1227	1228	rVB2	3929	5226	0.03%	0.009%
91	13.352	1230	1232	1236	rBV5	4003	4580	0.02%	0.007%
92	13.431	1236	1240	1247	rBV	1231749	2137912	11.10%	3.491%
93	13.657	1256	1263	1264	rBV7	8871	31072	0.16%	0.051%
94	13.756	1269	1273	1280	rBV	1033869	1898298	9.86%	3.100%
95	13.972	1293	1295	1297	rBV2	4113	7878	0.04%	0.013%
96	14.041	1297	1302	1308	rVV2	56126	129896	0.67%	0.212%
97	14.287	1323	1327	1328	rBV4	5963	13221	0.07%	0.022%
98	14.671	1364	1366	1368	rBV3	7139	10827	0.06%	0.018%
99	14.917	1389	1391	1392	rBV2	9918	9911	0.05%	0.016%
100	15.616	1458	1462	1465	rVB	29799	58628	0.30%	0.096%

Sum of corrected areas: 61232023

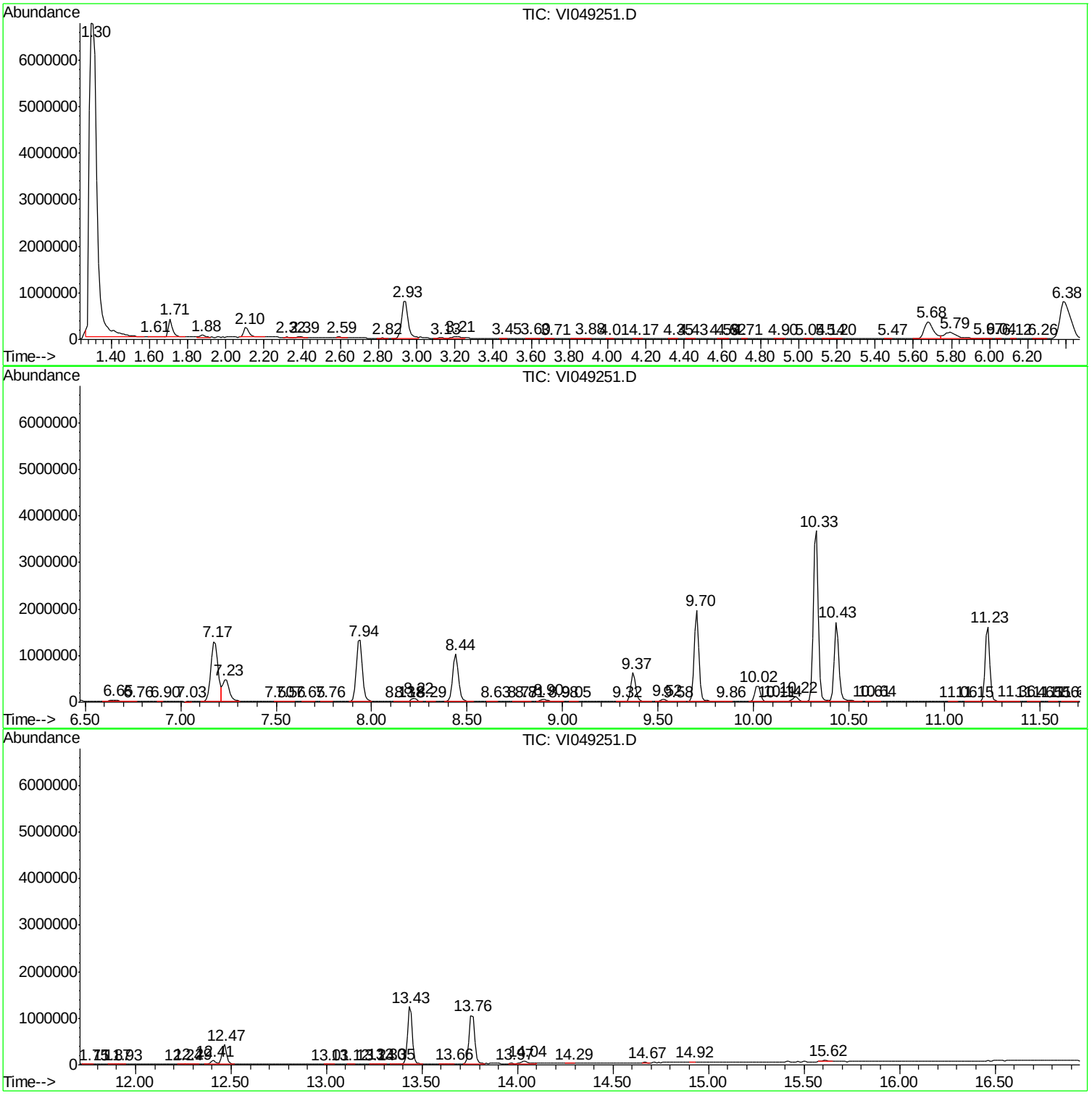
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124RE

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124RE

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

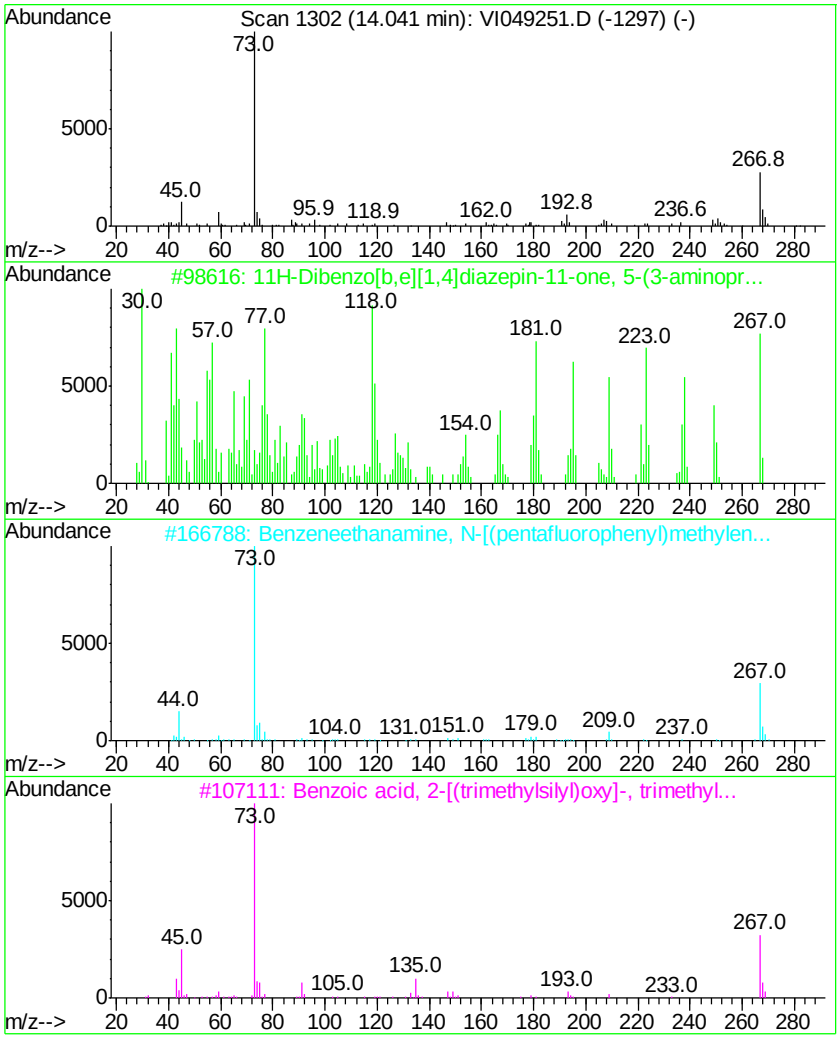
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

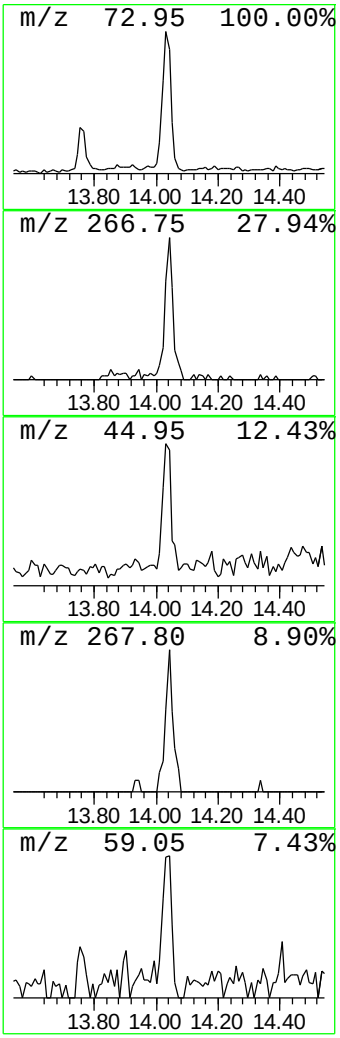
****

Peak Number 5 unknown-01 Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.04	0.30 ug/L	129896	1,4-Dichlorobenzene-d4	13.44

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	11H-Dibenzo[b,e][1,4]diazepin-11...	267	C16H17N3O	013450-73-2	46
2	Benzeneethanamine, N-[(pentafluo...	475	C21H26F5NO2Si2	055429-85-1	42
3	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	42
4	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	38
5	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	36





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4124RE

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
unknown-01	14.04	0.3	ug/L	129896	3	13.44	2137910	5.0

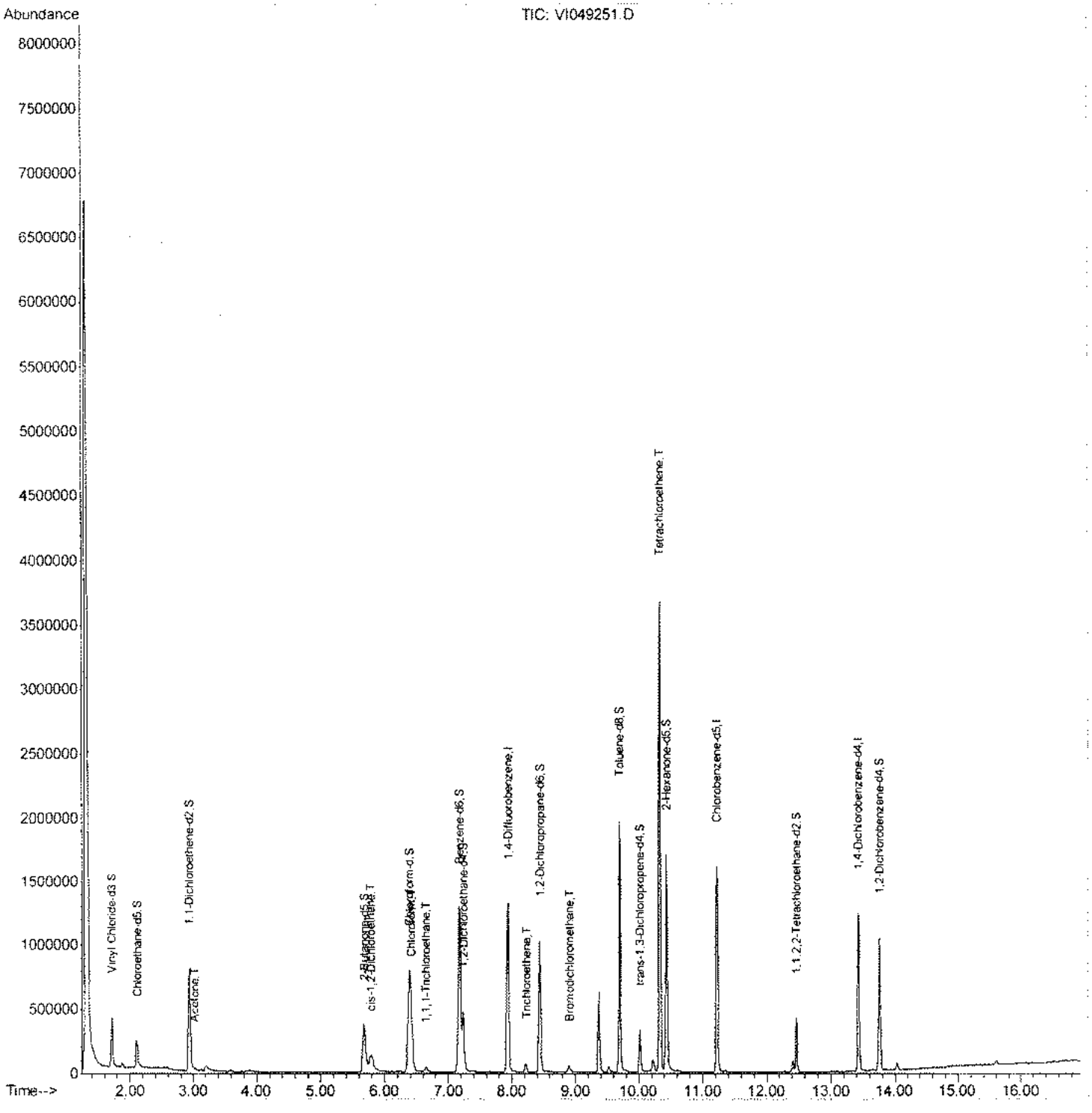
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 05:00:05 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4124RE

Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM



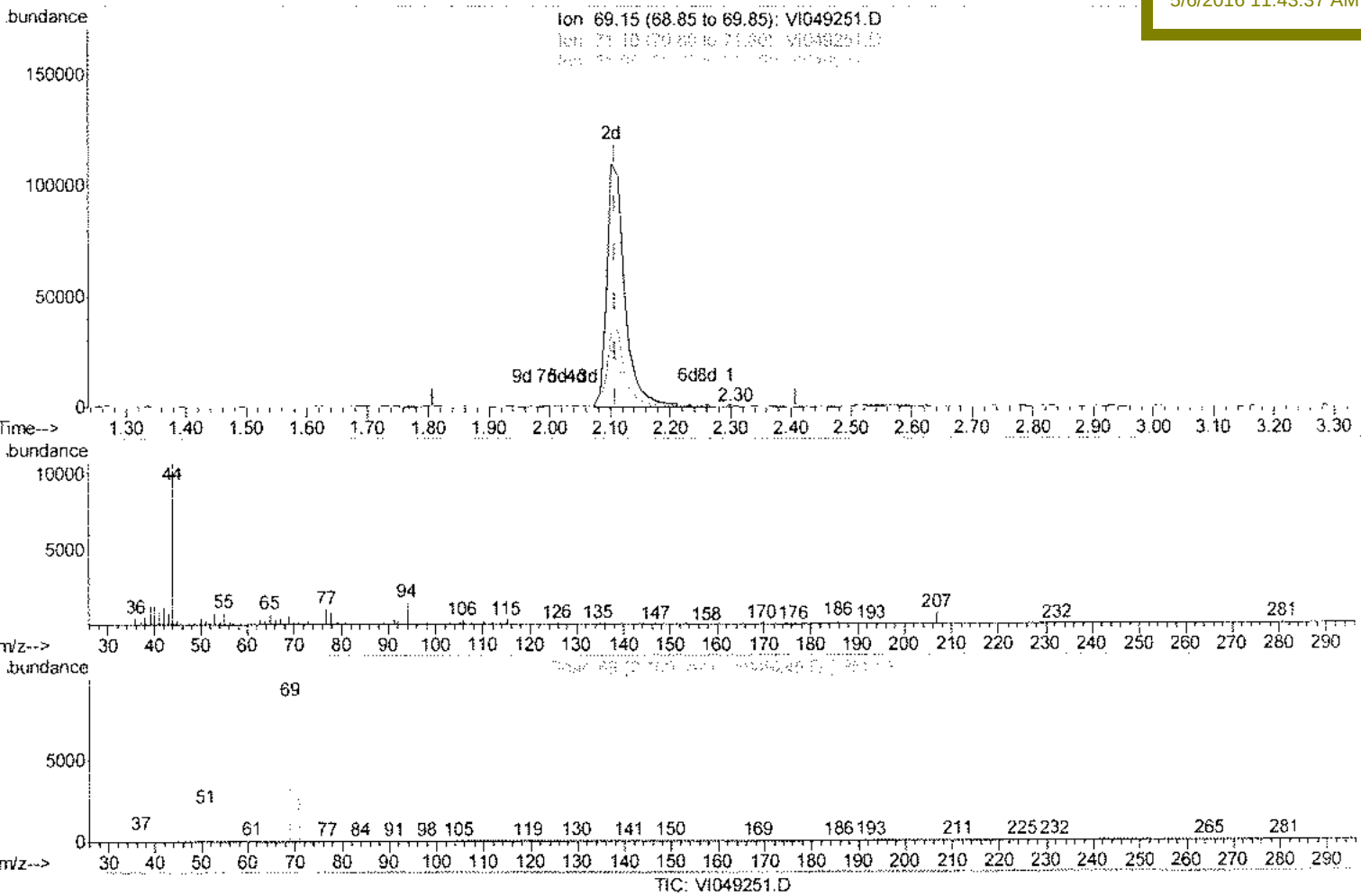
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 04:58:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4124RE

Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM



TIC: VI049251.D

(7) Chloroethane-d5 (S)

2.300min (+0.191) 0.04ug/L

response 1740

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	30.57
51.05	32.70	25.75
0.00	0.00	0.00

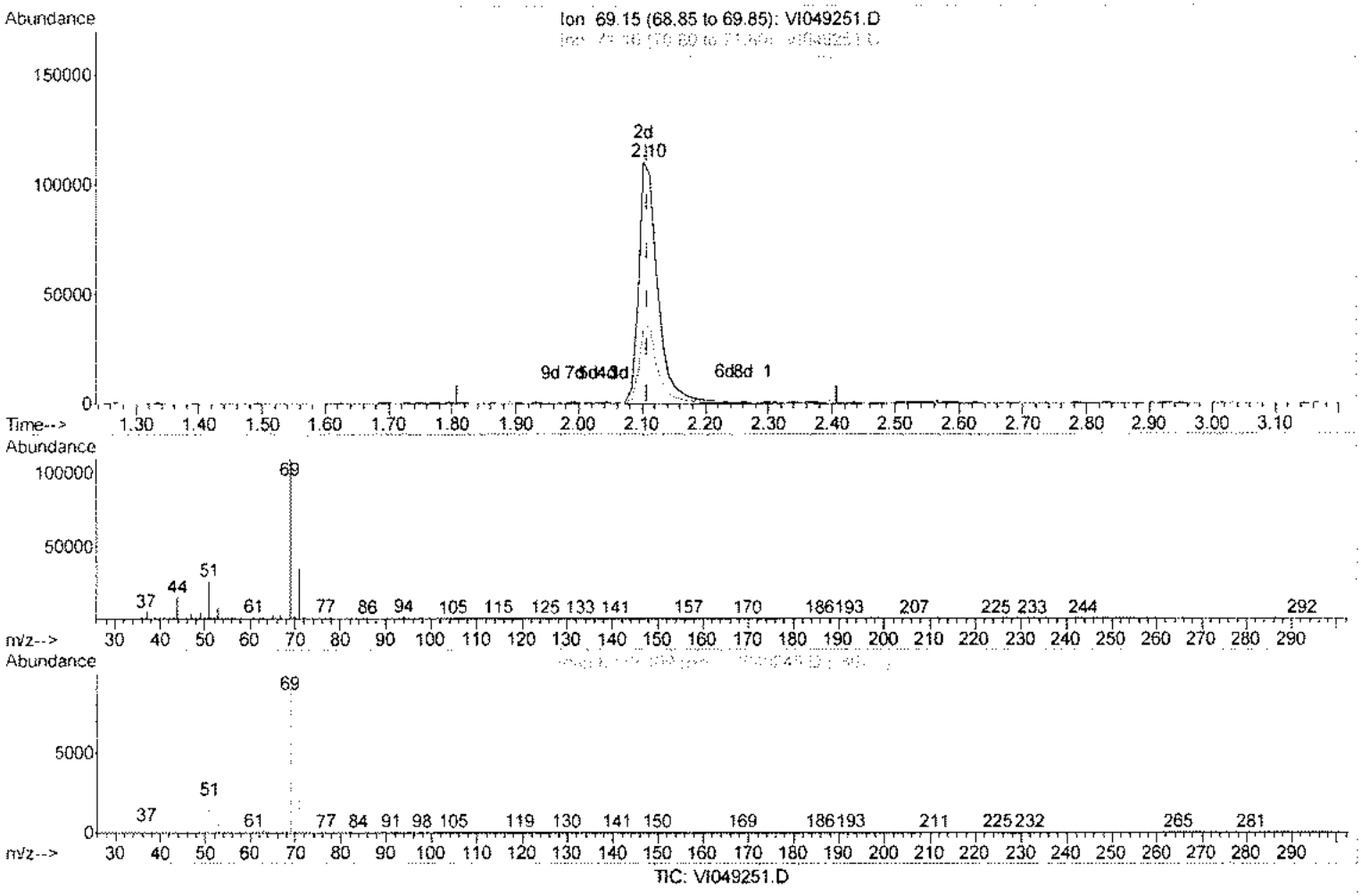
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 04:58:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4124RE

Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM



(7) Chloroethane-d5 (S)

2.103min (-0.006) 5.50ug/L m M.D 05/09/16

response 230228

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	0.23#
51.05	32.70	0.19#
0.00	0.00	0.00

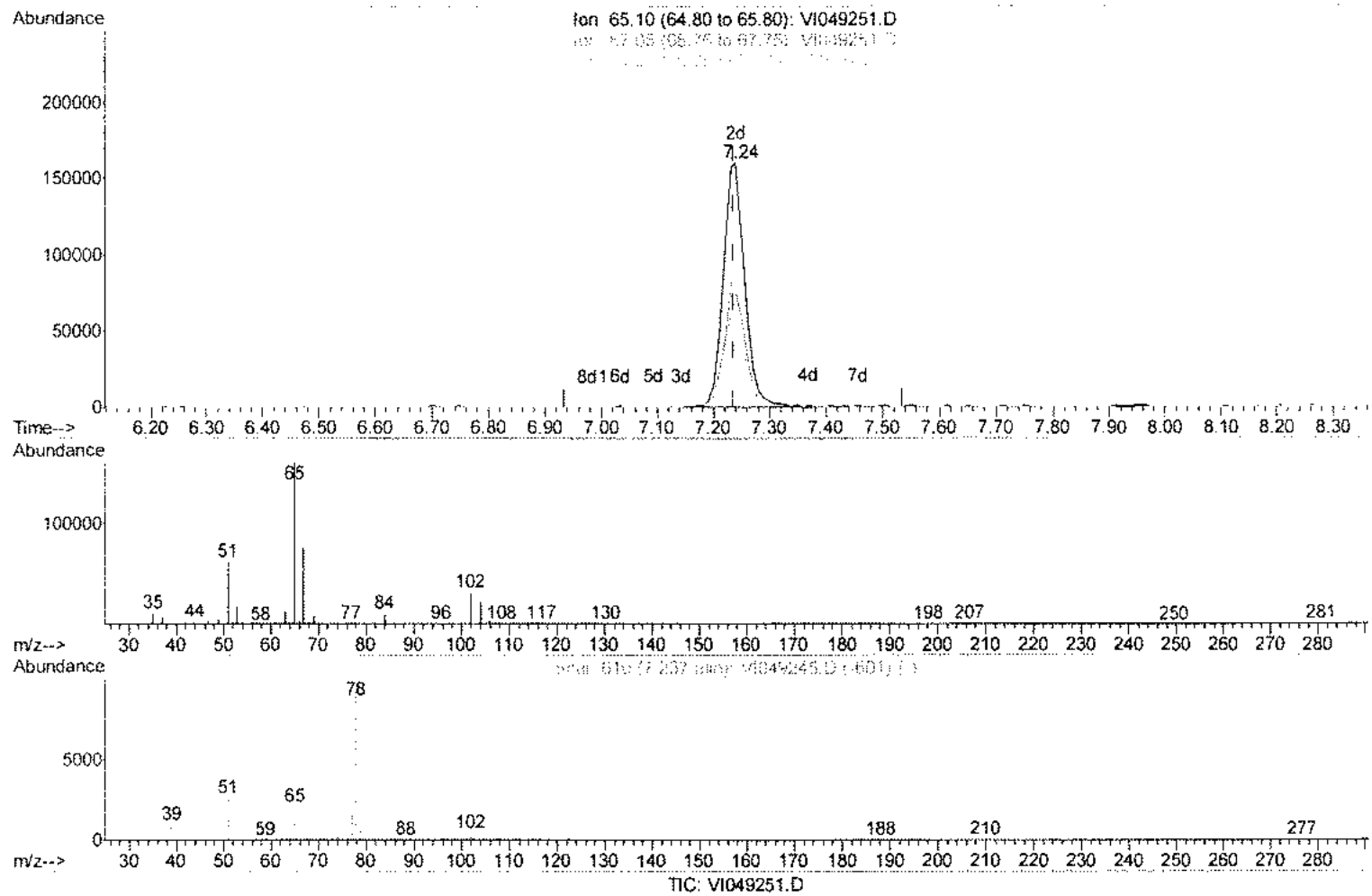
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 04:58:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4124RE

Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM



TIC: VI049251.D

(26) 1,2-Dichloroethane-d4 (S)

7.240min (+0.004) 5.34ug/L m

response 420035

M.D 05/09/16

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	0.02#
51.05	123.20	0.05#
0.00	0.00	0.00

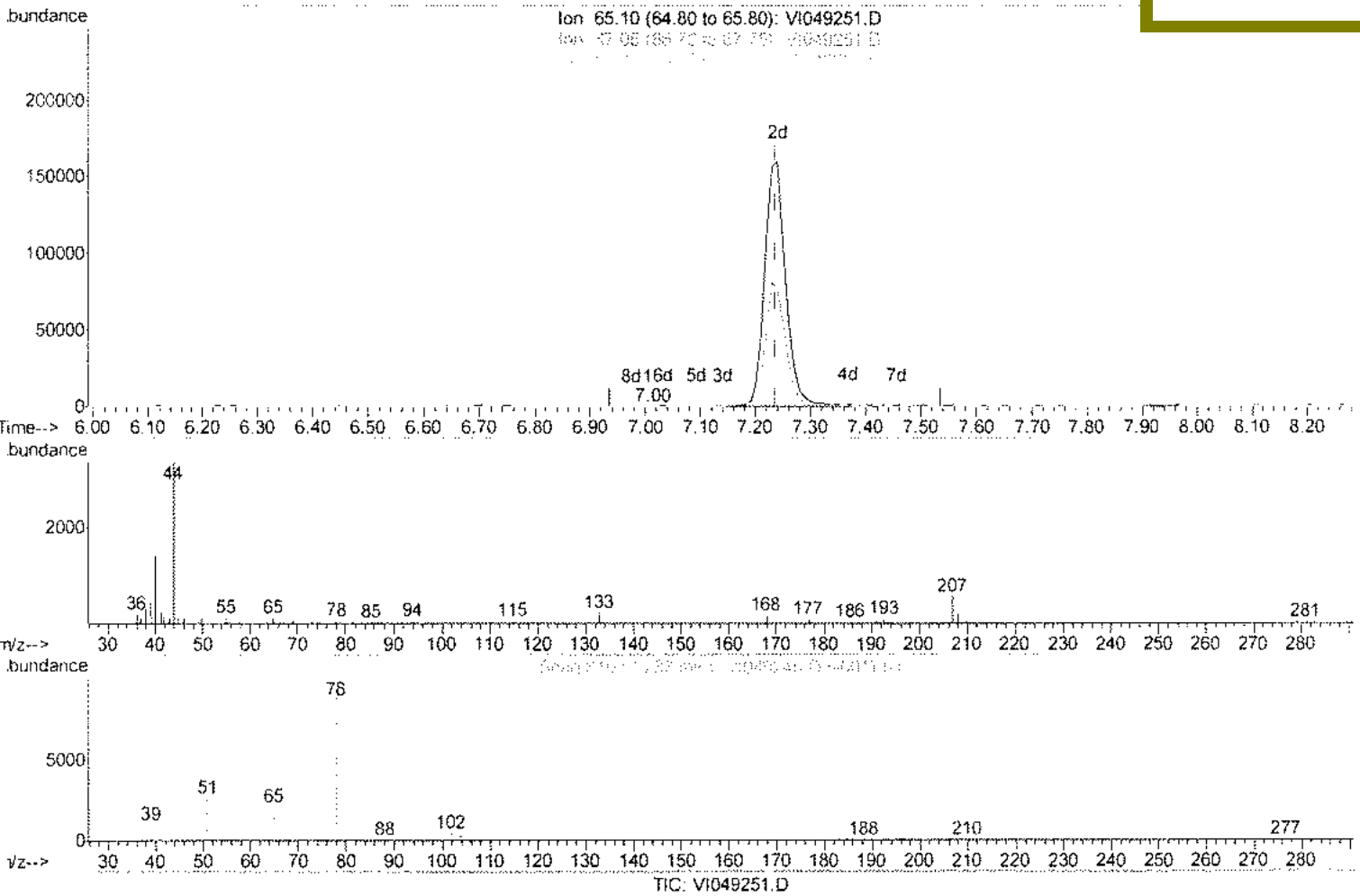
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 04:58:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4124RE

Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM



TIC: VI049251.D

(26) 1,2-Dichloroethane-d4 (S)

7.004min (-0.232) 0.00ug/L

response 153

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	65.36
51.05	123.20	139.22
0.00	0.00	0.00

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049251.D
Acq On : 5 May 2016 13:38
Operator : FY/SY
Sample : H2834-08RE
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 05:00:05 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4124RE

Manual Integrations APPROVED
feifei
5/6/2016 11:43:37 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1227605	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	789169	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	288629	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	375855	4.97	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 99.40%			
7) Chloroethane-d5	2.10	69	230228m	5.50	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 110.00%			
11) 1,1-Dichloroethene-d2	2.93	63	650262	3.65	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 73.00%			
20) 2-Butanone-d5	5.68	46	896534	54.79	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 109.58%			
24) Chloroform-d	6.38	84	943350	4.91	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.20%			
26) 1,2-Dichloroethane-d4	7.24	65	420035m	5.34	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.80%			
32) Benzene-d6	7.17	84	1666766	5.42	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 108.40%			
36) 1,2-Dichloropropane-d6	8.44	67	461722	5.34	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 106.80%			
41) Toluene-d8	9.70	98	1167554	5.15	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.00%			
43) trans-1,3-Dichloropropene-	10.03	79	171165	5.03	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 100.60%			
46) 2-Hexanone-d5	10.43	63	559936	52.12	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 104.24%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	188553	4.80	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 96.00%			
63) 1,2-Dichlorobenzene-d4	13.77	152	248535	4.91	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 98.20%			
Target Compounds						Qvalue
13) Acetone	3.02	43	39090	3.85	ug/L	72
22) cis-1,2-Dichloroethene	5.77	96	14311	0.13	ug/L	83
25) Chloroform	6.42	83	367916	1.86	ug/L	98
29) 1,1,1-Trichloroethane	6.65	97	30394	0.20	ug/L	93
34) Trichloroethene	8.21	95	25184	0.27	ug/L	96
38) Bromodichloromethane	8.90	83	25289	0.22	ug/L #	98
47) Tetrachloroethene	10.33	164	781651	12.69	ug/L	97

M.D 05/09/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4132

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-09
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049241.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.0	
71-55-6	1,1,1-Trichloroethane	0.19	J
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.19	J

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4132

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-09
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049241.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.10	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	16	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4132

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-09
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049241.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4132

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-09
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049241.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	9.37	1.7	J
2	E966796	Total Alkanes	N/A	0.0	

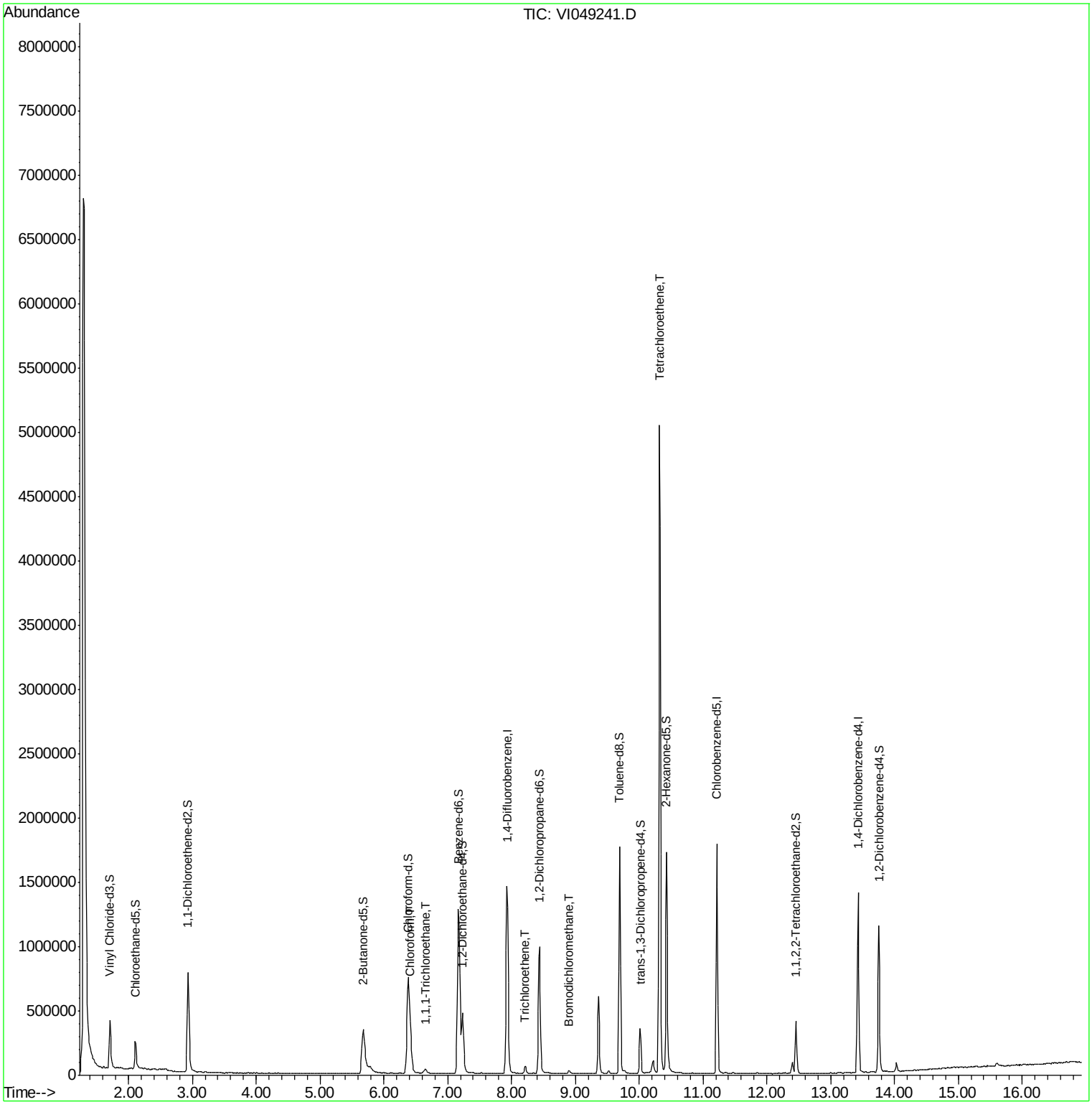
EPA-designated Registry Number.

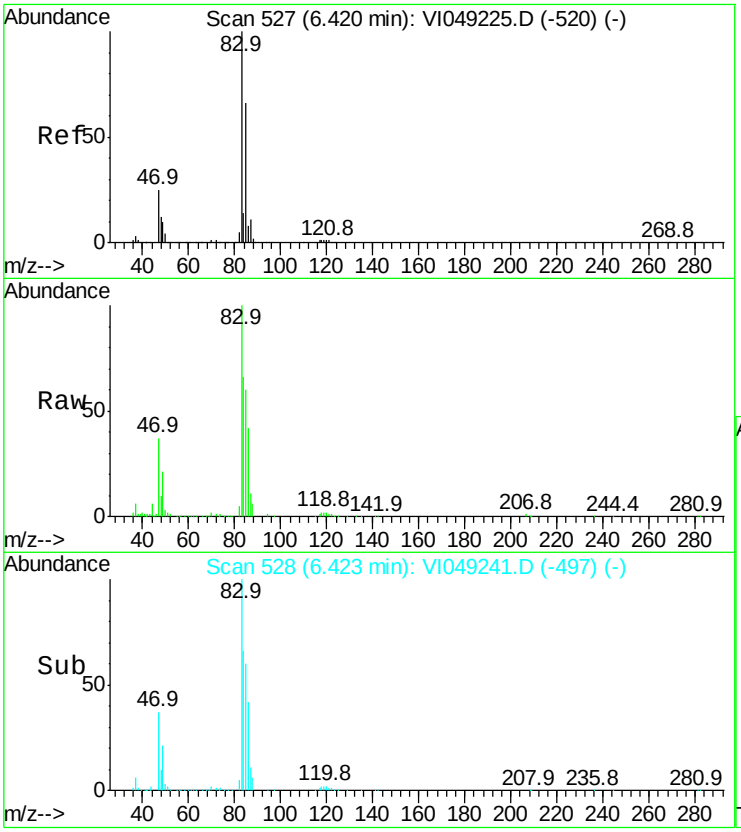
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049241.D
Acq On : 4 May 2016 23:08
Operator : FY/SY
Sample : H2834-09
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 23 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4132

Quant Time: May 05 06:52:49 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration



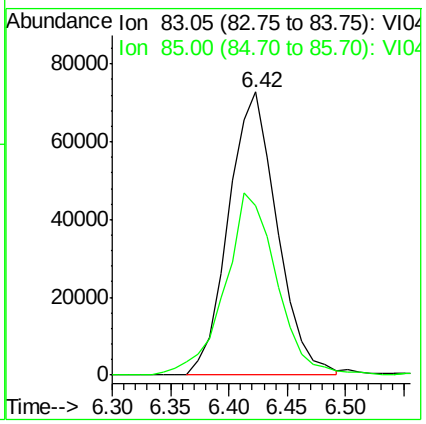


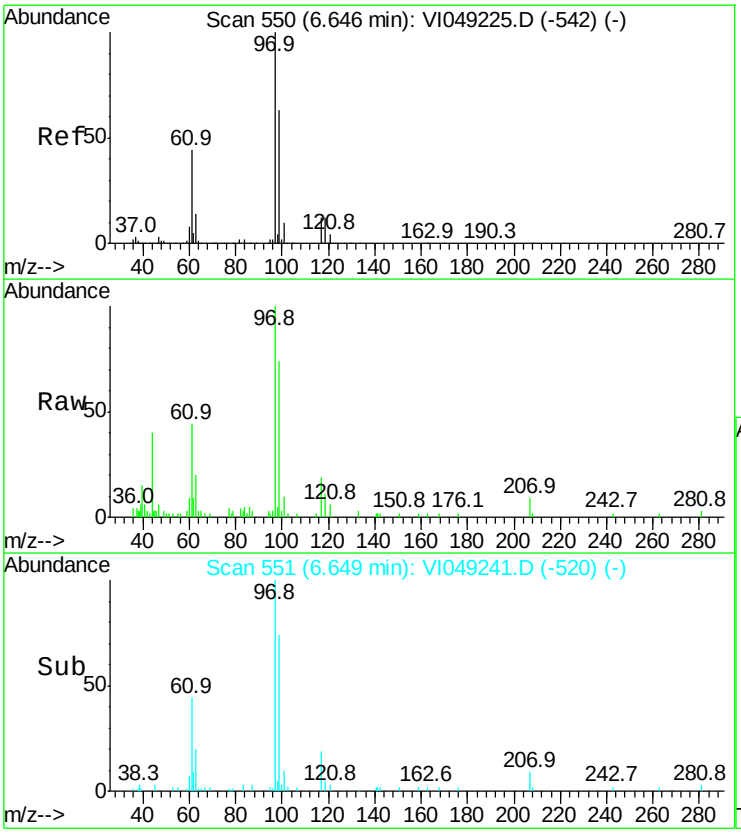
#25
Chloroform
Concen: 1.01 ug/L
RT: 6.42 min Scan# 528
Delta R.T. 0.00 min
Lab File: VI049241.D
Acq: 4 May 2016 23:08

Instrument :
MSVOA_I
ClientSampleId :
H4132

Tgt Ion: 83 Resp: 209670

Ion	Ratio	Lower	Upper
83	100		
85	60.1	47.3	87.8

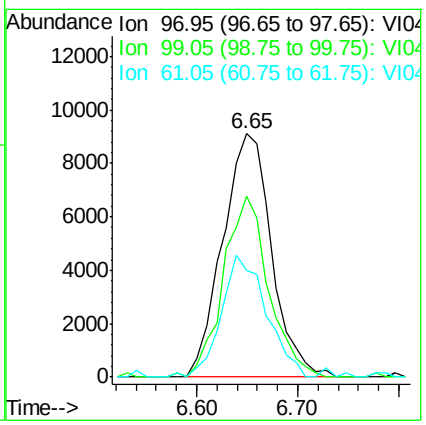


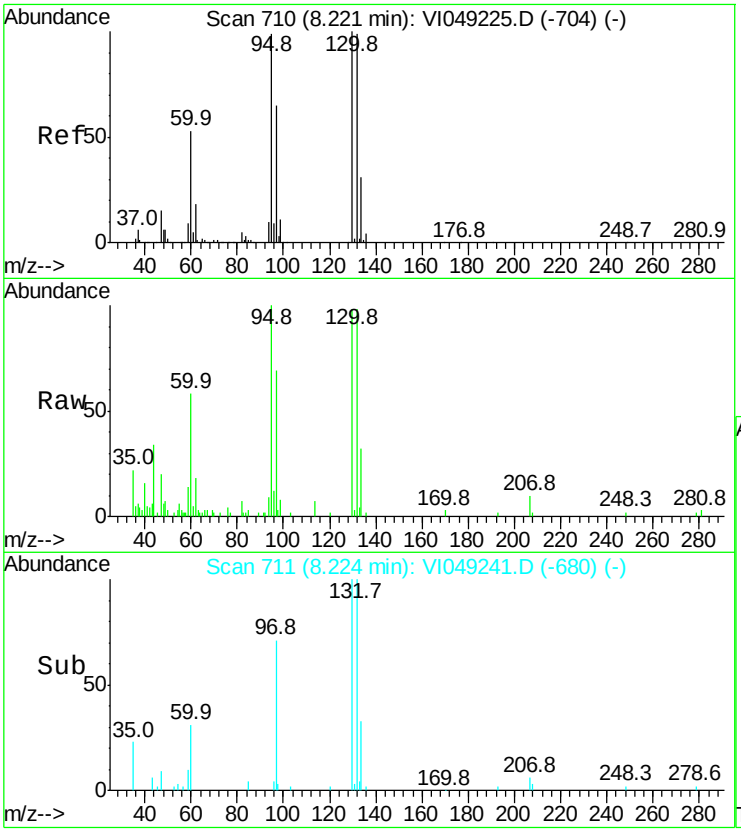


#29
1,1,1-Trichloroethane
Concen: 0.19 ug/L
RT: 6.65 min Scan# 551
Delta R.T. 0.00 min
Lab File: VI049241.D
Acq: 4 May 2016 23:08

Tgt Ion: 97 Resp: 30742

Ion	Ratio	Lower	Upper
97	100		
99	68.3	51.1	76.7
61	45.5	33.3	49.9



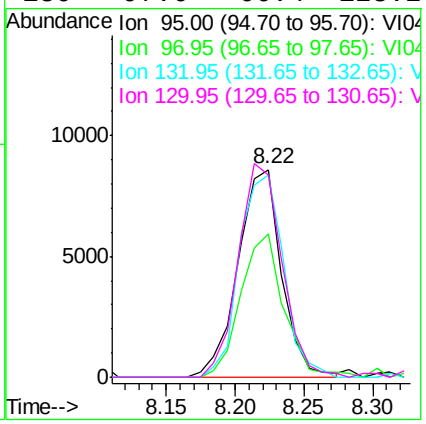


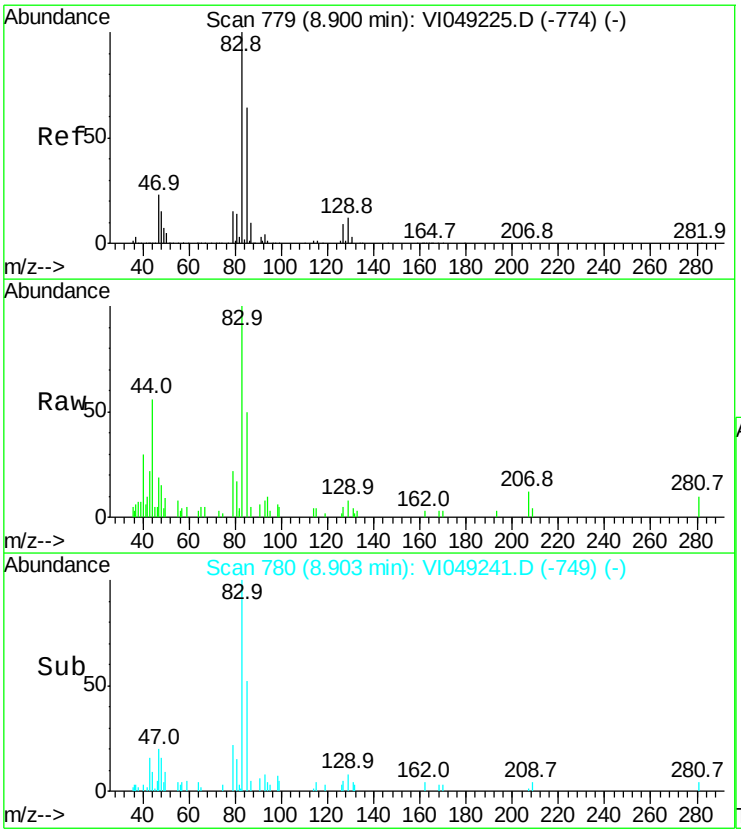
#34
Trichloroethene
Concen: 0.19 ug/L
RT: 8.22 min Scan# 711
Delta R.T. 0.00 min
Lab File: VI049241.D
Acq: 4 May 2016 23:08

Instrument : MSVOA_I
ClientSampleId : H4132

Tgt Ion: 95 Resp: 19003

Ion	Ratio	Lower	Upper
95	100		
97	69.1	45.8	85.2
132	97.6	63.9	118.7
130	97.6	66.4	123.2

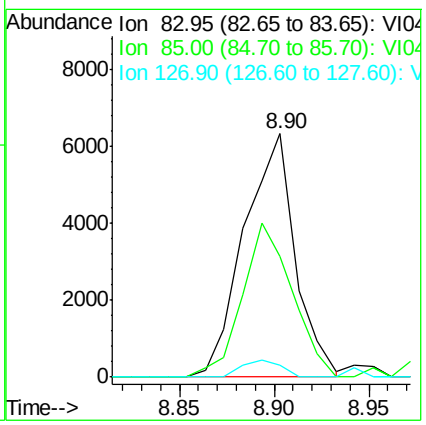


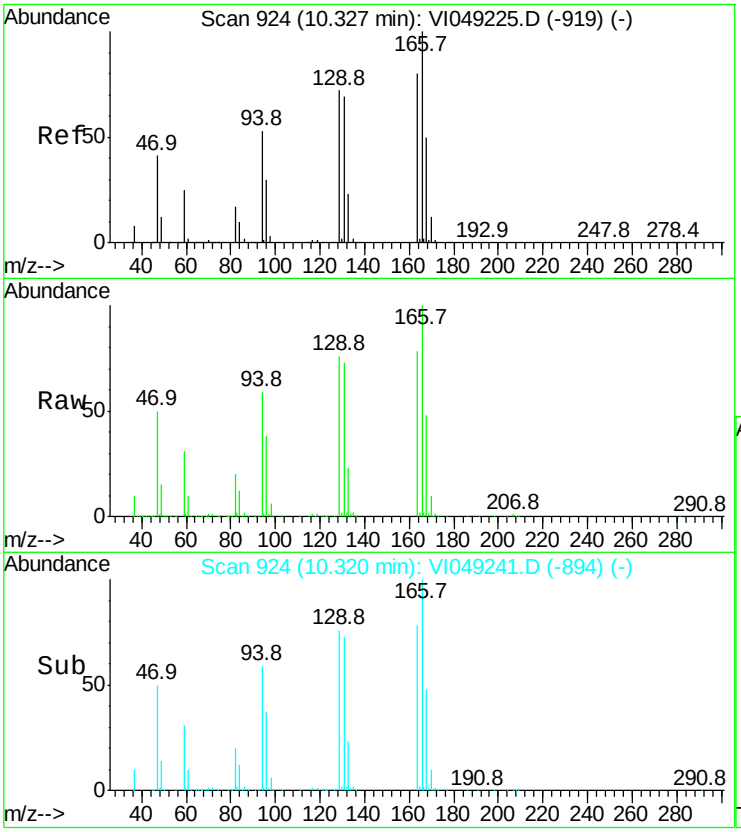


#38
Bromodichloromethane
Concen: 0.10 ug/L
RT: 8.90 min Scan# 780
Delta R.T. 0.00 min
Lab File: VI049241.D
Acq: 4 May 2016 23:08

Tgt Ion: 83 Resp: 11864

Ion	Ratio	Lower	Upper
83	100		
85	49.7	44.7	83.1
127	4.8	6.6	9.8#



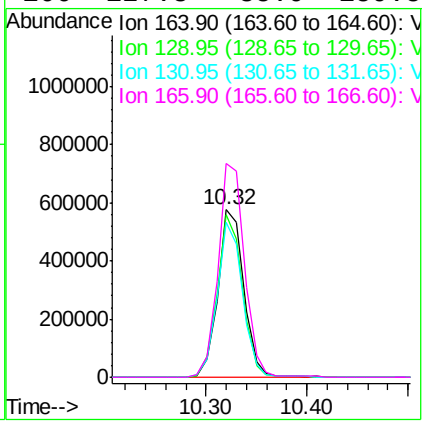


#47
Tetrachloroethene
Concen: 15.64 ug/L
RT: 10.32 min Scan# 924
Delta R.T. -0.01 min
Lab File: VI049241.D
Acq: 4 May 2016 23:08

Instrument :
MSVOA_I
ClientSampleId :
H4132

Tgt Ion:164 Resp: 1031805

Ion	Ratio	Lower	Upper
164	100		
129	97.3	62.1	115.3
131	92.9	60.6	112.6
166	127.8	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049241.D
Acq On : 4 May 2016 23:08
Operator : FY/SY
Sample : H2834-09
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 23 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4132

Quant Time: May 05 06:52:49 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1288236	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	845376	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	307484	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	374891	4.73	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 94.60%			
7) Chloroethane-d5	2.10	69	224415	5.11	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 102.20%			
11) 1,1-Dichloroethene-d2	2.93	63	642853	3.44	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 68.80%			
20) 2-Butanone-d5	5.67	46	864589	50.35	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 100.70%			
24) Chloroform-d	6.38	84	910903	4.51	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 90.20%			
26) 1,2-Dichloroethane-d4	7.23	65	406094	4.92	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.40%			
32) Benzene-d6	7.17	84	1631033	4.95	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 99.00%			
36) 1,2-Dichloropropane-d6	8.44	67	453575	4.90	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 98.00%			
41) Toluene-d8	9.70	98	1163244	4.79	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 95.80%			
43) trans-1,3-Dichloropropene-	10.02	79	167544	4.59	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 91.80%			
46) 2-Hexanone-d5	10.43	63	558999	48.58	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 97.16%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	186504	4.43	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 88.60%			
63) 1,2-Dichlorobenzene-d4	13.76	152	255242	4.73	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 94.60%			
Target Compounds						Qvalue
25) Chloroform	6.42	83	209670	1.01	ug/L	91
29) 1,1,1-Trichloroethane	6.65	97	30742	0.19	ug/L	94
34) Trichloroethene	8.22	95	19003	0.19	ug/L	95
38) Bromodichloromethane	8.90	83	11864	0.10	ug/L #	83
47) Tetrachloroethene	10.32	164	1031805	15.64	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049241.D
Acq On : 4 May 2016 23:08
Operator : FY/SY
Sample : H2834-09
Misc : 25mL/MSVOA I/WATER
ALS Vial : 23 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4132

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.295	4	7	37	rVB	6765170	19223794	100.00%	30.891%
2	1.610	37	39	43	rVB	13256	20027	0.10%	0.032%
3	1.709	46	49	57	rBV	370340	599626	3.12%	0.964%
4	1.876	64	66	72	rVB5	18748	36323	0.19%	0.058%
5	2.102	86	89	103	rBV	211478	437924	2.28%	0.704%
6	2.486	125	128	130	rBV3	8186	14104	0.07%	0.023%
7	2.811	159	161	167	rBV7	3892	11017	0.06%	0.018%
8	2.929	169	173	182	rBV	776863	1797588	9.35%	2.889%
9	3.116	188	192	196	rVB6	8535	23207	0.12%	0.037%
10	3.214	198	202	203	rBV4	4162	7921	0.04%	0.013%
11	3.451	223	226	228	rVB3	4811	9497	0.05%	0.015%
12	3.529	231	234	236	rBV4	4352	7599	0.04%	0.012%
13	3.598	238	241	247	rVB6	6419	14817	0.08%	0.024%
14	3.884	267	270	271	rBV2	3257	4575	0.02%	0.007%
15	3.972	277	279	281	rVB3	5427	6554	0.03%	0.011%
16	4.002	281	282	287	rVB4	5663	7748	0.04%	0.012%
17	4.120	292	294	297	rVB4	3411	5288	0.03%	0.008%
18	4.199	299	302	304	rVB4	4031	4918	0.03%	0.008%
19	4.267	306	309	311	rVB3	4172	6439	0.03%	0.010%
20	4.346	314	317	320	rBV4	4522	8716	0.05%	0.014%
21	4.454	326	328	332	rVB4	3064	6259	0.03%	0.010%
22	4.602	340	343	344	rBV3	3329	4682	0.02%	0.008%
23	4.760	357	359	361	rVB3	4882	6255	0.03%	0.010%
24	4.809	361	364	367	rBV4	4376	10843	0.06%	0.017%
25	4.848	367	368	372	rVB2	3332	4951	0.03%	0.008%
26	5.153	395	399	401	rBV5	4267	10982	0.06%	0.018%
27	5.281	408	412	414	rBV4	3903	9130	0.05%	0.015%
28	5.350	416	419	420	rBV3	2826	4976	0.03%	0.008%
29	5.557	437	440	442	rVB4	3284	4920	0.03%	0.008%
30	5.675	444	452	461	rBV	343464	1280375	6.66%	2.057%
31	5.941	477	479	483	rVB5	4127	7116	0.04%	0.011%
32	6.128	495	498	501	rVB3	6062	12647	0.07%	0.020%
33	6.226	504	508	509	rBV3	3814	7106	0.04%	0.011%
34	6.383	515	524	540	rBV2	748557	2694044	14.01%	4.329%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049241.D
Acq On : 4 May 2016 23:08
Operator : FY/SY
Sample : H2834-09
Misc : 25mL/MSVOA I/WATER
ALS Vial : 23 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4132

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.649	545	551	560	rVB3	34873	134447	0.70%	0.216%
36	6.748	560	561	564	rBV3	5781	10684	0.06%	0.017%
37	6.885	573	575	577	rBV3	2115	4637	0.02%	0.007%
38	6.984	583	585	588	rBV4	3299	5476	0.03%	0.009%
39	7.082	593	595	598	rBV3	2528	5377	0.03%	0.009%
40	7.171	598	604	608	rBV	1282351	3420679	17.79%	5.497%
41	7.230	608	610	619	rVB	467342	1056959	5.50%	1.698%
42	7.535	639	641	644	rVB4	5537	9033	0.05%	0.015%
43	7.604	644	648	649	rBV4	2875	4854	0.03%	0.008%
44	7.643	650	652	656	rVB4	5062	7884	0.04%	0.013%
45	7.830	668	671	675	rBV5	4017	9289	0.05%	0.015%
46	7.929	675	681	693	rBV	1459042	3168132	16.48%	5.091%
47	8.214	706	710	715	rBV2	55212	122861	0.64%	0.197%
48	8.440	727	733	741	rBV	984314	2168152	11.28%	3.484%
49	8.637	752	753	755	rVB2	4865	4754	0.02%	0.008%
50	8.677	755	757	760	rBV3	4367	9121	0.05%	0.015%
51	8.893	775	779	786	rBV4	22813	60799	0.32%	0.098%
52	8.972	786	787	790	rVB3	3385	4742	0.02%	0.008%
53	9.159	804	806	809	rVB3	2728	4758	0.02%	0.008%
54	9.366	821	827	836	rBV	599790	1095052	5.70%	1.760%
55	9.523	839	843	847	rVB	19817	35294	0.18%	0.057%
56	9.582	847	849	851	rVB3	4352	5685	0.03%	0.009%
57	9.690	856	860	866	rVV	1762498	3333950	17.34%	5.357%
58	9.769	866	868	873	rVB3	19335	38369	0.20%	0.062%
59	9.858	876	877	879	rBV2	4186	5686	0.03%	0.009%
60	9.936	882	885	889	rVB5	3841	6819	0.04%	0.011%
61	10.015	889	893	900	rBV	349404	599667	3.12%	0.964%
62	10.143	903	906	908	rBV3	4759	8583	0.04%	0.014%
63	10.222	908	914	920	rVV	95300	220613	1.15%	0.355%
64	10.320	920	924	931	rVV	5041362	8830921	45.94%	14.191%
65	10.429	931	935	951	rVB	1717664	2990248	15.55%	4.805%
66	10.655	956	958	960	rVB3	4368	7745	0.04%	0.012%
67	10.763	968	969	974	rVB5	4859	9701	0.05%	0.016%
68	10.832	974	976	981	rBV6	5715	16319	0.08%	0.026%
69	11.157	1005	1009	1011	rBV5	2834	7126	0.04%	0.011%
70	11.216	1011	1015	1026	rBV	1789563	2985278	15.53%	4.797%
71	11.354	1026	1029	1033	rVB4	11032	23674	0.12%	0.038%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049241.D
Acq On : 4 May 2016 23:08
Operator : FY/SY
Sample : H2834-09
Misc : 25mL/MSVOA I/WATER
ALS Vial : 23 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4132

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.472	1038	1041	1046	rVB6	8702	18228	0.09%	0.029%
73	11.560	1048	1050	1052	rBV3	3495	4546	0.02%	0.007%
74	11.797	1070	1074	1076	rBV5	5305	12798	0.07%	0.021%
75	11.846	1076	1079	1085	rVB7	6995	18653	0.10%	0.030%
76	12.082	1100	1103	1104	rVB2	5279	8568	0.04%	0.014%
77	12.102	1104	1105	1107	rBV2	3331	4754	0.02%	0.008%
78	12.190	1111	1114	1115	rBV2	4479	5766	0.03%	0.009%
79	12.289	1122	1124	1126	rVB3	4433	6086	0.03%	0.010%
80	12.407	1131	1136	1138	rBV2	82795	165687	0.86%	0.266%
81	12.456	1138	1141	1148	rVB	405796	729454	3.79%	1.172%
82	12.633	1156	1159	1160	rBV3	3603	5860	0.03%	0.009%
83	12.741	1166	1170	1174	rVB7	3870	11225	0.06%	0.018%
84	12.860	1177	1182	1184	rBV5	4039	8104	0.04%	0.013%
85	12.948	1188	1191	1194	rBV5	3226	7369	0.04%	0.012%
86	13.007	1194	1197	1198	rBV3	3991	6320	0.03%	0.010%
87	13.115	1204	1208	1210	rBV4	5167	9491	0.05%	0.015%
88	13.224	1217	1219	1222	rBV4	4020	5589	0.03%	0.009%
89	13.361	1229	1233	1235	rBV4	6686	17423	0.09%	0.028%
90	13.430	1235	1240	1249	rBV	1402466	2303193	11.98%	3.701%
91	13.548	1250	1252	1256	rVB5	4215	6703	0.03%	0.011%
92	13.617	1257	1259	1262	rBV4	4444	7274	0.04%	0.012%
93	13.667	1262	1264	1268	rVB5	4448	6805	0.04%	0.011%
94	13.755	1269	1273	1280	rBV	1134486	1911703	9.94%	3.072%
95	13.962	1292	1294	1297	rBV4	3511	7761	0.04%	0.012%
96	14.031	1297	1301	1308	rVV	66834	120607	0.63%	0.194%
97	14.129	1310	1311	1313	rBV2	4524	6211	0.03%	0.010%
98	14.562	1353	1355	1357	rVV3	5884	9231	0.05%	0.015%
99	14.818	1379	1381	1382	rBV2	7749	9750	0.05%	0.016%
100	15.605	1458	1461	1466	rBV	21280	50438	0.26%	0.081%

Sum of corrected areas: 62230933

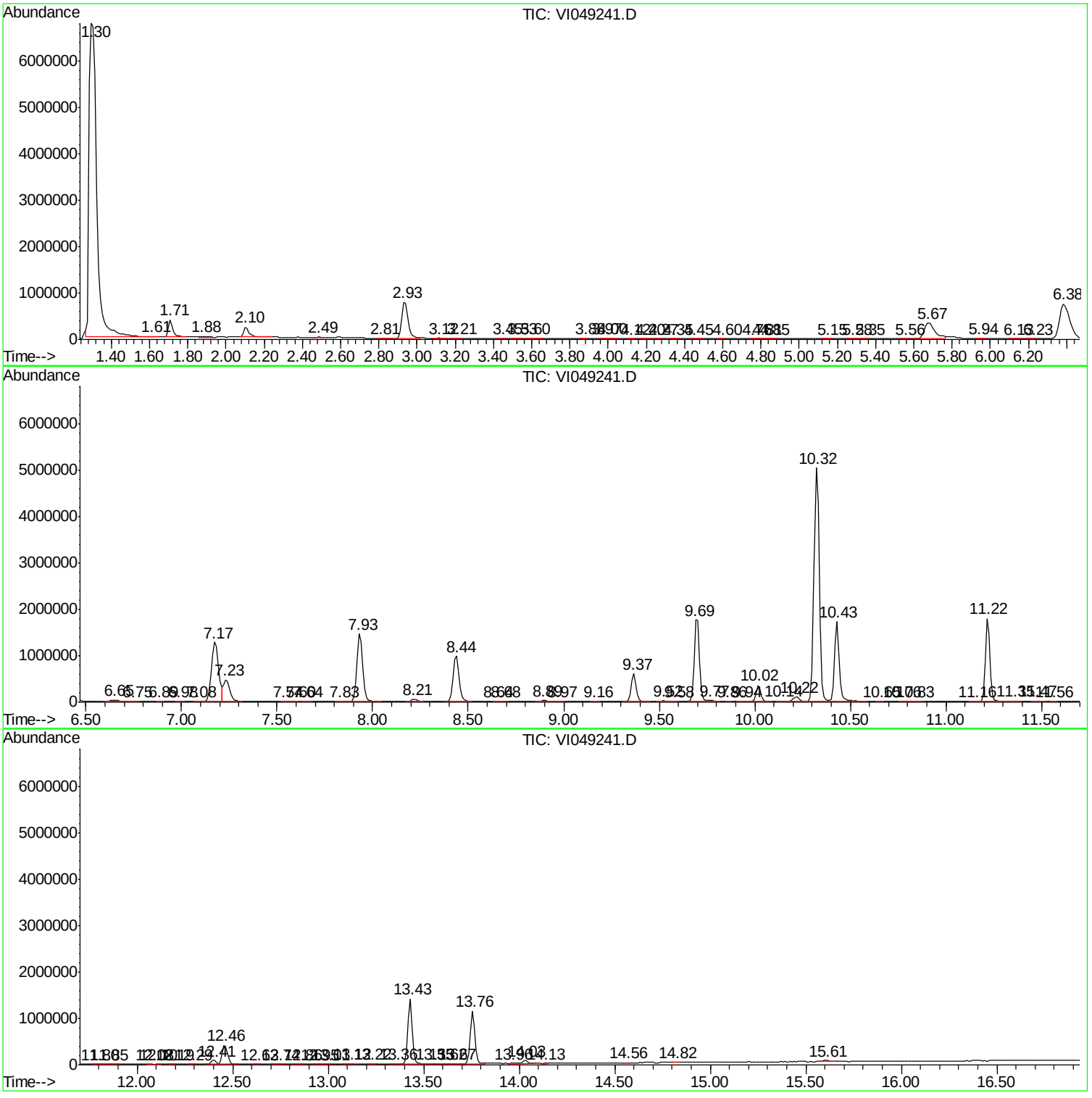
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049241.D
Acq On : 4 May 2016 23:08
Operator : FY/SY
Sample : H2834-09
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 23 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4132

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049241.D
Acq On : 4 May 2016 23:08
Operator : FY/SY
Sample : H2834-09
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 23 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4132

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

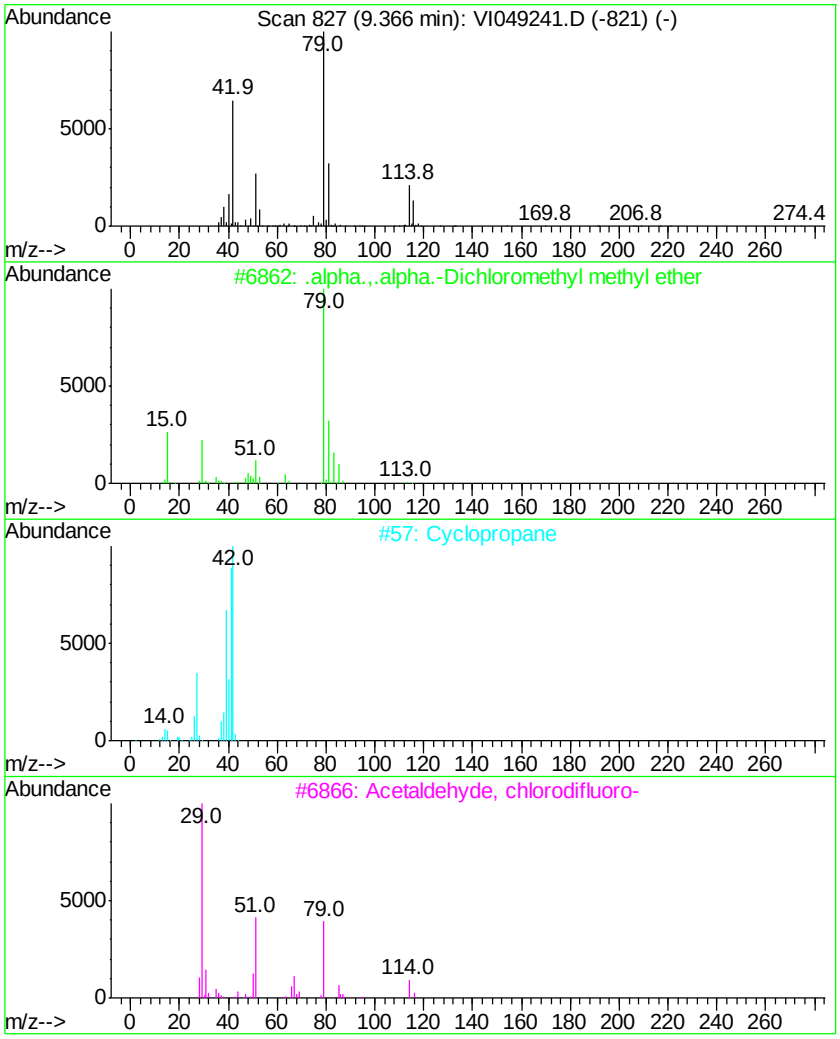
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

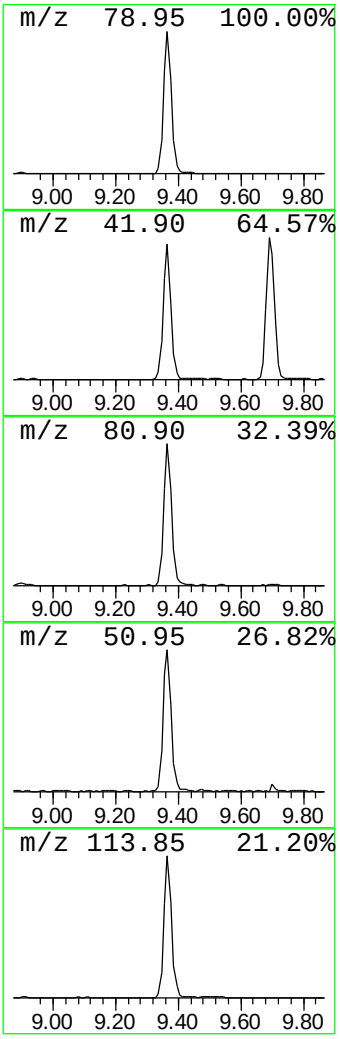
****

Peak Number 2 unknown-01 Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.37	1.73 ug/L	1095050	1,4-Difluorobenzene	7.93

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	.alpha.,.alpha.-Dichloromethyl m...	114	C2H4Cl2O	004885-02-3	17
2	Cyclopropane	42	C3H6	000075-19-4	9
3	Acetaldehyde, chlorodifluoro-	114	C2HClF2O	000811-96-1	7
4	2,3-Butanedione, dioxime	116	C4H8N2O2	000095-45-4	7
5	Cyclopropane	42	C3H6	000075-19-4	7





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049241.D
Acq On : 4 May 2016 23:08
Operator : FY/SY
Sample : H2834-09
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 23 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4132

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
unknown-01	9.37	1.7	ug/L	1095050	1	7.93	3168130	5.0

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4133

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-10
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049242.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.89	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.10	J

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4133

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-10
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049242.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.10	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	4.1	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4133

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-10
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049242.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4133

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-10
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049242.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1		unknown-01	9.36	1.8	J
2	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

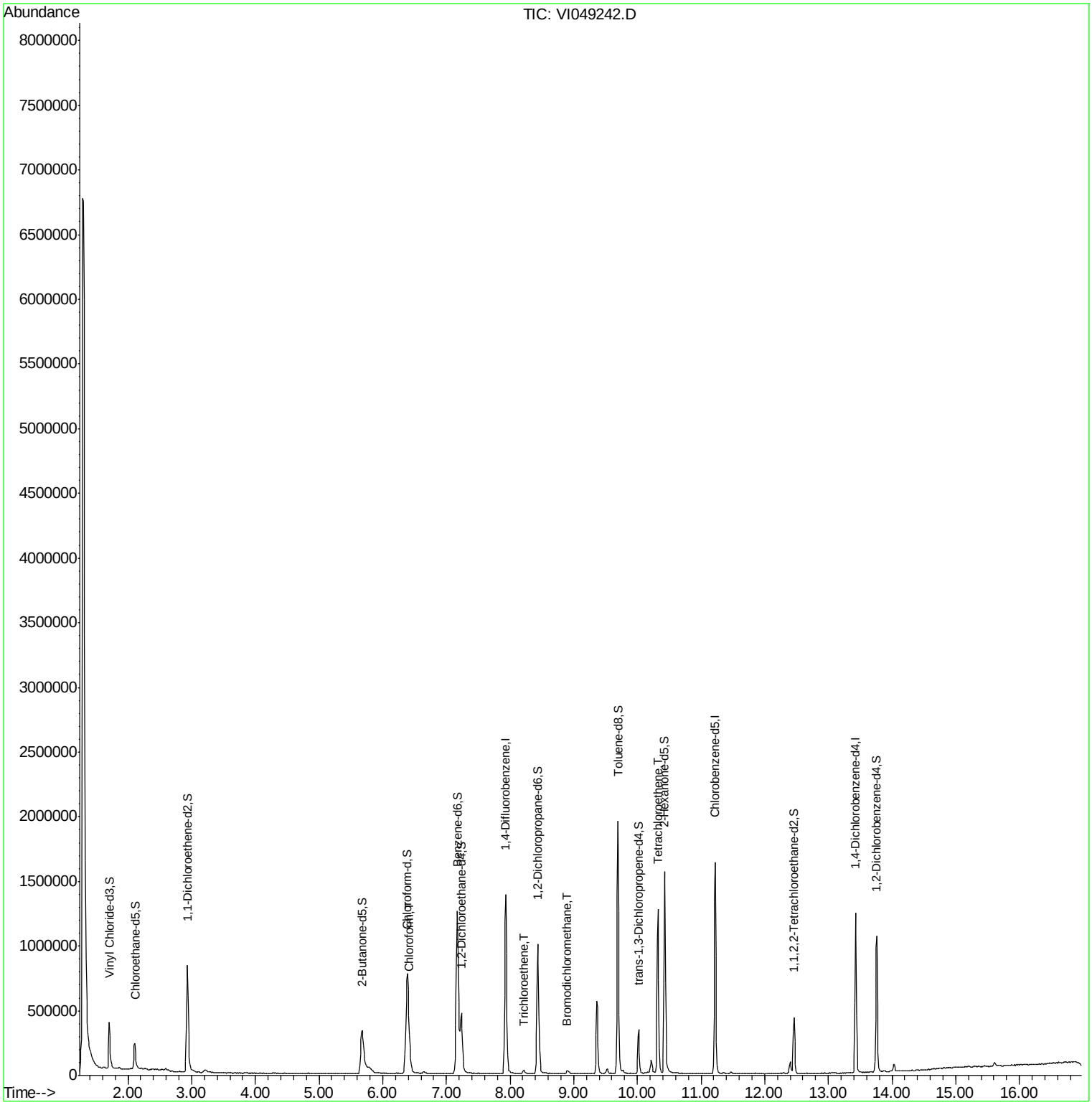
Quantitation Report (QT/LSC Reviewed)

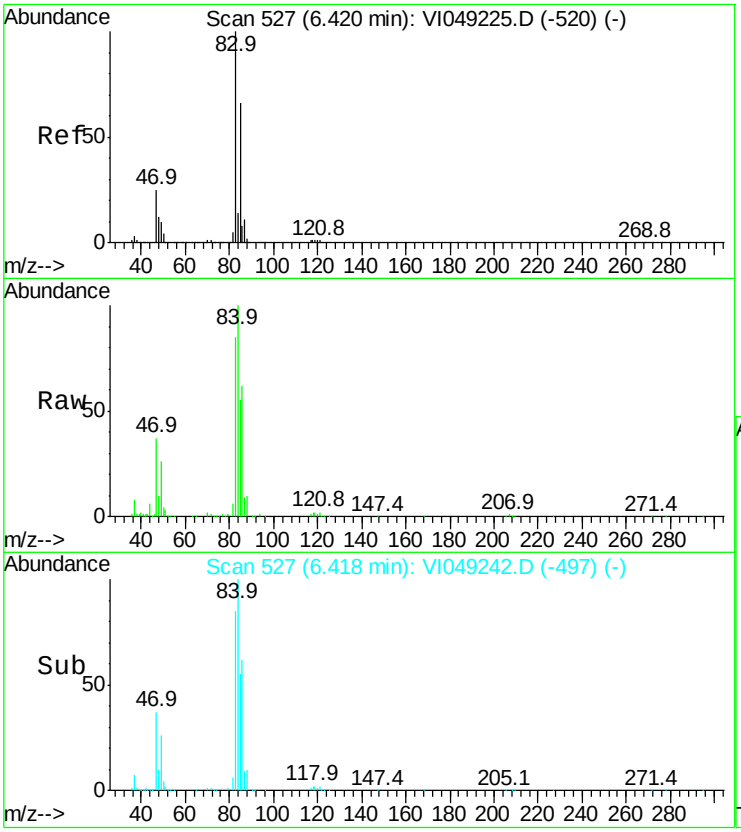
Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 05 06:55:50 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4133

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:20 AM

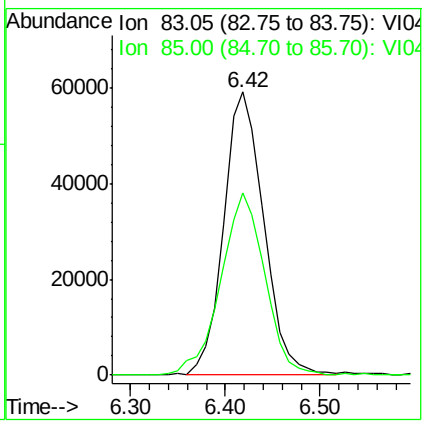




#25
Chloroform
Concen: 0.89 ug/L
RT: 6.42 min Scan# 527
Delta R.T. -0.00 min
Lab File: VI049242.D
Acq: 4 May 2016 23:40

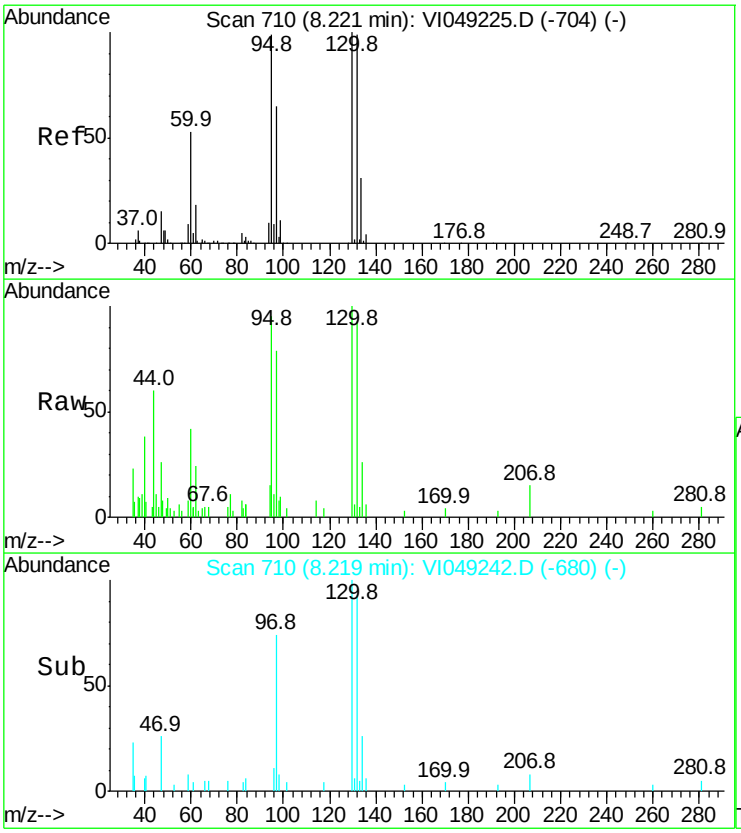
Tgt Ion: 83 Resp: 173197

Ion	Ratio	Lower	Upper
83	100		
85	64.2	47.3	87.8



Instrument :
MSVOA_I
ClientSampleId :
H4133

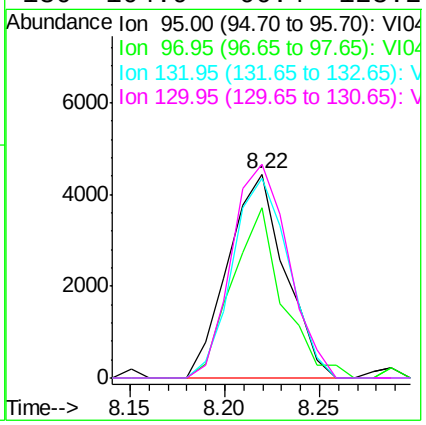
Manual Integrations APPROVED
mohammad
5/5/2016 9:01:20 AM

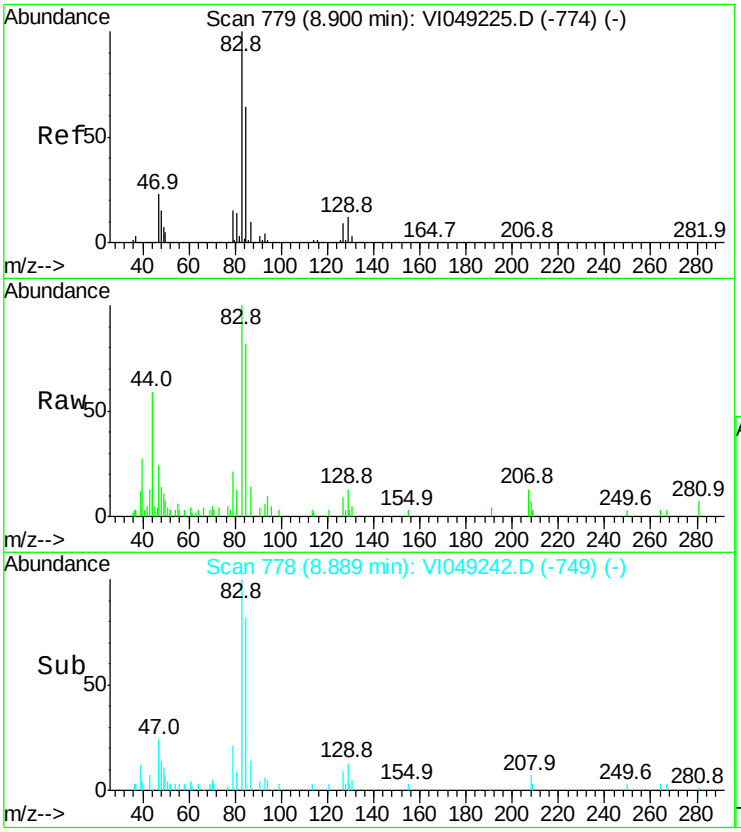


#34
Trichloroethene
Concen: 0.10 ug/L
RT: 8.22 min Scan# 710
Delta R.T. -0.00 min
Lab File: VI049242.D
Acq: 4 May 2016 23:40

Tgt Ion: 95 Resp: 9257

Ion	Ratio	Lower	Upper
95	100		
97	83.3	45.8	85.2
132	98.0	63.9	118.7
130	104.9	66.4	123.2

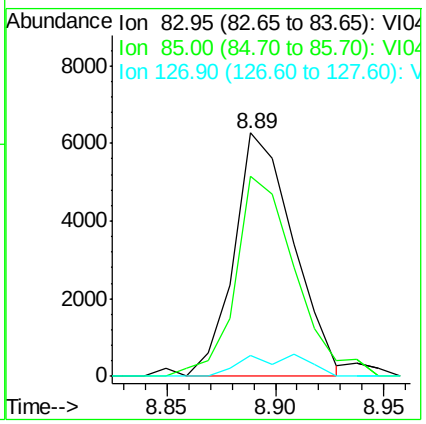




#38
Bromodichloromethane
Concen: 0.10 ug/L
RT: 8.89 min Scan# 778
Delta R.T. -0.01 min
Lab File: VI049242.D
Acq: 4 May 2016 23:40

Tgt Ion: 83 Resp: 11941

Ion	Ratio	Lower	Upper
83	100		
85	82.3	44.7	83.1
127	8.5	6.6	9.8



Instrument :
MSVOA_I
ClientSampleId :
H4133

Manual Integrations APPROVED
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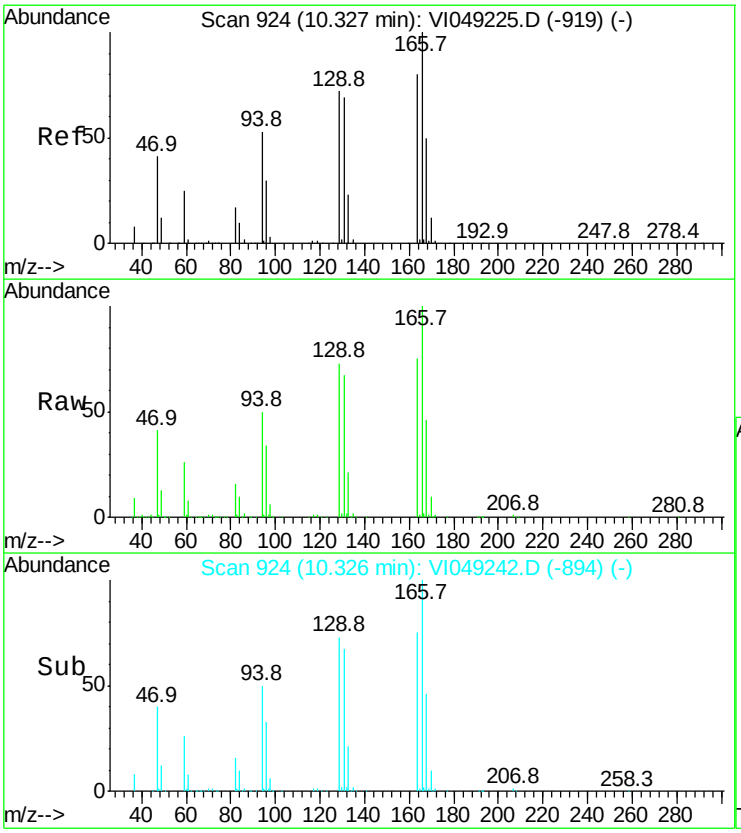
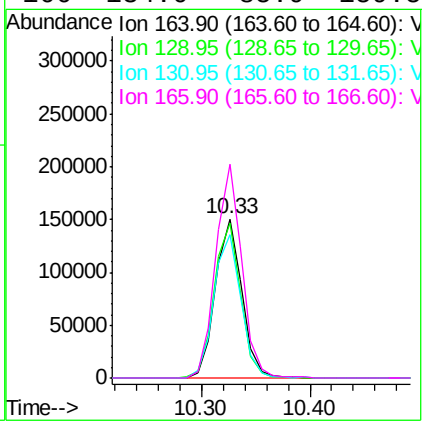
5/5/2016 9:01:20 AM



#47
Tetrachloroethene
Concen: 4.10 ug/L
RT: 10.33 min Scan# 924
Delta R.T. -0.00 min
Lab File: VI049242.D
Acq: 4 May 2016 23:40

Tgt Ion:164 Resp: 257031

Ion	Ratio	Lower	Upper
164	100		
129	97.2	62.1	115.3
131	90.0	60.6	112.6
166	134.0	85.9	159.5



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 05 06:55:50 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4133

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:20 AM

Internal Standards		R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene		7.93	114	1212193	5.00	ug/L	0.00
28) Chlorobenzene-d5		11.22	117	802516	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4		13.44	152	282267	5.00	ug/L	0.00
System Monitoring Compounds							
4) Vinyl Chloride-d3		1.70	65	370935	4.97	ug/L	0.00
Spiked Amount	5.000	Range	40 - 130	Recovery	=	99.40%	
7) Chloroethane-d5		2.11	69	229046m	5.54	ug/L	0.00
Spiked Amount	5.000	Range	65 - 130	Recovery	=	110.80%	
11) 1,1-Dichloroethene-d2		2.93	63	654302	3.72	ug/L	0.00
Spiked Amount	5.000	Range	60 - 125	Recovery	=	74.40%	
20) 2-Butanone-d5		5.68	46	854033	52.86	ug/L	0.00
Spiked Amount	50.000	Range	40 - 130	Recovery	=	105.72%	
24) Chloroform-d		6.38	84	937435	4.94	ug/L	-0.01
Spiked Amount	5.000	Range	70 - 125	Recovery	=	98.80%	
26) 1,2-Dichloroethane-d4		7.24	65	413028	5.32	ug/L	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	106.40%	
32) Benzene-d6		7.18	84	1629164	5.21	ug/L	0.00
Spiked Amount	5.000	Range	70 - 125	Recovery	=	104.20%	
36) 1,2-Dichloropropane-d6		8.44	67	454199	5.17	ug/L	0.00
Spiked Amount	5.000	Range	60 - 140	Recovery	=	103.40%	
41) Toluene-d8		9.70	98	1155830	5.01	ug/L	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	100.20%	
43) trans-1,3-Dichloropropene-		10.02	79	164043	4.74	ug/L	0.00
Spiked Amount	5.000	Range	55 - 130	Recovery	=	94.80%	
46) 2-Hexanone-d5		10.42	63	558375	51.11	ug/L	0.00
Spiked Amount	50.000	Range	45 - 130	Recovery	=	102.22%	
57) 1,1,2,2-Tetrachloroethane-		12.46	84	190718	4.77	ug/L	0.00
Spiked Amount	5.000	Range	65 - 120	Recovery	=	95.40%	
63) 1,2-Dichlorobenzene-d4		13.76	152	245887	4.97	ug/L	0.00
Spiked Amount	5.000	Range	80 - 120	Recovery	=	99.40%	
Target Compounds							Qvalue
25) Chloroform		6.42	83	173197	0.89	ug/L	96
34) Trichloroethene		8.22	95	9257	0.10	ug/L	88
38) Bromodichloromethane		8.89	83	11941	0.10	ug/L	79
47) Tetrachloroethene		10.33	164	257031	4.10	ug/L	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA I/WATER
ALS Vial : 24 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4133

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.291	3	6	31	rVB	6717118	19150830	100.00%	34.828%
2	1.704	45	48	58	rBV	353433	591008	3.09%	1.075%
3	2.107	85	89	97	rBV	197647	414691	2.17%	0.754%
4	2.521	129	131	132	rVV2	6761	7397	0.04%	0.013%
5	2.590	136	138	146	rVB4	24898	66589	0.35%	0.121%
6	2.806	158	160	163	rVB3	7533	12016	0.06%	0.022%
7	2.934	168	173	188	rVB	824420	1857519	9.70%	3.378%
8	3.210	195	201	207	rBV2	17741	62016	0.32%	0.113%
9	3.328	212	213	216	rVB3	4902	6198	0.03%	0.011%
10	3.594	237	240	242	rVV3	5020	10220	0.05%	0.019%
11	3.682	246	249	251	rVB4	3266	6445	0.03%	0.012%
12	3.761	254	257	258	rBV3	4712	7202	0.04%	0.013%
13	3.840	261	265	266	rBV4	2938	5353	0.03%	0.010%
14	3.869	266	268	270	rVB3	4906	6949	0.04%	0.013%
15	3.948	273	276	278	rVB4	3395	5689	0.03%	0.010%
16	4.086	286	290	293	rBV5	2648	4419	0.02%	0.008%
17	4.125	293	294	298	rVB3	4744	6299	0.03%	0.011%
18	4.312	311	313	316	rVV4	2522	4403	0.02%	0.008%
19	4.460	325	328	331	rBV5	5002	7268	0.04%	0.013%
20	4.538	334	336	337	rBV2	5283	7182	0.04%	0.013%
21	4.834	364	366	368	rBV2	4668	5757	0.03%	0.010%
22	4.893	369	372	375	rVB4	5192	9320	0.05%	0.017%
23	4.971	377	380	383	rBV5	4147	6705	0.04%	0.012%
24	5.473	429	431	433	rBV3	2531	4345	0.02%	0.008%
25	5.542	435	438	439	rVB2	3173	4441	0.02%	0.008%
26	5.680	444	452	460	rBV	335171	1281806	6.69%	2.331%
27	6.143	496	499	501	rVB3	4035	7493	0.04%	0.014%
28	6.221	501	507	508	rBV4	4941	12808	0.07%	0.023%
29	6.389	516	524	545	rBV2	772085	2646136	13.82%	4.812%
30	6.645	547	550	558	rVB6	14324	45777	0.24%	0.083%
31	6.753	558	561	563	rBV4	2686	5092	0.03%	0.009%
32	6.812	565	567	568	rVB2	4716	4334	0.02%	0.008%
33	7.038	587	590	591	rBV	3414	5672	0.03%	0.010%
34	7.176	597	604	608	rBV	1255460	3530405	18.43%	6.421%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA I/WATER
ALS Vial : 24 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4133

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	7.235	608	610	620	rVB	460243	944286	4.93%	1.717%
36	7.501	635	637	639	rVB3	3669	5220	0.03%	0.009%
37	7.560	641	643	644	rVB2	3905	4322	0.02%	0.008%
38	7.619	646	649	650	rBV4	3956	5547	0.03%	0.010%
39	7.757	661	663	668	rVB4	4325	10059	0.05%	0.018%
40	7.826	668	670	675	rBV4	2289	5349	0.03%	0.010%
41	7.934	675	681	691	rBV	1384211	2949614	15.40%	5.364%
42	8.219	704	710	715	rVB3	27971	67444	0.35%	0.123%
43	8.357	723	724	726	rBV2	3816	5408	0.03%	0.010%
44	8.436	726	732	741	rBV	998793	2178129	11.37%	3.961%
45	8.544	741	743	745	rVV3	8778	16022	0.08%	0.029%
46	8.623	749	751	757	rVB7	4530	10592	0.06%	0.019%
47	8.711	757	760	762	rVB3	4458	7941	0.04%	0.014%
48	8.839	771	773	775	rVB3	4951	6728	0.04%	0.012%
49	8.898	775	779	785	rBV5	26737	84281	0.44%	0.153%
50	9.056	794	795	797	rBV2	3987	5629	0.03%	0.010%
51	9.223	810	812	815	rBV3	5136	7700	0.04%	0.014%
52	9.361	822	826	834	rVV	559000	1061783	5.54%	1.931%
53	9.528	838	843	846	rVV	37697	76907	0.40%	0.140%
54	9.578	846	848	851	rVV3	4230	6426	0.03%	0.012%
55	9.696	855	860	865	rVV	1955283	3361771	17.55%	6.114%
56	9.774	866	868	873	rVV2	25005	50566	0.26%	0.092%
57	9.892	877	880	881	rVV3	4918	6485	0.03%	0.012%
58	10.020	888	893	900	rBV	340117	602870	3.15%	1.096%
59	10.119	900	903	904	rVV3	6086	9785	0.05%	0.018%
60	10.217	904	913	917	rVV	103094	251755	1.31%	0.458%
61	10.326	919	924	930	rVV	1272649	2245165	11.72%	4.083%
62	10.424	930	934	949	rVV	1558467	3000294	15.67%	5.456%
63	10.601	951	952	954	rVV2	7293	10057	0.05%	0.018%
64	10.640	954	956	958	rVB3	4885	6757	0.04%	0.012%
65	10.700	960	962	964	rVB3	3397	4466	0.02%	0.008%
66	10.955	986	988	991	rVB4	3565	5833	0.03%	0.011%
67	11.014	991	994	996	rBV3	2344	4382	0.02%	0.008%
68	11.142	1005	1007	1010	rVB4	2447	5121	0.03%	0.009%
69	11.221	1010	1015	1024	rBV	1638226	2808998	14.67%	5.109%
70	11.359	1026	1029	1031	rVB3	9867	17914	0.09%	0.033%
71	11.467	1037	1040	1045	rBV5	13587	24734	0.13%	0.045%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA I/WATER
ALS Vial : 24 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4133

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.605	1052	1054	1057	rVB4	3490	5988	0.03%	0.011%
73	11.822	1073	1076	1077	rBV3	5067	7882	0.04%	0.014%
74	11.851	1077	1079	1086	rVB5	6870	18710	0.10%	0.034%
75	12.058	1096	1100	1102	rBV4	3591	8323	0.04%	0.015%
76	12.097	1102	1104	1106	rVB3	4421	4750	0.02%	0.009%
77	12.136	1106	1108	1111	rBV3	3940	7116	0.04%	0.013%
78	12.195	1111	1114	1118	rBV4	3794	8009	0.04%	0.015%
79	12.255	1118	1120	1122	rBV3	4806	8165	0.04%	0.015%
80	12.284	1122	1123	1128	rVB5	7638	14695	0.08%	0.027%
81	12.402	1128	1135	1138	rBV2	95126	195055	1.02%	0.355%
82	12.461	1138	1141	1148	rVB	433773	705234	3.68%	1.283%
83	12.609	1152	1156	1158	rVB5	3396	6293	0.03%	0.011%
84	12.658	1158	1161	1162	rBV3	3848	5027	0.03%	0.009%
85	12.894	1182	1185	1188	rVB3	5326	7356	0.04%	0.013%
86	12.943	1188	1190	1192	rBV3	3868	7054	0.04%	0.013%
87	13.052	1199	1201	1202	rBV2	3239	5045	0.03%	0.009%
88	13.121	1207	1208	1212	rVB4	4346	4477	0.02%	0.008%
89	13.367	1230	1233	1235	rBV4	3731	10182	0.05%	0.019%
90	13.426	1235	1239	1245	rBV	1232941	2109247	11.01%	3.836%
91	13.623	1255	1259	1260	rVB3	4849	9093	0.05%	0.017%
92	13.652	1260	1262	1263	rBV2	5454	7442	0.04%	0.014%
93	13.682	1263	1265	1267	rVB3	4684	6211	0.03%	0.011%
94	13.760	1268	1273	1280	rVV	1050324	1912324	9.99%	3.478%
95	13.869	1282	1284	1285	rBV2	4814	7387	0.04%	0.013%
96	13.977	1293	1295	1297	rBV3	6737	14518	0.08%	0.026%
97	14.026	1297	1300	1304	rVB2	56427	113335	0.59%	0.206%
98	14.312	1327	1329	1332	rBV4	7222	12308	0.06%	0.022%
99	15.611	1457	1461	1464	rBV2	28128	56871	0.30%	0.103%
100	15.965	1494	1497	1498	rBV3	12615	22091	0.12%	0.040%

Sum of corrected areas: 54986312

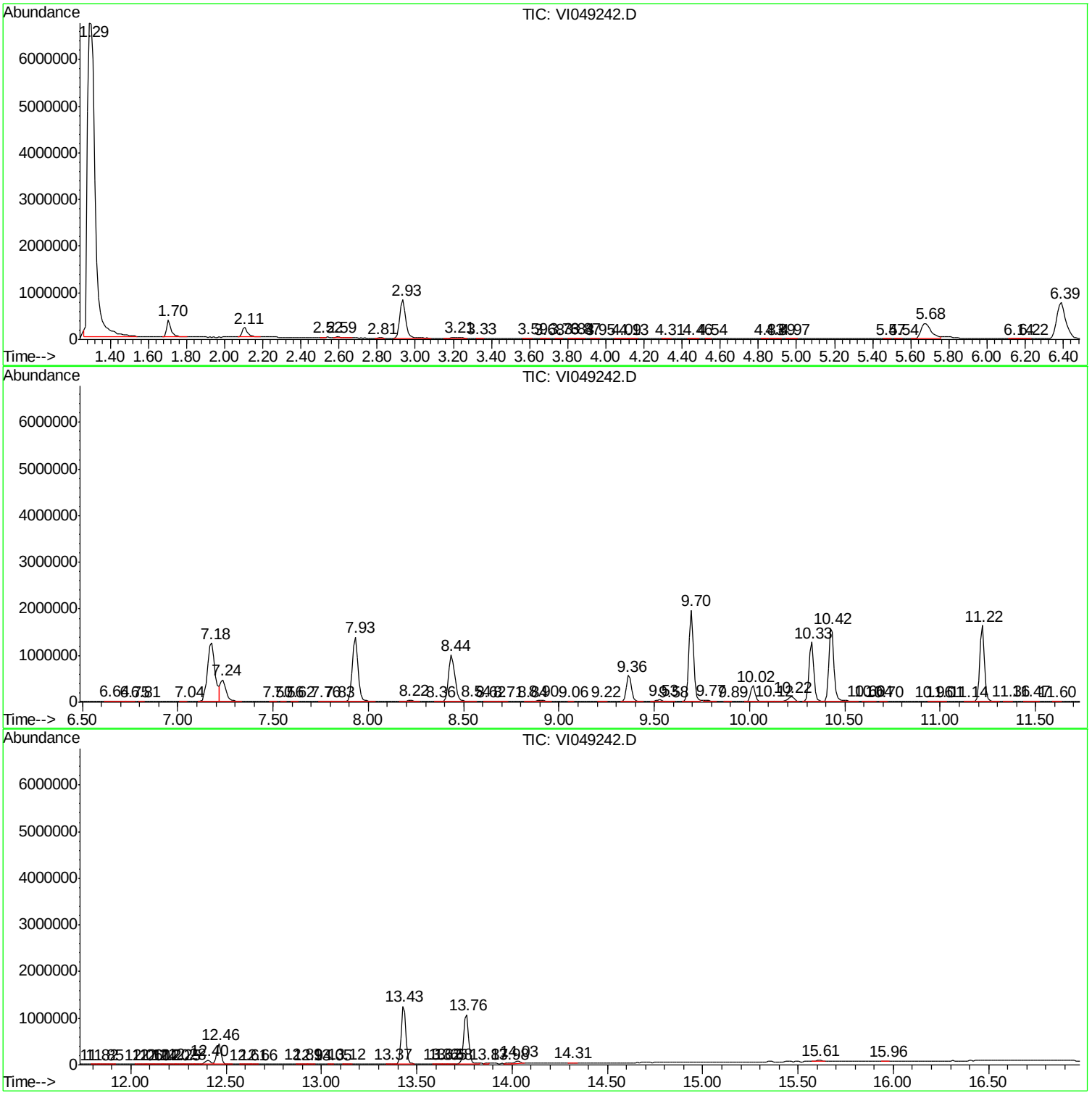
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 24 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4133

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 24 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4133

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

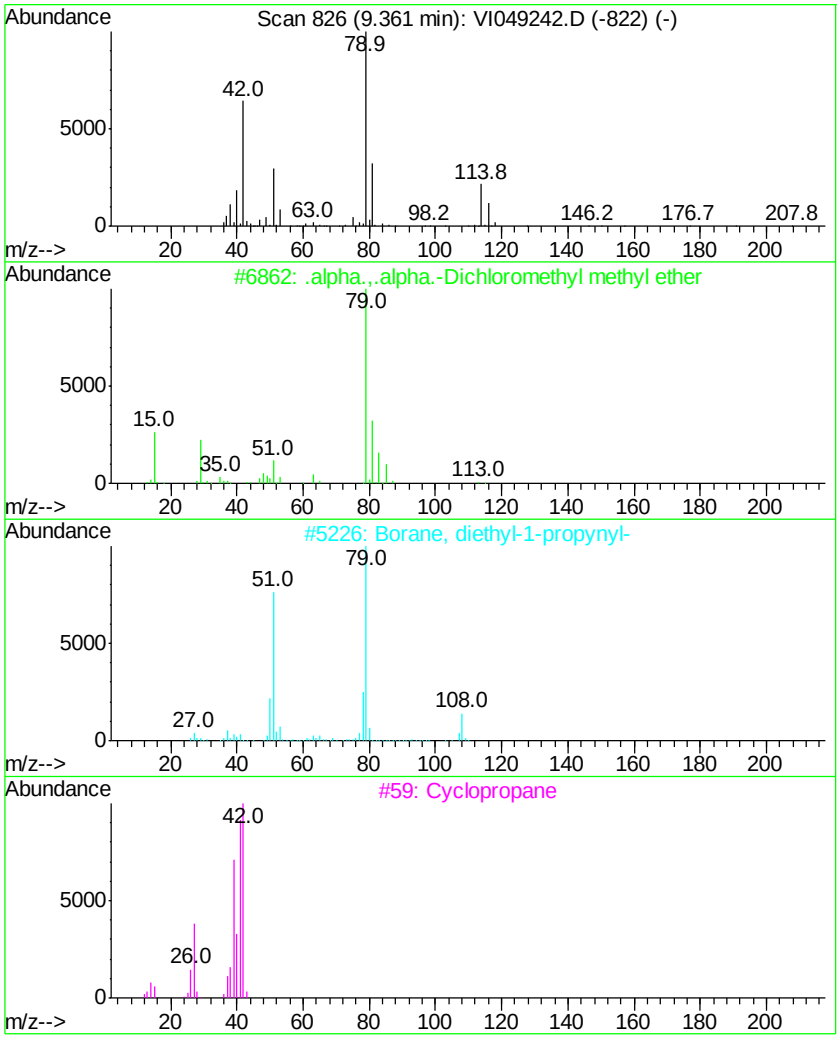
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

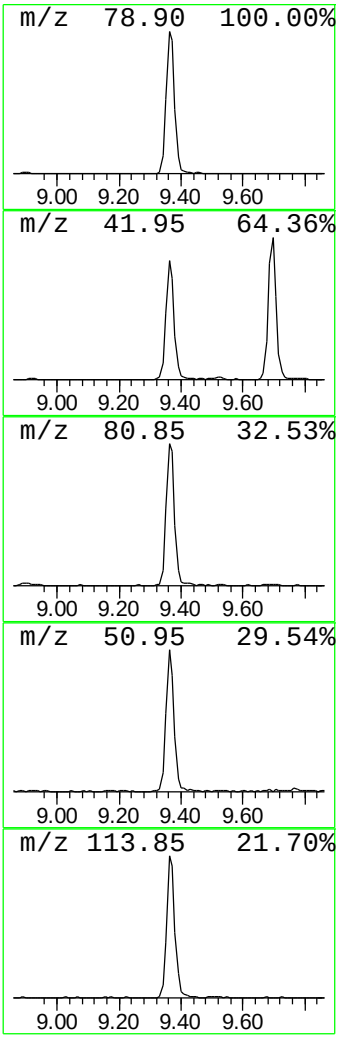
****

Peak Number 2 unknown-01 Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.36	1.80 ug/L	1061780	1,4-Difluorobenzene	7.93

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	.alpha.,.alpha.-Dichloromethyl m...	114	C2H4Cl2O	004885-02-3	9
2	Borane, diethyl-1-propynyl-	108	C7H13B	022405-32-9	9
3	Cyclopropane	42	C3H6	000075-19-4	9
4	Cyclopropane	42	C3H6	000075-19-4	9
5	.beta.-Butyrolactone	86	C4H6O2	003068-88-0	7





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 24 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4133

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
unknown-01	9.36	1.8	ug/L	1061780	1	7.93	2949610	5.0

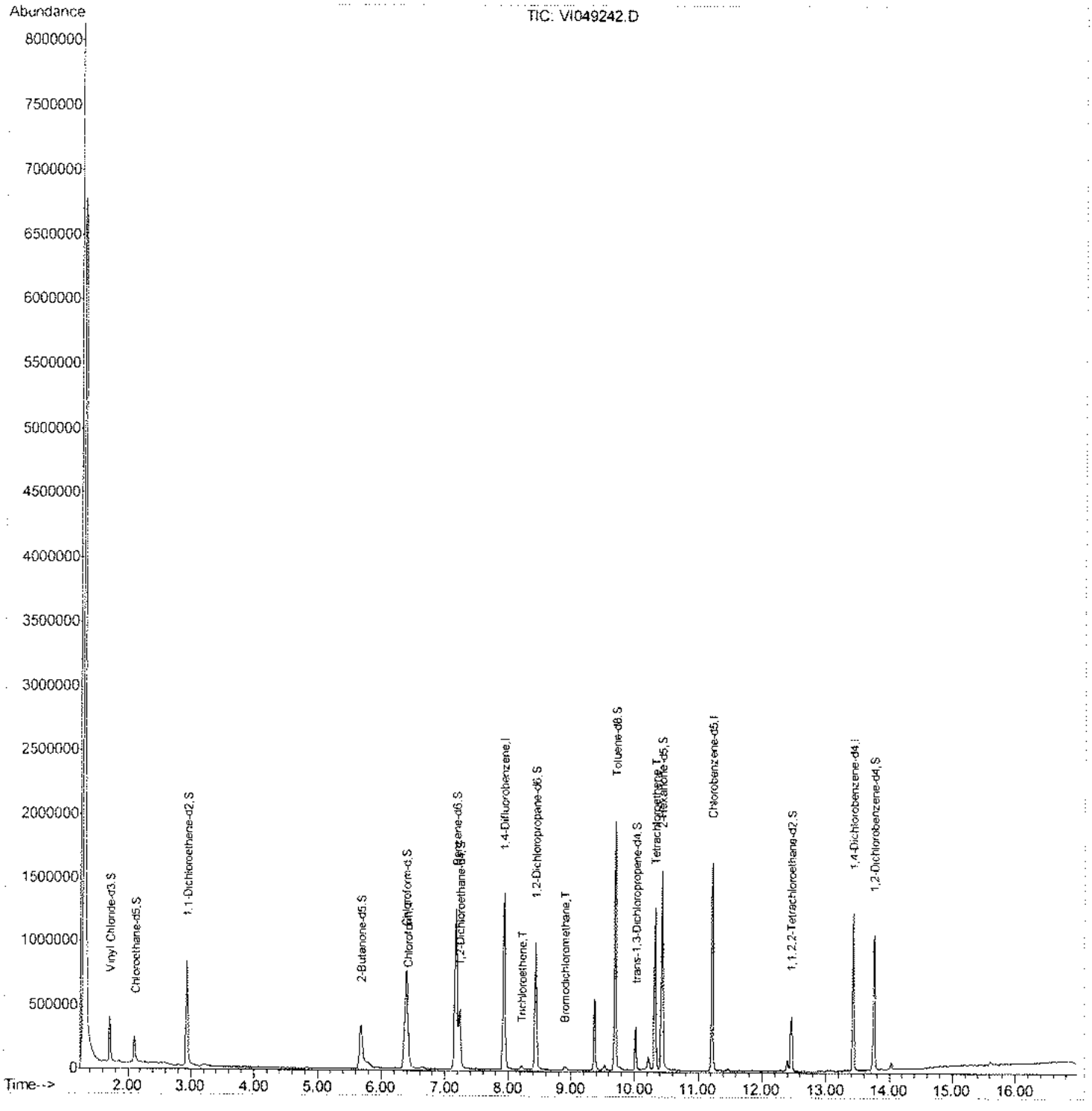
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 05 06:55:50 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4133

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:20 AM



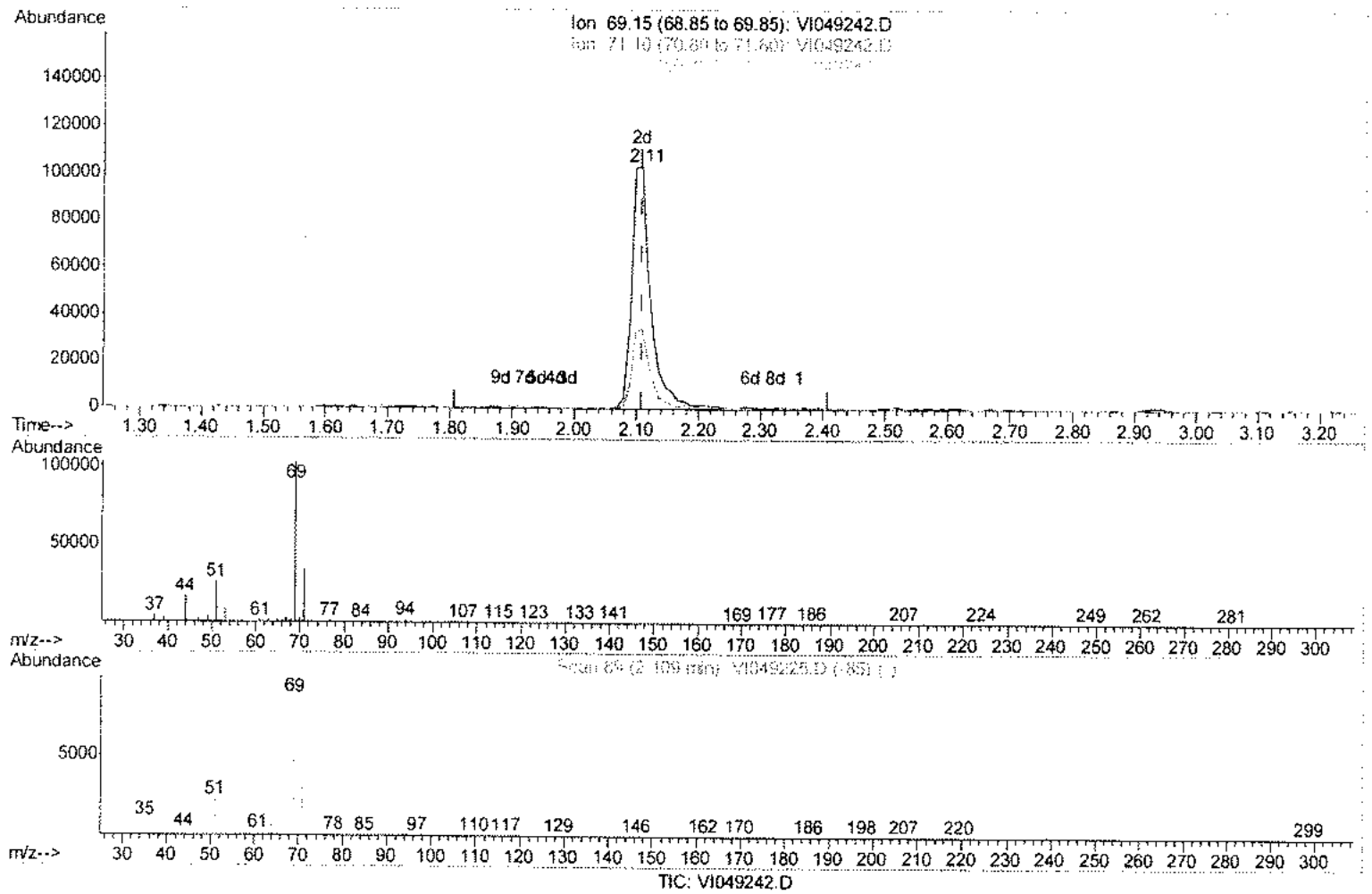
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 05 05:25:01 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4133

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:20 AM



TIC: VI049242.D

(7) Chloroethane-d5 (S)

2.107min (-0.001) 5.54ug/L m

response 229046

M.D 05/07/16

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	0.18#
51.05	32.70	0.14#
0.00	0.00	0.00

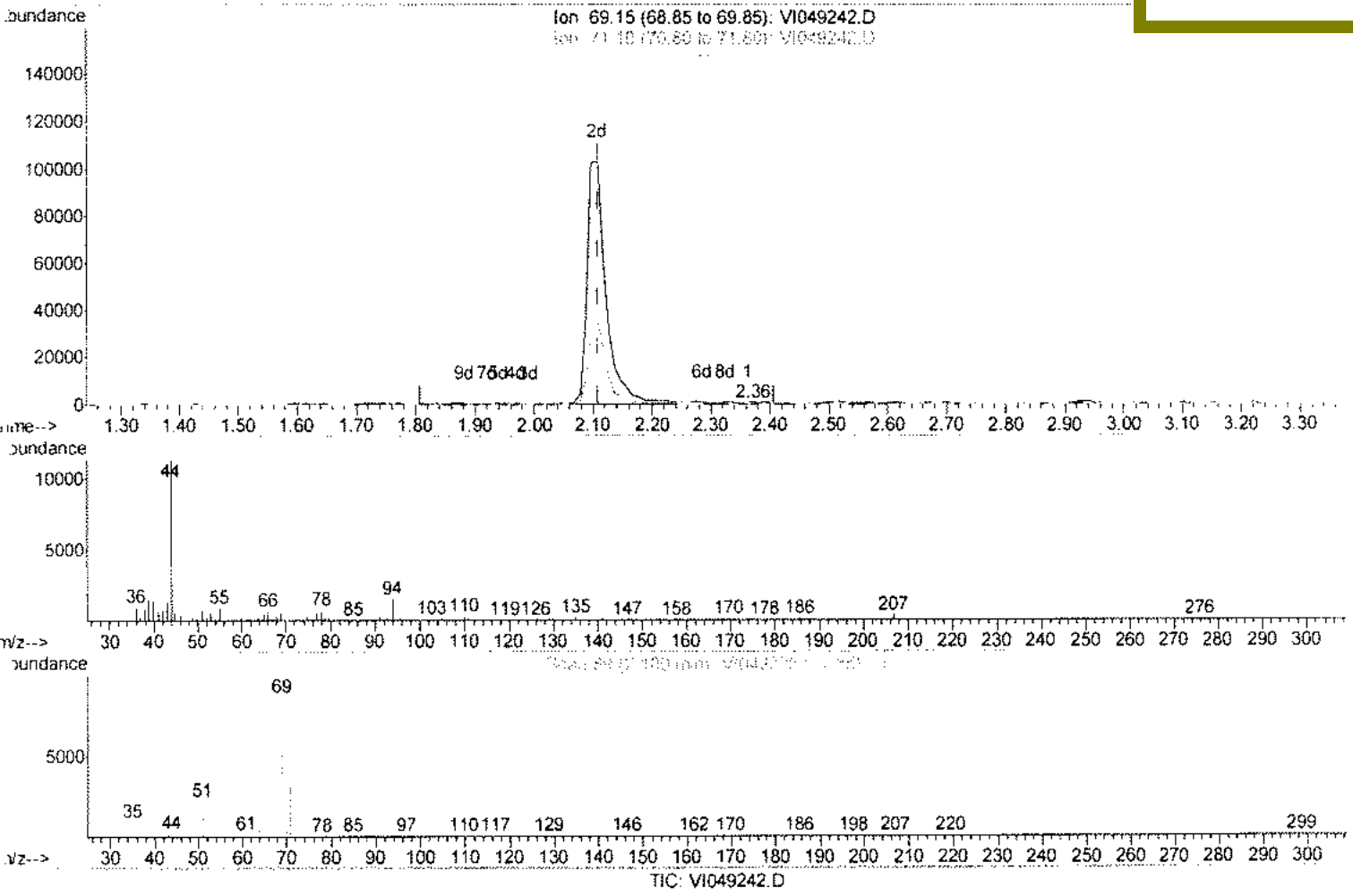
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 05 05:25:01 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
H4133

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:20 AM



(7) Chloroethane-d5 (S)

2.363min (+0.255) 0.02ug/L

response 1016

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	41.24
51.05	32.70	30.61
0.00	0.00	0.00

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049242.D
Acq On : 4 May 2016 23:40
Operator : FY/SY
Sample : H2834-10
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 05 06:55:50 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : H4133

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:20 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1212193	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	802516	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	282267	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.70	65	370935	4.97	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 99.40%			
7) Chloroethane-d5	2.11	69	229046m	5.54	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 110.80%			
11) 1,1-Dichloroethene-d2	2.93	63	654302	3.72	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 74.40%			
20) 2-Butanone-d5	5.68	46	854033	52.86	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 105.72%			
24) Chloroform-d	6.38	84	937435	4.94	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.80%			
26) 1,2-Dichloroethane-d4	7.24	65	413028	5.32	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.40%			
32) Benzene-d6	7.18	84	1629164	5.21	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 104.20%			
36) 1,2-Dichloropropane-d6	8.44	67	454199	5.17	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 103.40%			
41) Toluene-d8	9.70	98	1155830	5.01	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.20%			
43) trans-1,3-Dichloropropene-	10.02	79	164043	4.74	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 94.80%			
46) 2-Hexanone-d5	10.42	63	558375	51.11	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 102.22%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	190718	4.77	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 95.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	245887	4.97	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 99.40%			
Target Compounds						Qvalue
25) Chloroform	6.42	83	173197	0.89	ug/L	96
34) Trichloroethene	8.22	95	9257	0.10	ug/L	88
38) Bromodichloromethane	8.89	83	11941	0.10	ug/L	79
47) Tetrachloroethene	10.33	164	257031	4.10	ug/L	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FM.D 05/07/16

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : Trace VOA Level :

Instrument ID: MSVOA_I Calibration Date(s): 05/04/2016 05/04/2016

GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 11:27 13:33

Length : 30 (m)

Heated Purge: (Y/N): N Purge Volume : 25 (mL)

LAB FILE ID: RRF0.5 = VI049220.D RRF1.0 = VI049221.D
RRF5.0 = VI049222.D RRF10 = VI049223.D RRF20 = VI049224.D

ANALYTE	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.538	0.547	0.574	0.556	0.601	0.563	4.4
Chloromethane	0.493	0.504	0.475	0.470	0.469	0.482	3.2
Vinyl chloride	0.321	0.358	0.339	0.328	0.340	0.337	4.1
Bromomethane	0.200	0.198	0.157	0.144	0.117	0.163	22
Chloroethane	0.146	0.171	0.149	0.134	0.120	0.144	13.2
Trichlorofluoromethane	0.468	0.496	0.470	0.459	0.462	0.471	3.1
1,1-Dichloroethene	0.384	0.433	0.405	0.395	0.401	0.404	4.6
1,1,2-Trichloro-1,2,2-trifluoroetha	0.416	0.419	0.439	0.421	0.461	0.431	4.4
Acetone	0.042	0.036	0.041	0.043	0.045	0.041	8.1
Carbon disulfide	1.391	1.508	1.497	1.445	1.477	1.463	3.2
Methyl Acetate	0.106	0.118	0.119	0.120	0.127	0.118	6.6
Methylene chloride	0.439	0.475	0.440	0.425	0.446	0.445	4.1
trans-1,2-Dichloroethene	0.423	0.465	0.449	0.431	0.462	0.446	4.2
Methyl tert-butyl Ether	0.679	0.759	0.754	0.720	0.775	0.737	5.2
1,1-Dichloroethane	0.720	0.797	0.761	0.728	0.775	0.756	4.2
cis-1,2-Dichloroethene	0.440	0.472	0.458	0.444	0.480	0.459	3.8
2-Butanone	0.066	0.070	0.079	0.077	0.082	0.075	8.8
Bromochloromethane	0.181	0.188	0.184	0.178	0.189	0.184	2.6
Chloroform	0.778	0.854	0.803	0.771	0.815	0.804	4.1
1,1,1-Trichloroethane	0.896	1.076	0.958	0.890	0.926	0.949	8
Cyclohexane	0.783	0.891	0.849	0.799	0.865	0.837	5.4
Carbon tetrachloride	0.773	0.908	0.846	0.793	0.827	0.829	6.3
Benzene	2.033	2.369	2.170	2.042	2.090	2.141	6.5
1,2-Dichloroethane	0.386	0.427	0.406	0.391	0.417	0.405	4.2
Trichloroethene	0.569	0.665	0.592	0.553	0.591	0.594	7.3
Methylcyclohexane	0.681	0.714	0.757	0.722	0.791	0.733	5.8
1,2-Dichloropropane	0.476	0.549	0.505	0.480	0.500	0.502	5.8
Bromodichloromethane	0.669	0.810	0.737	0.698	0.744	0.732	7.3
cis-1,3-Dichloropropene	0.669	0.828	0.743	0.702	0.757	0.740	8.1
4-Methyl-2-pentanone	0.240	0.286	0.271	0.250	0.245	0.258	7.4
Toluene	1.676	1.953	1.825	1.770	1.806	1.806	5.6
trans-1,3-Dichloropropene	0.505	0.582	0.575	0.564	0.609	0.567	6.8

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : Trace VOA Level :

Instrument ID: MSVOA_I Calibration Date(s): 05/04/2016 05/04/2016

GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 11:27 13:33

Length : 30 (m)

Heated Purge: (Y/N): N Purge Volume : 25 (mL)

LAB FILE ID: RRF0.5 = VI049220.D RRF1.0 = VI049221.D
RRF5.0 = VI049222.D RRF10 = VI049223.D RRF20 = VI049224.D

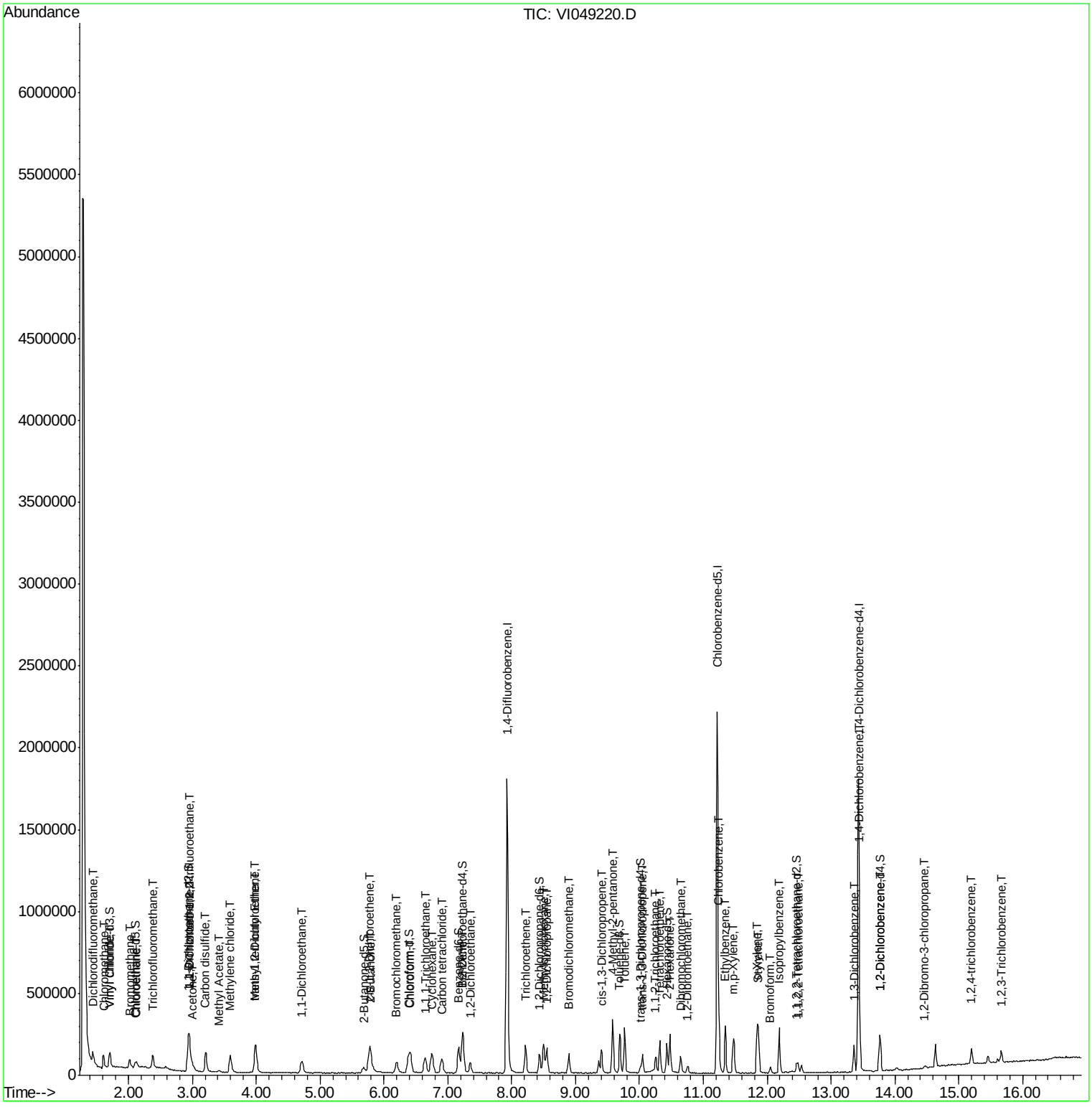
ANALYTE	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	$\overline{RRF}$	% RSD
1,1,2-Trichloroethane	0.231	0.272	0.264	0.256	0.281	0.261	7.3
Tetrachloroethene	0.370	0.406	0.388	0.379	0.408	0.390	4.3
2-Hexanone	0.152	0.188	0.178	0.170	0.176	0.173	7.6
Dibromochloromethane	0.329	0.406	0.402	0.395	0.436	0.393	10
1,2-Dibromoethane	0.238	0.287	0.280	0.264	0.292	0.272	8.1
Chlorobenzene	1.011	1.096	1.100	1.067	1.142	1.083	4.5
Ethylbenzene	1.706	1.812	1.947	1.894	1.973	1.866	5.8
o-Xylene	0.558	0.568	0.655	0.656	0.742	0.636	11.9
m,p-Xylene	0.591	0.626	0.704	0.699	0.780	0.680	10.8
Styrene	0.868	0.950	1.112	1.111	1.232	1.055	13.7
Bromoform	0.390	0.501	0.470	0.466	0.504	0.466	9.9
Isopropylbenzene	1.439	1.487	1.741	1.740	1.833	1.648	10.6
1,1,2,2-Tetrachloroethane	0.238	0.235	0.251	0.248	0.287	0.252	8.2
1,3-Dichlorobenzene	1.574	1.685	1.711	1.692	1.820	1.696	5.1
1,4-Dichlorobenzene	1.707	1.775	1.689	1.715	1.825	1.742	3.2
1,2-Dichlorobenzene	1.294	1.371	1.411	1.406	1.545	1.405	6.5
1,2-Dibromo-3-chloropropane	0.065	0.110	0.078	0.082	0.092	0.086	19.7
1,2,4-trichlorobenzene	0.732	0.603	0.766	0.760	0.892	0.751	13.7
1,2,3-Trichlorobenzene	0.568	0.460	0.549	0.552	0.649	0.556	12.1
Vinyl Chloride-d3	0.303	0.324	0.307	0.316	0.289	0.308	4.3
Chloroethane-d5	0.188	0.202	0.174	0.164	0.124	0.170	17.4
1,1-Dichloroethene-d2	0.713	0.755	0.738	0.729	0.691	0.725	3.4
2-Butanone-d5	0.051	0.066	0.072	0.074	0.071	0.067	13.8
Chloroform-d	0.737	0.815	0.799	0.802	0.761	0.783	4.2
1,2-Dichloroethane-d4	0.312	0.337	0.329	0.325	0.299	0.320	4.7
Benzene-d6	1.834	2.173	2.000	1.949	1.783	1.948	7.9
1,2-Dichloropropane-d6	0.519	0.607	0.558	0.545	0.509	0.548	7
Toluene-d8	1.341	1.543	1.488	1.459	1.354	1.437	6.1
trans-1,3-Dichloropropene-d4	0.181	0.227	0.226	0.226	0.219	0.216	9.2
2-Hexanone-d5	0.055	0.072	0.071	0.071	0.071	0.068	10.6
1,1,2,2-Tetrachloroethane-d2	0.218	0.235	0.256	0.263	0.274	0.249	9
1,2-Dichlorobenzene-d4	0.859	0.849	0.869	0.912	0.893	0.877	2.9

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049220.D
Acq On : 4 May 2016 11:27
Operator : FY/SY
Sample : VSTD0.533
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD0.533

Quant Time: May 04 12:54:48 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 12:58:54 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049220.D
Acq On : 4 May 2016 11:27
Operator : FY/SY
Sample : VSTD0.533
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD0.533

Quant Time: May 04 12:54:48 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 12:58:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1583520	5.00	ug/L		0.00
28) Chlorobenzene-d5	11.22	117	1071757	5.00	ug/L		0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	393159	5.00	ug/L		0.00
System Monitoring Compounds							
4) Vinyl Chloride-d3	1.70	65	47940	0.56	ug/L		-0.01
7) Chloroethane-d5	2.09	69	29838	0.59	ug/L		-0.01
11) 1,1-Dichloroethene-d2	2.93	63	112957	0.52	ug/L		0.00
20) 2-Butanone-d5	5.69	46	80851	4.28	ug/L		0.02
24) Chloroform-d	6.38	84	116714	0.48	ug/L		0.00
26) 1,2-Dichloroethane-d4	7.23	65	49329	0.51	ug/L		0.00
32) Benzene-d6	7.17	84	196516	0.49	ug/L		0.00
36) 1,2-Dichloropropane-d6	8.44	67	55574	0.48	ug/L		0.00
41) Toluene-d8	9.69	98	143683	0.46	ug/L		0.00
43) trans-1,3-Dichloropropene-	10.02	79	19375	0.41	ug/L		0.00
46) 2-Hexanone-d5	10.43	63	59088	3.89	ug/L		0.00
57) 1,1,2,2-Tetrachloroethane-	12.46	84	23375	0.38	ug/L		0.00
63) 1,2-Dichlorobenzene-d4	13.76	152	33778	0.45	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.44	85	85244	0.57	ug/L		97
3) Chloromethane	1.61	50	78014	0.61	ug/L		98
5) Vinyl chloride	1.71	62	50865	0.57	ug/L		94
6) Bromomethane	2.02	94	31645	0.69	ug/L		99
8) Chloroethane	2.12	64	23186	0.57	ug/L		95
9) Trichlorofluoromethane	2.38	101	74151	0.61	ug/L		99
10) 1,1,2-Trichloro-1,2,2-trif	2.96	101	65845	0.57	ug/L		97
12) 1,1-Dichloroethene	2.95	96	60731	0.51	ug/L		95
13) Acetone	3.01	43	65787	6.14	ug/L		92
14) Carbon disulfide	3.21	76	220279	0.50	ug/L		97
15) Methyl Acetate	3.41	43	16711	0.50	ug/L		94
16) Methylene chloride	3.59	84	69501	0.53	ug/L		92
17) Methyl tert-butyl Ether	3.98	73	107503	0.50	ug/L		99
18) trans-1,2-Dichloroethene	3.99	96	66984	0.50	ug/L		92
19) 1,1-Dichloroethane	4.71	63	113985	0.52	ug/L		96
21) 2-Butanone	5.79	43	105165	5.28	ug/L		95
22) cis-1,2-Dichloroethene	5.77	96	69641	0.49	ug/L		82
23) Bromochloromethane	6.21	128	28643	0.53	ug/L		92
25) Chloroform	6.41	83	123168	0.51	ug/L		95
27) 1,2-Dichloroethane	7.36	62	61137	0.51	ug/L	#	92
29) 1,1,1-Trichloroethane	6.64	97	96055	0.54	ug/L		97
30) Cyclohexane	6.75	56	83902	0.58	ug/L		100
31) Carbon tetrachloride	6.91	117	82897	0.55	ug/L		96
33) Benzene	7.23	78	217861	0.52	ug/L		100
34) Trichloroethene	8.22	95	60940	0.52	ug/L		92
35) Methylcyclohexane	8.50	83	72953	0.54	ug/L		96
37) 1,2-Dichloropropane	8.55	63	51040	0.50	ug/L	#	97
38) Bromodichloromethane	8.89	83	71718	0.49	ug/L		98
39) cis-1,3-Dichloropropene	9.41	75	71745	0.48	ug/L		99
40) 4-Methyl-2-pentanone	9.58	43	257723	4.99	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049220.D
Acq On : 4 May 2016 11:27
Operator : FY/SY
Sample : VSTD0.533
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD0.533

Quant Time: May 04 12:54:48 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 12:58:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) Toluene	9.77	91	179579	0.47	ug/L		98
44) trans-1,3-Dichloropropene	10.05	75	54124	0.45	ug/L		94
45) 1,1,2-Trichloroethane	10.25	97	24736	0.43	ug/L		92
47) Tetrachloroethene	10.32	164	39614	0.49	ug/L		93
48) 2-Hexanone	10.48	43	163129	4.52	ug/L		99
49) Dibromochloromethane	10.65	129	35222	0.43	ug/L		99
50) 1,2-Dibromoethane	10.75	107	25463	0.43	ug/L		99
51) Chlorobenzene	11.25	112	108303	0.46	ug/L		99
52) Ethylbenzene	11.34	91	182792	0.45	ug/L		98
53) m,p-Xylene	11.47	106	63389	0.42	ug/L		95
54) o-Xylene	11.85	106	59773	0.42	ug/L		100
55) Styrene	11.87	104	93024	0.39	ug/L		92
56) Isopropylbenzene	12.19	105	154217	0.42	ug/L		98
58) 1,1,2,2-Tetrachloroethane	12.49	83	25473	0.43	ug/L		86
60) Bromoform	12.05	173	15337	0.44	ug/L	#	97
61) 1,3-Dichlorobenzene	13.36	146	61886	0.46	ug/L		95
62) 1,4-Dichlorobenzene	13.45	146	67101	0.48	ug/L		94
64) 1,2-Dichlorobenzene	13.78	146	50866	0.44	ug/L		90
65) 1,2-Dibromo-3-chloropropan	14.47	75	2575	0.38	ug/L	#	76
66) 1,2,4-trichlorobenzene	15.20	180	28774	0.43	ug/L		98
67) 1,2,3-Trichlorobenzene	15.67	180	22326	0.44	ug/L		94

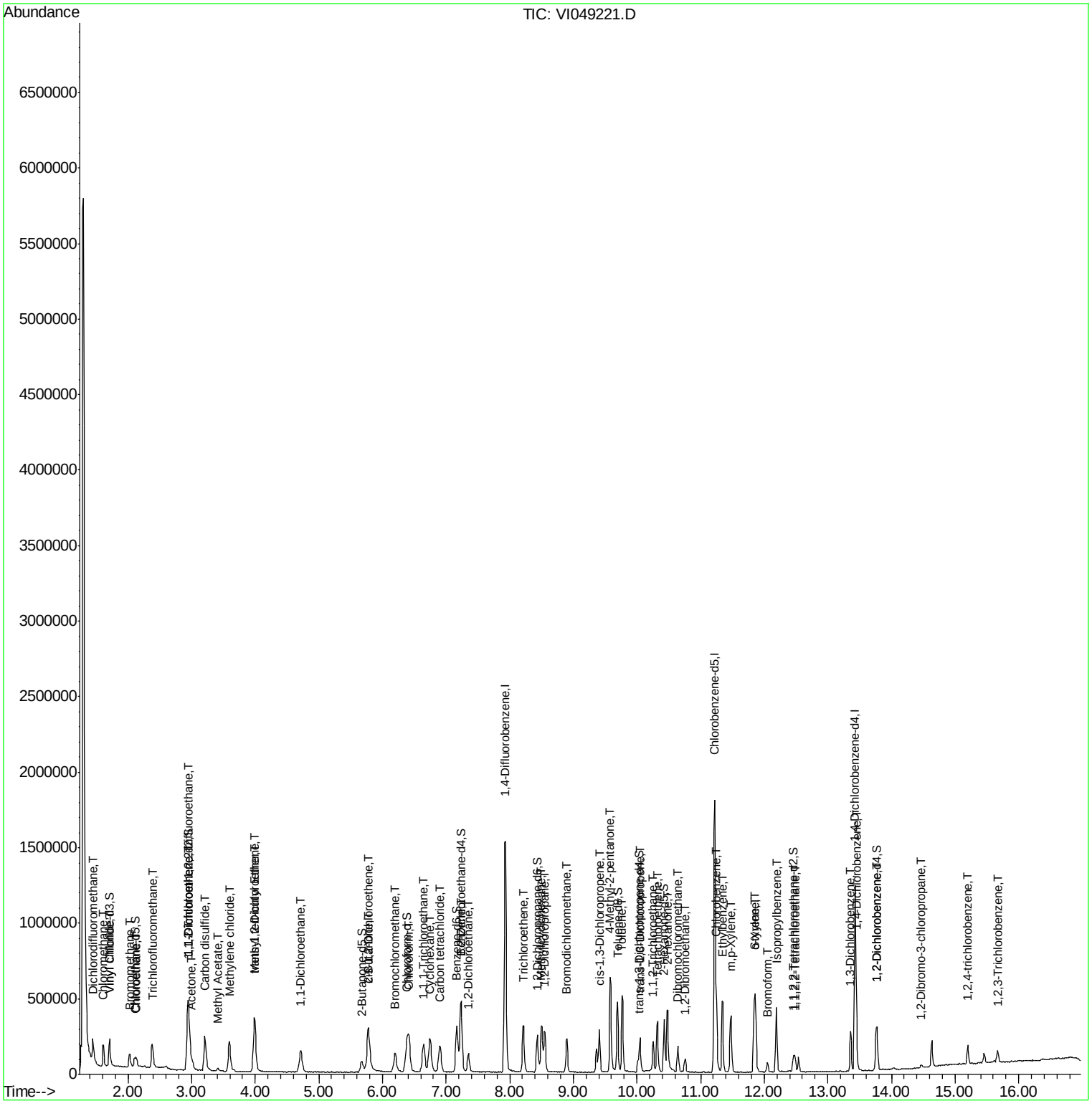
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049221.D
Acq On : 4 May 2016 11:58
Operator : FY/SY
Sample : VSTD00134
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
VSTD00134

Quant Time: May 04 12:54:50 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 12:58:54 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049221.D
Acq On : 4 May 2016 11:58
Operator : FY/SY
Sample : VSTD00134
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00134

Quant Time: May 04 12:54:50 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 12:58:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1425657	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	907600	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	278770	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.70	65	92417	1.21	ug/L	0.00
7) Chloroethane-d5	2.11	69	57615	1.26	ug/L	0.00
11) 1,1-Dichloroethene-d2	2.93	63	215352	1.11	ug/L	0.00
20) 2-Butanone-d5	5.67	46	187185	11.00	ug/L	0.00
24) Chloroform-d	6.38	84	232456	1.06	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.24	65	96053	1.10	ug/L	0.00
32) Benzene-d6	7.17	84	394446	1.16	ug/L	0.00
36) 1,2-Dichloropropane-d6	8.44	67	110173	1.13	ug/L	0.00
41) Toluene-d8	9.70	98	280045	1.05	ug/L	0.00
43) trans-1,3-Dichloropropene-	10.02	79	41222	1.03	ug/L	0.00
46) 2-Hexanone-d5	10.42	63	130255	10.11	ug/L	0.00
57) 1,1,2,2-Tetrachloroethane-	12.46	84	42601	0.83	ug/L	0.00
63) 1,2-Dichlorobenzene-d4	13.76	152	47353	0.90	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.45	85	156022	1.16	ug/L	96
3) Chloromethane	1.61	50	143674	1.25	ug/L	98
5) Vinyl chloride	1.71	62	101996	1.27	ug/L	99
6) Bromomethane	2.03	94	56541	1.37	ug/L	98
8) Chloroethane	2.13	64	48739	1.34	ug/L	99
9) Trichlorofluoromethane	2.38	101	141354	1.29	ug/L	97
10) 1,1,2-Trichloro-1,2,2-trif	2.96	101	119467	1.15	ug/L	97
12) 1,1-Dichloroethene	2.95	96	123513	1.15	ug/L	91
13) Acetone	3.00	43	103310	10.71	ug/L	90
14) Carbon disulfide	3.21	76	429844	1.08	ug/L	100
15) Methyl Acetate	3.42	43	33612	1.12	ug/L	97
16) Methylene chloride	3.59	84	135396	1.14	ug/L	96
17) Methyl tert-butyl Ether	3.99	73	216315	1.13	ug/L	99
18) trans-1,2-Dichloroethene	3.99	96	132532	1.09	ug/L	94
19) 1,1-Dichloroethane	4.72	63	227155	1.15	ug/L	100
21) 2-Butanone	5.79	43	198667	11.09	ug/L	99
22) cis-1,2-Dichloroethene	5.77	96	134700	1.06	ug/L	98
23) Bromochloromethane	6.20	128	53734	1.11	ug/L	94
25) Chloroform	6.42	83	243369	1.12	ug/L	95
27) 1,2-Dichloroethane	7.35	62	121724	1.14	ug/L	99
29) 1,1,1-Trichloroethane	6.64	97	195365	1.29	ug/L	98
30) Cyclohexane	6.75	56	161808	1.32	ug/L	97
31) Carbon tetrachloride	6.90	117	164739	1.30	ug/L	99
33) Benzene	7.24	78	429953	1.21	ug/L	100
34) Trichloroethene	8.21	95	120761	1.21	ug/L	98
35) Methylcyclohexane	8.49	83	129531	1.14	ug/L	95
37) 1,2-Dichloropropane	8.54	63	99691	1.15	ug/L	98
38) Bromodichloromethane	8.90	83	147018	1.18	ug/L	95
39) cis-1,3-Dichloropropene	9.41	75	150303	1.18	ug/L	99
40) 4-Methyl-2-pentanone	9.58	43	518603	11.86	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049221.D
Acq On : 4 May 2016 11:58
Operator : FY/SY
Sample : VSTD00134
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00134

Quant Time: May 04 12:54:50 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 12:58:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) Toluene	9.76	91	354465	1.11	ug/L		98
44) trans-1,3-Dichloropropene	10.05	75	105643	1.04	ug/L		98
45) 1,1,2-Trichloroethane	10.26	97	49376	1.00	ug/L		96
47) Tetrachloroethene	10.33	164	73746	1.08	ug/L		97
48) 2-Hexanone	10.47	43	341156	11.16	ug/L		93
49) Dibromochloromethane	10.64	129	73641	1.05	ug/L		94
50) 1,2-Dibromoethane	10.76	107	52051	1.03	ug/L		94
51) Chlorobenzene	11.25	112	198885	1.00	ug/L		97
52) Ethylbenzene	11.35	91	328935	0.95	ug/L		97
53) m,p-Xylene	11.48	106	113672	0.89	ug/L		100
54) o-Xylene	11.84	106	103152	0.86	ug/L		92
55) Styrene	11.86	104	172395	0.86	ug/L		98
56) Isopropylbenzene	12.20	105	269919	0.87	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.48	83	42726	0.85	ug/L		96
60) Bromoform	12.05	173	27954	1.14	ug/L		98
61) 1,3-Dichlorobenzene	13.36	146	93938	0.98	ug/L		95
62) 1,4-Dichlorobenzene	13.46	146	98975	1.00	ug/L		95
64) 1,2-Dichlorobenzene	13.78	146	76464	0.93	ug/L		95
65) 1,2-Dibromo-3-chloropropan	14.47	75	6160	1.27	ug/L	#	77
66) 1,2,4-trichlorobenzene	15.20	180	33635	0.70	ug/L		99
67) 1,2,3-Trichlorobenzene	15.67	180	25667	0.72	ug/L		99

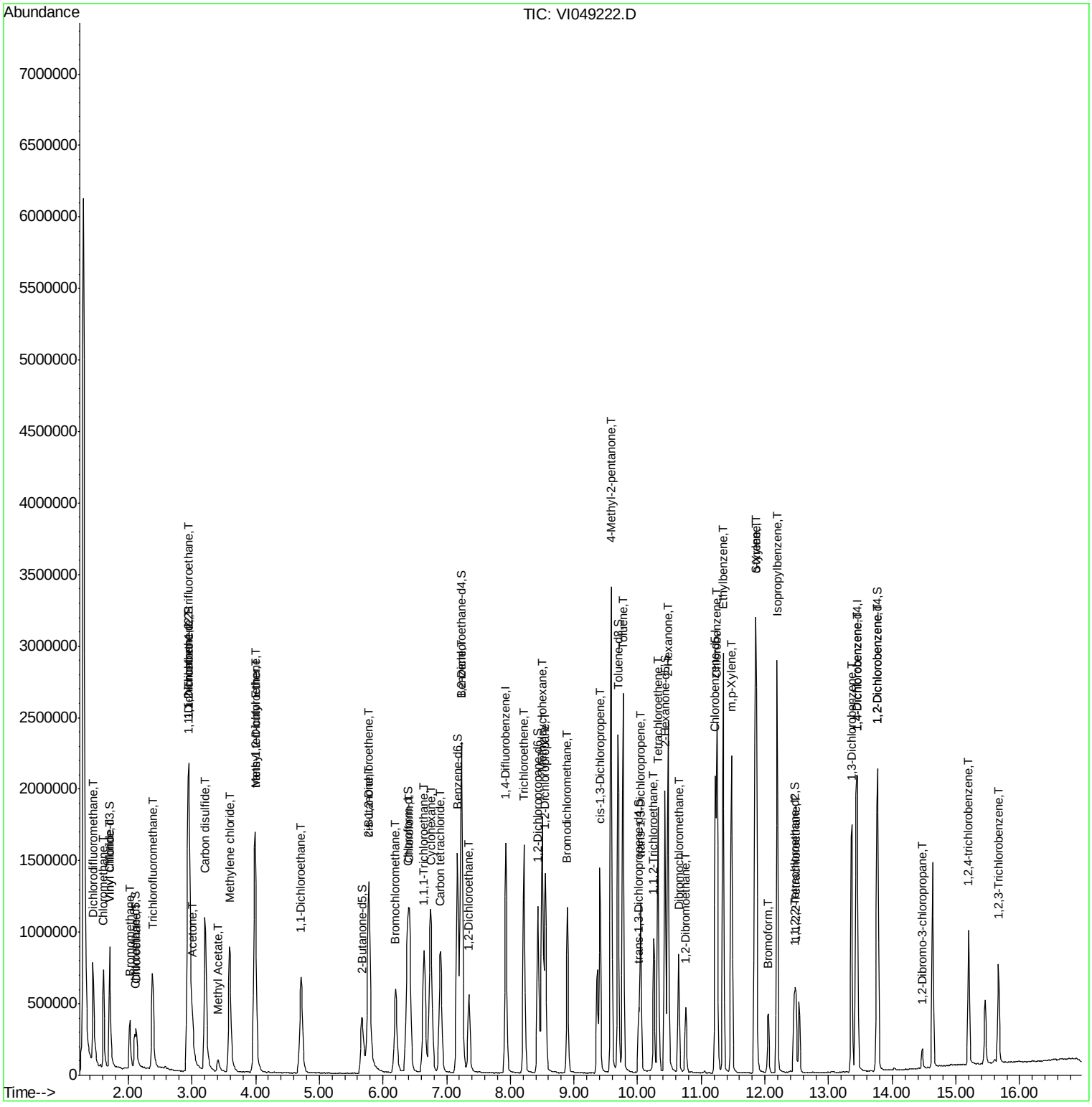
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049222.D
Acq On : 4 May 2016 12:30
Operator : FY/SY
Sample : VSTD00535
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00535

Quant Time: May 04 12:54:52 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 12:58:54 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049222.D
Acq On : 4 May 2016 12:30
Operator : FY/SY
Sample : VSTD00535
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00535

Quant Time: May 04 12:54:52 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 12:58:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1387511	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	966164	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	378132	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	425291	5.71	ug/L	0.00
7) Chloroethane-d5	2.10	69	241187	5.42	ug/L	0.00
11) 1,1-Dichloroethene-d2	2.93	63	1024075	5.42	ug/L	0.00
20) 2-Butanone-d5	5.67	46	995120	60.10	ug/L	0.00
24) Chloroform-d	6.38	84	1109276	5.18	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.23	65	457025	5.37	ug/L	0.00
32) Benzene-d6	7.17	84	1932549	5.33	ug/L	0.00
36) 1,2-Dichloropropane-d6	8.43	67	539585	5.18	ug/L	0.00
41) Toluene-d8	9.69	98	1438042	5.08	ug/L	0.00
43) trans-1,3-Dichloropropene-	10.02	79	218683	5.13	ug/L	0.00
46) 2-Hexanone-d5	10.43	63	686533	50.08	ug/L	0.00
57) 1,1,2,2-Tetrachloroethane-	12.46	84	247288	4.50	ug/L	0.00
63) 1,2-Dichlorobenzene-d4	13.76	152	328714	4.58	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.44	85	796877	6.06	ug/L	98
3) Chloromethane	1.61	50	659513	5.88	ug/L	98
5) Vinyl chloride	1.71	62	470430	6.01	ug/L	99
6) Bromomethane	2.02	94	217759	5.41	ug/L	100
8) Chloroethane	2.12	64	206953	5.84	ug/L	93
9) Trichlorofluoromethane	2.38	101	652640	6.12	ug/L	97
10) 1,1,2-Trichloro-1,2,2-trif	2.96	101	609280	6.02	ug/L	99
12) 1,1-Dichloroethene	2.95	96	561763	5.39	ug/L	95
13) Acetone	3.01	43	564267	60.13	ug/L	98
14) Carbon disulfide	3.21	76	2076484	5.35	ug/L	100
15) Methyl Acetate	3.41	43	165335	5.67	ug/L	98
16) Methylene chloride	3.59	84	610472	5.27	ug/L	96
17) Methyl tert-butyl Ether	3.98	73	1046212	5.61	ug/L	99
18) trans-1,2-Dichloroethene	3.99	96	623257	5.28	ug/L	95
19) 1,1-Dichloroethane	4.71	63	1055265	5.49	ug/L	97
21) 2-Butanone	5.78	43	1090421	62.52	ug/L	97
22) cis-1,2-Dichloroethene	5.77	96	634938	5.14	ug/L	98
23) Bromochloromethane	6.20	128	255349	5.40	ug/L	92
25) Chloroform	6.41	83	1114407	5.29	ug/L	97
27) 1,2-Dichloroethane	7.35	62	563870	5.41	ug/L	100
29) 1,1,1-Trichloroethane	6.65	97	925756	5.76	ug/L	98
30) Cyclohexane	6.75	56	820242	6.27	ug/L	98
31) Carbon tetrachloride	6.91	117	817207	6.06	ug/L	100
33) Benzene	7.23	78	2096710	5.54	ug/L	100
34) Trichloroethene	8.22	95	571727	5.39	ug/L	96
35) Methylcyclohexane	8.50	83	731179	6.04	ug/L	99
37) 1,2-Dichloropropane	8.55	63	488269	5.31	ug/L	98
38) Bromodichloromethane	8.89	83	712248	5.38	ug/L	100
39) cis-1,3-Dichloropropene	9.41	75	717788	5.29	ug/L	100
40) 4-Methyl-2-pentanone	9.58	43	2615758	56.21	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049222.D
Acq On : 4 May 2016 12:30
Operator : FY/SY
Sample : VSTD00535
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00535

Quant Time: May 04 12:54:52 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 12:58:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) Toluene	9.77	91	1763408	5.17	ug/L	100
44) trans-1,3-Dichloropropene	10.05	75	555982	5.12	ug/L	100
45) 1,1,2-Trichloroethane	10.25	97	255422	4.88	ug/L	98
47) Tetrachloroethene	10.32	164	374867	5.15	ug/L	96
48) 2-Hexanone	10.48	43	1718206	52.79	ug/L	100
49) Dibromochloromethane	10.65	129	387930	5.19	ug/L	98
50) 1,2-Dibromoethane	10.75	107	270504	5.03	ug/L	94
51) Chlorobenzene	11.25	112	1063006	5.03	ug/L	98
52) Ethylbenzene	11.35	91	1881376	5.08	ug/L	100
53) m,p-Xylene	11.47	106	679743	5.00	ug/L	98
54) o-Xylene	11.85	106	632711	4.94	ug/L	96
55) Styrene	11.87	104	1074496	5.04	ug/L	100
56) Isopropylbenzene	12.19	105	1682173	5.11	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.49	83	242821	4.56	ug/L	96
60) Bromoform	12.05	173	177627	5.35	ug/L	99
61) 1,3-Dichlorobenzene	13.36	146	646942	4.97	ug/L	98
62) 1,4-Dichlorobenzene	13.45	146	638743	4.76	ug/L	98
64) 1,2-Dichlorobenzene	13.78	146	533683	4.80	ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.47	75	29452	4.47	ug/L	88
66) 1,2,4-trichlorobenzene	15.20	180	289805	4.48	ug/L	96
67) 1,2,3-Trichlorobenzene	15.67	180	207658	4.29	ug/L	98

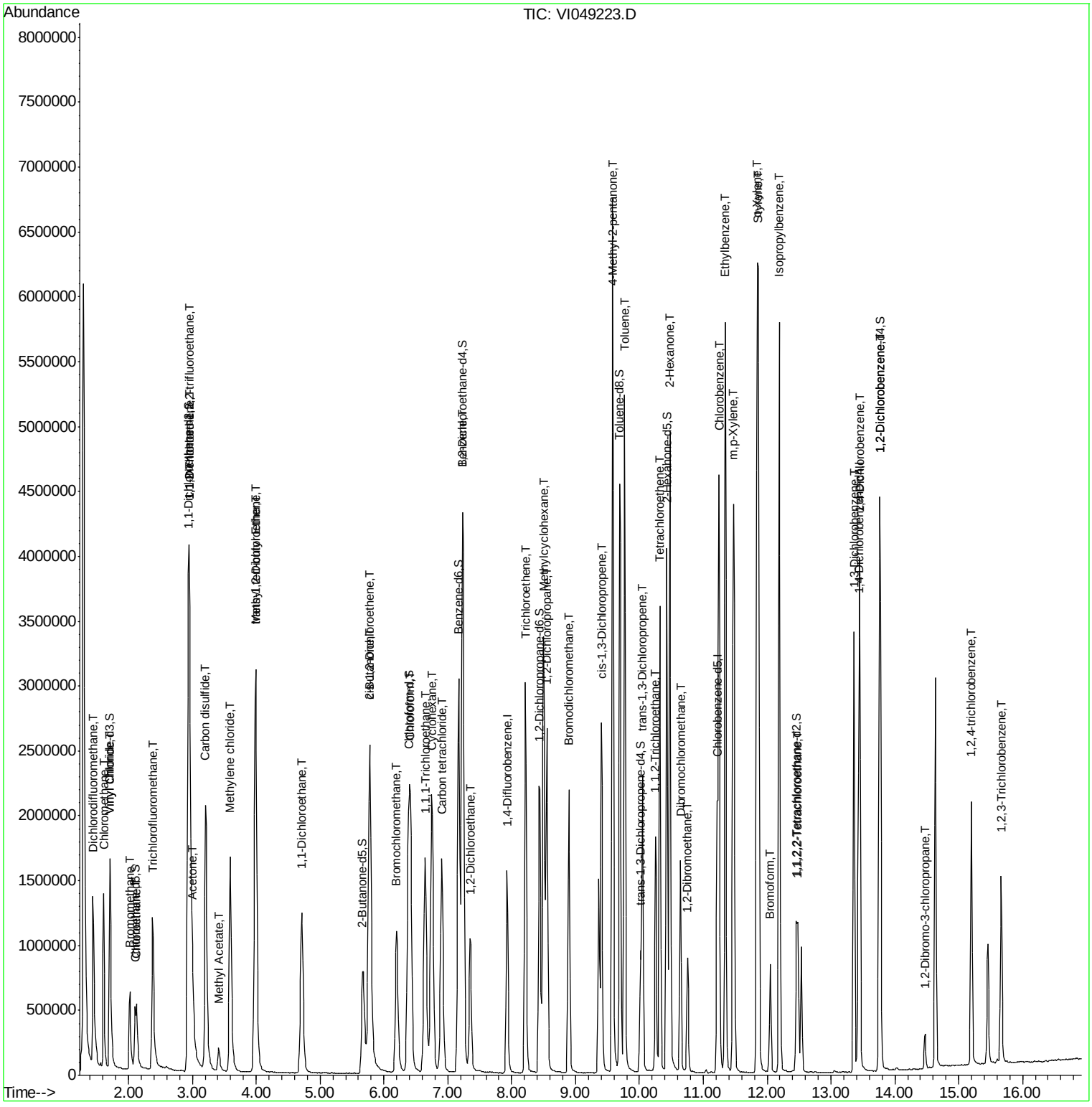
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049223.D
Acq On : 4 May 2016 13:02
Operator : FY/SY
Sample : VSTD01036
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD01036

Quant Time: May 04 13:22:30 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 13:02:09 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049223.D
Acq On : 4 May 2016 13:02
Operator : FY/SY
Sample : VSTD01036
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD01036

Quant Time: May 04 13:22:30 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 13:02:09 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1346932	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	978979	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	391643	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	852545	10.17	ug/L	0.00
7) Chloroethane-d5	2.10	69	441331	8.71	ug/L	0.00
11) 1,1-Dichloroethene-d2	2.93	63	1962568	9.90	ug/L	0.00
20) 2-Butanone-d5	5.67	46	1983326	117.22	ug/L	0.00
24) Chloroform-d	6.38	84	2161653	10.24	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.23	65	876015	9.98	ug/L	0.00
32) Benzene-d6	7.17	84	3815591	9.73	ug/L	0.00
36) 1,2-Dichloropropane-d6	8.43	67	1067054	9.71	ug/L	0.00
41) Toluene-d8	9.69	98	2856146	10.01	ug/L	0.00
43) trans-1,3-Dichloropropene-	10.02	79	441531	10.67	ug/L	0.00
46) 2-Hexanone-d5	10.43	63	1398322	108.24	ug/L	0.00
57) 1,1,2,2-Tetrachloroethane-	12.46	84	515068	11.14	ug/L	0.00
63) 1,2-Dichlorobenzene-d4	13.76	152	714609	10.62	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.44	85	1496448	10.04	ug/L	98
3) Chloromethane	1.61	50	1264869	9.57	ug/L	97
5) Vinyl chloride	1.71	62	882275	9.65	ug/L	99
6) Bromomethane	2.02	94	387232	7.77	ug/L	97
8) Chloroethane	2.12	64	361250	8.62	ug/L	96
9) Trichlorofluoromethane	2.38	101	1236936	9.60	ug/L	99
10) 1,1,2-Trichloro-1,2,2-trif	2.96	101	1132918	9.90	ug/L	99
12) 1,1-Dichloroethene	2.95	96	1065279	9.71	ug/L	99
13) Acetone	3.01	43	1154285	108.53	ug/L	94
14) Carbon disulfide	3.21	76	3891847	9.86	ug/L	99
15) Methyl Acetate	3.41	43	324256	10.54	ug/L	95
16) Methylene chloride	3.59	84	1144292	9.41	ug/L	96
17) Methyl tert-butyl Ether	3.98	73	1940115	9.86	ug/L	99
18) trans-1,2-Dichloroethene	3.99	96	1161176	9.67	ug/L	97
19) 1,1-Dichloroethane	4.71	63	1961074	9.59	ug/L	100
21) 2-Butanone	5.78	43	2069517	107.36	ug/L	100
22) cis-1,2-Dichloroethene	5.77	96	1197407	9.73	ug/L	96
23) Bromochloromethane	6.20	128	479204	9.64	ug/L	95
25) Chloroform	6.41	83	2076321	9.50	ug/L	98
27) 1,2-Dichloroethane	7.35	62	1054465	9.63	ug/L	98
29) 1,1,1-Trichloroethane	6.65	97	1742986	9.11	ug/L	98
30) Cyclohexane	6.75	56	1563911	9.50	ug/L	97
31) Carbon tetrachloride	6.91	117	1553503	9.42	ug/L	99
33) Benzene	7.23	78	3997279	9.32	ug/L	100
34) Trichloroethene	8.22	95	1082122	9.08	ug/L	98
35) Methylcyclohexane	8.50	83	1414618	10.08	ug/L	99
37) 1,2-Dichloropropane	8.55	63	940352	9.41	ug/L	99
38) Bromodichloromethane	8.89	83	1366909	9.45	ug/L	98
39) cis-1,3-Dichloropropene	9.41	75	1374976	9.40	ug/L	99
40) 4-Methyl-2-pentanone	9.58	43	4902699	94.26	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049223.D
Acq On : 4 May 2016 13:02
Operator : FY/SY
Sample : VSTD01036
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD01036

Quant Time: May 04 13:22:30 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 13:02:09 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) Toluene	9.77	91	3465077	9.74	ug/L	98
44) trans-1,3-Dichloropropene	10.05	75	1105184	10.19	ug/L	99
45) 1,1,2-Trichloroethane	10.25	97	500341	9.99	ug/L	98
47) Tetrachloroethene	10.32	164	742833	9.78	ug/L	95
48) 2-Hexanone	10.48	43	3335204	98.66	ug/L	98
49) Dibromochloromethane	10.65	129	773201	10.43	ug/L	99
50) 1,2-Dibromoethane	10.75	107	516165	9.83	ug/L	100
51) Chlorobenzene	11.25	112	2088636	9.98	ug/L	98
52) Ethylbenzene	11.34	91	3709193	10.40	ug/L	98
53) m,p-Xylene	11.47	106	1367664	10.91	ug/L	96
54) o-Xylene	11.85	106	1284417	11.05	ug/L	94
55) Styrene	11.87	104	2175319	11.38	ug/L	100
56) Isopropylbenzene	12.19	105	3406235	11.18	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.49	83	486520	10.29	ug/L	99
60) Bromoform	12.05	173	364966	10.27	ug/L	100
61) 1,3-Dichlorobenzene	13.36	146	1325420	10.21	ug/L	99
62) 1,4-Dichlorobenzene	13.45	146	1343241	9.95	ug/L	98
64) 1,2-Dichlorobenzene	13.78	146	1101321	10.35	ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.46	75	64450	9.72	ug/L	89
66) 1,2,4-trichlorobenzene	15.20	180	595041	10.84	ug/L	99
67) 1,2,3-Trichlorobenzene	15.67	180	432037	10.49	ug/L	97

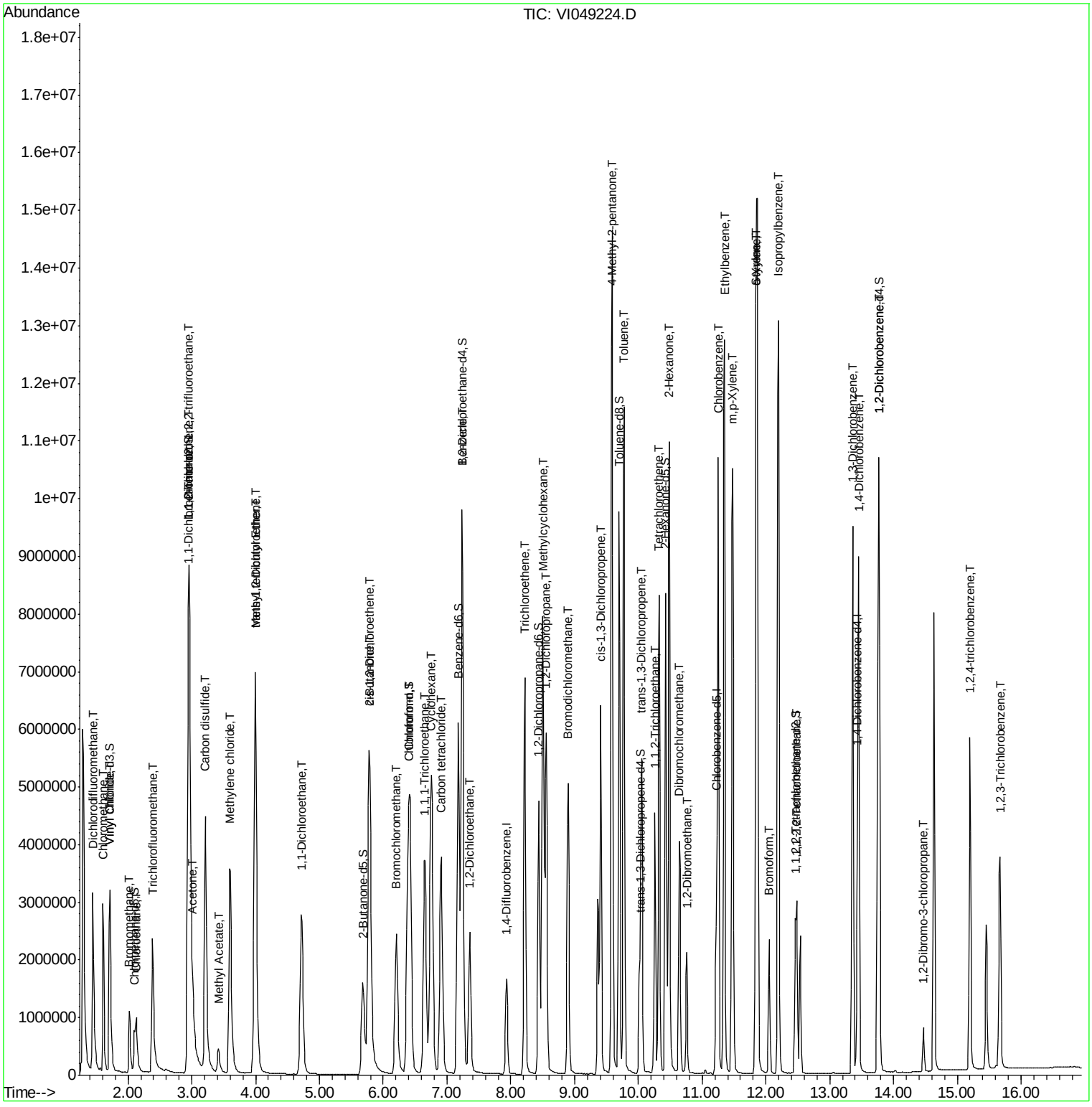
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049224.D
Acq On : 4 May 2016 13:33
Operator : FY/SY
Sample : VSTD02037
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD02037

Quant Time: May 04 13:56:31 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 13:27:51 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049224.D
Acq On : 4 May 2016 13:33
Operator : FY/SY
Sample : VSTD02037
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD02037

Quant Time: May 04 13:56:31 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 13:27:51 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1461579	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	1086543	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	471623	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.70	65	1691207	18.52	ug/L	0.00
7) Chloroethane-d5	2.10	69	726792	13.66	ug/L	0.00
11) 1,1-Dichloroethene-d2	2.93	63	4036999	18.82	ug/L	0.00
20) 2-Butanone-d5	5.68	46	4160883	217.27	ug/L	0.01
24) Chloroform-d	6.39	84	4451409	19.31	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.24	65	1748807	18.37	ug/L	0.00
32) Benzene-d6	7.18	84	7749910	17.93	ug/L	0.00
36) 1,2-Dichloropropane-d6	8.44	67	2214284	18.29	ug/L	0.00
41) Toluene-d8	9.70	98	5885440	18.58	ug/L	0.00
43) trans-1,3-Dichloropropene-	10.02	79	952520	20.39	ug/L	0.00
46) 2-Hexanone-d5	10.42	63	3083599	210.72	ug/L	0.00
57) 1,1,2,2-Tetrachloroethane-	12.46	84	1189030	22.52	ug/L	0.00
63) 1,2-Dichlorobenzene-d4	13.76	152	1684802	20.47	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.45	85	3513178	21.70	ug/L	99
3) Chloromethane	1.61	50	2740270	19.31	ug/L	97
5) Vinyl chloride	1.71	62	1989115	20.23	ug/L	99
6) Bromomethane	2.02	94	681315	13.34	ug/L	95
8) Chloroethane	2.13	64	699614	15.94	ug/L	96
9) Trichlorofluoromethane	2.38	101	2703301	19.54	ug/L	99
10) 1,1,2-Trichloro-1,2,2-trif	2.96	101	2693766	21.75	ug/L	99
12) 1,1-Dichloroethene	2.95	96	2344375	19.84	ug/L	98
13) Acetone	3.01	43	2651705	224.97	ug/L	96
14) Carbon disulfide	3.21	76	8635675	20.23	ug/L	98
15) Methyl Acetate	3.42	43	742482	21.95	ug/L	94
16) Methylene chloride	3.60	84	2605444	20.05	ug/L	99
17) Methyl tert-butyl Ether	3.99	73	4528073	21.28	ug/L	99
18) trans-1,2-Dichloroethene	4.00	96	2702539	20.92	ug/L	98
19) 1,1-Dichloroethane	4.72	63	4528793	20.62	ug/L	99
21) 2-Butanone	5.79	43	4815478	226.05	ug/L	99
22) cis-1,2-Dichloroethene	5.78	96	2805467	21.16	ug/L	97
23) Bromochloromethane	6.20	128	1105137	20.68	ug/L	92
25) Chloroform	6.42	83	4766471	20.35	ug/L	99
27) 1,2-Dichloroethane	7.35	62	2435376	20.69	ug/L	98
29) 1,1,1-Trichloroethane	6.65	97	4024599	19.39	ug/L	98
30) Cyclohexane	6.75	56	3759993	20.83	ug/L	99
31) Carbon tetrachloride	6.91	117	3593861	19.92	ug/L	98
33) Benzene	7.24	78	9083823	19.41	ug/L	100
34) Trichloroethene	8.22	95	2570250	19.89	ug/L	96
35) Methylcyclohexane	8.51	83	3435954	22.01	ug/L	99
37) 1,2-Dichloropropane	8.55	63	2175167	19.91	ug/L	100
38) Bromodichloromethane	8.90	83	3234934	20.43	ug/L	97
39) cis-1,3-Dichloropropene	9.41	75	3290905	20.59	ug/L	97
40) 4-Methyl-2-pentanone	9.59	43	10638557	186.98	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049224.D
Acq On : 4 May 2016 13:33
Operator : FY/SY
Sample : VSTD02037
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD02037

Quant Time: May 04 13:56:31 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 13:27:51 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) Toluene	9.77	91	7848741	20.00	ug/L	91
44) trans-1,3-Dichloropropene	10.05	75	2646058	21.87	ug/L	96
45) 1,1,2-Trichloroethane	10.26	97	1219815	21.95	ug/L	98
47) Tetrachloroethene	10.33	164	1772171	21.14	ug/L	95
48) 2-Hexanone	10.48	43	7635735	204.19	ug/L	96
49) Dibromochloromethane	10.64	129	1894342	22.78	ug/L	98
50) 1,2-Dibromoethane	10.76	107	1270502	21.90	ug/L	99
51) Chlorobenzene	11.25	112	4962671	21.38	ug/L	97
52) Ethylbenzene	11.35	91	8575376	21.45	ug/L	90
53) m,p-Xylene	11.48	106	3390654	23.82	ug/L	89
54) o-Xylene	11.84	106	3225706	24.37	ug/L	93
55) Styrene	11.86	104	5354222	24.39	ug/L	90
56) Isopropylbenzene	12.20	105	7966938	22.89	ug/L	95
58) 1,1,2,2-Tetrachloroethane	12.48	83	1245644	23.57	ug/L	99
60) Bromoform	12.05	173	949899	22.05	ug/L	100
61) 1,3-Dichlorobenzene	13.36	146	3432822	21.85	ug/L	96
62) 1,4-Dichlorobenzene	13.46	146	3442102	21.20	ug/L	98
64) 1,2-Dichlorobenzene	13.77	146	2913858	22.54	ug/L	96
65) 1,2-Dibromo-3-chloropropan	14.47	75	173184	21.85	ug/L	89
66) 1,2,4-trichlorobenzene	15.20	180	1682098	24.93	ug/L	99
67) 1,2,3-Trichlorobenzene	15.67	180	1223545	24.37	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/04/2016 Time: 14:05

Lab File ID: VI049225.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00538 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.563	0.564	0.01	0.0	± 40.0
Chloromethane	0.482	0.456	0.01	-5.4	± 30.0
Vinyl chloride	0.337	0.315	0.01	-6.6	± 30.0
Bromomethane	0.163	0.148	0.01	-9.4	± 30.0
Chloroethane	0.144	0.144	0.01	0.1	± 30.0
Trichlorofluoromethane	0.471	0.457	0.01	-2.9	± 30.0
1,1-Dichloroethene	0.404	0.377	0.02	-6.7	± 20.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.431	0.428	0.01	-0.7	± 30.0
Acetone	0.041	0.040	0.01	-3.1	± 40.0
Carbon disulfide	1.463	1.378	0.01	-5.8	± 25.0
Methyl Acetate	0.118	0.117	0.01	-1.2	± 40.0
Methylene chloride	0.445	0.407	0.01	-8.4	± 30.0
trans-1,2-Dichloroethene	0.446	0.416	0.07	-6.7	± 20.0
Methyl tert-butyl Ether	0.737	0.697	0.01	-5.5	± 30.0
1,1-Dichloroethane	0.756	0.698	0.1	-7.6	± 20.0
cis-1,2-Dichloroethene	0.459	0.426	0.1	-7.1	± 20.0
2-Butanone	0.075	0.074	0.01	-1.6	± 40.0
Bromochloromethane	0.184	0.170	0.02	-7.7	± 20.0
Chloroform	0.804	0.734	0.04	-8.7	± 20.0
1,1,1-Trichloroethane	0.949	0.844	0.05	-11.1	± 20.0
Cyclohexane	0.837	0.781	0.1	-6.7	± 25.0
Carbon tetrachloride	0.829	0.745	0.02	-10.2	± 25.0
Benzene	2.141	1.913	0.3	-10.6	± 20.0
1,2-Dichloroethane	0.405	0.369	0.01	-9	± 25.0
Trichloroethene	0.594	0.518	0.1	-12.7	± 20.0
Methylcyclohexane	0.733	0.718	0.2	-2	± 25.0
1,2-Dichloropropane	0.502	0.444	0.1	-11.6	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/04/2016 Time: 14:05

Lab File ID: VI049225.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00538 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
Bromodichloromethane	0.732	0.653	0.09	-10.7	± 20.0
cis-1,3-Dichloropropene	0.740	0.668	0.1	-9.8	± 20.0
4-Methyl-2-pentanone	0.258	0.242	0.01	-6.2	± 30.0
Toluene	1.806	1.702	0.4	-5.7	± 20.0
trans-1,3-Dichloropropene	0.567	0.533	0.01	-5.9	± 20.0
1,1,2-Trichloroethane	0.261	0.247	0.04	-5.1	± 20.0
Tetrachloroethene	0.390	0.362	0.1	-7.1	± 20.0
2-Hexanone	0.173	0.167	0.01	-3.2	± 40.0
Dibromochloromethane	0.393	0.375	0.05	-4.8	± 20.0
1,2-Dibromoethane	0.272	0.254	0.01	-6.8	± 20.0
Chlorobenzene	1.083	1.047	0.4	-3.3	± 20.0
Ethylbenzene	1.866	1.873	0.5	0.3	± 20.0
o-Xylene	0.636	0.626	0.3	-1.6	± 20.0
m,p-Xylene	0.680	0.666	0.2	-2	± 20.0
Styrene	1.055	1.032	0.2	-2.1	± 20.0
Bromoform	0.466	0.431	0.01	-7.5	± 30.0
Isopropylbenzene	1.648	1.654	0.7	0.4	± 25.0
1,1,2,2-Tetrachloroethane	0.252	0.245	0.05	-2.8	± 25.0
1,3-Dichlorobenzene	1.696	1.682	0.5	-0.8	± 20.0
1,4-Dichlorobenzene	1.742	1.675	0.7	-3.9	± 20.0
1,2-Dichlorobenzene	1.405	1.370	0.4	-2.5	± 20.0
1,2-Dibromo-3-chloropropane	0.086	0.082	0.01	-4.7	± 40.0
1,2,4-trichlorobenzene	0.751	0.774	0.3	3.1	± 30.0
1,2,3-Trichlorobenzene	0.556	0.559	0.2	0.6	± 40.0
Vinyl Chloride-d3	0.308	0.293	0.01	-4.7	± 30.0
Chloroethane-d5	0.170	0.166	0.01	-2.8	± 30.0
1,1-Dichloroethene-d2	0.725	0.699	0.01	-3.7	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/04/2016 Time: 14:05

Lab File ID: VI049225.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00538 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
2-Butanone-d5	0.067	0.070	0.01	4.7	± 40.0
Chloroform-d	0.783	0.752	0.01	-3.9	± 20.0
1,2-Dichloroethane-d4	0.320	0.320	0.01	-0.3	± 25.0
Benzene-d6	1.948	1.787	0.03	-8.2	± 20.0
1,2-Dichloropropane-d6	0.548	0.514	0.1	-6.1	± 20.0
Toluene-d8	1.437	1.383	0.2	-3.8	± 20.0
trans-1,3-Dichloropropene-d4	0.216	0.211	0.01	-2.2	± 25.0
2-Hexanone-d5	0.068	0.068	0.01	-0.3	± 40.0
1,1,2,2-Tetrachloroethane-d2	0.249	0.252	0.01	1.3	± 25.0
1,2-Dichlorobenzene-d4	0.877	0.863	0.06	-1.6	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/05/2016 Time: 00:11

Lab File ID: VI049243.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00539 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.563	0.554	0.01	-1.6	± 50.0
Chloromethane	0.482	0.503	0.01	4.4	± 50.0
Vinyl chloride	0.337	0.353	0.01	4.6	± 50.0
Bromomethane	0.163	0.154	0.01	-5.5	± 50.0
Chloroethane	0.144	0.147	0.01	2.3	± 50.0
Trichlorofluoromethane	0.471	0.492	0.01	4.4	± 50.0
1,1-Dichloroethene	0.404	0.404	0.02	0.1	± 25.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.431	0.421	0.01	-2.4	± 50.0
Acetone	0.041	0.043	0.01	4.6	± 50.0
Carbon disulfide	1.463	1.461	0.01	-0.2	± 25.0
Methyl Acetate	0.118	0.118	0.01	-0.3	± 50.0
Methylene chloride	0.445	0.446	0.01	0.3	± 50.0
trans-1,2-Dichloroethene	0.446	0.458	0.07	2.6	± 25.0
Methyl tert-butyl Ether	0.737	0.752	0.01	2.1	± 50.0
1,1-Dichloroethane	0.756	0.765	0.1	1.2	± 25.0
cis-1,2-Dichloroethene	0.459	0.467	0.1	1.8	± 25.0
2-Butanone	0.075	0.079	0.01	5.6	± 50.0
Bromochloromethane	0.184	0.181	0.02	-1.5	± 25.0
Chloroform	0.804	0.814	0.04	1.2	± 25.0
1,1,1-Trichloroethane	0.949	0.979	0.05	3.1	± 25.0
Cyclohexane	0.837	0.848	0.1	1.2	± 50.0
Carbon tetrachloride	0.829	0.851	0.02	2.6	± 50.0
Benzene	2.141	2.177	0.3	1.7	± 25.0
1,2-Dichloroethane	0.405	0.412	0.01	1.7	± 50.0
Trichloroethene	0.594	0.579	0.1	-2.4	± 25.0
Methylcyclohexane	0.733	0.697	0.2	-4.9	± 50.0
1,2-Dichloropropane	0.502	0.514	0.1	2.3	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/05/2016 Time: 00:11

Lab File ID: VI049243.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00539 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Bromodichloromethane	0.732	0.722	0.09	-1.3	± 25.0
cis-1,3-Dichloropropene	0.740	0.694	0.1	-6.2	± 25.0
4-Methyl-2-pentanone	0.258	0.268	0.01	3.7	± 50.0
Toluene	1.806	1.827	0.4	1.2	± 25.0
trans-1,3-Dichloropropene	0.567	0.545	0.01	-3.9	± 25.0
1,1,2-Trichloroethane	0.261	0.263	0.04	0.8	± 25.0
Tetrachloroethene	0.390	0.373	0.1	-4.4	± 25.0
2-Hexanone	0.173	0.178	0.01	2.8	± 50.0
Dibromochloromethane	0.393	0.380	0.05	-3.4	± 25.0
1,2-Dibromoethane	0.272	0.271	0.01	-0.6	± 25.0
Chlorobenzene	1.083	1.085	0.4	0.1	± 25.0
Ethylbenzene	1.866	1.901	0.5	1.9	± 25.0
o-Xylene	0.636	0.637	0.3	0.2	± 25.0
m,p-Xylene	0.680	0.677	0.2	-0.4	± 25.0
Styrene	1.055	1.064	0.2	0.9	± 25.0
Bromoform	0.466	0.463	0.01	-0.8	± 50.0
Isopropylbenzene	1.648	1.690	0.7	2.6	± 25.0
1,1,2,2-Tetrachloroethane	0.252	0.244	0.05	-3.1	± 25.0
1,3-Dichlorobenzene	1.696	1.715	0.5	1.1	± 25.0
1,4-Dichlorobenzene	1.742	1.721	0.7	-1.2	± 25.0
1,2-Dichlorobenzene	1.405	1.413	0.4	0.5	± 25.0
1,2-Dibromo-3-chloropropane	0.086	0.076	0.01	-10.9	± 50.0
1,2,4-trichlorobenzene	0.751	0.730	0.3	-2.8	± 50.0
1,2,3-Trichlorobenzene	0.556	0.545	0.2	-2	± 50.0
Vinyl Chloride-d3	0.308	0.285	0.01	-7.3	± 50.0
Chloroethane-d5	0.170	0.160	0.01	-6	± 50.0
1,1-Dichloroethene-d2	0.725	0.696	0.01	-4	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/05/2016 Time: 00:11

Lab File ID: VI049243.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00539 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
2-Butanone-d5	0.067	0.069	0.01	3.5	± 50.0
Chloroform-d	0.783	0.753	0.01	-3.8	± 25.0
1,2-Dichloroethane-d4	0.320	0.310	0.01	-3.2	± 25.0
Benzene-d6	1.948	1.884	0.03	-3.3	± 25.0
1,2-Dichloropropane-d6	0.548	0.517	0.1	-5.6	± 25.0
Toluene-d8	1.437	1.383	0.2	-3.7	± 25.0
trans-1,3-Dichloropropene-d4	0.216	0.194	0.01	-10.2	± 25.0
2-Hexanone-d5	0.068	0.067	0.01	-2.2	± 50.0
1,1,2,2-Tetrachloroethane-d2	0.249	0.238	0.01	-4.5	± 25.0
1,2-Dichlorobenzene-d4	0.877	0.822	0.06	-6.2	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/05/2016 Time: 10:15

Lab File ID: VI049245.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00540 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.563	0.625	0.01	10.9	± 40.0
Chloromethane	0.482	0.510	0.01	5.8	± 30.0
Vinyl chloride	0.337	0.378	0.01	12.1	± 30.0
Bromomethane	0.163	0.178	0.01	8.8	± 30.0
Chloroethane	0.144	0.169	0.01	17.2	± 30.0
Trichlorofluoromethane	0.471	0.544	0.01	15.3	± 30.0
1,1-Dichloroethene	0.404	0.421	0.02	4.4	± 20.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.431	0.483	0.01	12.1	± 30.0
Acetone	0.041	0.047	0.01	14.5	± 40.0
Carbon disulfide	1.463	1.515	0.01	3.5	± 25.0
Methyl Acetate	0.118	0.127	0.01	8.0	± 40.0
Methylene chloride	0.445	0.448	0.01	0.7	± 30.0
trans-1,2-Dichloroethene	0.446	0.467	0.07	4.8	± 20.0
Methyl tert-butyl Ether	0.737	0.791	0.01	7.3	± 30.0
1,1-Dichloroethane	0.756	0.780	0.1	3.2	± 20.0
cis-1,2-Dichloroethene	0.459	0.471	0.1	2.7	± 20.0
2-Butanone	0.075	0.084	0.01	12.3	± 40.0
Bromochloromethane	0.184	0.189	0.02	2.6	± 20.0
Chloroform	0.804	0.836	0.04	4.0	± 20.0
1,1,1-Trichloroethane	0.949	1.025	0.05	7.9	± 20.0
Cyclohexane	0.837	0.951	0.1	13.5	± 25.0
Carbon tetrachloride	0.829	0.911	0.02	9.8	± 25.0
Benzene	2.141	2.315	0.3	8.1	± 20.0
1,2-Dichloroethane	0.405	0.433	0.01	6.8	± 25.0
Trichloroethene	0.594	0.634	0.1	6.7	± 20.0
Methylcyclohexane	0.733	0.866	0.2	18.2	± 25.0
1,2-Dichloropropane	0.502	0.536	0.1	6.7	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/05/2016 Time: 10:15

Lab File ID: VI049245.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00540 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Bromodichloromethane	0.732	0.787	0.09	7.6	± 20.0
cis-1,3-Dichloropropene	0.740	0.790	0.1	6.8	± 20.0
4-Methyl-2-pentanone	0.258	0.292	0.01	13	± 30.0
Toluene	1.806	1.937	0.4	7.3	± 20.0
trans-1,3-Dichloropropene	0.567	0.618	0.01	8.9	± 20.0
1,1,2-Trichloroethane	0.261	0.282	0.04	8.0	± 20.0
Tetrachloroethene	0.390	0.420	0.1	7.7	± 20.0
2-Hexanone	0.173	0.194	0.01	12	± 40.0
Dibromochloromethane	0.393	0.429	0.05	9.2	± 20.0
1,2-Dibromoethane	0.272	0.294	0.01	8.1	± 20.0
Chlorobenzene	1.083	1.157	0.4	6.8	± 20.0
Ethylbenzene	1.866	2.048	0.5	9.7	± 20.0
o-Xylene	0.636	0.684	0.3	7.5	± 20.0
m,p-Xylene	0.680	0.730	0.2	7.3	± 20.0
Styrene	1.055	1.150	0.2	9.1	± 20.0
Bromoform	0.466	0.521	0.01	11.7	± 30.0
Isopropylbenzene	1.648	1.838	0.7	11.5	± 25.0
1,1,2,2-Tetrachloroethane	0.252	0.268	0.05	6.3	± 25.0
1,3-Dichlorobenzene	1.696	1.809	0.5	6.6	± 20.0
1,4-Dichlorobenzene	1.742	1.796	0.7	3.1	± 20.0
1,2-Dichlorobenzene	1.405	1.513	0.4	7.6	± 20.0
1,2-Dibromo-3-chloropropane	0.086	0.085	0.01	-0.1	± 40.0
1,2,4-trichlorobenzene	0.751	0.830	0.3	10.6	± 30.0
1,2,3-Trichlorobenzene	0.556	0.604	0.2	8.8	± 40.0
Vinyl Chloride-d3	0.308	0.279	0.01	-9.5	± 30.0
Chloroethane-d5	0.170	0.159	0.01	-6.7	± 30.0
1,1-Dichloroethene-d2	0.725	0.666	0.01	-8.2	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/05/2016 Time: 10:15

Lab File ID: VI049245.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00540 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
2-Butanone-d5	0.067	0.064	0.01	-3.6	± 40.0
Chloroform-d	0.783	0.705	0.01	-9.9	± 20.0
1,2-Dichloroethane-d4	0.320	0.291	0.01	-9.3	± 25.0
Benzene-d6	1.948	1.788	0.03	-8.2	± 20.0
1,2-Dichloropropane-d6	0.548	0.505	0.1	-7.8	± 20.0
Toluene-d8	1.437	1.305	0.2	-9.2	± 20.0
trans-1,3-Dichloropropene-d4	0.216	0.197	0.01	-8.6	± 25.0
2-Hexanone-d5	0.068	0.065	0.01	-4.3	± 40.0
1,1,2,2-Tetrachloroethane-d2	0.249	0.233	0.01	-6.5	± 25.0
1,2-Dichlorobenzene-d4	0.877	0.775	0.06	-11.6	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/05/2016 Time: 16:16

Lab File ID: VI049255.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00541 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.563	0.578	0.01	2.6	± 40.0
Chloromethane	0.482	0.490	0.01	1.7	± 30.0
Vinyl chloride	0.337	0.350	0.01	3.7	± 30.0
Bromomethane	0.163	0.162	0.01	-0.5	± 30.0
Chloroethane	0.144	0.150	0.01	4.3	± 30.0
Trichlorofluoromethane	0.471	0.479	0.01	1.6	± 30.0
1,1-Dichloroethene	0.404	0.400	0.02	-1	± 20.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.431	0.437	0.01	1.5	± 30.0
Acetone	0.041	0.045	0.01	8.7	± 40.0
Carbon disulfide	1.463	1.435	0.01	-2	± 25.0
Methyl Acetate	0.118	0.122	0.01	3.3	± 40.0
Methylene chloride	0.445	0.441	0.01	-0.8	± 30.0
trans-1,2-Dichloroethene	0.446	0.443	0.07	-0.7	± 20.0
Methyl tert-butyl Ether	0.737	0.758	0.01	2.8	± 30.0
1,1-Dichloroethane	0.756	0.773	0.1	2.2	± 20.0
cis-1,2-Dichloroethene	0.459	0.454	0.1	-1	± 20.0
2-Butanone	0.075	0.078	0.01	4.7	± 40.0
Bromochloromethane	0.184	0.182	0.02	-1.2	± 20.0
Chloroform	0.804	0.813	0.04	1.1	± 20.0
1,1,1-Trichloroethane	0.949	0.976	0.05	2.8	± 20.0
Cyclohexane	0.837	0.872	0.1	4.2	± 25.0
Carbon tetrachloride	0.829	0.846	0.02	2.0	± 25.0
Benzene	2.141	2.219	0.3	3.7	± 20.0
1,2-Dichloroethane	0.405	0.418	0.01	3.1	± 25.0
Trichloroethene	0.594	0.588	0.1	-0.9	± 20.0
Methylcyclohexane	0.733	0.759	0.2	3.6	± 25.0
1,2-Dichloropropane	0.502	0.527	0.1	5.0	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/05/2016 Time: 16:16

Lab File ID: VI049255.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00541 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Bromodichloromethane	0.732	0.723	0.09	-1.2	± 20.0
cis-1,3-Dichloropropene	0.740	0.742	0.1	0.2	± 20.0
4-Methyl-2-pentanone	0.258	0.276	0.01	6.7	± 30.0
Toluene	1.806	1.819	0.4	0.7	± 20.0
trans-1,3-Dichloropropene	0.567	0.555	0.01	-2.2	± 20.0
1,1,2-Trichloroethane	0.261	0.267	0.04	2.5	± 20.0
Tetrachloroethene	0.390	0.382	0.1	-2.2	± 20.0
2-Hexanone	0.173	0.181	0.01	4.9	± 40.0
Dibromochloromethane	0.393	0.392	0.05	-0.2	± 20.0
1,2-Dibromoethane	0.272	0.271	0.01	-0.2	± 20.0
Chlorobenzene	1.083	1.070	0.4	-1.2	± 20.0
Ethylbenzene	1.866	1.867	0.5	0.0	± 20.0
o-Xylene	0.636	0.624	0.3	-1.9	± 20.0
m,p-Xylene	0.680	0.672	0.2	-1.2	± 20.0
Styrene	1.055	1.054	0.2	-0.1	± 20.0
Bromoform	0.466	0.438	0.01	-6	± 30.0
Isopropylbenzene	1.648	1.647	0.7	-0.1	± 25.0
1,1,2,2-Tetrachloroethane	0.252	0.255	0.05	1.0	± 25.0
1,3-Dichlorobenzene	1.696	1.665	0.5	-1.9	± 20.0
1,4-Dichlorobenzene	1.742	1.693	0.7	-2.8	± 20.0
1,2-Dichlorobenzene	1.405	1.409	0.4	0.2	± 20.0
1,2-Dibromo-3-chloropropane	0.086	0.086	0.01	0.8	± 40.0
1,2,4-trichlorobenzene	0.751	0.732	0.3	-2.4	± 30.0
1,2,3-Trichlorobenzene	0.556	0.538	0.2	-3.2	± 40.0
Vinyl Chloride-d3	0.308	0.299	0.01	-2.7	± 30.0
Chloroethane-d5	0.170	0.172	0.01	1.0	± 30.0
1,1-Dichloroethene-d2	0.725	0.711	0.01	-2	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/05/2016 Time: 16:16

Lab File ID: VI049255.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00541 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
2-Butanone-d5	0.067	0.075	0.01	12.2	± 40.0
Chloroform-d	0.783	0.787	0.01	0.5	± 20.0
1,2-Dichloroethane-d4	0.320	0.339	0.01	5.7	± 25.0
Benzene-d6	1.948	2.005	0.03	2.9	± 20.0
1,2-Dichloropropane-d6	0.548	0.563	0.1	2.7	± 20.0
Toluene-d8	1.437	1.435	0.2	-0.1	± 20.0
trans-1,3-Dichloropropene-d4	0.216	0.211	0.01	-2.3	± 25.0
2-Hexanone-d5	0.068	0.072	0.01	5.6	± 40.0
1,1,2,2-Tetrachloroethane-d2	0.249	0.256	0.01	2.9	± 25.0
1,2-Dichlorobenzene-d4	0.877	0.849	0.06	-3.1	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/06/2016 Time: 02:57

Lab File ID: VI049274.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00542 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.563	0.513	0.01	-8.9	± 50.0
Chloromethane	0.482	0.454	0.01	-5.7	± 50.0
Vinyl chloride	0.337	0.340	0.01	0.9	± 50.0
Bromomethane	0.163	0.102	0.01	-37.7	± 50.0
Chloroethane	0.144	0.157	0.01	9.1	± 50.0
Trichlorofluoromethane	0.471	0.451	0.01	-4.4	± 50.0
1,1-Dichloroethene	0.404	0.383	0.02	-5	± 25.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.431	0.379	0.01	-12.1	± 50.0
Acetone	0.041	0.043	0.01	4.1	± 50.0
Carbon disulfide	1.463	1.354	0.01	-7.5	± 25.0
Methyl Acetate	0.118	0.132	0.01	12.1	± 50.0
Methylene chloride	0.445	0.441	0.01	-0.8	± 50.0
trans-1,2-Dichloroethene	0.446	0.432	0.07	-3.1	± 25.0
Methyl tert-butyl Ether	0.737	0.751	0.01	1.8	± 50.0
1,1-Dichloroethane	0.756	0.756	0.1	0.1	± 25.0
cis-1,2-Dichloroethene	0.459	0.451	0.1	-1.6	± 25.0
2-Butanone	0.075	0.081	0.01	7.8	± 50.0
Bromochloromethane	0.184	0.182	0.02	-1.4	± 25.0
Chloroform	0.804	0.807	0.04	0.4	± 25.0
1,1,1-Trichloroethane	0.949	0.964	0.05	1.6	± 25.0
Cyclohexane	0.837	0.741	0.1	-11.5	± 50.0
Carbon tetrachloride	0.829	0.809	0.02	-2.5	± 50.0
Benzene	2.141	2.212	0.3	3.3	± 25.0
1,2-Dichloroethane	0.405	0.411	0.01	1.3	± 50.0
Trichloroethene	0.594	0.575	0.1	-3.2	± 25.0
Methylcyclohexane	0.733	0.619	0.2	-15.5	± 50.0
1,2-Dichloropropane	0.502	0.513	0.1	2.1	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/06/2016 Time: 02:57

Lab File ID: VI049274.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00542 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Bromodichloromethane	0.732	0.738	0.09	0.8	± 25.0
cis-1,3-Dichloropropene	0.740	0.696	0.1	-6	± 25.0
4-Methyl-2-pentanone	0.258	0.280	0.01	8.2	± 50.0
Toluene	1.806	1.788	0.4	-1	± 25.0
trans-1,3-Dichloropropene	0.567	0.541	0.01	-4.7	± 25.0
1,1,2-Trichloroethane	0.261	0.274	0.04	4.9	± 25.0
Tetrachloroethene	0.390	0.354	0.1	-9.2	± 25.0
2-Hexanone	0.173	0.187	0.01	8.3	± 50.0
Dibromochloromethane	0.393	0.393	0.05	-0.1	± 25.0
1,2-Dibromoethane	0.272	0.273	0.01	0.4	± 25.0
Chlorobenzene	1.083	1.053	0.4	-2.8	± 25.0
Ethylbenzene	1.866	1.761	0.5	-5.7	± 25.0
o-Xylene	0.636	0.607	0.3	-4.6	± 25.0
m,p-Xylene	0.680	0.634	0.2	-6.7	± 25.0
Styrene	1.055	1.013	0.2	-4	± 25.0
Bromoform	0.466	0.459	0.01	-1.6	± 50.0
Isopropylbenzene	1.648	1.497	0.7	-9.2	± 25.0
1,1,2,2-Tetrachloroethane	0.252	0.253	0.05	0.2	± 25.0
1,3-Dichlorobenzene	1.696	1.690	0.5	-0.4	± 25.0
1,4-Dichlorobenzene	1.742	1.715	0.7	-1.6	± 25.0
1,2-Dichlorobenzene	1.405	1.412	0.4	0.5	± 25.0
1,2-Dibromo-3-chloropropane	0.086	0.094	0.01	9.3	± 50.0
1,2,4-trichlorobenzene	0.751	0.756	0.3	0.7	± 50.0
1,2,3-Trichlorobenzene	0.556	0.562	0.2	1.1	± 50.0
Vinyl Chloride-d3	0.308	0.289	0.01	-6	± 50.0
Chloroethane-d5	0.170	0.183	0.01	7.5	± 50.0
1,1-Dichloroethene-d2	0.725	0.680	0.01	-6.3	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/06/2016 Time: 02:57

Lab File ID: VI049274.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00542 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
2-Butanone-d5	0.067	0.073	0.01	9.3	± 50.0
Chloroform-d	0.783	0.773	0.01	-1.2	± 25.0
1,2-Dichloroethane-d4	0.320	0.325	0.01	1.5	± 25.0
Benzene-d6	1.948	1.970	0.03	1.2	± 25.0
1,2-Dichloropropane-d6	0.548	0.565	0.1	3.1	± 25.0
Toluene-d8	1.437	1.357	0.2	-5.5	± 25.0
trans-1,3-Dichloropropene-d4	0.216	0.198	0.01	-8.1	± 25.0
2-Hexanone-d5	0.068	0.072	0.01	5.9	± 50.0
1,1,2,2-Tetrachloroethane-d2	0.249	0.253	0.01	1.4	± 25.0
1,2-Dichlorobenzene-d4	0.877	0.832	0.06	-5.1	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/06/2016 Time: 10:21

Lab File ID: VI049276.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00543 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.563	0.527	0.01	-6.4	± 40.0
Chloromethane	0.482	0.430	0.01	-10.8	± 30.0
Vinyl chloride	0.337	0.330	0.01	-2.2	± 30.0
Bromomethane	0.163	0.129	0.01	-21	± 30.0
Chloroethane	0.144	0.149	0.01	3.3	± 30.0
Trichlorofluoromethane	0.471	0.468	0.01	-0.7	± 30.0
1,1-Dichloroethene	0.404	0.377	0.02	-6.5	± 20.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.431	0.412	0.01	-4.5	± 30.0
Acetone	0.041	0.043	0.01	5.1	± 40.0
Carbon disulfide	1.463	1.361	0.01	-7	± 25.0
Methyl Acetate	0.118	0.117	0.01	-0.7	± 40.0
Methylene chloride	0.445	0.408	0.01	-8.4	± 30.0
trans-1,2-Dichloroethene	0.446	0.422	0.07	-5.5	± 20.0
Methyl tert-butyl Ether	0.737	0.693	0.01	-6	± 30.0
1,1-Dichloroethane	0.756	0.713	0.1	-5.7	± 20.0
cis-1,2-Dichloroethene	0.459	0.425	0.1	-7.4	± 20.0
2-Butanone	0.075	0.074	0.01	-1.7	± 40.0
Bromochloromethane	0.184	0.169	0.02	-8.3	± 20.0
Chloroform	0.804	0.757	0.04	-5.9	± 20.0
1,1,1-Trichloroethane	0.949	0.925	0.05	-2.5	± 20.0
Cyclohexane	0.837	0.804	0.1	-4	± 25.0
Carbon tetrachloride	0.829	0.791	0.02	-4.6	± 25.0
Benzene	2.141	2.065	0.3	-3.5	± 20.0
1,2-Dichloroethane	0.405	0.385	0.01	-5.1	± 25.0
Trichloroethene	0.594	0.556	0.1	-6.4	± 20.0
Methylcyclohexane	0.733	0.711	0.2	-2.9	± 25.0
1,2-Dichloropropane	0.502	0.476	0.1	-5.3	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/06/2016 Time: 10:21

Lab File ID: VI049276.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00543 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
Bromodichloromethane	0.732	0.695	0.09	-5	± 20.0
cis-1,3-Dichloropropene	0.740	0.673	0.1	-9	± 20.0
4-Methyl-2-pentanone	0.258	0.256	0.01	-0.7	± 30.0
Toluene	1.806	1.723	0.4	-4.6	± 20.0
trans-1,3-Dichloropropene	0.567	0.546	0.01	-3.7	± 20.0
1,1,2-Trichloroethane	0.261	0.246	0.04	-5.6	± 20.0
Tetrachloroethene	0.390	0.365	0.1	-6.4	± 20.0
2-Hexanone	0.173	0.172	0.01	-0.4	± 40.0
Dibromochloromethane	0.393	0.382	0.05	-2.8	± 20.0
1,2-Dibromoethane	0.272	0.254	0.01	-6.7	± 20.0
Chlorobenzene	1.083	1.027	0.4	-5.2	± 20.0
Ethylbenzene	1.866	1.780	0.5	-4.6	± 20.0
o-Xylene	0.636	0.595	0.3	-6.4	± 20.0
m,p-Xylene	0.680	0.641	0.2	-5.7	± 20.0
Styrene	1.055	1.016	0.2	-3.7	± 20.0
Bromoform	0.466	0.434	0.01	-6.9	± 30.0
Isopropylbenzene	1.648	1.584	0.7	-3.9	± 25.0
1,1,2,2-Tetrachloroethane	0.252	0.232	0.05	-7.7	± 25.0
1,3-Dichlorobenzene	1.696	1.550	0.5	-8.6	± 20.0
1,4-Dichlorobenzene	1.742	1.582	0.7	-9.2	± 20.0
1,2-Dichlorobenzene	1.405	1.270	0.4	-9.6	± 20.0
1,2-Dibromo-3-chloropropane	0.086	0.074	0.01	-14.1	± 40.0
1,2,4-trichlorobenzene	0.751	0.710	0.3	-5.4	± 30.0
1,2,3-Trichlorobenzene	0.556	0.517	0.2	-6.8	± 40.0
Vinyl Chloride-d3	0.308	0.246	0.01	-20.2	± 30.0
Chloroethane-d5	0.170	0.156	0.01	-8.6	± 30.0
1,1-Dichloroethene-d2	0.725	0.607	0.01	-16.2	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/06/2016 Time: 10:21

Lab File ID: VI049276.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00543 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
2-Butanone-d5	0.067	0.067	0.01	-0.2	± 40.0
Chloroform-d	0.783	0.692	0.01	-11.6	± 20.0
1,2-Dichloroethane-d4	0.320	0.290	0.01	-9.4	± 25.0
Benzene-d6	1.948	1.734	0.03	-11	± 20.0
1,2-Dichloropropane-d6	0.548	0.495	0.1	-9.6	± 20.0
Toluene-d8	1.437	1.229	0.2	-14.4	± 20.0
trans-1,3-Dichloropropene-d4	0.216	0.184	0.01	-14.6	± 25.0
2-Hexanone-d5	0.068	0.063	0.01	-7.6	± 40.0
1,1,2,2-Tetrachloroethane-d2	0.249	0.227	0.01	-9	± 25.0
1,2-Dichlorobenzene-d4	0.877	0.726	0.06	-17.2	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/06/2016 Time: 19:15

Lab File ID: VI049289.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00544 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.563	0.535	0.01	-5	± 50.0
Chloromethane	0.482	0.451	0.01	-6.5	± 50.0
Vinyl chloride	0.337	0.354	0.01	5.1	± 50.0
Bromomethane	0.163	0.149	0.01	-8.4	± 50.0
Chloroethane	0.144	0.159	0.01	10.7	± 50.0
Trichlorofluoromethane	0.471	0.484	0.01	2.6	± 50.0
1,1-Dichloroethene	0.404	0.416	0.02	3.0	± 25.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.431	0.418	0.01	-2.9	± 50.0
Acetone	0.041	0.043	0.01	2.9	± 50.0
Carbon disulfide	1.463	1.484	0.01	1.4	± 25.0
Methyl Acetate	0.118	0.122	0.01	3.3	± 50.0
Methylene chloride	0.445	0.450	0.01	1.2	± 50.0
trans-1,2-Dichloroethene	0.446	0.460	0.07	3.1	± 25.0
Methyl tert-butyl Ether	0.737	0.772	0.01	4.7	± 50.0
1,1-Dichloroethane	0.756	0.781	0.1	3.4	± 25.0
cis-1,2-Dichloroethene	0.459	0.469	0.1	2.2	± 25.0
2-Butanone	0.075	0.080	0.01	7.5	± 50.0
Bromochloromethane	0.184	0.176	0.02	-4.4	± 25.0
Chloroform	0.804	0.836	0.04	4.0	± 25.0
1,1,1-Trichloroethane	0.949	1.000	0.05	5.4	± 25.0
Cyclohexane	0.837	0.824	0.1	-1.6	± 50.0
Carbon tetrachloride	0.829	0.869	0.02	4.8	± 50.0
Benzene	2.141	2.260	0.3	5.6	± 25.0
1,2-Dichloroethane	0.405	0.416	0.01	2.5	± 50.0
Trichloroethene	0.594	0.610	0.1	2.7	± 25.0
Methylcyclohexane	0.733	0.702	0.2	-4.1	± 50.0
1,2-Dichloropropane	0.502	0.527	0.1	5.0	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/06/2016 Time: 19:15

Lab File ID: VI049289.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00544 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF5.0	MIN RRF	%D	MAX %D
Bromodichloromethane	0.732	0.764	0.09	4.4	± 25.0
cis-1,3-Dichloropropene	0.740	0.738	0.1	-0.3	± 25.0
4-Methyl-2-pentanone	0.258	0.274	0.01	6.0	± 50.0
Toluene	1.806	1.891	0.4	4.7	± 25.0
trans-1,3-Dichloropropene	0.567	0.574	0.01	1.2	± 25.0
1,1,2-Trichloroethane	0.261	0.274	0.04	5.2	± 25.0
Tetrachloroethene	0.390	0.403	0.1	3.3	± 25.0
2-Hexanone	0.173	0.183	0.01	5.6	± 50.0
Dibromochloromethane	0.393	0.399	0.05	1.6	± 25.0
1,2-Dibromoethane	0.272	0.276	0.01	1.5	± 25.0
Chlorobenzene	1.083	1.126	0.4	4.0	± 25.0
Ethylbenzene	1.866	1.984	0.5	6.3	± 25.0
o-Xylene	0.636	0.661	0.3	4.0	± 25.0
m,p-Xylene	0.680	0.707	0.2	4.0	± 25.0
Styrene	1.055	1.100	0.2	4.3	± 25.0
Bromoform	0.466	0.458	0.01	-1.8	± 50.0
Isopropylbenzene	1.648	1.743	0.7	5.8	± 25.0
1,1,2,2-Tetrachloroethane	0.252	0.252	0.05	0.1	± 25.0
1,3-Dichlorobenzene	1.696	1.786	0.5	5.3	± 25.0
1,4-Dichlorobenzene	1.742	1.787	0.7	2.6	± 25.0
1,2-Dichlorobenzene	1.405	1.457	0.4	3.7	± 25.0
1,2-Dibromo-3-chloropropane	0.086	0.086	0.01	0.1	± 50.0
1,2,4-trichlorobenzene	0.751	0.773	0.3	3.0	± 50.0
1,2,3-Trichlorobenzene	0.556	0.570	0.2	2.7	± 50.0
Vinyl Chloride-d3	0.308	0.253	0.01	-17.7	± 50.0
Chloroethane-d5	0.170	0.159	0.01	-6.5	± 50.0
1,1-Dichloroethene-d2	0.725	0.647	0.01	-10.7	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: Trace VOA Level:

Instrument ID: MSVOA_I Date Analyzed: 05/06/2016 Time: 19:15

Lab File ID: VI049289.D Init. Calib Date(s): 05/04/2016 05/04/2016

EPA Sample No.: VSTD00544 Init. Calib Time(s): 11:27 13:33

GC Column: RXI-624 ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) N Purge Volume: 25 (mL)

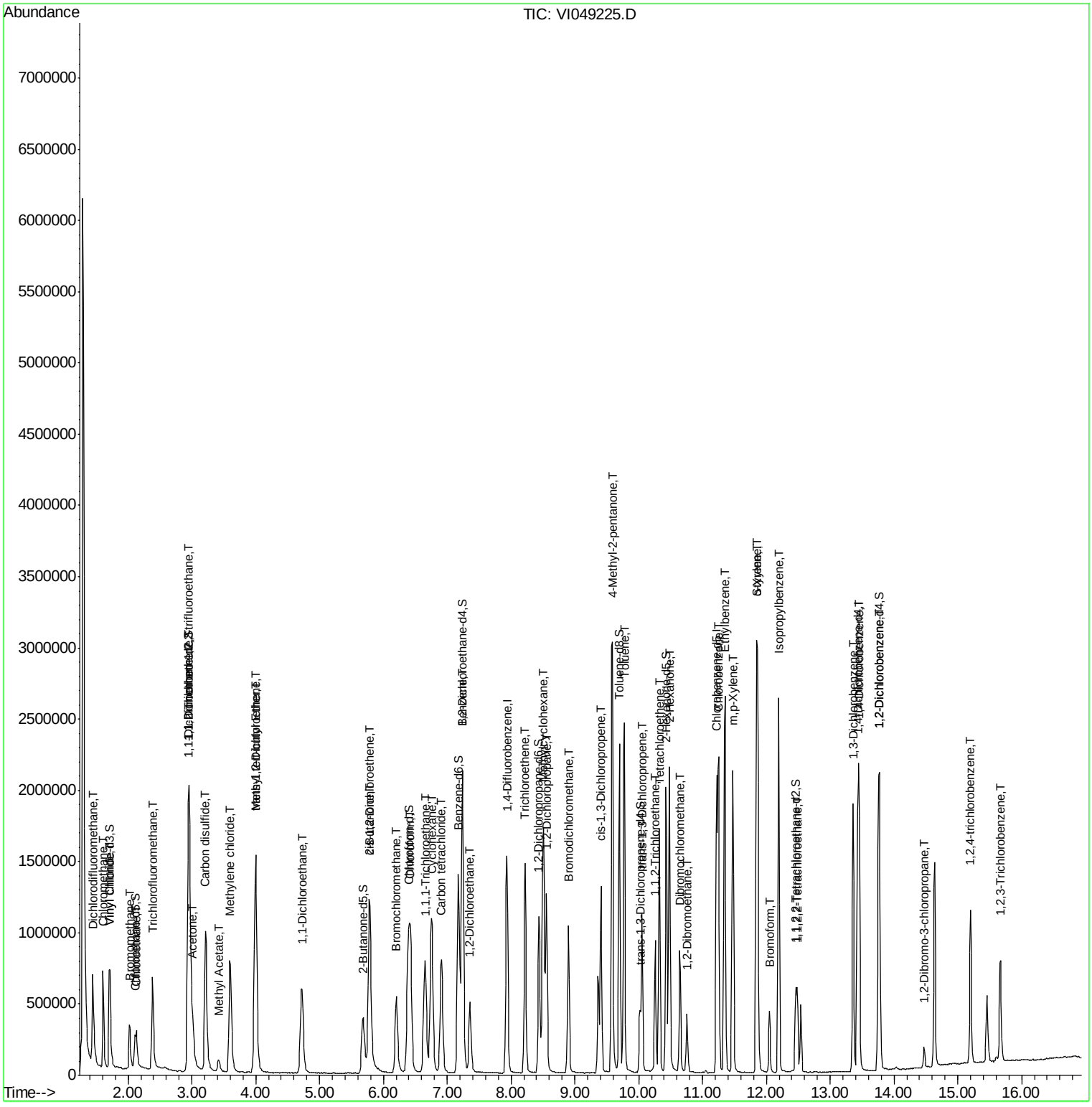
ANALYTE	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
2-Butanone-d5	0.067	0.072	0.01	8.3	± 50.0
Chloroform-d	0.783	0.744	0.01	-5	± 25.0
1,2-Dichloroethane-d4	0.320	0.318	0.01	-0.8	± 25.0
Benzene-d6	1.948	1.851	0.03	-5	± 25.0
1,2-Dichloropropane-d6	0.548	0.524	0.1	-4.2	± 25.0
Toluene-d8	1.437	1.305	0.2	-9.2	± 25.0
trans-1,3-Dichloropropene-d4	0.216	0.197	0.01	-8.7	± 25.0
2-Hexanone-d5	0.068	0.070	0.01	3.1	± 50.0
1,1,2,2-Tetrachloroethane-d2	0.249	0.238	0.01	-4.4	± 25.0
1,2-Dichlorobenzene-d4	0.877	0.815	0.06	-7	± 25.0

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049225.D
Acq On : 4 May 2016 14:05
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00538

Quant Time: May 05 05:11:59 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 14:21:29 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049225.D
Acq On : 4 May 2016 14:05
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00538

Quant Time: May 05 05:11:59 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 14:21:29 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1354316	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	1001728	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	409038	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	397271	4.76	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 95.20%			
7) Chloroethane-d5	2.11	69	224462	4.86	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 97.20%			
11) 1,1-Dichloroethene-d2	2.94	63	946099	4.82	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 96.40%			
20) 2-Butanone-d5	5.68	46	944087	52.30	ug/L	0.02
Spiked Amount 50.000	Range 40 - 130		Recovery = 104.60%			
24) Chloroform-d	6.39	84	1018915	4.80	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 96.00%			
26) 1,2-Dichloroethane-d4	7.24	65	432777	4.99	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.80%			
32) Benzene-d6	7.18	84	1790473	4.59	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 91.80%			
36) 1,2-Dichloropropane-d6	8.44	67	514982	4.69	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 93.80%			
41) Toluene-d8	9.70	98	1385417	4.81	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.20%			
43) trans-1,3-Dichloropropene-	10.02	79	211364	4.89	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 97.80%			
46) 2-Hexanone-d5	10.43	63	680195	49.88	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 99.76%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	252883	5.07	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 101.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	352807	4.92	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 98.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.45	85	763188	5.00	ug/L	98
3) Chloromethane	1.61	50	617344	4.73	ug/L	99
5) Vinyl chloride	1.72	62	426351	4.67	ug/L	99
6) Bromomethane	2.02	94	200163	4.53	ug/L	99
8) Chloroethane	2.13	64	195287	5.00	ug/L	99
9) Trichlorofluoromethane	2.38	101	619448	4.85	ug/L	98
10) 1,1,2-Trichloro-1,2,2-trif	2.97	101	579383	4.96	ug/L	99
12) 1,1-Dichloroethene	2.96	96	509957	4.66	ug/L	95
13) Acetone	3.01	43	541995	48.41	ug/L	98
14) Carbon disulfide	3.21	76	1865997	4.71	ug/L	100
15) Methyl Acetate	3.42	43	157956	4.94	ug/L	96
16) Methylene chloride	3.59	84	551626	4.58	ug/L	95
17) Methyl tert-butyl Ether	4.00	73	943871	4.73	ug/L	99
18) trans-1,2-Dichloroethene	4.00	96	563346	4.66	ug/L	94
19) 1,1-Dichloroethane	4.72	63	945620	4.62	ug/L	98
21) 2-Butanone	5.79	43	997378	49.25	ug/L	99
22) cis-1,2-Dichloroethene	5.78	96	577425	4.65	ug/L	90

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049225.D
Acq On : 4 May 2016 14:05
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00538

Quant Time: May 05 05:11:59 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Wed May 04 14:21:29 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.20	128	230269	4.62	ug/L	90
25) Chloroform	6.42	83	993954	4.56	ug/L	98
27) 1,2-Dichloroethane	7.35	62	500045	4.55	ug/L	98
29) 1,1,1-Trichloroethane	6.65	97	845456	4.44	ug/L	99
30) Cyclohexane	6.75	56	782523	4.66	ug/L	99
31) Carbon tetrachloride	6.91	117	746290	4.49	ug/L	99
33) Benzene	7.24	78	1916120	4.47	ug/L	100
34) Trichloroethene	8.22	95	519197	4.36	ug/L	94
35) Methylcyclohexane	8.51	83	719177	4.90	ug/L	99
37) 1,2-Dichloropropane	8.56	63	444820	4.42	ug/L	99
38) Bromodichloromethane	8.90	83	654224	4.46	ug/L	100
39) cis-1,3-Dichloropropene	9.41	75	668890	4.51	ug/L	98
40) 4-Methyl-2-pentanone	9.58	43	2427372	46.89	ug/L	99
42) Toluene	9.78	91	1705027	4.71	ug/L	98
44) trans-1,3-Dichloropropene	10.05	75	534360	4.70	ug/L	98
45) 1,1,2-Trichloroethane	10.26	97	247730	4.74	ug/L	97
47) Tetrachloroethene	10.33	164	363096	4.64	ug/L	99
48) 2-Hexanone	10.48	43	1675728	48.40	ug/L	99
49) Dibromochloromethane	10.64	129	375270	4.76	ug/L	98
50) 1,2-Dibromoethane	10.76	107	253972	4.66	ug/L	95
51) Chlorobenzene	11.25	112	1048779	4.83	ug/L	98
52) Ethylbenzene	11.35	91	1875948	5.02	ug/L	98
53) m,p-Xylene	11.48	106	667328	4.90	ug/L	96
54) o-Xylene	11.84	106	626974	4.92	ug/L	98
55) Styrene	11.86	104	1034154	4.89	ug/L	93
56) Isopropylbenzene	12.20	105	1657142	5.02	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.48	83	245183	4.86	ug/L	98
60) Bromoform	12.05	173	176351	4.62	ug/L	98
61) 1,3-Dichlorobenzene	13.36	146	688120	4.96	ug/L	98
62) 1,4-Dichlorobenzene	13.46	146	684982	4.81	ug/L	97
64) 1,2-Dichlorobenzene	13.77	146	560222	4.87	ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.47	75	33386	4.77	ug/L	99
66) 1,2,4-trichlorobenzene	15.20	180	316668	5.16	ug/L	97
67) 1,2,3-Trichlorobenzene	15.67	180	228556	5.03	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

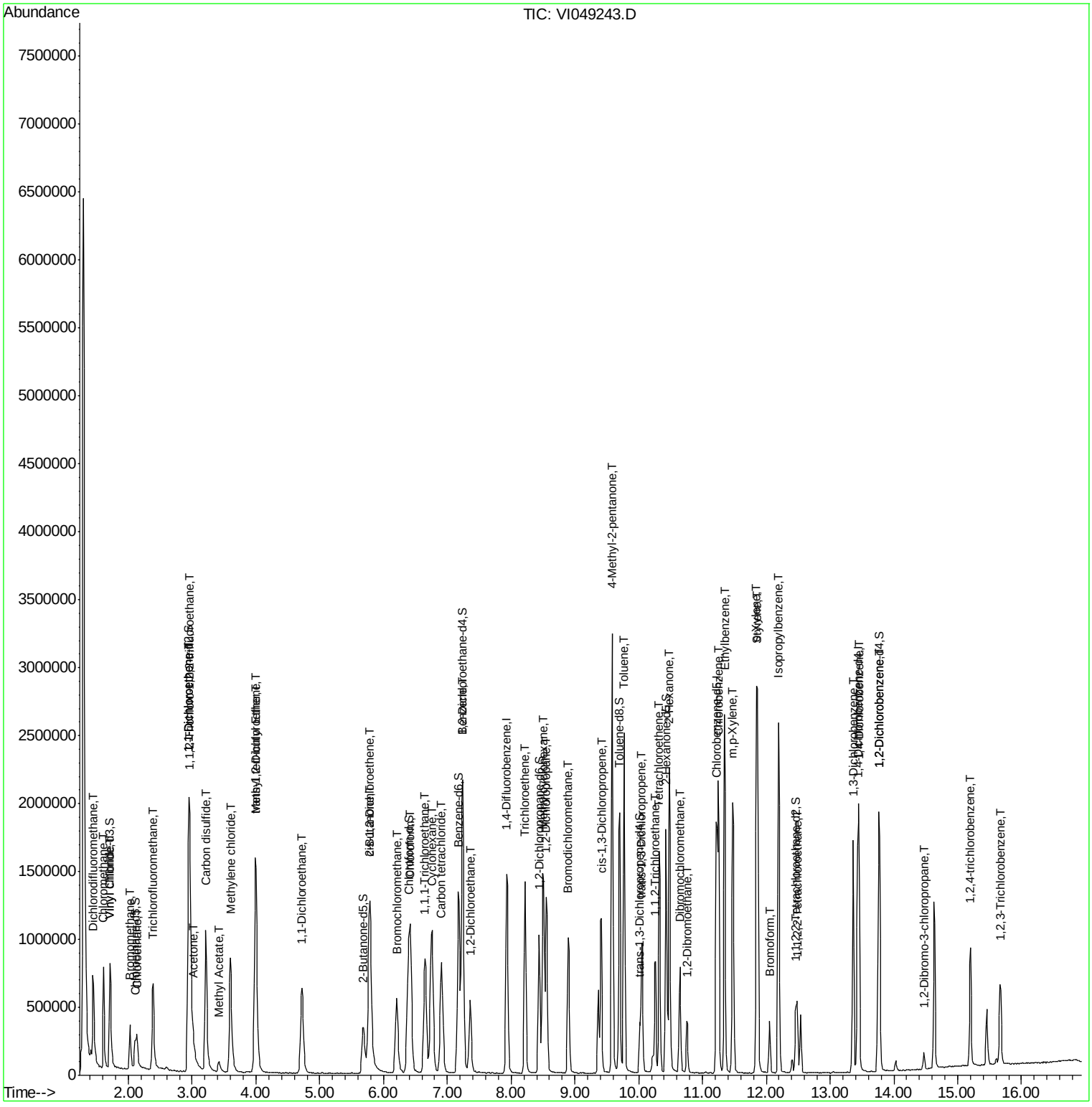
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049243.D
Acq On : 5 May 2016 00:11
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 05 06:57:57 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VSTD00539

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:16 AM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049243.D
Acq On : 5 May 2016 00:11
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 25 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00539

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:16 AM

Quant Time: May 05 06:57:57 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1317114	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	903674	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	344676	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	375612	4.63	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 92.60%			
7) Chloroethane-d5	2.10	69	211101	4.70	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 94.00%			
11) 1,1-Dichloroethene-d2	2.94	63	917267	4.80	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 96.00%			
20) 2-Butanone-d5	5.68	46	908119	51.73	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 103.46%			
24) Chloroform-d	6.38	84	992001	4.81	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 96.20%			
26) 1,2-Dichloroethane-d4	7.24	65	408304	4.84	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.80%			
32) Benzene-d6	7.17	84	1702259	4.84	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 96.80%			
36) 1,2-Dichloropropane-d6	8.44	67	467140	4.72	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 94.40%			
41) Toluene-d8	9.70	98	1249830	4.81	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.20%			
43) trans-1,3-Dichloropropene-	10.02	79	175111	4.49	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 89.80%			
46) 2-Hexanone-d5	10.43	63	601544	48.90	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 97.80%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	214910	4.77	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 95.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	283272	4.69	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 93.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.44	85	730307	4.92	ug/L	99
3) Chloromethane	1.61	50	662664	5.22	ug/L	98
5) Vinyl chloride	1.72	62	464376	5.23	ug/L	99
6) Bromomethane	2.02	94	203027	4.73	ug/L	92
8) Chloroethane	2.13	64	194177	5.12	ug/L	96
9) Trichlorofluoromethane	2.39	101	647991	5.22	ug/L	99
10) 1,1,2-Trichloro-1,2,2-trif	2.97	101	553936	4.88	ug/L	99
12) 1,1-Dichloroethene	2.95	96	531833	5.00	ug/L	86
13) Acetone	3.02	43	568406	52.21	ug/L	91
14) Carbon disulfide	3.21	76	1924204	4.99	ug/L	99
15) Methyl Acetate	3.42	43	155033	4.99	ug/L	94
16) Methylene chloride	3.60	84	587506	5.01	ug/L	97
17) Methyl tert-butyl Ether	3.99	73	991106	5.10	ug/L	99
18) trans-1,2-Dichloroethene	3.99	96	602862	5.13	ug/L	95
19) 1,1-Dichloroethane	4.72	63	1007828	5.06	ug/L	99
21) 2-Butanone	5.79	43	1040091	52.80	ug/L	98
22) cis-1,2-Dichloroethene	5.78	96	615224m	5.09	ug/L	

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049243.D
Acq On : 5 May 2016 00:11
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 25 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00539

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:16 AM

Quant Time: May 05 06:57:57 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
23) Bromochloromethane	6.21	128	238872	4.93	ug/L		95
25) Chloroform	6.42	83	1071712	5.06	ug/L		97
27) 1,2-Dichloroethane	7.36	62	543049	5.08	ug/L		98
29) 1,1,1-Trichloroethane	6.65	97	884456	5.15	ug/L		98
30) Cyclohexane	6.75	56	765931	5.06	ug/L		97
31) Carbon tetrachloride	6.91	117	768881	5.13	ug/L		100
33) Benzene	7.24	78	1967238	5.08	ug/L		100
34) Trichloroethene	8.21	95	523671	4.88	ug/L		97
35) Methylcyclohexane	8.50	83	629499	4.75	ug/L		98
37) 1,2-Dichloropropane	8.55	63	464556	5.12	ug/L		98
38) Bromodichloromethane	8.89	83	652416	4.93	ug/L		99
39) cis-1,3-Dichloropropene	9.42	75	627078	4.69	ug/L		97
40) 4-Methyl-2-pentanone	9.58	43	2422228	51.86	ug/L		99
42) Toluene	9.77	91	1650735	5.06	ug/L		99
44) trans-1,3-Dichloropropene	10.05	75	492669	4.81	ug/L		100
45) 1,1,2-Trichloroethane	10.26	97	237571	5.04	ug/L		98
47) Tetrachloroethene	10.32	164	337058	4.78	ug/L		93
48) 2-Hexanone	10.48	43	1605058	51.39	ug/L		98
49) Dibromochloromethane	10.65	129	343497	4.83	ug/L		99
50) 1,2-Dibromoethane	10.75	107	244522	4.97	ug/L		94
51) Chlorobenzene	11.25	112	980060	5.01	ug/L		98
52) Ethylbenzene	11.34	91	1718244	5.09	ug/L		100
53) m,p-Xylene	11.47	106	611980	4.98	ug/L		99
54) o-Xylene	11.85	106	575654	5.01	ug/L		100
55) Styrene	11.87	104	961627	5.05	ug/L		96
56) Isopropylbenzene	12.19	105	1527488	5.13	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.49	83	220528	4.84	ug/L		98
60) Bromoform	12.05	173	159428	4.96	ug/L		97
61) 1,3-Dichlorobenzene	13.36	146	591219	5.06	ug/L		98
62) 1,4-Dichlorobenzene	13.45	146	593246	4.94	ug/L		98
64) 1,2-Dichlorobenzene	13.78	146	487024	5.03	ug/L		98
65) 1,2-Dibromo-3-chloropropan	14.47	75	26285	4.45	ug/L	#	78
66) 1,2,4-trichlorobenzene	15.20	180	251543	4.86	ug/L		98
67) 1,2,3-Trichlorobenzene	15.67	180	187720	4.90	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

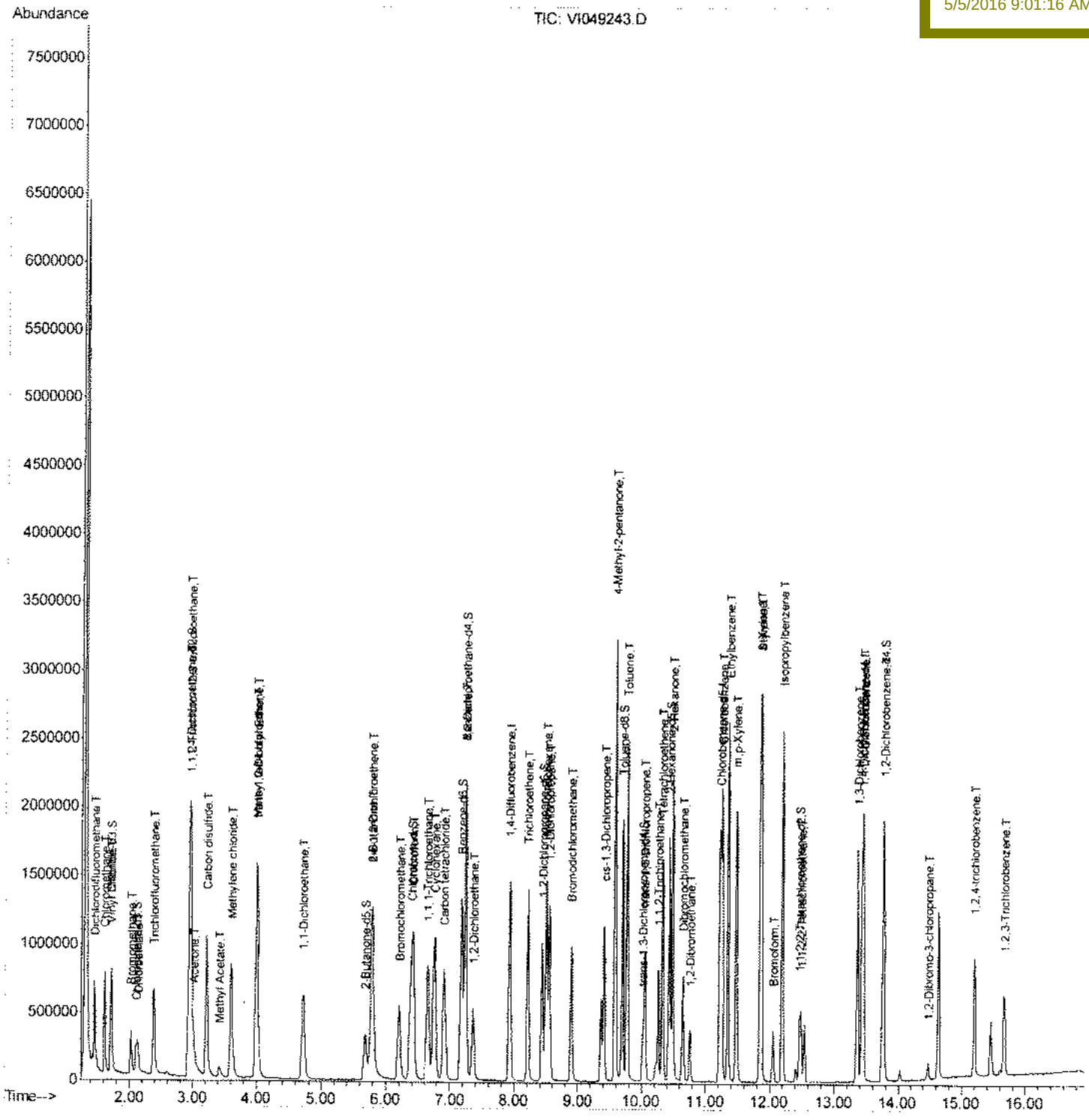
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049243.D
Acq On : 5 May 2016 00:11
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 05 06:57:57 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VSTD00539

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:16 AM



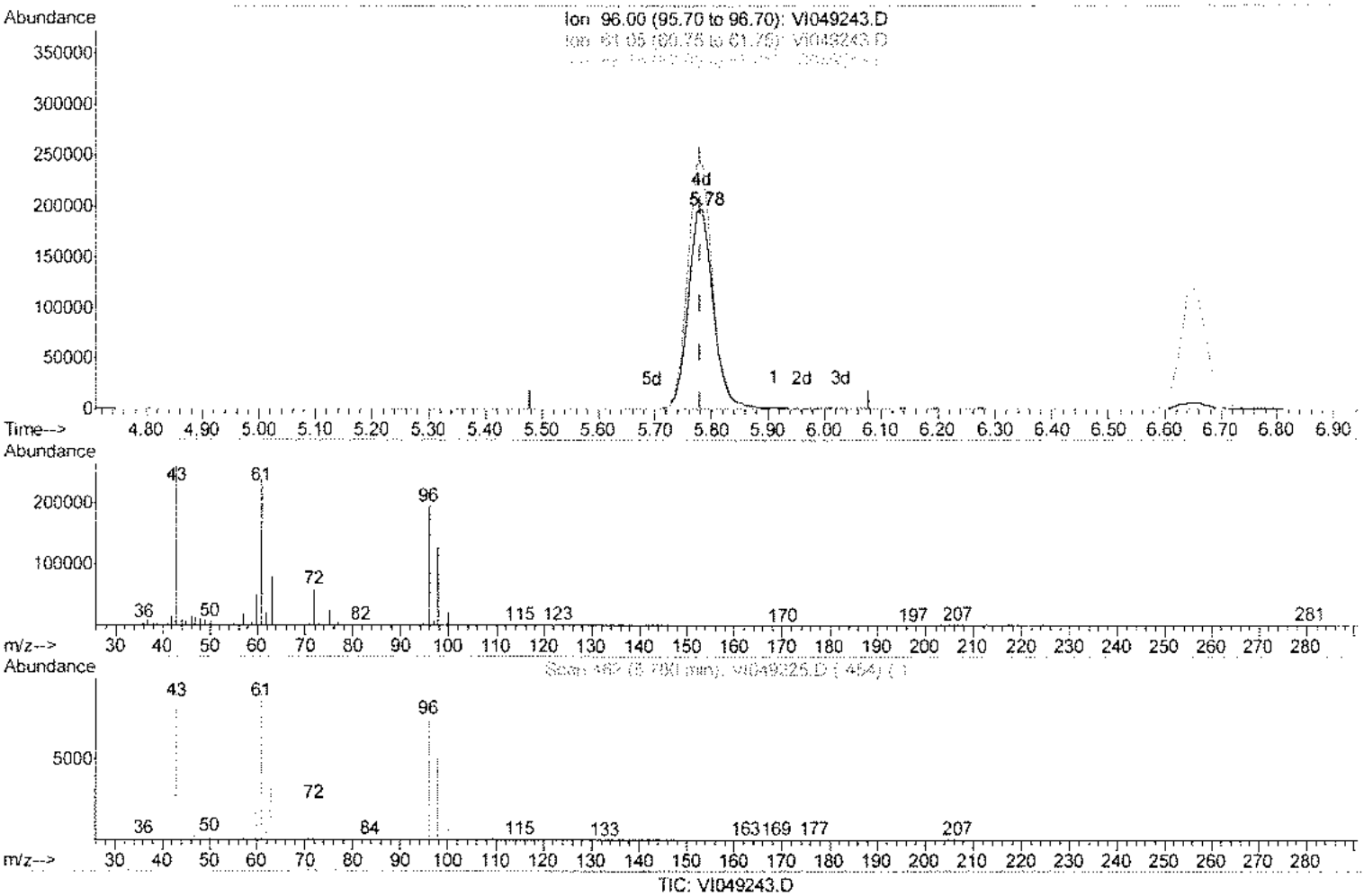
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049243.D
Acq On : 5 May 2016 00:11
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 05 05:25:09 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VSTD00539

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:16 AM



TIC: VI049243.D

(22) cis-1,2-Dichloroethene (T)

5.783min (+0.004) 5.09ug/L m M.D 05/07/16

response 615224

Ion	Exp%	Act%
96.00	100	100
61.05	117.30	122.29
68.15	0.00	0.10#
0.00	0.00	0.00

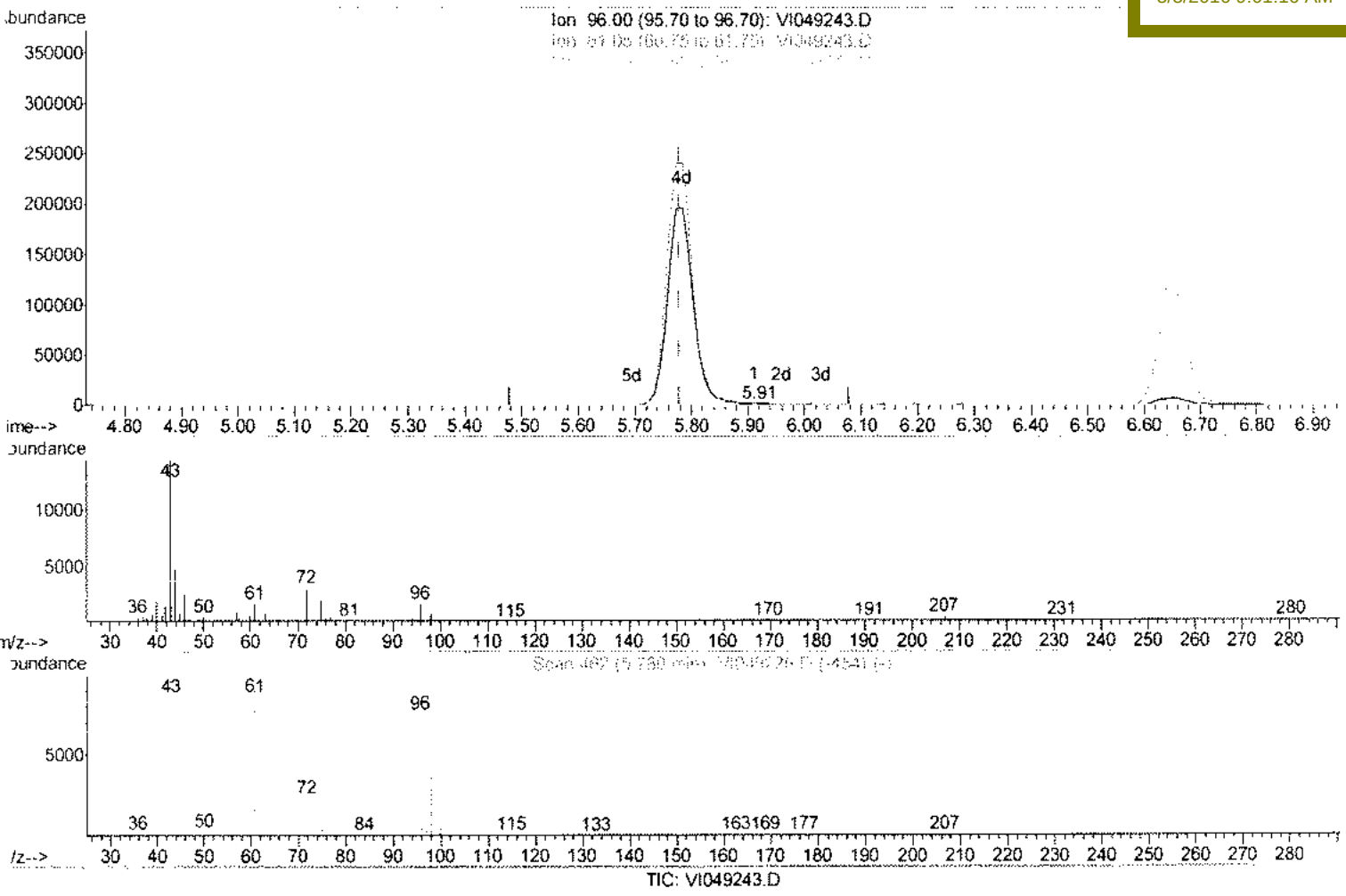
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049243.D
Acq On : 5 May 2016 00:11
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 05 05:25:09 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VSTD00539

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:16 AM



(22) cis-1,2-Dichloroethene (T)

5.911min (+0.131) 0.02ug/L

response 2608

Ion	Exp%	Act%
96.00	100	100
61.05	117.30	99.18
68.15	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049243.D
Acq On : 5 May 2016 00:11
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 05 06:57:57 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : VSTD00539

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:16 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1317114	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	903674	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	344676	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	375612	4.63	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 92.60%			
7) Chloroethane-d5	2.10	69	211101	4.70	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 94.00%			
11) 1,1-Dichloroethene-d2	2.94	63	917267	4.80	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 96.00%			
20) 2-Butanone-d5	5.68	46	908119	51.73	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 103.46%			
24) Chloroform-d	6.38	84	992001	4.81	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 96.20%			
26) 1,2-Dichloroethane-d4	7.24	65	408304	4.84	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.80%			
32) Benzene-d6	7.17	84	1702259	4.84	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 96.80%			
36) 1,2-Dichloropropane-d6	8.44	67	467140	4.72	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 94.40%			
41) Toluene-d8	9.70	98	1249830	4.81	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.20%			
43) trans-1,3-Dichloropropene-	10.02	79	175111	4.49	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 89.80%			
46) 2-Hexanone-d5	10.43	63	601544	48.90	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 97.80%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	214910	4.77	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 95.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	283272	4.69	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 93.80%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.44	85	730307	4.92	ug/L	99
3) Chloromethane	1.61	50	662664	5.22	ug/L	98
5) Vinyl chloride	1.72	62	464376	5.23	ug/L	99
6) Bromomethane	2.02	94	203027	4.73	ug/L	92
8) Chloroethane	2.13	64	194177	5.12	ug/L	96
9) Trichlorofluoromethane	2.39	101	647991	5.22	ug/L	99
10) 1,1,2-Trichloro-1,2,2-trif	2.97	101	553936	4.88	ug/L	99
12) 1,1-Dichloroethene	2.95	96	531833	5.00	ug/L	86
13) Acetone	3.02	43	568406	52.21	ug/L	91
14) Carbon disulfide	3.21	76	1924204	4.99	ug/L	99
15) Methyl Acetate	3.42	43	155033	4.99	ug/L	94
16) Methylene chloride	3.60	84	587506	5.01	ug/L	97
17) Methyl tert-butyl Ether	3.99	73	991106	5.10	ug/L	99
18) trans-1,2-Dichloroethene	3.99	96	602862	5.13	ug/L	95
19) 1,1-Dichloroethane	4.72	63	1007828	5.06	ug/L	99
21) 2-Butanone	5.79	43	1040091	52.80	ug/L	98
22) cis-1,2-Dichloroethene	5.78	96	615224m	5.09	ug/L	

M.D 05/07/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049243.D
Acq On : 5 May 2016 00:11
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 05 06:57:57 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : VSTD00539

Manual Integrations APPROVED
mohammad
5/5/2016 9:01:16 AM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
23) Bromochloromethane	6.21	128	238872	4.93	ug/L		95
25) Chloroform	6.42	83	1071712	5.06	ug/L		97
27) 1,2-Dichloroethane	7.36	62	543049	5.08	ug/L		98
29) 1,1,1-Trichloroethane	6.65	97	884456	5.15	ug/L		98
30) Cyclohexane	6.75	56	765931	5.06	ug/L		97
31) Carbon tetrachloride	6.91	117	768881	5.13	ug/L		100
33) Benzene	7.24	78	1967238	5.08	ug/L		100
34) Trichloroethene	8.21	95	523671	4.88	ug/L		97
35) Methylcyclohexane	8.50	83	629499	4.75	ug/L		98
37) 1,2-Dichloropropane	8.55	63	464556	5.12	ug/L		98
38) Bromodichloromethane	8.89	83	652416	4.93	ug/L		99
39) cis-1,3-Dichloropropene	9.42	75	627078	4.69	ug/L		97
40) 4-Methyl-2-pentanone	9.58	43	2422228	51.86	ug/L		99
42) Toluene	9.77	91	1650735	5.06	ug/L		99
44) trans-1,3-Dichloropropene	10.05	75	492669	4.81	ug/L		100
45) 1,1,2-Trichloroethane	10.26	97	237571	5.04	ug/L		98
47) Tetrachloroethene	10.32	164	337058	4.78	ug/L		93
48) 2-Hexanone	10.48	43	1605058	51.39	ug/L		98
49) Dibromochloromethane	10.65	129	343497	4.83	ug/L		99
50) 1,2-Dibromoethane	10.75	107	244522	4.97	ug/L		94
51) Chlorobenzene	11.25	112	980060	5.01	ug/L		98
52) Ethylbenzene	11.34	91	1718244	5.09	ug/L		100
53) m,p-Xylene	11.47	106	611980	4.98	ug/L		99
54) o-Xylene	11.85	106	575654	5.01	ug/L		100
55) Styrene	11.87	104	961627	5.05	ug/L		96
56) Isopropylbenzene	12.19	105	1527488	5.13	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.49	83	220528	4.84	ug/L		98
60) Bromoform	12.05	173	159428	4.96	ug/L		97
61) 1,3-Dichlorobenzene	13.36	146	591219	5.06	ug/L		98
62) 1,4-Dichlorobenzene	13.45	146	593246	4.94	ug/L		98
64) 1,2-Dichlorobenzene	13.78	146	487024	5.03	ug/L		98
65) 1,2-Dibromo-3-chloropropan	14.47	75	26285	4.45	ug/L	#	78
66) 1,2,4-trichlorobenzene	15.20	180	251543	4.86	ug/L		98
67) 1,2,3-Trichlorobenzene	15.67	180	187720	4.90	ug/L		97

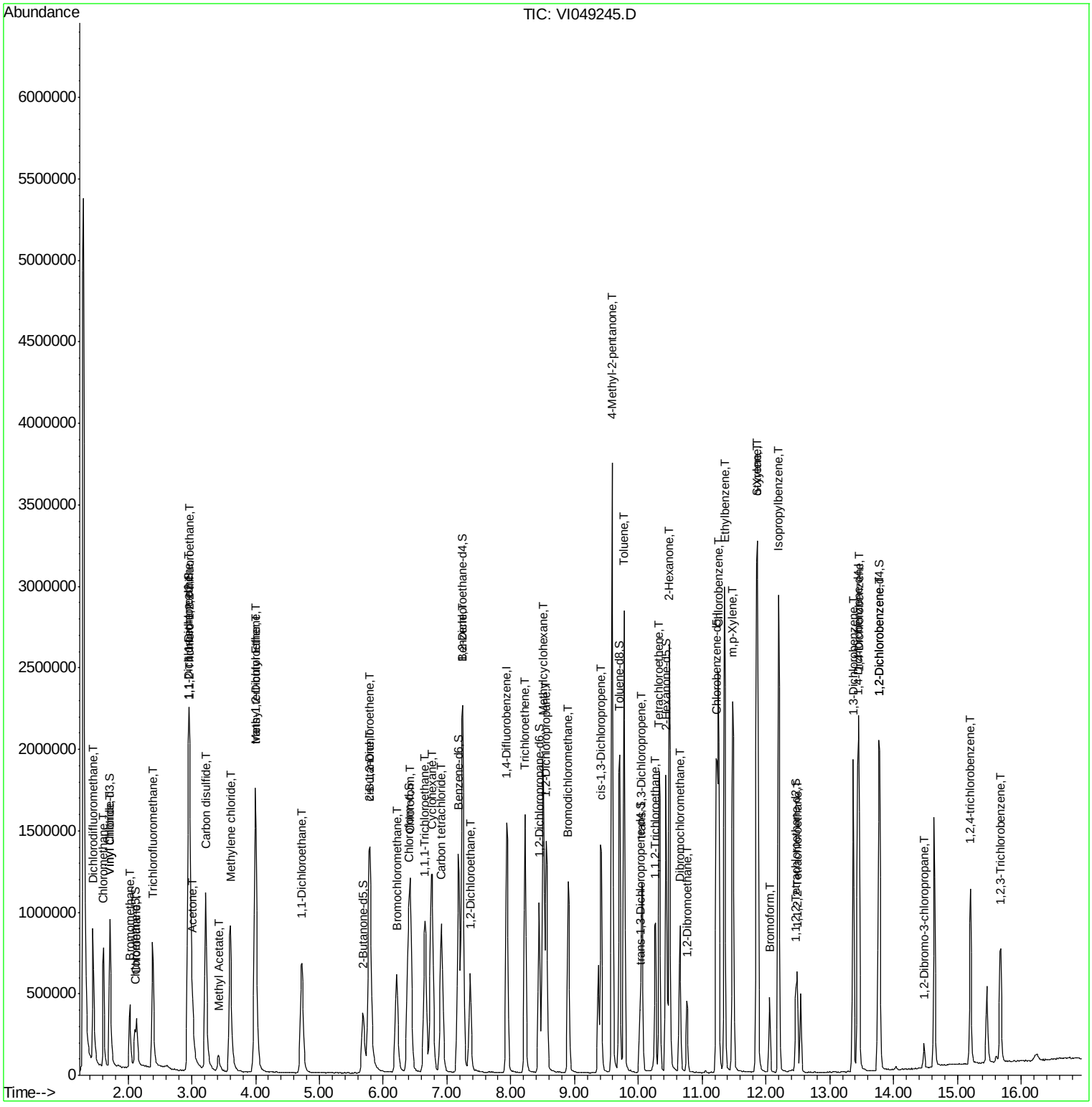
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\Data\VI050516\
Data File : VI049245.D
Acq On : 5 May 2016 10:15
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00540

Quant Time: May 06 04:36:26 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\Data\VI050516\
Data File : VI049245.D
Acq On : 5 May 2016 10:15
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00540

Quant Time: May 06 04:36:26 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1400841	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	948431	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	368197	5.00	ug/L	0.01
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.72	65	390336	4.53	ug/L	0.01
Spiked Amount 5.000	Range 40 - 130		Recovery = 90.60%			
7) Chloroethane-d5	2.11	69	222774	4.66	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 93.20%			
11) 1,1-Dichloroethene-d2	2.94	63	932804	4.59	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 91.80%			
20) 2-Butanone-d5	5.68	46	899951	48.20	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 96.40%			
24) Chloroform-d	6.39	84	987828	4.50	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 90.00%			
26) 1,2-Dichloroethane-d4	7.24	65	407190	4.54	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 90.80%			
32) Benzene-d6	7.18	84	1695967	4.59	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 91.80%			
36) 1,2-Dichloropropane-d6	8.45	67	478823	4.61	ug/L	0.01
Spiked Amount 5.000	Range 60 - 140		Recovery = 92.20%			
41) Toluene-d8	9.71	98	1237704	4.54	ug/L	0.01
Spiked Amount 5.000	Range 70 - 130		Recovery = 90.80%			
43) trans-1,3-Dichloropropene-	10.02	79	187030	4.57	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 91.40%			
46) 2-Hexanone-d5	10.44	63	617924	47.86	ug/L	0.01
Spiked Amount 50.000	Range 45 - 130		Recovery = 95.72%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	220938	4.68	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 93.60%			
63) 1,2-Dichlorobenzene-d4	13.76	152	285343	4.42	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 88.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.45	85	874839	5.54	ug/L	98
3) Chloromethane	1.62	50	714612	5.29	ug/L	98
5) Vinyl chloride	1.72	62	529506	5.61	ug/L	96
6) Bromomethane	2.03	94	248668	5.44	ug/L	99
8) Chloroethane	2.14	64	236620	5.86	ug/L	91
9) Trichlorofluoromethane	2.38	101	761388	5.77	ug/L	99
10) 1,1,2-Trichloro-1,2,2-trif	2.98	101	676868	5.60	ug/L	99
12) 1,1-Dichloroethene	2.96	96	590388	5.22	ug/L	92
13) Acetone	3.01	43	662078	57.18	ug/L	96
14) Carbon disulfide	3.22	76	2121868	5.18	ug/L	100
15) Methyl Acetate	3.42	43	178458	5.40	ug/L	96
16) Methylene chloride	3.61	84	627648	5.04	ug/L	95
17) Methyl tert-butyl Ether	4.00	73	1108616	5.37	ug/L	99
18) trans-1,2-Dichloroethene	4.00	96	654759	5.24	ug/L	96
19) 1,1-Dichloroethane	4.73	63	1092395	5.16	ug/L	100
21) 2-Butanone	5.79	43	1176798	56.17	ug/L	99
22) cis-1,2-Dichloroethene	5.78	96	660236	5.14	ug/L	89

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\Data\VI050516\
Data File : VI049245.D
Acq On : 5 May 2016 10:15
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00540

Quant Time: May 06 04:36:26 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.21	128	264512	5.13	ug/L	93
25) Chloroform	6.43	83	1171280	5.20	ug/L	100
27) 1,2-Dichloroethane	7.36	62	606547	5.34	ug/L	100
29) 1,1,1-Trichloroethane	6.66	97	971956	5.40	ug/L	97
30) Cyclohexane	6.76	56	901595	5.68	ug/L	98
31) Carbon tetrachloride	6.91	117	864104	5.49	ug/L	98
33) Benzene	7.25	78	2195225	5.41	ug/L	100
34) Trichloroethene	8.22	95	600950	5.33	ug/L	97
35) Methylcyclohexane	8.51	83	821210	5.91	ug/L	100
37) 1,2-Dichloropropane	8.56	63	508548	5.34	ug/L	99
38) Bromodichloromethane	8.90	83	746639	5.38	ug/L	99
39) cis-1,3-Dichloropropene	9.41	75	749431	5.34	ug/L	99
40) 4-Methyl-2-pentanone	9.59	43	2769733	56.50	ug/L	99
42) Toluene	9.78	91	1837161	5.36	ug/L	98
44) trans-1,3-Dichloropropene	10.06	75	585853	5.45	ug/L	97
45) 1,1,2-Trichloroethane	10.27	97	267001	5.40	ug/L	98
47) Tetrachloroethene	10.33	164	398726	5.39	ug/L	98
48) 2-Hexanone	10.48	43	1836447	56.03	ug/L	99
49) Dibromochloromethane	10.65	129	407336	5.46	ug/L	97
50) 1,2-Dibromoethane	10.76	107	279070	5.41	ug/L	97
51) Chlorobenzene	11.25	112	1097413	5.34	ug/L	97
52) Ethylbenzene	11.35	91	1942037	5.49	ug/L	100
53) m,p-Xylene	11.48	106	692185	5.37	ug/L	99
54) o-Xylene	11.85	106	648446	5.38	ug/L	99
55) Styrene	11.87	104	1090889	5.45	ug/L	97
56) Isopropylbenzene	12.20	105	1742953	5.58	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.49	83	254023	5.32	ug/L	99
60) Bromoform	12.06	173	191745	5.59	ug/L	97
61) 1,3-Dichlorobenzene	13.37	146	666033	5.33	ug/L	98
62) 1,4-Dichlorobenzene	13.46	146	661270	5.15	ug/L	98
64) 1,2-Dichlorobenzene	13.78	146	556914	5.38	ug/L	96
65) 1,2-Dibromo-3-chloropropan	14.48	75	31467	4.99	ug/L	95
66) 1,2,4-trichlorobenzene	15.21	180	305542	5.53	ug/L	99
67) 1,2,3-Trichlorobenzene	15.68	180	222470	5.44	ug/L	98

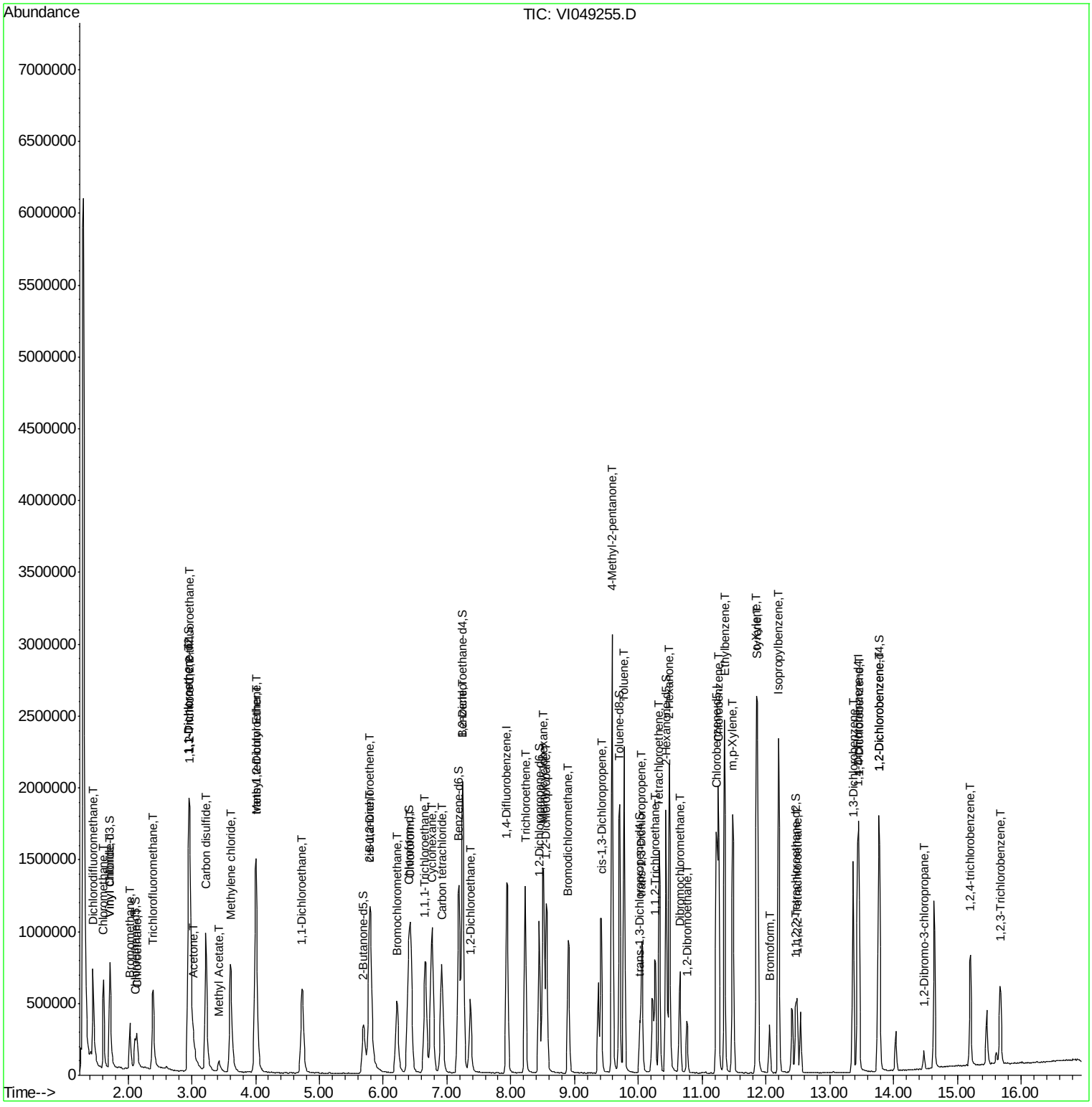
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049255.D
Acq On : 5 May 2016 16:16
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 13 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00541

Quant Time: May 06 04:44:26 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049255.D
Acq On : 5 May 2016 16:16
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 13 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00541

Quant Time: May 06 04:44:26 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.95	114	1235299	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	831818	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	319065	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.72	65	369908	4.86	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 97.20%			
7) Chloroethane-d5	2.11	69	212761	5.05	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 101.00%			
11) 1,1-Dichloroethene-d2	2.95	63	878013	4.90	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 98.00%			
20) 2-Butanone-d5	5.69	46	922328	56.02	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 112.04%			
24) Chloroform-d	6.40	84	971856	5.02	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 100.40%			
26) 1,2-Dichloroethane-d4	7.25	65	418229	5.28	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 105.60%			
32) Benzene-d6	7.19	84	1667844	5.15	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 103.00%			
36) 1,2-Dichloropropane-d6	8.45	67	468018	5.14	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 102.80%			
41) Toluene-d8	9.71	98	1193987	4.99	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.80%			
43) trans-1,3-Dichloropropene-	10.02	79	175391	4.89	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 97.80%			
46) 2-Hexanone-d5	10.44	63	598214	52.83	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 105.66%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	213248	5.15	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 103.00%			
63) 1,2-Dichlorobenzene-d4	13.76	152	271041	4.85	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 97.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.45	85	714152	5.13	ug/L	100
3) Chloromethane	1.62	50	605465	5.08	ug/L	98
5) Vinyl chloride	1.72	62	432005	5.19	ug/L	96
6) Bromomethane	2.03	94	200448	4.98	ug/L	95
8) Chloroethane	2.14	64	185632	5.22	ug/L	97
9) Trichlorofluoromethane	2.39	101	591418	5.08	ug/L	99
10) 1,1,2-Trichloro-1,2,2-trif	2.98	101	540291	5.07	ug/L	98
12) 1,1-Dichloroethene	2.96	96	493581	4.95	ug/L	82
13) Acetone	3.02	43	554215	54.28	ug/L	91
14) Carbon disulfide	3.22	76	1772136	4.90	ug/L	99
15) Methyl Acetate	3.43	43	150578	5.17	ug/L	95
16) Methylene chloride	3.61	84	545239	4.96	ug/L	95
17) Methyl tert-butyl Ether	4.00	73	936466	5.14	ug/L	99
18) trans-1,2-Dichloroethene	4.01	96	547189	4.97	ug/L	96
19) 1,1-Dichloroethane	4.73	63	954530	5.11	ug/L	97
21) 2-Butanone	5.80	43	966983	52.34	ug/L	97
22) cis-1,2-Dichloroethene	5.79	96	560927	4.95	ug/L #	93

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049255.D
Acq On : 5 May 2016 16:16
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 13 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00541

Quant Time: May 06 04:44:26 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

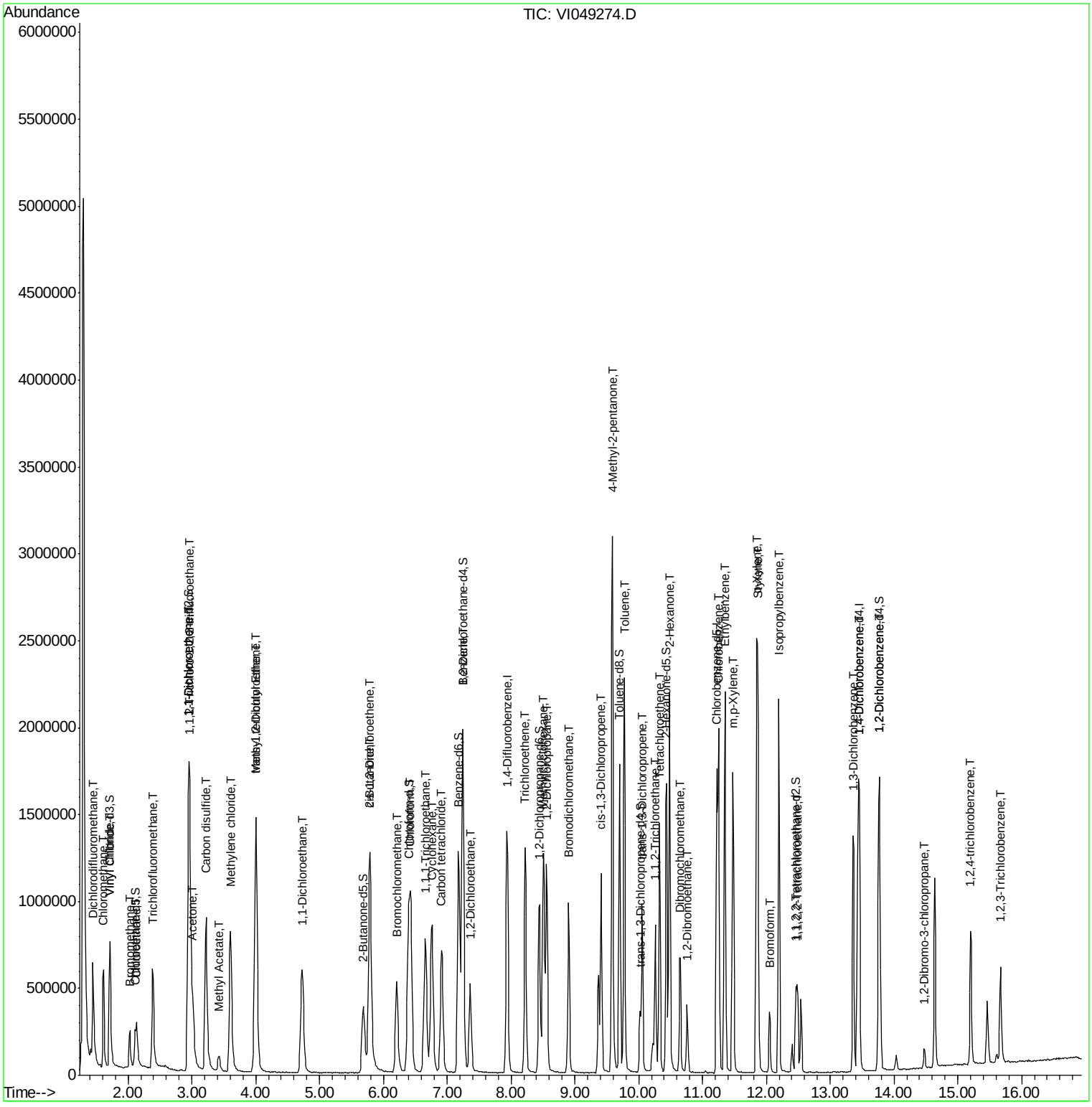
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.21	128	224701	4.94	ug/L	87
25) Chloroform	6.43	83	1004724	5.06	ug/L	99
27) 1,2-Dichloroethane	7.36	62	516238	5.15	ug/L	99
29) 1,1,1-Trichloroethane	6.67	97	812100	5.14	ug/L	97
30) Cyclohexane	6.76	56	725551	5.21	ug/L	96
31) Carbon tetrachloride	6.92	117	703969	5.10	ug/L	98
33) Benzene	7.25	78	1845852	5.18	ug/L	100
34) Trichloroethene	8.23	95	489375	4.95	ug/L	96
35) Methylcyclohexane	8.52	83	631757	5.18	ug/L	99
37) 1,2-Dichloropropane	8.57	63	438556	5.25	ug/L	98
38) Bromodichloromethane	8.90	83	601241	4.94	ug/L	97
39) cis-1,3-Dichloropropene	9.42	75	616876	5.01	ug/L	98
40) 4-Methyl-2-pentanone	9.59	43	2293928	53.36	ug/L	98
42) Toluene	9.78	91	1513251	5.04	ug/L	99
44) trans-1,3-Dichloropropene	10.06	75	461257	4.89	ug/L	98
45) 1,1,2-Trichloroethane	10.27	97	222286	5.13	ug/L	96
47) Tetrachloroethene	10.33	164	317508	4.89	ug/L	93
48) 2-Hexanone	10.48	43	1508416	52.47	ug/L	99
49) Dibromochloromethane	10.65	129	326411	4.99	ug/L	96
50) 1,2-Dibromoethane	10.76	107	225798	4.99	ug/L	97
51) Chlorobenzene	11.25	112	889821	4.94	ug/L	98
52) Ethylbenzene	11.35	91	1553128	5.00	ug/L	100
53) m,p-Xylene	11.48	106	558818	4.94	ug/L	97
54) o-Xylene	11.85	106	518776	4.90	ug/L	99
55) Styrene	11.87	104	876554	5.00	ug/L	99
56) Isopropylbenzene	12.20	105	1370095	5.00	ug/L	98
58) 1,1,2,2-Tetrachloroethane	12.49	83	211712	5.05	ug/L	99
60) Bromoform	12.06	173	139853	4.70	ug/L	100
61) 1,3-Dichlorobenzene	13.37	146	531089	4.91	ug/L	99
62) 1,4-Dichlorobenzene	13.46	146	540227	4.86	ug/L	99
64) 1,2-Dichlorobenzene	13.78	146	449518	5.01	ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.48	75	27546	5.04	ug/L	94
66) 1,2,4-trichlorobenzene	15.21	180	233697	4.88	ug/L	98
67) 1,2,3-Trichlorobenzene	15.68	180	171609	4.84	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049274.D
Acq On : 6 May 2016 2:57
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 32 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00542

Quant Time: May 06 05:24:16 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049274.D
Acq On : 6 May 2016 2:57
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 32 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00542

Quant Time: May 06 05:24:16 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1253214	5.00	ug/L	-0.01
28) Chlorobenzene-d5	11.22	117	819708	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	302969	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	362555	4.70	ug/L	-0.01
Spiked Amount 5.000	Range 40 - 130		Recovery = 94.00%			
7) Chloroethane-d5	2.11	69	229752	5.38	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 107.60%			
11) 1,1-Dichloroethene-d2	2.95	63	851851	4.69	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 93.80%			
20) 2-Butanone-d5	5.68	46	911979	54.60	ug/L	-0.01
Spiked Amount 50.000	Range 40 - 130		Recovery = 109.20%			
24) Chloroform-d	6.39	84	969209	4.94	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.80%			
26) 1,2-Dichloroethane-d4	7.24	65	407665	5.08	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.60%			
32) Benzene-d6	7.18	84	1615167	5.06	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 101.20%			
36) 1,2-Dichloropropane-d6	8.45	67	462962	5.16	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 103.20%			
41) Toluene-d8	9.70	98	1112652	4.72	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 130		Recovery = 94.40%			
43) trans-1,3-Dichloropropene-	10.02	79	162620	4.60	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 92.00%			
46) 2-Hexanone-d5	10.44	63	590745	52.94	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 105.88%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	207124	5.07	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 101.40%			
63) 1,2-Dichlorobenzene-d4	13.76	152	252018	4.74	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 94.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.45	85	643426	4.56	ug/L	98
3) Chloromethane	1.62	50	569284	4.71	ug/L	96
5) Vinyl chloride	1.72	62	426331	5.05	ug/L	100
6) Bromomethane	2.03	94	127363	3.12	ug/L	94
8) Chloroethane	2.14	64	197052	5.46	ug/L	99
9) Trichlorofluoromethane	2.38	101	564786	4.78	ug/L	96
10) 1,1,2-Trichloro-1,2,2-trif	2.97	101	474642	4.39	ug/L	99
12) 1,1-Dichloroethene	2.96	96	480589	4.75	ug/L	91
13) Acetone	3.01	43	538629	52.00	ug/L	98
14) Carbon disulfide	3.22	76	1696882	4.63	ug/L	99
15) Methyl Acetate	3.43	43	165758	5.61	ug/L	98
16) Methylene chloride	3.60	84	553026	4.96	ug/L	97
17) Methyl tert-butyl Ether	4.00	73	940893	5.09	ug/L	99
18) trans-1,2-Dichloroethene	4.00	96	541908	4.85	ug/L	93
19) 1,1-Dichloroethane	4.73	63	947895	5.00	ug/L	99
21) 2-Butanone	5.79	43	1009482	53.86	ug/L	97
22) cis-1,2-Dichloroethene	5.78	96	565702	4.92	ug/L	91

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049274.D
Acq On : 6 May 2016 2:57
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 32 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00542

Quant Time: May 06 05:24:16 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
23) Bromochloromethane	6.20	128	227586	4.93	ug/L		91
25) Chloroform	6.43	83	1011554	5.02	ug/L		96
27) 1,2-Dichloroethane	7.36	62	514516	5.06	ug/L		100
29) 1,1,1-Trichloroethane	6.66	97	790607	5.08	ug/L		98
30) Cyclohexane	6.76	56	607812	4.43	ug/L		98
31) Carbon tetrachloride	6.91	117	662862	4.87	ug/L		99
33) Benzene	7.25	78	1812822	5.17	ug/L		100
34) Trichloroethene	8.22	95	471339	4.84	ug/L		98
35) Methylcyclohexane	8.51	83	507713	4.23	ug/L		98
37) 1,2-Dichloropropane	8.56	63	420191	5.10	ug/L		99
38) Bromodichloromethane	8.90	83	604854	5.04	ug/L		100
39) cis-1,3-Dichloropropene	9.41	75	570123	4.70	ug/L		100
40) 4-Methyl-2-pentanone	9.59	43	2293121	54.13	ug/L		99
42) Toluene	9.78	91	1465753	4.95	ug/L		98
44) trans-1,3-Dichloropropene	10.05	75	443082	4.77	ug/L		100
45) 1,1,2-Trichloroethane	10.26	97	224304	5.25	ug/L		98
47) Tetrachloroethene	10.33	164	290410	4.54	ug/L		94
48) 2-Hexanone	10.48	43	1534157	54.15	ug/L		98
49) Dibromochloromethane	10.65	129	322130	5.00	ug/L		100
50) 1,2-Dibromoethane	10.76	107	223987	5.02	ug/L	#	98
51) Chlorobenzene	11.25	112	863141	4.86	ug/L		99
52) Ethylbenzene	11.35	91	1443111	4.72	ug/L		99
53) m,p-Xylene	11.48	106	520081	4.67	ug/L		98
54) o-Xylene	11.85	106	497295	4.77	ug/L		99
55) Styrene	11.87	104	830187	4.80	ug/L		100
56) Isopropylbenzene	12.20	105	1226751	4.54	ug/L		98
58) 1,1,2,2-Tetrachloroethane	12.48	83	207012	5.01	ug/L		99
60) Bromoform	12.05	173	138937	4.92	ug/L		99
61) 1,3-Dichlorobenzene	13.37	146	511928	4.98	ug/L		98
62) 1,4-Dichlorobenzene	13.46	146	519477	4.92	ug/L		99
64) 1,2-Dichlorobenzene	13.78	146	427901	5.02	ug/L		99
65) 1,2-Dibromo-3-chloropropan	14.47	75	28348	5.47	ug/L		91
66) 1,2,4-trichlorobenzene	15.20	180	228948	5.03	ug/L		95
67) 1,2,3-Trichlorobenzene	15.67	180	170204	5.06	ug/L		97

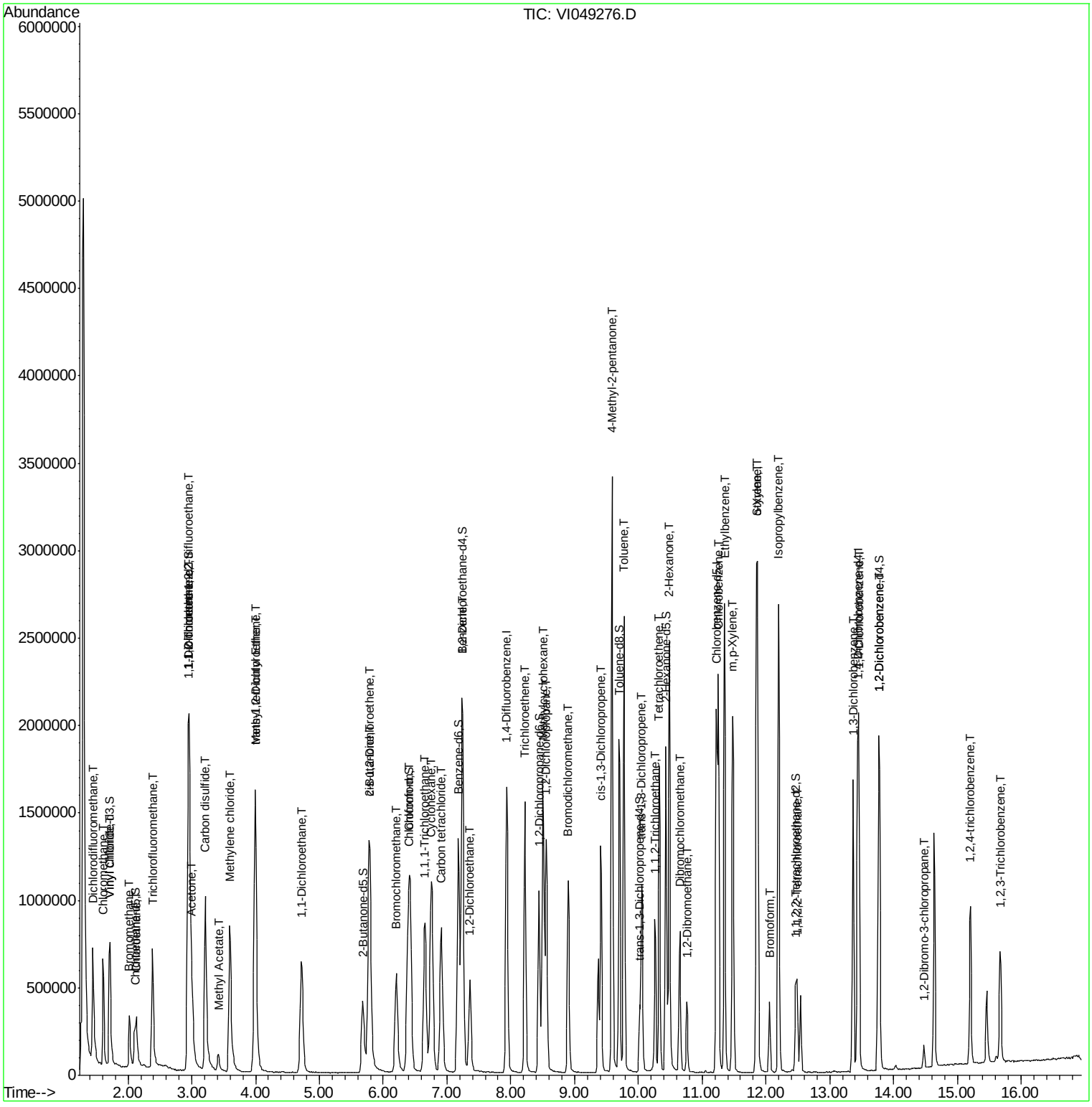
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\Data\VI050616\
Data File : VI049276.D
Acq On : 6 May 2016 10:21
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00543

Quant Time: May 07 04:01:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\Data\VI050616\
Data File : VI049276.D
Acq On : 6 May 2016 10:21
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00543

Quant Time: May 07 04:01:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1457810	5.00	ug/L	-0.01
28) Chlorobenzene-d5	11.22	117	978595	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	385883	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	357956	3.99	ug/L	-0.01
Spiked Amount 5.000	Range 40 - 130		Recovery = 79.80%			
7) Chloroethane-d5	2.10	69	227142	4.57	ug/L	-0.01
Spiked Amount 5.000	Range 65 - 130		Recovery = 91.40%			
11) 1,1-Dichloroethene-d2	2.94	63	885353	4.19	ug/L	-0.01
Spiked Amount 5.000	Range 60 - 125		Recovery = 83.80%			
20) 2-Butanone-d5	5.68	46	969877	49.91	ug/L	-0.01
Spiked Amount 50.000	Range 40 - 130		Recovery = 99.82%			
24) Chloroform-d	6.39	84	1009082	4.42	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 88.40%			
26) 1,2-Dichloroethane-d4	7.24	65	423180	4.53	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 130		Recovery = 90.60%			
32) Benzene-d6	7.18	84	1697006	4.45	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 89.00%			
36) 1,2-Dichloropropane-d6	8.45	67	484322	4.52	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 90.40%			
41) Toluene-d8	9.70	98	1203152	4.28	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 130		Recovery = 85.60%			
43) trans-1,3-Dichloropropene-	10.02	79	180403	4.27	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 85.40%			
46) 2-Hexanone-d5	10.43	63	615291	46.19	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 92.38%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	221823	4.55	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 91.00%			
63) 1,2-Dichlorobenzene-d4	13.76	152	280133	4.14	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 82.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.45	85	768665	4.68	ug/L	99
3) Chloromethane	1.61	50	627026	4.46	ug/L	100
5) Vinyl chloride	1.71	62	480547	4.89	ug/L	99
6) Bromomethane	2.02	94	187937	3.95	ug/L	94
8) Chloroethane	2.13	64	216902	5.16	ug/L	97
9) Trichlorofluoromethane	2.38	101	681837	4.96	ug/L	99
10) 1,1,2-Trichloro-1,2,2-trif	2.96	101	600097	4.77	ug/L	99
12) 1,1-Dichloroethene	2.95	96	550063	4.67	ug/L	92
13) Acetone	3.00	43	633400	52.56	ug/L	97
14) Carbon disulfide	3.21	76	1984629	4.65	ug/L	99
15) Methyl Acetate	3.42	43	170853	4.97	ug/L	100
16) Methylene chloride	3.59	84	594079	4.58	ug/L	96
17) Methyl tert-butyl Ether	4.00	73	1010102	4.70	ug/L	99
18) trans-1,2-Dichloroethene	4.00	96	614508	4.72	ug/L	98
19) 1,1-Dichloroethane	4.72	63	1039081	4.71	ug/L	99
21) 2-Butanone	5.79	43	1071932	49.17	ug/L	98
22) cis-1,2-Dichloroethene	5.78	96	619319	4.63	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\Data\VI050616\
Data File : VI049276.D
Acq On : 6 May 2016 10:21
Operator : FY/SY
Sample : VSTDCCC005
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00543

Quant Time: May 07 04:01:32 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.20	128	246281	4.59	ug/L	92
25) Chloroform	6.42	83	1103309	4.71	ug/L	97
27) 1,2-Dichloroethane	7.35	62	560850	4.74	ug/L	99
29) 1,1,1-Trichloroethane	6.66	97	905451	4.87	ug/L	99
30) Cyclohexane	6.75	56	786429	4.80	ug/L	96
31) Carbon tetrachloride	6.91	117	774042	4.77	ug/L	97
33) Benzene	7.24	78	2020683	4.82	ug/L	100
34) Trichloroethene	8.22	95	543970	4.68	ug/L	98
35) Methylcyclohexane	8.51	83	696201	4.85	ug/L	99
37) 1,2-Dichloropropane	8.56	63	465393	4.73	ug/L	99
38) Bromodichloromethane	8.90	83	680100	4.75	ug/L	97
39) cis-1,3-Dichloropropene	9.41	75	658901	4.55	ug/L	100
40) 4-Methyl-2-pentanone	9.59	43	2510029	49.63	ug/L	99
42) Toluene	9.78	91	1686286	4.77	ug/L	98
44) trans-1,3-Dichloropropene	10.05	75	534620	4.82	ug/L	97
45) 1,1,2-Trichloroethane	10.26	97	240895	4.72	ug/L	99
47) Tetrachloroethene	10.33	164	357307	4.68	ug/L	96
48) 2-Hexanone	10.48	43	1684573	49.81	ug/L	96
49) Dibromochloromethane	10.65	129	374003	4.86	ug/L	98
50) 1,2-Dibromoethane	10.76	107	248593	4.67	ug/L	94
51) Chlorobenzene	11.25	112	1004732	4.74	ug/L	99
52) Ethylbenzene	11.35	91	1741844	4.77	ug/L	100
53) m,p-Xylene	11.48	106	627273	4.71	ug/L	100
54) o-Xylene	11.85	106	582077	4.68	ug/L	99
55) Styrene	11.87	104	993985	4.82	ug/L	98
56) Isopropylbenzene	12.20	105	1549928	4.81	ug/L	98
58) 1,1,2,2-Tetrachloroethane	12.49	83	227442	4.61	ug/L	99
60) Bromoform	12.06	173	167531	4.66	ug/L	98
61) 1,3-Dichlorobenzene	13.37	146	598140	4.57	ug/L	99
62) 1,4-Dichlorobenzene	13.46	146	610441	4.54	ug/L	98
64) 1,2-Dichlorobenzene	13.78	146	489976	4.52	ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.48	75	28372	4.30	ug/L	93
66) 1,2,4-trichlorobenzene	15.21	180	274011	4.73	ug/L	98
67) 1,2,3-Trichlorobenzene	15.67	180	199688	4.66	ug/L	97

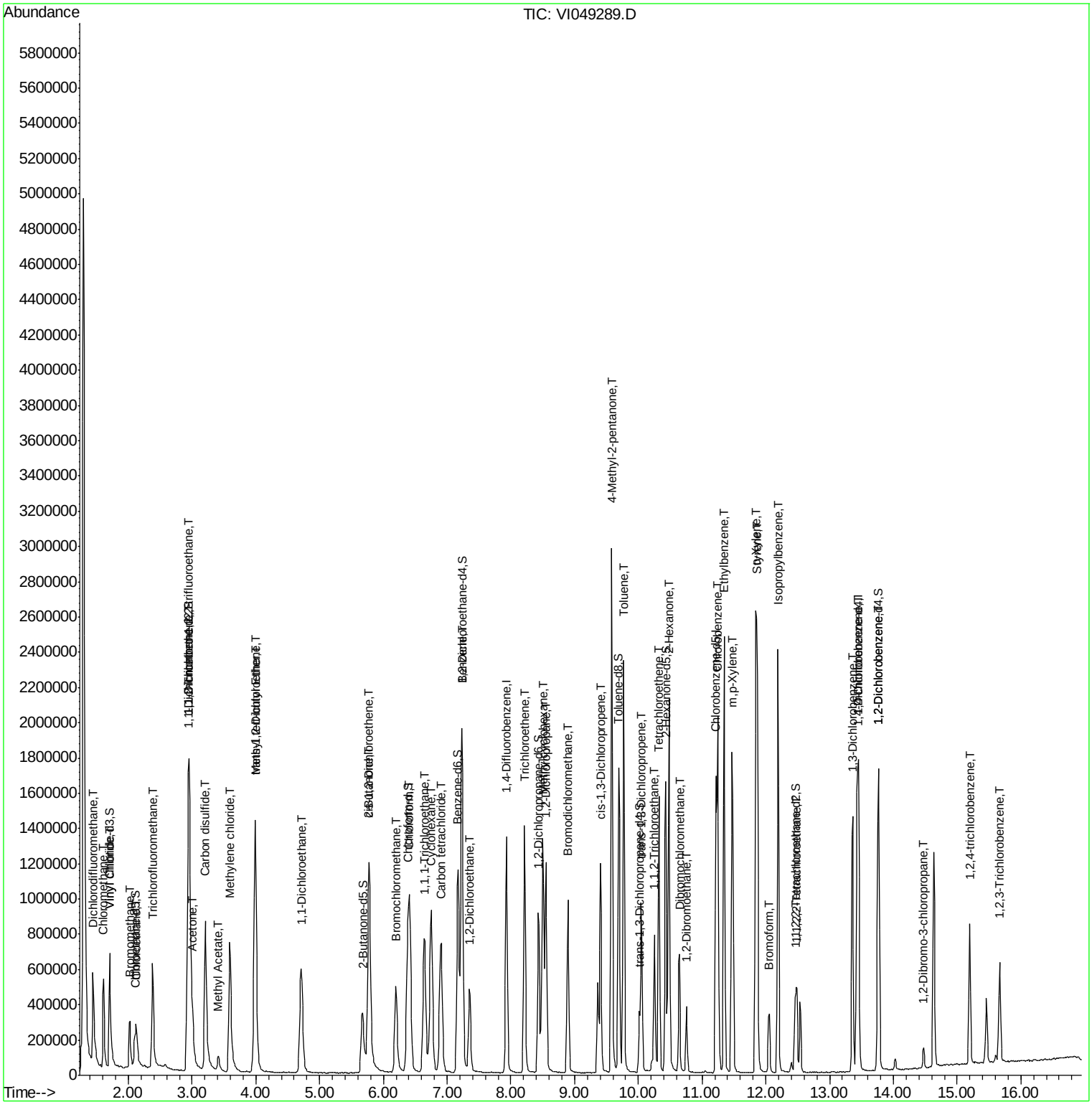
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049289.D
Acq On : 6 May 2016 19:15
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00544

Quant Time: May 09 13:22:05 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Mon May 09 13:17:11 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049289.D
Acq On : 6 May 2016 19:15
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00544

Quant Time: May 09 13:22:05 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Mon May 09 13:17:11 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1181131	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	797532	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	306691	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	299273	4.12	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 82.40%			
7) Chloroethane-d5	2.10	69	188275	4.67	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 93.40%			
11) 1,1-Dichloroethene-d2	2.93	63	764726	4.46	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 89.20%			
20) 2-Butanone-d5	5.67	46	851617	54.09	ug/L	-0.02
Spiked Amount 50.000	Range 40 - 130		Recovery = 108.18%			
24) Chloroform-d	6.38	84	878846	4.75	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.00%			
26) 1,2-Dichloroethane-d4	7.23	65	375365	4.96	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.20%			
32) Benzene-d6	7.17	84	1476029	4.75	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.00%			
36) 1,2-Dichloropropane-d6	8.43	67	418300	4.79	ug/L	-0.02
Spiked Amount 5.000	Range 60 - 140		Recovery = 95.80%			
41) Toluene-d8	9.69	98	1040675	4.54	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 90.80%			
43) trans-1,3-Dichloropropene-	10.02	79	157185	4.57	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 91.40%			
46) 2-Hexanone-d5	10.43	63	560035	51.59	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 103.18%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	189967	4.78	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 95.60%			
63) 1,2-Dichlorobenzene-d4	13.76	152	250014	4.65	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 93.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.44	85	632358	4.75	ug/L	98
3) Chloromethane	1.61	50	532307	4.67	ug/L	100
5) Vinyl chloride	1.71	62	418612	5.26	ug/L	96
6) Bromomethane	2.02	94	176511	4.58	ug/L	95
8) Chloroethane	2.12	64	188340	5.53	ug/L	100
9) Trichlorofluoromethane	2.38	101	571163	5.13	ug/L	96
10) 1,1,2-Trichloro-1,2,2-trif	2.96	101	494186	4.85	ug/L	99
12) 1,1-Dichloroethene	2.95	96	491141	5.15	ug/L	92
13) Acetone	3.01	43	502025	51.42	ug/L	99
14) Carbon disulfide	3.20	76	1752802	5.07	ug/L	99
15) Methyl Acetate	3.41	43	143975	5.17	ug/L	96
16) Methylene chloride	3.59	84	531801	5.06	ug/L	97
17) Methyl tert-butyl Ether	3.98	73	911659	5.23	ug/L	97
18) trans-1,2-Dichloroethene	3.99	96	543415	5.16	ug/L	96
19) 1,1-Dichloroethane	4.71	63	922864	5.17	ug/L	98
21) 2-Butanone	5.78	43	949535	53.76	ug/L	100
22) cis-1,2-Dichloroethene	5.77	96	553914	5.11	ug/L	92

Quantitation Report (Not Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049289.D
Acq On : 6 May 2016 19:15
Operator : FY/SY
Sample : VSTDCCC005EC
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VSTD00544

Quant Time: May 09 13:22:05 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Mon May 09 13:17:11 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
23) Bromochloromethane	6.20	128	207900	4.78	ug/L		85
25) Chloroform	6.41	83	987783	5.20	ug/L		100
27) 1,2-Dichloroethane	7.35	62	490815	5.12	ug/L		99
29) 1,1,1-Trichloroethane	6.64	97	797768	5.27	ug/L		97
30) Cyclohexane	6.75	56	657512	4.92	ug/L		98
31) Carbon tetrachloride	6.91	117	693050	5.24	ug/L		98
33) Benzene	7.23	78	1802745	5.28	ug/L		100
34) Trichloroethene	8.21	95	486364	5.13	ug/L		96
35) Methylcyclohexane	8.50	83	560168	4.79	ug/L		100
37) 1,2-Dichloropropane	8.55	63	420697	5.25	ug/L		99
38) Bromodichloromethane	8.89	83	608996	5.22	ug/L		97
39) cis-1,3-Dichloropropene	9.41	75	588180	4.98	ug/L		99
40) 4-Methyl-2-pentanone	9.58	43	2184299	52.99	ug/L		99
42) Toluene	9.77	91	1507871	5.23	ug/L		99
44) trans-1,3-Dichloropropene	10.04	75	457834	5.06	ug/L		97
45) 1,1,2-Trichloroethane	10.25	97	218787	5.26	ug/L		96
47) Tetrachloroethene	10.32	164	321446	5.16	ug/L		96
48) 2-Hexanone	10.48	43	1455744	52.81	ug/L		99
49) Dibromochloromethane	10.65	129	318584	5.08	ug/L		99
50) 1,2-Dibromoethane	10.75	107	220339	5.08	ug/L		97
51) Chlorobenzene	11.25	112	898345	5.20	ug/L		99
52) Ethylbenzene	11.34	91	1582569	5.32	ug/L		100
53) m,p-Xylene	11.47	106	563966	5.20	ug/L		94
54) o-Xylene	11.85	106	527501	5.20	ug/L		95
55) Styrene	11.87	104	877245	5.22	ug/L		97
56) Isopropylbenzene	12.19	105	1390422	5.29	ug/L		98
58) 1,1,2,2-Tetrachloroethane	12.49	83	201110	5.01	ug/L		93
60) Bromoform	12.05	173	140448	4.91	ug/L		98
61) 1,3-Dichlorobenzene	13.36	146	547733	5.26	ug/L		99
62) 1,4-Dichlorobenzene	13.45	146	547981	5.13	ug/L		99
64) 1,2-Dichlorobenzene	13.78	146	446909	5.18	ug/L		99
65) 1,2-Dibromo-3-chloropropan	14.46	75	26273	5.00	ug/L	#	82
66) 1,2,4-trichlorobenzene	15.20	180	237152	5.15	ug/L		98
67) 1,2,3-Trichlorobenzene	15.66	180	174894	5.13	ug/L		96

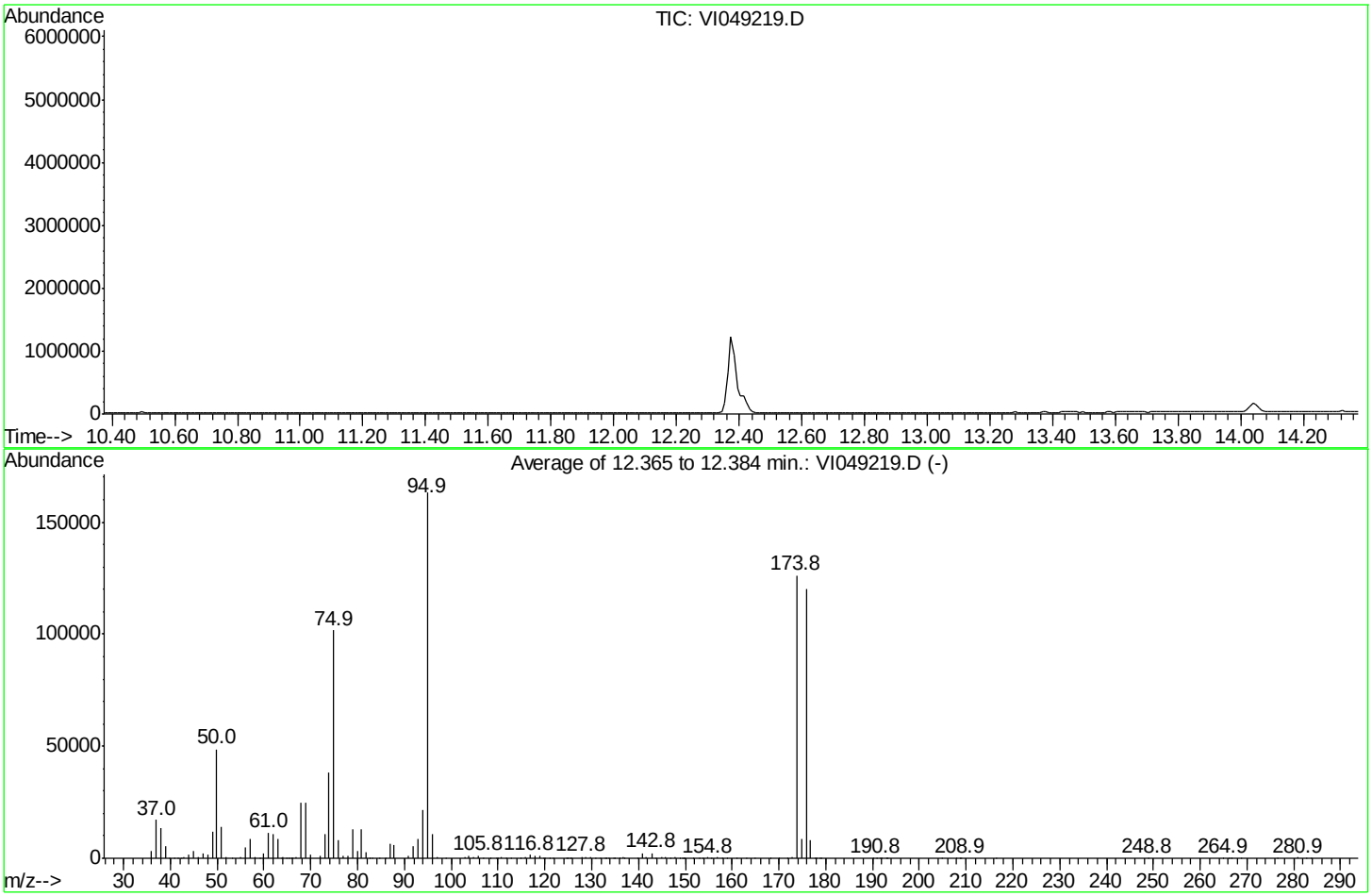
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049219.D
Acq On : 4 May 2016 8:57
Operator : FY/SY
Sample : BFB32
Misc : 25mL/MSVOA I/WATER
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : BFB32

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0
Last Update : Thu May 05 05:21:45 2016



AutoFind: Scans 1131, 1132, 1133; Background Corrected with Scan 1127

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.8	48658	PASS
75	95	30	80	62.3	101623	PASS
95	95	100	100	100.0	163138	PASS
96	95	5	9	6.6	10709	PASS
173	174	0.00	2	0.4	466	PASS
174	95	50	120	77.4	126261	PASS
175	174	5	9	7.1	8907	PASS
176	174	95	101	95.0	119986	PASS
177	176	5	9	6.7	8043	PASS

Scan 1127 (12.325 min): VI049219.D
BFB32

m/z	Abundance
35.95	298.0
39.00	695.0
39.90	1003.0
40.90	193.0
41.85	163.0
42.95	315.0
43.95	3257.0
44.75	335.0
50.95	353.0
51.85	155.0
52.30	169.0
55.00	175.0
58.95	188.0
59.80	152.0
60.70	181.0
62.60	204.0
63.85	210.0
64.95	244.0
69.70	179.0
70.65	165.0
72.95	1105.0
74.90	318.0
77.15	237.0
78.15	292.0
90.50	157.0
93.95	184.0
95.90	208.0
96.20	201.0
103.90	168.0
118.60	197.0
128.25	182.0
132.90	470.0
170.15	200.0
190.95	569.0
192.65	240.0
192.85	237.0
193.85	188.0
196.80	210.0
206.85	2279.0
207.95	227.0
208.80	215.0
248.45	210.0
259.70	198.0
260.10	177.0
266.70	256.0
279.30	193.0
280.90	939.0
282.00	618.0
282.70	217.0

Instrument :
MSVOA_I
ClientSampleId :
BFB32

Scan 1131 (12.365 min): VI049219.D
BFB32

Instrument :
MSVOA_I
ClientSampleId :
BFB32

m/z	Abundance
35.95	3387.0
36.95	16400.0
37.90	12574.0
39.00	5397.0
39.90	994.0
40.90	333.0
41.45	151.0
42.85	382.0
43.95	4353.0
44.90	2396.0
45.90	430.0
47.00	1397.0
48.00	1273.0
48.95	10427.0
49.95	40832.0
50.95	11832.0
51.95	573.0
54.90	696.0
55.95	4145.0
56.95	6496.0
57.95	425.0
58.85	195.0
59.05	204.0
60.00	1842.0
60.90	7636.0
61.90	8896.0
62.95	6635.0
63.75	777.0
65.35	189.0
65.85	161.0
66.90	732.0
67.90	19888.0
69.00	18984.0
69.95	2323.0
70.65	184.0
71.85	883.0
72.95	8029.0
73.90	31672.0
74.90	80968.0
75.90	5440.0
76.85	924.0
77.85	1029.0
78.85	10120.0
79.85	2196.0
80.80	10141.0
81.90	1487.0
83.00	323.0
86.85	4766.0
87.80	4132.0
90.80	743.0
91.85	4453.0
92.85	6191.0
93.95	15779.0
94.90	117320.0
95.90	9075.0
97.00	340.0
102.90	379.0
103.80	1179.0
104.90	343.0
105.75	930.0
109.70	471.0
111.70	194.0
114.85	216.0
115.90	472.0
116.80	1033.0
117.80	685.0
118.70	565.0
121.85	154.0
124.70	208.0
125.80	199.0
127.95	490.0
128.85	436.0
129.75	354.0
130.90	334.0
132.90	615.0
134.65	235.0
135.85	367.0
136.75	256.0
140.85	1126.0
141.65	217.0
142.75	1473.0
145.00	166.0
145.80	362.0
147.70	268.0
149.45	160.0
151.60	170.0
152.90	200.0
154.80	391.0
156.85	237.0
160.90	222.0
169.85	307.0
171.85	202.0

173.80	65312.0
174.80	4793.0
175.80	65368.0
176.75	4902.0
178.65	172.0
190.10	160.0
190.75	566.0
191.65	190.0
192.95	236.0
193.15	214.0
206.85	1761.0
207.95	262.0
208.70	271.0
266.70	442.0
276.55	157.0
280.90	946.0
282.75	152.0

Instrument :
MSVOA_I
ClientSampleId :
BFB32

Scan 1132 (12.374 min): VI049219.D
BFB32

Instrument :
MSVOA_I
ClientSampleId :
BFB32

m/z	Abundance
35.85	4655.0
36.95	19600.0
37.90	18296.0
39.00	7284.0
39.90	1195.0
40.90	673.0
42.45	214.0
42.95	431.0
43.95	6160.0
44.90	4370.0
45.90	515.0
46.90	3092.0
48.00	1961.0
48.95	15554.0
49.95	65416.0
50.95	18432.0
52.10	1007.0
53.30	154.0
54.90	840.0
55.85	6955.0
56.95	11209.0
57.95	647.0
58.85	350.0
59.90	3284.0
61.00	16251.0
61.90	13481.0
62.95	12315.0
63.95	1166.0
64.65	165.0
65.05	173.0
66.15	164.0
66.80	661.0
67.90	31992.0
68.90	35312.0
69.85	2042.0
71.95	1466.0
72.95	14442.0
73.90	49128.0
74.90	133120.0
76.00	12095.0
76.85	1193.0
77.85	926.0
78.85	17856.0
79.95	4684.0
80.80	17176.0
81.90	3445.0
82.60	238.0
86.85	8701.0
87.80	7453.0
90.80	1627.0
91.95	6924.0
92.95	12441.0
93.95	29432.0
94.90	210944.0
95.90	14756.0
96.90	329.0
102.90	365.0
103.80	1365.0
104.80	518.0
105.85	1424.0
106.95	382.0
108.35	158.0
109.90	192.0
110.80	350.0
111.80	275.0
112.65	399.0
114.95	211.0
115.85	936.0
116.80	1561.0
117.80	1332.0
118.90	1283.0
119.65	245.0
124.90	184.0
125.40	293.0
127.85	934.0
128.85	838.0
129.75	638.0
130.90	272.0
131.70	158.0
132.80	366.0
133.10	385.0
133.75	238.0
134.85	484.0
136.85	631.0
139.70	193.0
140.75	2515.0
141.75	473.0
142.85	2401.0
144.80	347.0
145.90	426.0
146.90	225.0
147.70	484.0

149.65	210.0
149.95	198.0
151.50	193.0
152.70	183.0
154.95	407.0
156.85	439.0
158.90	235.0
160.90	226.0
172.80	783.0
173.80	161024.0
174.80	10973.0
175.80	150400.0
176.85	10045.0
177.95	425.0
190.95	483.0
192.75	305.0
206.85	2070.0
207.85	328.0
208.70	384.0
248.85	277.0
266.60	313.0
268.85	298.0
281.00	1268.0
282.00	427.0
282.85	313.0

Instrument :
MSVOA_I
ClientSampleId :
BFB32

Scan 1133 (12.384 min): VI049219.D
BFB32

Instrument :
MSVOA_I
ClientSampleId :
BFB32

m/z	Abundance
35.95	2668.0
36.95	15616.0
37.90	9791.0
39.00	5131.0
39.80	1471.0
40.90	413.0
41.95	173.0
42.95	1060.0
43.85	4958.0
44.90	3509.0
45.70	203.0
47.00	1887.0
47.90	1572.0
48.95	10424.0
49.95	39728.0
50.95	12734.0
51.85	482.0
55.00	825.0
55.95	4090.0
56.95	7627.0
58.05	189.0
59.05	544.0
59.80	1876.0
60.90	10057.0
62.00	9237.0
62.95	6707.0
64.05	455.0
64.95	465.0
65.65	211.0
67.90	23032.0
69.00	19328.0
69.85	1535.0
70.75	158.0
71.85	765.0
72.95	12688.0
73.90	33488.0
74.90	91736.0
76.00	6961.0
76.85	1161.0
77.85	572.0
78.85	11286.0
79.85	3582.0
80.80	12245.0
81.80	3778.0
83.10	300.0
84.65	198.0
85.85	249.0
86.85	6705.0
87.80	6129.0
90.90	1207.0
91.95	5420.0
92.95	7957.0
93.95	20096.0
94.90	161152.0
95.90	8922.0
97.00	250.0
98.75	175.0
102.90	577.0
103.80	857.0
104.80	535.0
105.95	967.0
106.75	254.0
109.80	206.0
110.70	638.0
111.90	289.0
112.75	263.0
114.75	168.0
115.90	645.0
116.90	1655.0
117.90	808.0
118.90	1711.0
119.95	235.0
120.95	174.0
124.60	243.0
125.70	210.0
127.75	467.0
128.75	347.0
129.75	843.0
130.70	179.0
132.90	1031.0
133.65	316.0
134.65	393.0
137.05	551.0
140.85	2300.0
141.75	353.0
142.75	2711.0
143.75	213.0
144.80	378.0
145.70	203.0
146.70	398.0
147.80	307.0
148.95	199.0

149.55	179.0
152.90	192.0
153.80	185.0
154.80	521.0
155.45	210.0
156.85	276.0
157.75	173.0
158.70	174.0
160.90	394.0
163.05	258.0
164.75	183.0
168.20	153.0
172.70	615.0
173.80	152448.0
174.80	10955.0
175.80	144192.0
176.85	9184.0
177.65	362.0
178.95	221.0
190.85	691.0
191.95	296.0
192.95	678.0
204.85	357.0
206.95	2760.0
207.95	341.0
208.90	487.0
216.40	277.0
248.85	248.0
264.95	512.0
266.10	240.0
266.80	222.0
280.90	2231.0
281.80	453.0
282.95	438.0
283.75	210.0

Instrument :
MSVOA_I
ClientSampleId :
BFB32

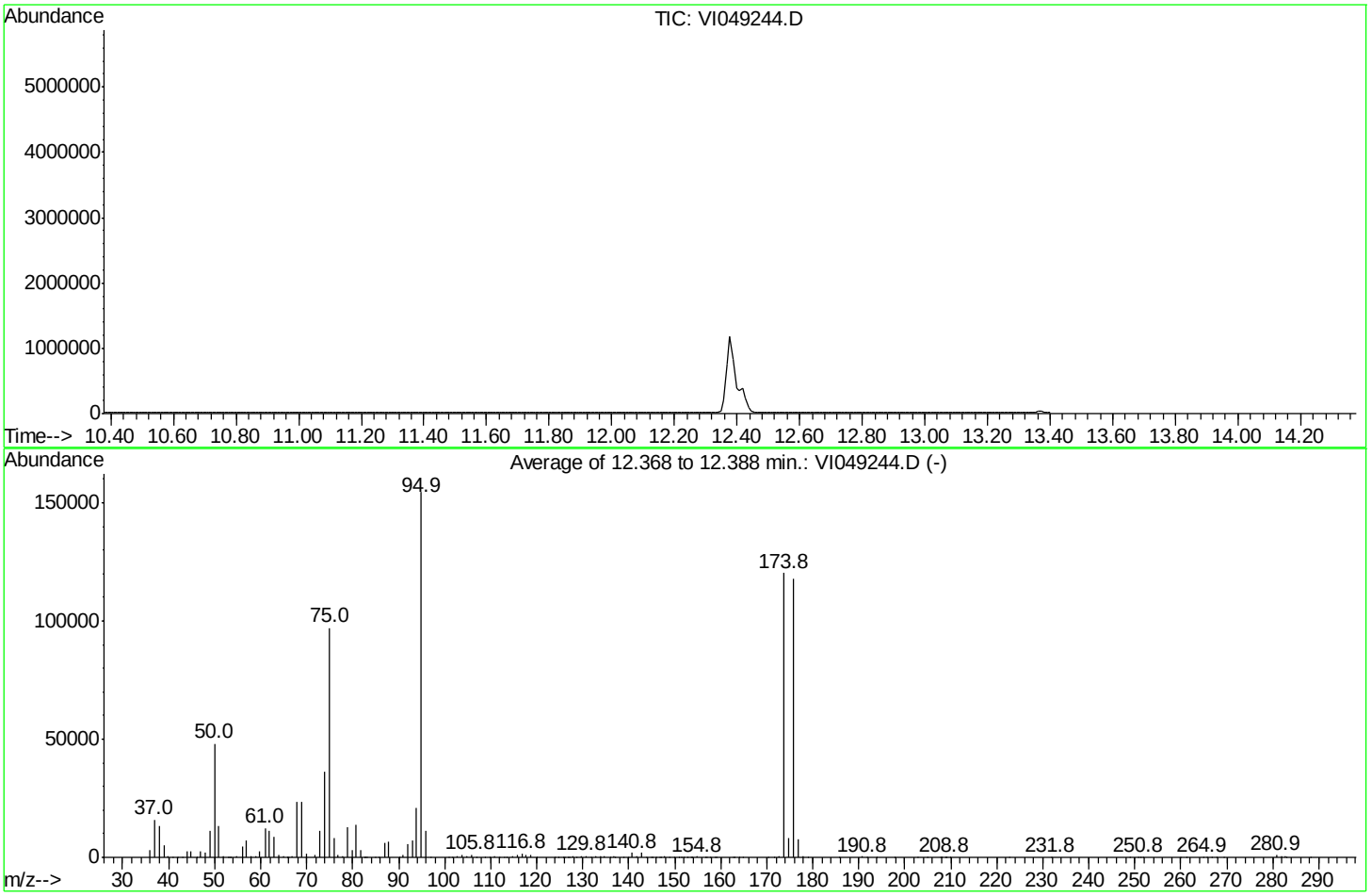
BFB

Data Path : W:\HPCHEM1\MSVOA I\Data\VI050516\
Data File : VI049244.D
Acq On : 5 May 2016 9:34
Operator : FY/SY
Sample : BFB33
Misc : 25mL/MSVOA I/WATER
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : BFB33

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0
Last Update : Fri May 06 05:16:54 2016



AutoFind: Scans 1132, 1133, 1134; Background Corrected with Scan 1128

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	31.1	48040	PASS
75	95	30	80	62.8	96938	PASS
95	95	100	100	100.0	154458	PASS
96	95	5	9	7.2	11123	PASS
173	174	0.00	2	0.5	634	PASS
174	95	50	120	77.8	120165	PASS
175	174	5	9	7.0	8383	PASS
176	174	95	101	98.0	117768	PASS
177	176	5	9	6.4	7560	PASS

Scan 1128 (12.329 min): VI049244.D
BFB33

m/z	Abundance
35.35	154.0
35.55	159.0
36.15	223.0
38.90	413.0
39.90	530.0
41.10	317.0
41.95	162.0
42.95	621.0
43.85	2027.0
44.85	479.0
45.70	198.0
51.05	395.0
53.80	180.0
54.80	209.0
56.15	242.0
56.85	240.0
58.75	227.0
59.60	218.0
71.05	320.0
72.95	1782.0
75.00	259.0
78.05	211.0
80.80	232.0
84.65	186.0
87.05	169.0
92.85	211.0
93.75	202.0
95.90	372.0
96.50	168.0
96.80	159.0
104.00	168.0
105.10	209.0
114.65	163.0
118.80	180.0
132.90	393.0
160.70	221.0
165.25	160.0
168.10	181.0
169.95	373.0
189.70	164.0
190.85	218.0
191.75	174.0
192.85	675.0
206.85	1917.0
207.75	208.0
208.90	169.0
223.60	151.0
260.10	178.0
266.80	188.0
269.75	190.0
280.80	1159.0
281.80	344.0

Instrument :
MSVOA_I
ClientSampleId :
BFB33

Scan 1132 (12.368 min): VI049244.D
BFB33

Instrument :
MSVOA_I
ClientSampleId :
BFB33

m/z	Abundance
35.95	3638.0
36.95	16028.0
38.00	13826.0
39.00	5577.0
39.90	1058.0
40.90	213.0
41.75	312.0
42.85	674.0
43.95	4353.0
45.00	2536.0
46.00	314.0
47.00	2598.0
47.90	2079.0
48.95	10265.0
49.95	45528.0
50.95	12316.0
52.00	468.0
53.50	191.0
54.90	1145.0
55.95	4795.0
56.95	6959.0
58.05	484.0
59.05	399.0
59.90	2250.0
61.00	11389.0
62.00	11178.0
62.95	8623.0
63.95	995.0
64.85	285.0
67.00	335.0
67.90	20888.0
68.90	22704.0
69.95	1731.0
71.95	1489.0
72.95	10380.0
73.90	31160.0
75.00	85880.0
76.00	8510.0
76.85	1277.0
77.85	703.0
78.85	10914.0
79.85	2342.0
80.80	11639.0
81.90	2517.0
82.70	389.0
85.95	225.0
86.85	5694.0
87.80	5186.0
90.00	151.0
90.80	741.0
91.85	5275.0
92.95	7243.0
93.95	18416.0
94.90	127632.0
95.90	9938.0
97.00	316.0
102.90	402.0
103.80	982.0
104.80	336.0
105.75	956.0
109.80	282.0
110.70	269.0
111.80	225.0
114.75	286.0
115.75	765.0
116.90	939.0
117.80	749.0
118.80	1452.0
126.75	183.0
127.65	490.0
129.75	659.0
130.80	235.0
132.90	394.0
134.75	382.0
136.65	221.0
140.70	1327.0
142.75	1511.0
143.75	160.0
145.20	195.0
146.70	288.0
147.70	154.0
148.75	159.0
153.90	164.0
154.95	251.0
156.95	224.0
158.70	219.0
162.65	172.0
164.85	161.0
165.05	156.0
171.65	164.0
172.80	403.0
173.80	78664.0

174.80	5737.0
175.80	75632.0
176.75	5226.0
177.95	225.0
185.75	208.0
190.75	186.0
192.85	215.0
197.75	162.0
206.85	1644.0
207.85	665.0
208.80	261.0
209.90	154.0
222.60	154.0
266.70	396.0
267.90	173.0
280.90	495.0
281.80	218.0

Instrument :
MSVOA_I
ClientSampleId :
BFB33

Scan 1133 (12.378 min): VI049244.D
BFB33

Instrument :
MSVOA_I
ClientSampleId :
BFB33

m/z	Abundance
35.95	4385.0
36.95	19200.0
38.00	17120.0
39.00	6918.0
39.90	1394.0
41.20	323.0
42.05	278.0
42.95	805.0
43.95	5823.0
45.00	3719.0
46.00	290.0
46.90	3359.0
47.90	2241.0
48.95	14683.0
49.95	64144.0
50.95	17912.0
51.95	638.0
52.90	168.0
54.90	1041.0
55.95	5395.0
56.95	9348.0
57.95	211.0
58.95	265.0
59.90	2911.0
61.00	16232.0
62.00	14198.0
62.95	11113.0
63.95	1167.0
64.95	352.0
65.85	640.0
66.80	615.0
67.90	31664.0
68.90	30320.0
69.95	2219.0
71.05	212.0
71.95	1338.0
72.95	15287.0
73.90	47720.0
74.90	130312.0
75.90	9787.0
76.85	1369.0
77.95	880.0
78.85	16832.0
79.85	4481.0
80.80	19296.0
81.90	3731.0
82.90	494.0
84.85	199.0
85.75	229.0
86.95	8350.0
87.80	9061.0
90.80	1412.0
91.95	6957.0
92.95	9708.0
93.95	26936.0
94.90	200640.0
95.90	15133.0
96.90	435.0
102.80	153.0
103.80	1790.0
104.80	357.0
105.75	1261.0
106.85	288.0
109.90	182.0
110.80	503.0
111.70	217.0
112.75	369.0
113.45	171.0
114.85	579.0
115.85	1166.0
116.80	2152.0
117.70	1190.0
118.80	1601.0
123.80	406.0
125.70	186.0
127.05	210.0
127.75	791.0
128.75	322.0
129.85	859.0
130.90	321.0
132.70	285.0
133.65	161.0
134.65	455.0
135.95	227.0
136.75	803.0
138.70	189.0
140.75	2188.0
141.95	400.0
142.85	2023.0
143.85	351.0
144.90	475.0
145.80	229.0

146.90	171.0
147.80	524.0
148.85	173.0
149.95	482.0
151.40	156.0
152.00	167.0
152.80	250.0
153.60	262.0
154.90	266.0
156.85	477.0
158.60	388.0
160.70	335.0
162.85	271.0
172.80	741.0
173.80	155392.0
174.80	10465.0
175.80	151424.0
176.75	8953.0
177.85	332.0
178.85	193.0
190.85	473.0
191.65	200.0
192.75	169.0
206.85	1548.0
208.05	475.0
208.90	467.0
231.80	264.0
250.75	221.0
259.80	177.0
266.60	217.0
280.90	1403.0
281.90	263.0
283.05	191.0

Instrument :
MSVOA_I
ClientSampleId :
BFB33

Scan 1134 (12.388 min): VI049244.D
BFB33

Instrument :
MSVOA_I
ClientSampleId :
BFB33

m/z	Abundance
35.85	2120.0
36.95	12447.0
38.00	9496.0
39.00	3702.0
40.00	1140.0
40.90	399.0
41.85	334.0
42.95	874.0
43.95	3558.0
44.90	3183.0
46.10	211.0
47.00	1603.0
47.80	1265.0
48.95	8301.0
49.95	34448.0
50.95	10260.0
52.00	325.0
53.10	176.0
54.80	677.0
55.95	3871.0
56.95	5150.0
57.95	522.0
59.10	567.0
59.80	1994.0
60.90	9153.0
61.90	8555.0
62.95	6496.0
63.85	894.0
64.95	220.0
66.05	334.0
66.80	487.0
67.90	18152.0
69.00	16704.0
70.05	1000.0
71.85	978.0
72.95	12637.0
73.90	30064.0
74.90	75400.0
76.00	6009.0
76.85	535.0
77.85	552.0
78.85	10628.0
79.85	2809.0
80.80	11837.0
81.80	3306.0
82.60	175.0
83.10	208.0
84.95	151.0
85.65	188.0
86.85	5404.0
87.90	4973.0
90.90	945.0
91.95	4360.0
92.95	5892.0
93.95	18520.0
94.90	135104.0
95.90	9415.0
96.90	335.0
100.95	175.0
101.65	247.0
102.70	486.0
103.80	991.0
104.70	387.0
105.75	891.0
106.85	391.0
108.75	165.0
110.90	448.0
111.70	193.0
112.85	295.0
114.75	529.0
115.85	788.0
116.80	1527.0
117.70	1098.0
118.90	1088.0
119.95	169.0
123.90	266.0
124.70	679.0
125.90	210.0
127.85	544.0
128.75	490.0
129.85	825.0
130.70	300.0
131.70	154.0
132.80	2461.0
133.75	782.0
134.65	628.0
137.05	238.0
138.80	187.0
140.00	195.0
140.75	2246.0
141.75	573.0
142.85	1996.0

145.90	187.0
146.80	417.0
147.95	627.0
148.75	300.0
149.75	256.0
150.95	158.0
152.00	217.0
154.80	708.0
156.65	405.0
157.75	195.0
158.90	282.0
160.80	323.0
162.85	331.0
163.95	271.0
164.85	268.0
170.35	165.0
172.70	759.0
173.80	126440.0
174.80	8949.0
175.80	126248.0
176.85	8503.0
177.85	384.0
178.85	516.0
190.85	1469.0
191.85	404.0
192.95	1487.0
193.85	374.0
202.70	315.0
204.85	218.0
206.85	1651.0
207.75	309.0
208.70	290.0
209.10	215.0
248.85	375.0
250.90	228.0
251.30	175.0
251.80	158.0
261.20	156.0
264.85	508.0
265.70	156.0
266.70	429.0
267.80	164.0
269.25	167.0
280.90	4536.0
281.90	1395.0
282.75	959.0
288.20	178.0

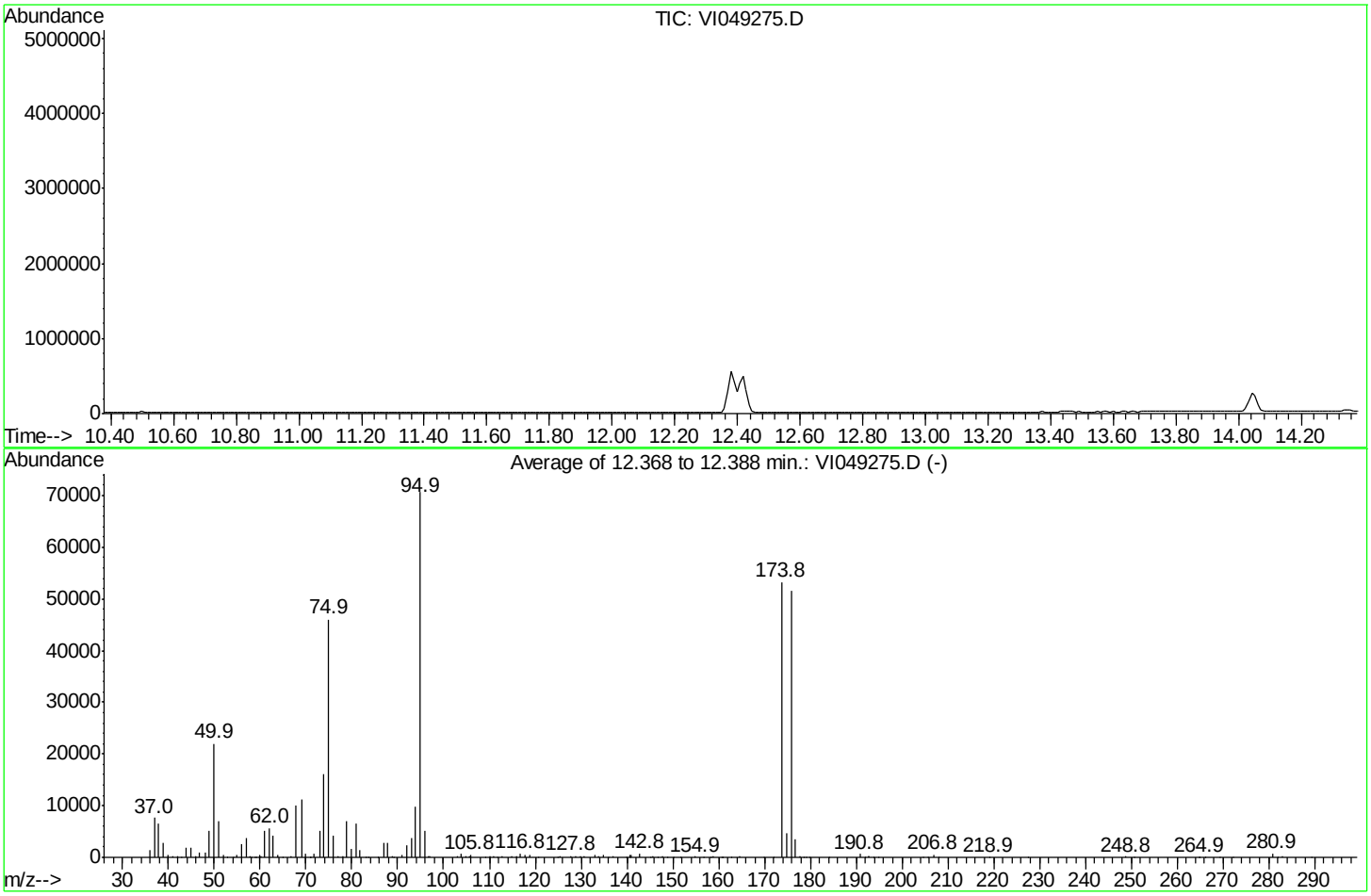
Instrument :
MSVOA_I
ClientSampleId :
BFB33

Data Path : W:\HPCHEM1\MSVOA I\Data\VI050616\
Data File : VI049275.D
Acq On : 6 May 2016 9:02
Operator : FY/SY
Sample : BFB34
Misc : 25mL/MSVOA I/WATER
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : BFB34

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0
Last Update : Sat May 07 04:11:41 2016



AutoFind: Scans 1132, 1133, 1134; Background Corrected with Scan 1128

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	31.0	21937	PASS
75	95	30	80	65.2	46069	PASS
95	95	100	100	100.0	70666	PASS
96	95	5	9	7.2	5058	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	75.4	53282	PASS
175	174	5	9	8.6	4561	PASS
176	174	95	101	96.8	51565	PASS
177	176	5	9	6.9	3537	PASS

Scan 1128 (12.329 min): VI049275.D
BFB34

m/z	Abundance
35.95	170.0
37.90	378.0
38.90	268.0
39.90	522.0
41.10	332.0
42.75	256.0
43.85	1734.0
44.75	171.0
49.75	151.0
50.85	274.0
54.70	154.0
58.95	386.0
60.50	182.0
61.10	226.0
64.75	152.0
65.95	168.0
72.95	394.0
73.90	339.0
76.85	201.0
77.95	195.0
85.25	225.0
93.85	244.0
102.70	164.0
107.85	178.0
124.80	232.0
126.85	253.0
133.00	469.0
141.95	202.0
146.80	263.0
170.15	176.0
192.95	233.0
206.85	1073.0
207.75	154.0
208.15	201.0
208.80	227.0
249.65	198.0
280.80	1059.0
281.80	543.0
292.75	170.0

Instrument :
MSVOA_I
ClientSampleId :
BFB34

Scan 1132 (12.368 min): VI049275.D
BFB34

Instrument :
MSVOA_I
ClientSampleId :
BFB34

m/z	Abundance
35.95	1375.0
36.95	5943.0
38.00	5763.0
39.00	2026.0
39.90	889.0
40.80	502.0
42.05	166.0
43.95	2804.0
44.90	1537.0
46.00	258.0
47.00	869.0
48.00	1043.0
48.95	3949.0
49.95	17256.0
51.05	5443.0
52.00	283.0
54.00	183.0
55.10	388.0
55.95	2036.0
56.95	2962.0
57.75	247.0
58.75	190.0
59.20	154.0
59.90	261.0
60.90	4834.0
62.00	4647.0
62.95	3745.0
63.85	284.0
66.80	370.0
67.90	7710.0
69.00	7653.0
69.85	301.0
71.85	287.0
72.95	2818.0
73.90	11870.0
74.90	32584.0
75.90	3762.0
76.80	279.0
78.05	648.0
78.85	5363.0
79.85	1192.0
80.80	4149.0
81.80	926.0
86.85	2051.0
87.90	1720.0
88.80	219.0
90.80	616.0
91.85	2228.0
92.95	2528.0
93.95	7823.0
94.90	47600.0
95.90	4089.0
97.10	179.0
103.00	227.0
103.90	769.0
105.65	468.0
109.10	212.0
110.80	176.0
111.70	184.0
115.90	252.0
116.80	581.0
117.80	428.0
118.80	207.0
127.95	169.0
129.95	260.0
130.80	216.0
132.90	468.0
134.85	373.0
140.70	210.0
140.95	187.0
141.75	164.0
142.95	398.0
147.85	209.0
150.25	205.0
158.15	167.0
173.80	28104.0
174.80	2927.0
175.80	25744.0
176.75	1658.0
177.95	245.0
184.15	306.0
190.85	164.0
192.65	213.0
206.95	1555.0
207.95	404.0
264.75	211.0
272.10	155.0
280.80	372.0
281.80	224.0
282.95	172.0

Scan 1133 (12.378 min): VI049275.D
BFB34

Instrument :
MSVOA_I
ClientSampleId :
BFB34

m/z	Abundance
36.05	1808.0
36.95	10778.0
37.90	10141.0
39.00	3913.0
39.90	1078.0
40.90	172.0
41.85	171.0
42.95	360.0
43.95	3367.0
44.90	1948.0
46.00	210.0
46.80	948.0
48.00	1218.0
48.95	6688.0
49.95	30288.0
50.95	10081.0
52.00	562.0
54.90	609.0
55.95	3566.0
56.95	4941.0
57.85	612.0
58.95	186.0
59.90	1457.0
60.90	6119.0
62.00	7489.0
62.85	4626.0
63.95	782.0
64.95	194.0
67.90	13564.0
69.00	16369.0
69.85	1005.0
70.85	355.0
71.85	1130.0
72.95	7206.0
73.90	20936.0
74.90	60936.0
76.00	5500.0
76.85	751.0
77.85	507.0
78.85	9232.0
79.95	2215.0
80.90	8762.0
81.80	1498.0
86.95	3367.0
87.80	4145.0
89.00	235.0
90.90	506.0
91.95	3417.0
92.95	4925.0
93.95	12084.0
94.90	96776.0
95.90	6313.0
96.80	431.0
102.90	488.0
103.80	611.0
104.90	298.0
105.85	1124.0
108.05	151.0
110.80	314.0
112.85	390.0
114.95	321.0
115.85	397.0
116.80	752.0
117.80	573.0
118.80	626.0
127.85	370.0
128.95	183.0
129.75	232.0
130.70	263.0
133.00	388.0
133.85	175.0
134.75	320.0
135.85	265.0
136.85	445.0
139.80	213.0
140.85	1164.0
142.75	919.0
145.70	389.0
146.60	178.0
147.80	240.0
151.80	211.0
154.90	312.0
158.80	279.0
161.00	160.0
169.85	219.0
171.95	229.0
173.80	66512.0
174.80	5737.0
175.80	64192.0
176.75	4529.0
190.85	436.0
192.55	215.0

192.75	215.0
204.50	150.0
205.55	176.0
206.85	1558.0
207.95	250.0
208.90	151.0
218.95	166.0
266.10	152.0
280.80	798.0
282.00	229.0

Instrument :
MSVOA_I
ClientSampleId :
BFB34

Scan 1134 (12.388 min): VI049275.D
BFB34

Instrument :
MSVOA_I
ClientSampleId :
BFB34

m/z	Abundance
35.95	1333.0
36.95	6070.0
38.00	4739.0
38.90	3081.0
39.80	1204.0
41.95	278.0
42.85	649.0
43.95	4311.0
44.90	2717.0
46.10	595.0
46.80	772.0
48.00	764.0
48.85	5119.0
49.95	18720.0
50.95	6579.0
51.95	383.0
52.90	201.0
55.00	420.0
55.85	1810.0
56.95	3161.0
58.05	194.0
58.95	825.0
60.10	813.0
60.90	5392.0
62.00	4676.0
62.95	4311.0
63.95	310.0
64.75	290.0
65.85	268.0
66.70	329.0
67.90	9087.0
69.00	9654.0
69.95	1103.0
71.05	343.0
71.75	408.0
72.95	6911.0
73.90	16608.0
74.90	44688.0
76.00	3473.0
76.85	447.0
78.85	6476.0
79.95	1646.0
80.80	6584.0
81.80	1568.0
83.00	182.0
83.60	235.0
85.65	198.0
86.95	3241.0
87.80	2300.0
88.70	248.0
90.90	561.0
91.85	1715.0
92.95	3743.0
93.95	10167.0
94.90	67624.0
96.00	4774.0
97.00	244.0
102.70	406.0
104.00	711.0
104.80	260.0
105.95	338.0
110.10	485.0
111.70	151.0
114.85	518.0
115.75	309.0
116.80	1023.0
117.70	413.0
118.80	854.0
120.65	174.0
124.90	713.0
125.50	422.0
127.75	407.0
128.75	404.0
129.75	385.0
132.90	1902.0
133.65	463.0
134.65	425.0
136.85	184.0
140.75	1126.0
142.75	1095.0
145.10	183.0
145.80	216.0
146.80	482.0
147.70	209.0
148.75	254.0
154.90	194.0
156.75	294.0
158.90	212.0
160.70	261.0
162.85	196.0
164.65	378.0
173.80	65232.0

174.80	5019.0
175.80	64760.0
176.75	4425.0
177.75	436.0
178.65	310.0
178.95	302.0
179.75	162.0
190.85	1367.0
191.85	330.0
192.85	1123.0
193.75	326.0
194.80	185.0
206.85	1630.0
208.05	298.0
208.90	258.0
227.35	166.0
248.85	427.0
250.75	225.0
264.95	268.0
269.25	161.0
280.90	4461.0
281.80	1072.0
282.85	432.0
289.30	180.0

Instrument :
MSVOA_I
ClientSampleId :
BFB34

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK27

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0504WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049226.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK27

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0504WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049226.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK27

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0504WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049226.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/04/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK27

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0504WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049226.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/04/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

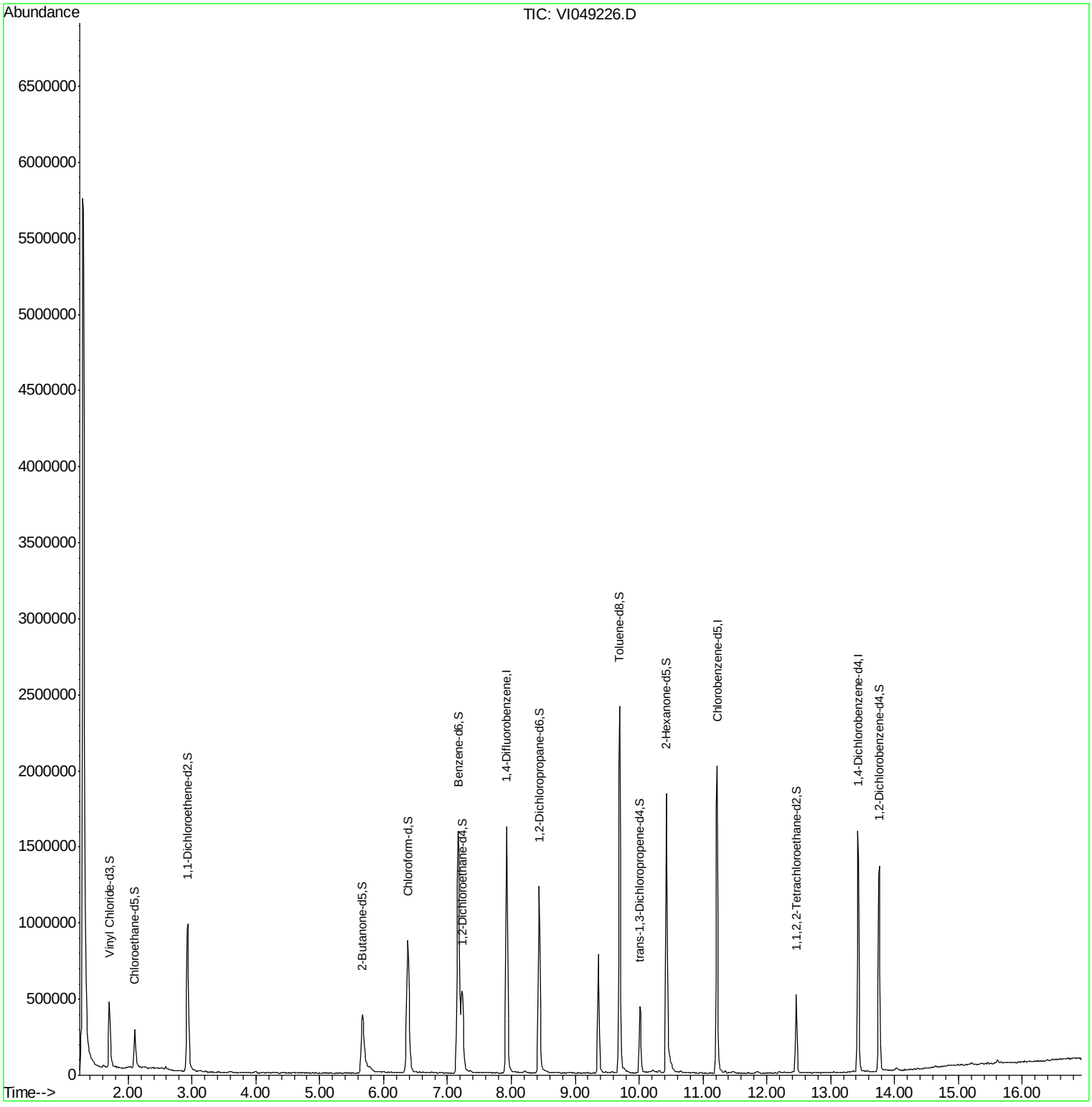
EPA-designated Registry Number.

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049226.D
Acq On : 4 May 2016 15:13
Operator : FY/SY
Sample : VI0504WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK27

Quant Time: May 05 05:26:42 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049226.D
Acq On : 4 May 2016 15:13
Operator : FY/SY
Sample : VI0504WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK27

Quant Time: May 05 05:26:42 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Thu May 05 05:21:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1471992	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	1023504	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	378551	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.70	65	469399	5.18	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 103.60%			
7) Chloroethane-d5	2.10	69	285432	5.69	ug/L	-0.01
Spiked Amount 5.000	Range 65 - 130		Recovery = 113.80%			
11) 1,1-Dichloroethene-d2	2.94	63	803745	3.76	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 75.20%			
20) 2-Butanone-d5	5.67	46	957667	48.81	ug/L	-0.01
Spiked Amount 50.000	Range 40 - 130		Recovery = 97.62%			
24) Chloroform-d	6.38	84	1105169	4.79	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.80%			
26) 1,2-Dichloroethane-d4	7.23	65	488924	5.18	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.60%			
32) Benzene-d6	7.17	84	2034134	5.10	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 102.00%			
36) 1,2-Dichloropropane-d6	8.44	67	564194	5.03	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 100.60%			
41) Toluene-d8	9.70	98	1493565	5.08	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.60%			
43) trans-1,3-Dichloropropene-	10.01	79	217829	4.93	ug/L	-0.01
Spiked Amount 5.000	Range 55 - 130		Recovery = 98.60%			
46) 2-Hexanone-d5	10.42	63	680487	48.84	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 97.68%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	246267	4.83	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 96.60%			
63) 1,2-Dichlorobenzene-d4	13.76	152	335292	5.05	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 101.00%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049226.D
Acq On : 4 May 2016 15:13
Operator : FY/SY
Sample : VI0504WBL01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK27

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.291	3	6	27	rVB	5699400	13944498	100.00%	25.549%
2	1.616	36	39	43	rVB3	14142	26537	0.19%	0.049%
3	1.705	45	48	57	rVV	427322	749607	5.38%	1.373%
4	1.990	73	77	78	rBV4	7874	16937	0.12%	0.031%
5	2.098	85	88	96	rBV	250526	500479	3.59%	0.917%
6	2.433	120	122	123	rBV2	7264	9908	0.07%	0.018%
7	2.591	136	138	141	rVB2	17850	22358	0.16%	0.041%
8	2.935	168	173	186	rVB	970850	2277280	16.33%	4.172%
9	3.122	189	192	199	rVV7	7157	24529	0.18%	0.045%
10	3.211	199	201	206	rVB3	8319	16773	0.12%	0.031%
11	3.594	233	240	250	rBV7	10030	41130	0.29%	0.075%
12	3.732	252	254	255	rBV2	3748	5191	0.04%	0.010%
13	3.988	276	280	284	rVB6	9212	23046	0.17%	0.042%
14	4.155	296	297	300	rBV3	3797	5695	0.04%	0.010%
15	4.205	300	302	305	rVB4	2872	5406	0.04%	0.010%
16	4.333	313	315	317	rVB3	4986	6533	0.05%	0.012%
17	4.402	320	322	326	rBV4	4126	7029	0.05%	0.013%
18	4.500	329	332	334	rBV3	4742	7696	0.06%	0.014%
19	4.589	338	341	345	rBV6	3367	9702	0.07%	0.018%
20	4.736	353	356	357	rBV3	2998	4743	0.03%	0.009%
21	4.825	363	365	369	rVB3	3790	6268	0.04%	0.011%
22	4.874	369	370	374	rVB3	4123	7109	0.05%	0.013%
23	4.923	374	375	380	rBV3	4475	9348	0.07%	0.017%
24	5.061	388	389	391	rBV2	3552	5005	0.04%	0.009%
25	5.396	421	423	425	rBV3	6394	9394	0.07%	0.017%
26	5.514	434	435	440	rBV4	3429	5417	0.04%	0.010%
27	5.671	444	451	461	rBV	384900	1442495	10.34%	2.643%
28	5.976	481	482	488	rVB5	3123	7837	0.06%	0.014%
29	6.114	495	496	498	rVB2	4995	5016	0.04%	0.009%
30	6.380	515	523	540	rBV	870305	2641864	18.95%	4.840%
31	6.567	540	542	544	rVB3	4096	5431	0.04%	0.010%
32	6.675	552	553	555	rVB2	5567	5092	0.04%	0.009%
33	6.754	559	561	567	rVB5	7089	15081	0.11%	0.028%
34	6.901	570	576	582	rVB7	7054	23867	0.17%	0.044%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049226.D
Acq On : 4 May 2016 15:13
Operator : FY/SY
Sample : VI0504WBL01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK27

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	7.059	590	592	593	rBV	3631	4940	0.04%	0.009%
36	7.167	596	603	607	rBV	1593248	4220030	30.26%	7.732%
37	7.226	607	609	620	rVV	538118	1317788	9.45%	2.414%
38	7.354	620	622	627	rVV6	10295	24676	0.18%	0.045%
39	7.472	632	634	636	rVB3	5001	7491	0.05%	0.014%
40	7.502	636	637	639	rBV2	4835	6408	0.05%	0.012%
41	7.659	651	653	657	rVB5	5466	10050	0.07%	0.018%
42	7.708	657	658	662	rVB4	2957	5568	0.04%	0.010%
43	7.777	662	665	667	rBV4	3572	6094	0.04%	0.011%
44	7.925	674	680	694	rBV	1620561	3603623	25.84%	6.603%
45	8.210	705	709	714	rVB7	13813	36379	0.26%	0.067%
46	8.437	725	732	749	rBV	1225854	2753725	19.75%	5.045%
47	8.673	755	756	762	rVB5	4813	7051	0.05%	0.013%
48	8.742	762	763	767	rVB4	6059	9013	0.06%	0.017%
49	8.811	767	770	771	rBV2	3895	6009	0.04%	0.011%
50	8.830	771	772	774	rBV3	4304	4857	0.03%	0.009%
51	8.889	774	778	779	rBV3	4437	9773	0.07%	0.018%
52	9.362	821	826	834	rBV	780526	1427783	10.24%	2.616%
53	9.470	836	837	839	rVB2	4273	5000	0.04%	0.009%
54	9.578	846	848	852	rVB3	7656	16836	0.12%	0.031%
55	9.697	855	860	866	rBV	2409331	4326407	31.03%	7.927%
56	9.952	883	886	888	rBV4	3470	7874	0.06%	0.014%
57	10.011	888	892	901	rVV	434916	778455	5.58%	1.426%
58	10.159	904	907	908	rVV3	6224	12031	0.09%	0.022%
59	10.218	908	913	916	rVV3	16673	52810	0.38%	0.097%
60	10.317	920	923	930	rVB8	15105	37983	0.27%	0.070%
61	10.425	930	934	949	rBV	1834018	3691339	26.47%	6.763%
62	10.651	954	957	961	rVV5	13138	27922	0.20%	0.051%
63	10.710	961	963	965	rVV3	3223	4854	0.03%	0.009%
64	10.887	980	981	985	rVB4	4549	6713	0.05%	0.012%
65	10.966	985	989	991	rVB4	6398	12435	0.09%	0.023%
66	11.035	993	996	999	rVB5	3935	7914	0.06%	0.015%
67	11.104	999	1003	1004	rBV4	3556	7116	0.05%	0.013%
68	11.222	1010	1015	1024	rBV	2019447	3558252	25.52%	6.519%
69	11.350	1024	1028	1031	rVB3	16123	32159	0.23%	0.059%
70	11.399	1031	1033	1035	rBV3	2982	5535	0.04%	0.010%
71	11.468	1037	1040	1046	rVB5	12939	33513	0.24%	0.061%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050416\
Data File : VI049226.D
Acq On : 4 May 2016 15:13
Operator : FY/SY
Sample : VI0504WBL01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK27

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.645	1055	1058	1060	rVB3	5017	6472	0.05%	0.012%
73	11.694	1060	1063	1065	rBV4	3834	7766	0.06%	0.014%
74	11.842	1074	1078	1084	rVB7	14373	39908	0.29%	0.073%
75	11.950	1087	1089	1092	rVB3	5380	8835	0.06%	0.016%
76	12.009	1092	1095	1096	rBV3	6051	10914	0.08%	0.020%
77	12.118	1105	1106	1110	rVB4	3180	4879	0.03%	0.009%
78	12.187	1110	1113	1117	rBV2	11255	25490	0.18%	0.047%
79	12.374	1129	1132	1133	rVV3	4004	5405	0.04%	0.010%
80	12.403	1133	1135	1137	rVV3	9920	19555	0.14%	0.036%
81	12.462	1137	1141	1150	rVB	513542	910402	6.53%	1.668%
82	12.649	1157	1160	1163	rBV5	3071	5003	0.04%	0.009%
83	12.738	1166	1169	1174	rBV6	4063	11302	0.08%	0.021%
84	12.826	1176	1178	1180	rVB2	4671	6425	0.05%	0.012%
85	12.876	1180	1183	1186	rBV5	4960	10862	0.08%	0.020%
86	12.954	1186	1191	1194	rBV6	4913	12080	0.09%	0.022%
87	13.053	1197	1201	1204	rBV6	4009	10432	0.07%	0.019%
88	13.102	1204	1206	1209	rVB4	4724	8903	0.06%	0.016%
89	13.141	1209	1210	1213	rBV2	4189	7621	0.05%	0.014%
90	13.289	1221	1225	1226	rVB3	4732	8295	0.06%	0.015%
91	13.318	1226	1228	1229	rBV2	3865	6642	0.05%	0.012%
92	13.358	1229	1232	1235	rBV4	8907	14530	0.10%	0.027%
93	13.427	1235	1239	1246	rBV	1584713	2775740	19.91%	5.086%
94	13.761	1268	1273	1283	rBV	1352331	2556294	18.33%	4.684%
95	14.037	1298	1301	1306	rVB2	16354	37721	0.27%	0.069%
96	14.194	1314	1317	1320	rBV5	5689	15874	0.11%	0.029%
97	14.293	1325	1327	1328	rBV2	4298	4903	0.04%	0.009%
98	14.362	1331	1334	1335	rBV3	9369	15390	0.11%	0.028%
99	14.637	1359	1362	1364	rBV4	11136	20111	0.14%	0.037%
100	15.612	1459	1461	1465	rVB	21803	30847	0.22%	0.057%

Sum of corrected areas: 54579308

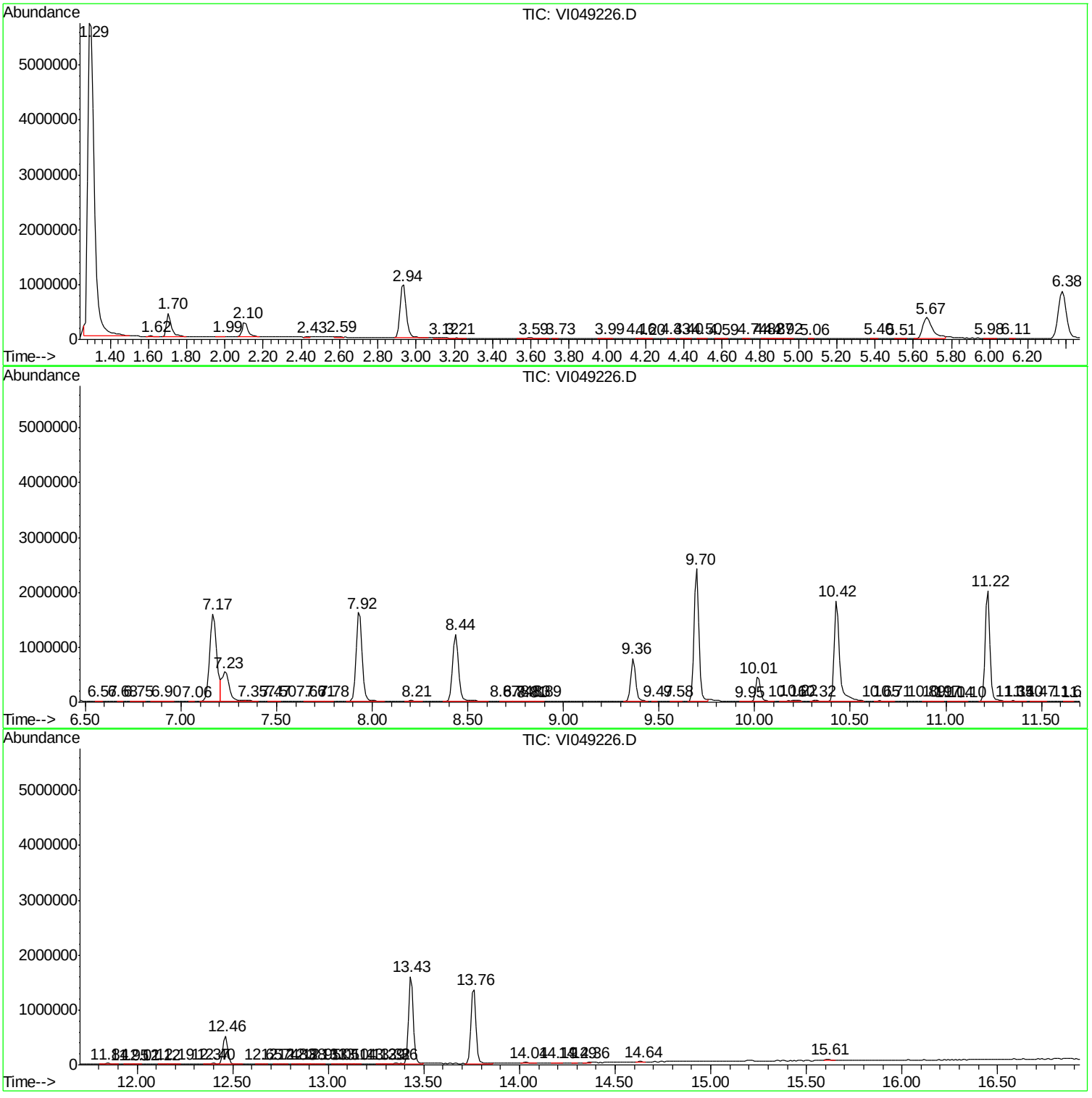
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049226.D
Acq On : 4 May 2016 15:13
Operator : FY/SY
Sample : VI0504WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK27

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049226.D
Acq On : 4 May 2016 15:13
Operator : FY/SY
Sample : VI0504WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
VBLK27

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050416\
Data File : VI049226.D
Acq On : 4 May 2016 15:13
Operator : FY/SY
Sample : VI0504WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK27

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK28

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0505WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049246.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK28

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0505WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049246.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK28

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0505WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049246.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK28

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0505WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049246.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

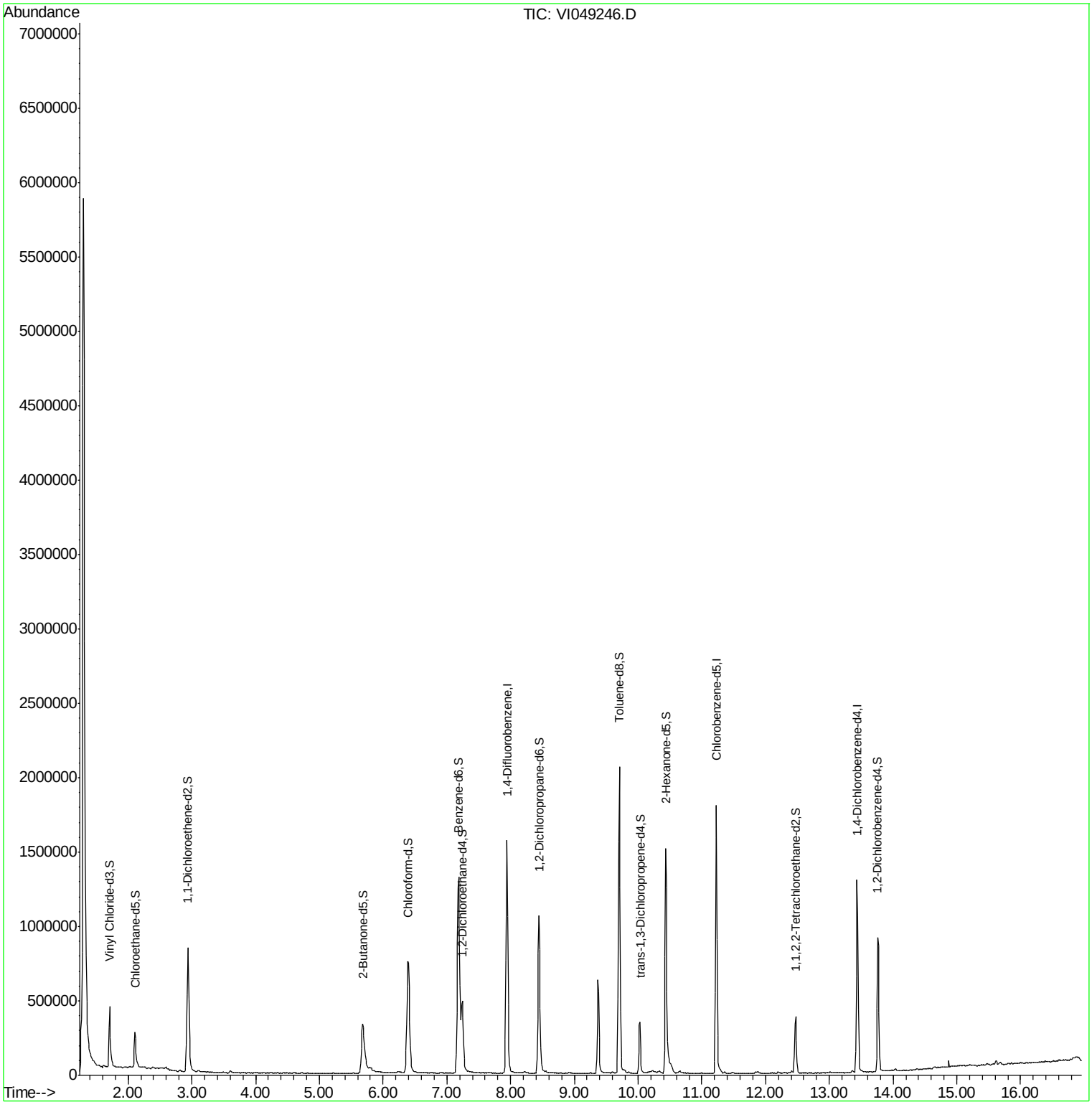
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 04:46:54 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VBLK28

Manual Integrations APPROVED
feifei
5/6/2016 11:43:42 AM



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK28

Manual Integrations APPROVED
feifei
5/6/2016 11:43:42 AM

Quant Time: May 06 04:46:54 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1422886	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	911067	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	296478	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	406172	4.64	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 92.80%			
7) Chloroethane-d5	2.11	69	257325m	5.30	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 106.00%			
11) 1,1-Dichloroethene-d2	2.93	63	692773	3.36	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 67.20%			
20) 2-Butanone-d5	5.68	46	820176	43.25	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 86.50%			
24) Chloroform-d	6.39	84	959767	4.31	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 86.20%			
26) 1,2-Dichloroethane-d4	7.25	65	426402m	4.68	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 93.60%			
32) Benzene-d6	7.19	84	1717559	4.84	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 96.80%			
36) 1,2-Dichloropropane-d6	8.45	67	480377	4.81	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 96.20%			
41) Toluene-d8	9.71	98	1225965	4.68	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 93.60%			
43) trans-1,3-Dichloropropene-	10.03	79	181436	4.61	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 92.20%			
46) 2-Hexanone-d5	10.43	63	564831	45.54	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 91.08%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	181170	3.99	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 79.80%			
63) 1,2-Dichlorobenzene-d4	13.77	152	214629	4.13	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 82.60%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK28

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.301	4	7	28	rVB	5824759	13239051	100.00%	27.836%
2	1.615	37	39	41	rBV3	18070	27102	0.20%	0.057%
3	1.714	46	49	59	rVB	411067	667070	5.04%	1.403%
4	2.029	79	81	85	rBV4	10278	14205	0.11%	0.030%
5	2.108	86	89	97	rVB	234134	445116	3.36%	0.936%
6	2.590	137	138	144	rVB3	24148	45184	0.34%	0.095%
7	2.669	144	146	149	rVB4	7694	12891	0.10%	0.027%
8	2.816	160	161	163	rVB2	7614	5283	0.04%	0.011%
9	2.934	168	173	183	rBV	833459	1933316	14.60%	4.065%
10	3.111	188	191	198	rVB5	9252	28104	0.21%	0.059%
11	3.210	200	201	203	rVB2	4583	5246	0.04%	0.011%
12	3.289	207	209	211	rBV3	5743	7274	0.05%	0.015%
13	3.495	228	230	234	rVB5	5033	7648	0.06%	0.016%
14	3.604	236	241	244	rBV6	16889	41861	0.32%	0.088%
15	3.722	250	253	257	rVB5	4972	9863	0.07%	0.021%
16	3.869	266	268	270	rBV3	5348	7080	0.05%	0.015%
17	3.978	277	279	281	rBV3	4033	8365	0.06%	0.018%
18	4.145	292	296	298	rBV4	2905	6389	0.05%	0.013%
19	4.263	305	308	309	rVV3	2444	4255	0.03%	0.009%
20	4.332	312	315	318	rBV4	2796	6522	0.05%	0.014%
21	4.440	324	326	328	rBV3	2407	4230	0.03%	0.009%
22	4.499	330	332	334	rVB3	2976	4250	0.03%	0.009%
23	4.598	338	342	345	rBV6	4296	13891	0.10%	0.029%
24	4.716	352	354	357	rBV4	3487	5728	0.04%	0.012%
25	4.814	361	364	367	rBV4	4384	6320	0.05%	0.013%
26	4.913	372	374	376	rVB3	3506	4879	0.04%	0.010%
27	5.277	408	411	413	rBV4	2663	4078	0.03%	0.009%
28	5.326	415	416	418	rBV2	4507	4228	0.03%	0.009%
29	5.464	429	430	434	rVB4	2548	5172	0.04%	0.011%
30	5.680	441	452	461	rBV	335830	1203746	9.09%	2.531%
31	6.015	484	486	488	rVB3	3661	4989	0.04%	0.010%
32	6.231	506	508	509	rBV2	3244	5233	0.04%	0.011%
33	6.389	518	524	534	rBV	744876	2289403	17.29%	4.814%
34	6.763	561	562	565	rVB2	4052	4910	0.04%	0.010%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK28

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.910	574	577	583	rVB7	6220	18613	0.14%	0.039%
36	7.186	598	605	608	rBV	1316673	3502107	26.45%	7.363%
37	7.245	608	611	619	rVB	475123	1184433	8.95%	2.490%
38	7.511	636	638	640	rVB3	4679	6699	0.05%	0.014%
39	7.540	640	641	644	rBV3	3757	4568	0.03%	0.010%
40	7.944	673	682	695	rBV	1568063	3493791	26.39%	7.346%
41	8.229	706	711	718	rVB9	11855	43226	0.33%	0.091%
42	8.446	728	733	743	rBV	1061392	2333216	17.62%	4.906%
43	8.712	758	760	761	rVB2	6120	6096	0.05%	0.013%
44	8.771	765	766	771	rVB5	2888	6328	0.05%	0.013%
45	8.908	778	780	784	rBV4	3675	7225	0.05%	0.015%
46	9.066	793	796	798	rBV2	3682	7382	0.06%	0.016%
47	9.174	804	807	809	rVB3	2831	5603	0.04%	0.012%
48	9.223	809	812	814	rBV4	3443	7487	0.06%	0.016%
49	9.253	814	815	818	rBV3	2661	4557	0.03%	0.010%
50	9.371	823	827	836	rBV	630136	1187056	8.97%	2.496%
51	9.597	847	850	854	rVB4	7556	13515	0.10%	0.028%
52	9.706	856	861	867	rBV	2054716	3555045	26.85%	7.475%
53	9.853	875	876	881	rVB4	10322	15380	0.12%	0.032%
54	10.030	889	894	900	rVV	343947	648306	4.90%	1.363%
55	10.099	900	901	903	rVV2	7647	10411	0.08%	0.022%
56	10.139	903	905	906	rVV2	8124	12824	0.10%	0.027%
57	10.227	908	914	917	rVV3	20124	69381	0.52%	0.146%
58	10.336	921	925	927	rVV5	15154	37347	0.28%	0.079%
59	10.434	931	935	951	rBV	1513095	2976385	22.48%	6.258%
60	10.660	954	958	964	rVB6	14156	38406	0.29%	0.081%
61	10.778	967	970	974	rVB6	4588	6603	0.05%	0.014%
62	10.857	976	978	981	rVB4	3146	4868	0.04%	0.010%
63	10.995	991	992	994	rBV2	4358	4192	0.03%	0.009%
64	11.152	1005	1008	1009	rVB3	3554	5738	0.04%	0.012%
65	11.231	1011	1016	1026	rBV	1805331	3185922	24.06%	6.699%
66	11.359	1026	1029	1033	rVB3	12969	23179	0.18%	0.049%
67	11.487	1036	1042	1045	rBV5	8950	26354	0.20%	0.055%
68	11.684	1060	1062	1063	rBV2	3590	4159	0.03%	0.009%
69	11.851	1076	1079	1080	rBV3	10794	15745	0.12%	0.033%
70	12.097	1103	1104	1106	rBV2	3791	5036	0.04%	0.011%
71	12.196	1111	1114	1118	rBV3	10525	20253	0.15%	0.043%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK28

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	12.294	1120	1124	1126	rBV4	3329	7808	0.06%	0.016%
73	12.373	1129	1132	1134	rBV4	7136	15133	0.11%	0.032%
74	12.412	1134	1136	1138	rVV2	14161	21964	0.17%	0.046%
75	12.471	1138	1142	1148	rVB	383622	701447	5.30%	1.475%
76	12.560	1148	1151	1154	rVB5	3912	8928	0.07%	0.019%
77	12.599	1154	1155	1157	rBV2	3955	5279	0.04%	0.011%
78	12.963	1189	1192	1193	rBV3	3244	5169	0.04%	0.011%
79	13.013	1195	1197	1199	rVV3	6083	7881	0.06%	0.017%
80	13.170	1209	1213	1214	rBV4	2389	5801	0.04%	0.012%
81	13.229	1217	1219	1220	rVB2	5974	4838	0.04%	0.010%
82	13.259	1220	1222	1223	rBV	4927	6089	0.05%	0.013%
83	13.298	1223	1226	1228	rVB4	4127	7089	0.05%	0.015%
84	13.367	1228	1233	1236	rBV7	11319	27202	0.21%	0.057%
85	13.436	1236	1240	1255	rBV	1296362	2250724	17.00%	4.732%
86	13.603	1255	1257	1258	rBV2	3936	4777	0.04%	0.010%
87	13.642	1258	1261	1264	rVB5	5597	10075	0.08%	0.021%
88	13.682	1264	1265	1266	rBV	6055	5378	0.04%	0.011%
89	13.761	1269	1273	1283	rBV	898847	1681546	12.70%	3.536%
90	13.977	1293	1295	1296	rBV2	3553	4569	0.03%	0.010%
91	14.046	1298	1302	1304	rBV2	14282	29726	0.22%	0.063%
92	14.135	1309	1311	1313	rBV3	4621	8415	0.06%	0.018%
93	14.361	1333	1334	1335	rBV	6612	6726	0.05%	0.014%
94	14.469	1343	1345	1348	rBV4	4962	10656	0.08%	0.022%
95	14.548	1351	1353	1355	rVV3	8089	10317	0.08%	0.022%
96	14.646	1360	1363	1366	rBV5	11584	26597	0.20%	0.056%
97	14.873	1384	1386	1387	rVB	43326	28566	0.22%	0.060%
98	14.912	1387	1390	1391	rBV3	10890	16247	0.12%	0.034%
99	15.621	1459	1462	1465	rVB2	23294	43647	0.33%	0.092%
100	15.857	1484	1486	1488	rBV3	11224	17849	0.13%	0.038%

Sum of corrected areas: 47560761

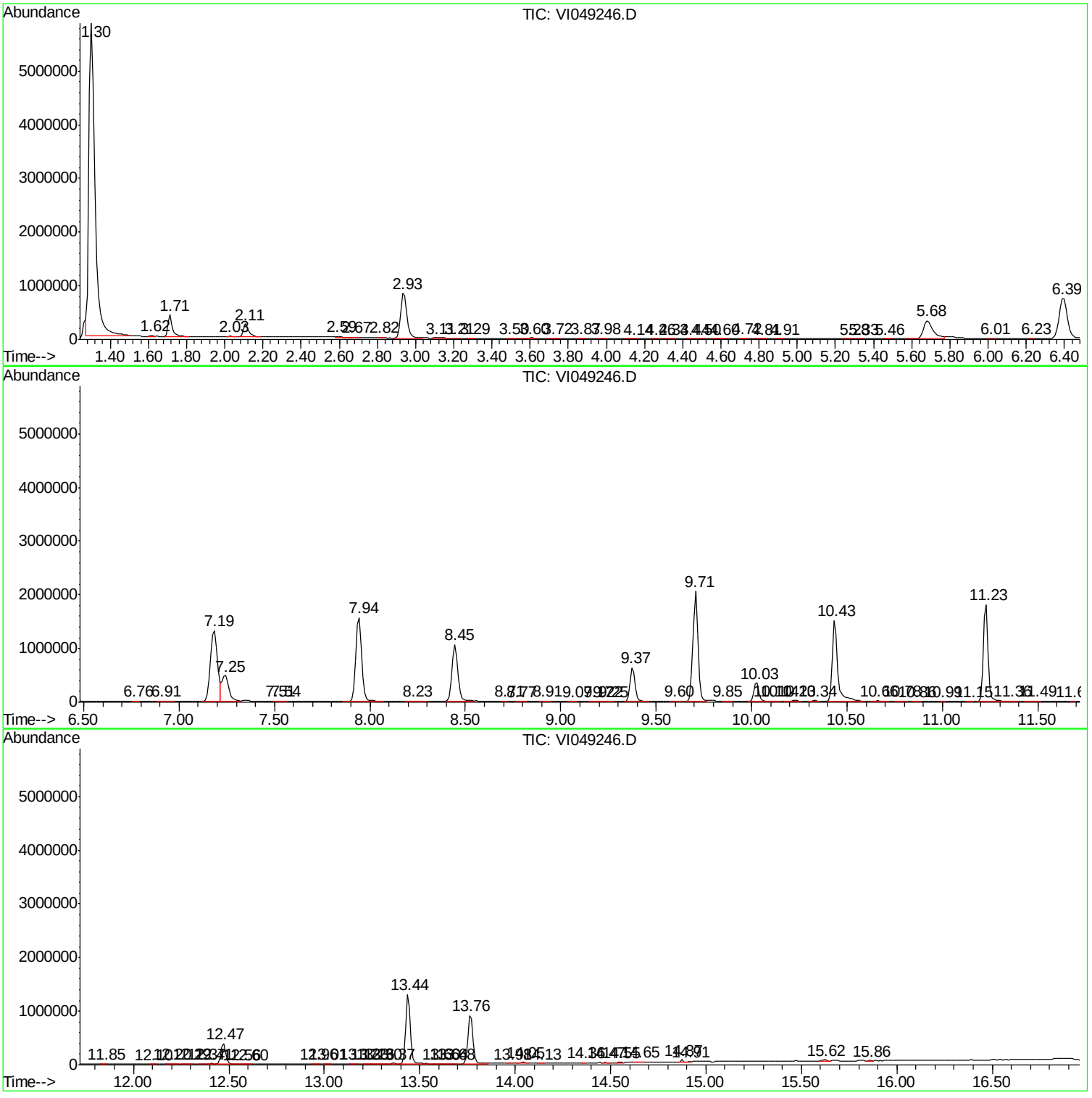
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK28

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
VBLK28

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK28

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

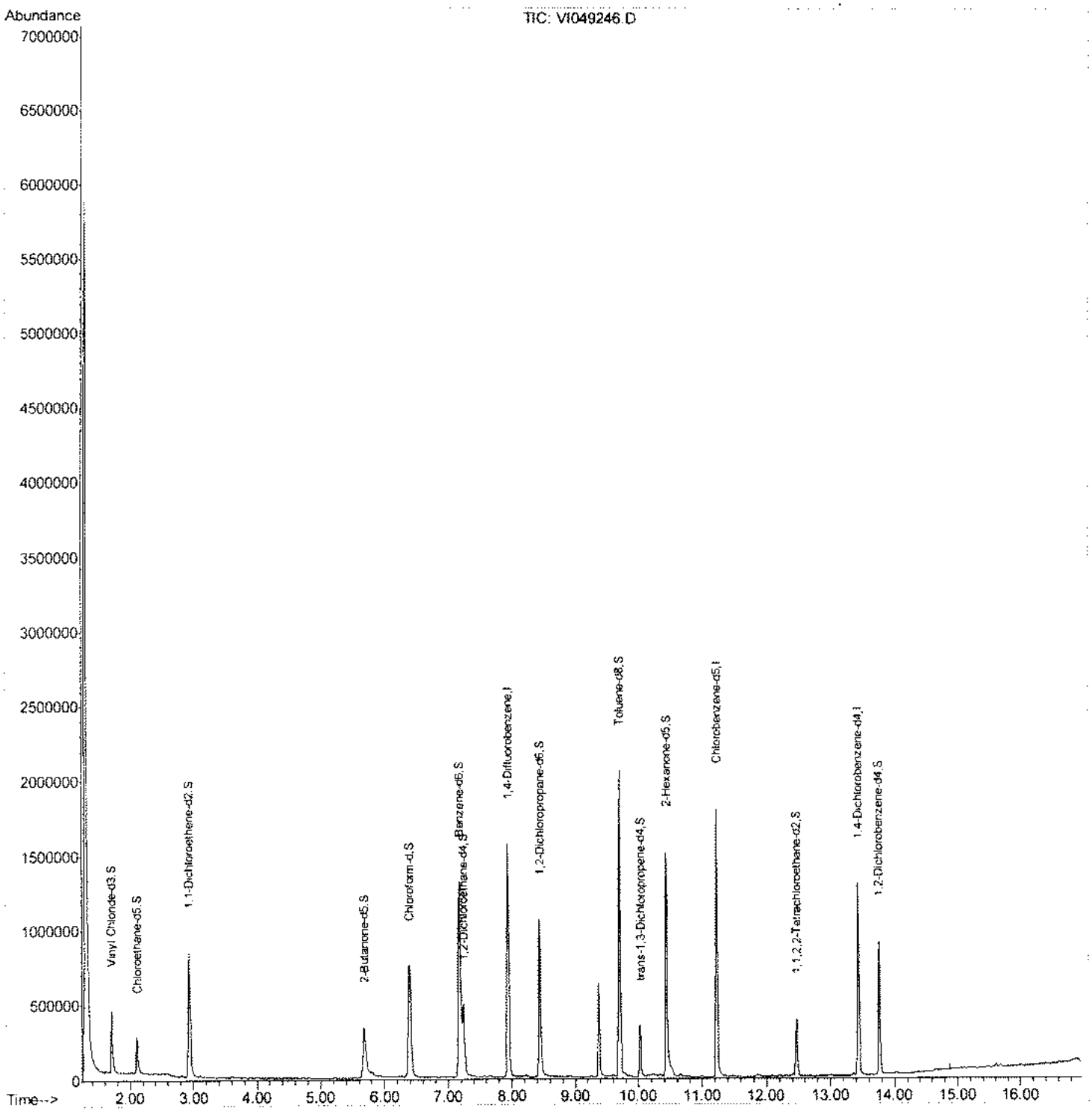
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 04:46:54 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VBLK28

Manual Integrations APPROVED
feifei
5/6/2016 11:43:42 AM



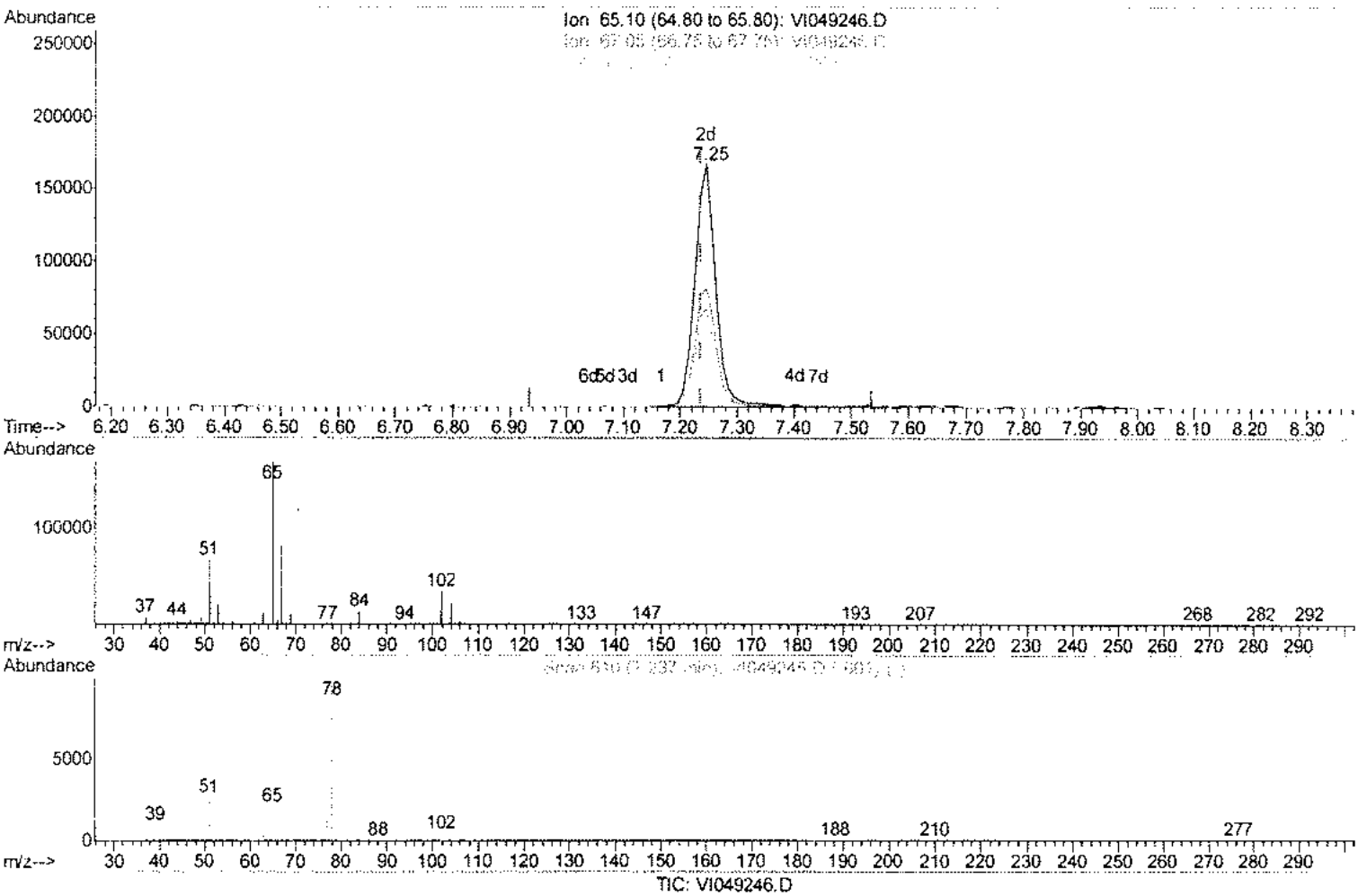
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 04:43:13 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VBLK28

Manual Integrations APPROVED
feifei
5/6/2016 11:43:42 AM



TIC: VI049246.D

(26) 1,2-Dichloroethane-d4 (S)

7.245min (+0.008) 4.68ug/L m

response 426402

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	0.08#
51.05	123.20	0.13#
0.00	0.00	0.00

M.P
05/06/16

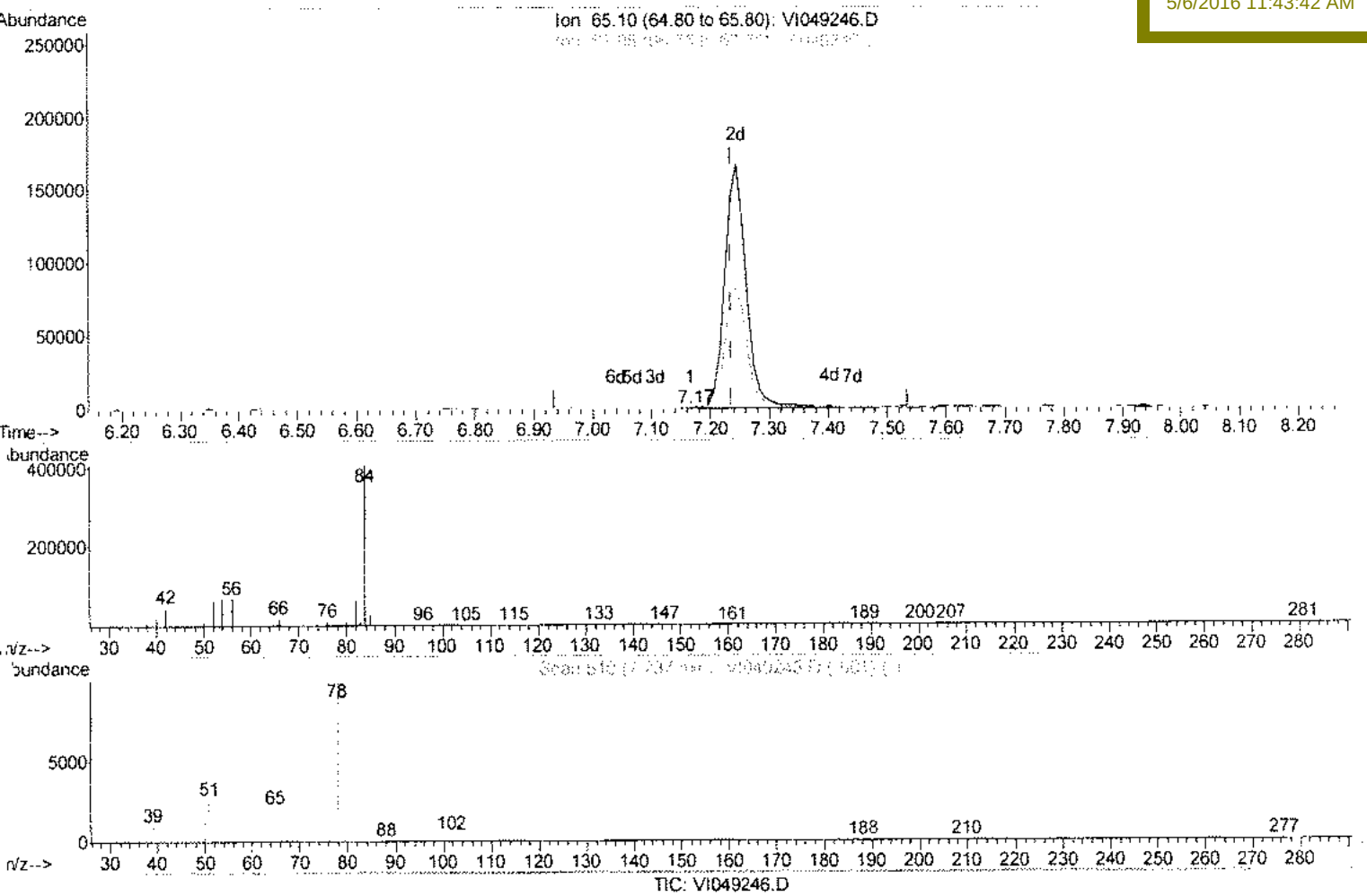
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 04:43:13 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VBLK28

Manual Integrations APPROVED
feifei
5/6/2016 11:43:42 AM



(26) 1,2-Dichloroethane-d4 (S)

7.166min (-0.070) 0.01ug/L

response 565

Ion	Exp%	Act%
65.10	100	100
67.05	51.00	57.52
51.05	123.20	98.94
0.00	0.00	0.00

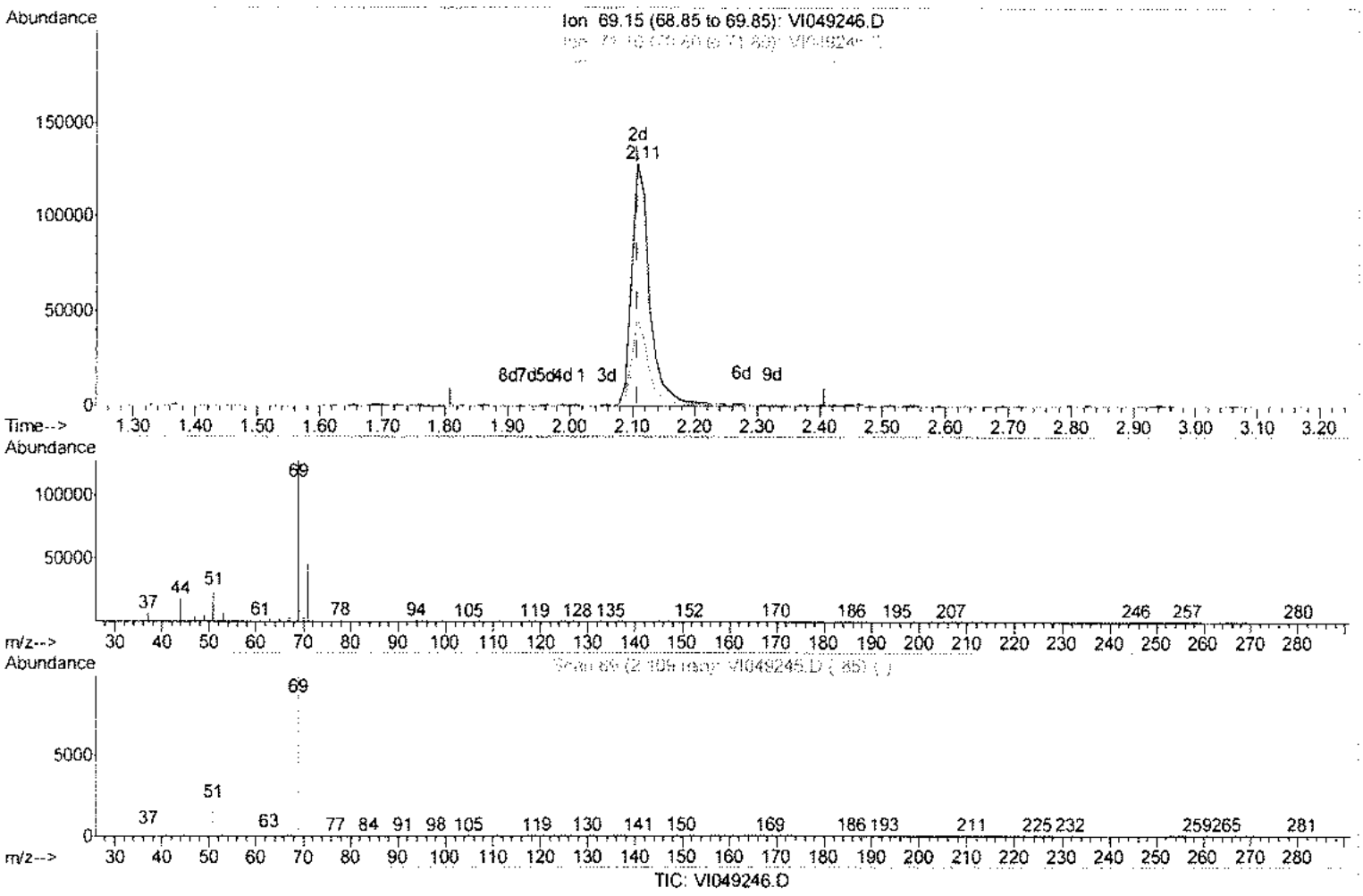
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 04:43:13 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : VBLK28

Manual Integrations APPROVED
feifei
5/6/2016 11:43:42 AM



TIC: VI049246.D

(7) Chloroethane-d5 (S)

2.108min (-0.001) 5.30ug/L m

response 257325

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	0.10#
51.05	32.70	0.11#
0.00	0.00	0.00

XA.D
05/06/16

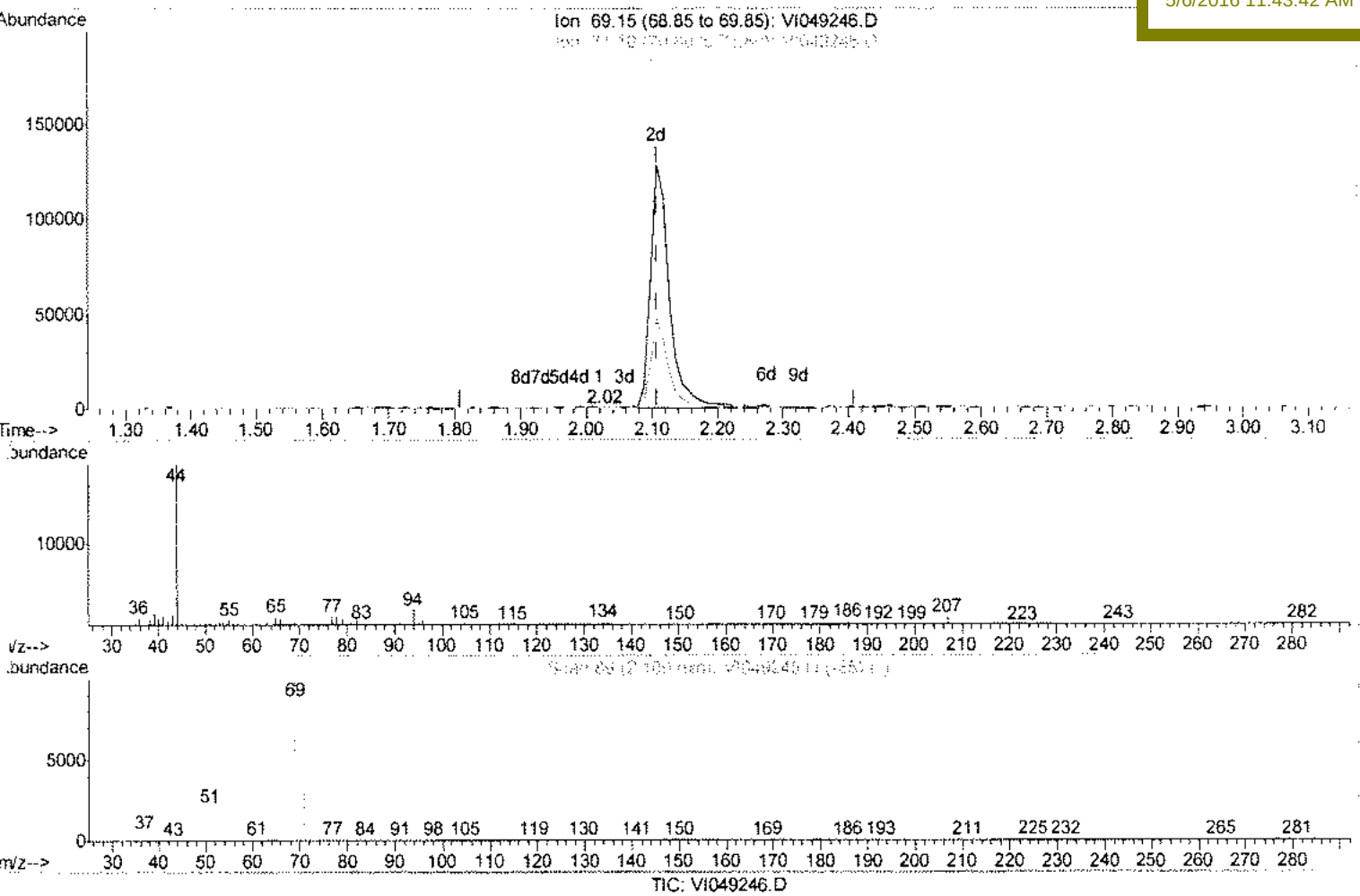
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 04:43:13 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VBLK28

Manual Integrations APPROVED
feifei
5/6/2016 11:43:42 AM



(7) Chloroethane-d5 (S)

2.019min (-0.090) 0.01ug/L

response 727

Ion	Exp%	Act%
69.15	100	100
71.10	33.30	36.04
51.05	32.70	39.89
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049246.D
Acq On : 5 May 2016 10:59
Operator : FY/SY
Sample : VI0505WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 04:46:54 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : VBLK28

Manual Integrations APPROVED
feifei
5/6/2016 11:43:42 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1422886	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	911067	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	296478	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	406172	4.64	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 92.80%			
7) Chloroethane-d5	2.11	69	257325m	5.30	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 106.00%			
11) 1,1-Dichloroethene-d2	2.93	63	692773	3.36	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 67.20%			
20) 2-Butanone-d5	5.68	46	820176	43.25	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 86.50%			
24) Chloroform-d	6.39	84	959767	4.31	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 86.20%			
26) 1,2-Dichloroethane-d4	7.25	65	426402m	4.68	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 93.60%			
32) Benzene-d6	7.19	84	1717559	4.84	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 96.80%			
36) 1,2-Dichloropropane-d6	8.45	67	480377	4.81	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 96.20%			
41) Toluene-d8	9.71	98	1225965	4.68	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 93.60%			
43) trans-1,3-Dichloropropene-	10.03	79	181436	4.61	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 92.20%			
46) 2-Hexanone-d5	10.43	63	564831	45.54	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 91.08%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	181170	3.99	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 79.80%			
63) 1,2-Dichlorobenzene-d4	13.77	152	214629	4.13	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 82.60%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

D.D 05/06/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK29

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0505WBL02
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049256.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK29

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0505WBL02
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049256.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK29

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0505WBL02
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049256.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLK29

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0505WBL02
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049256.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

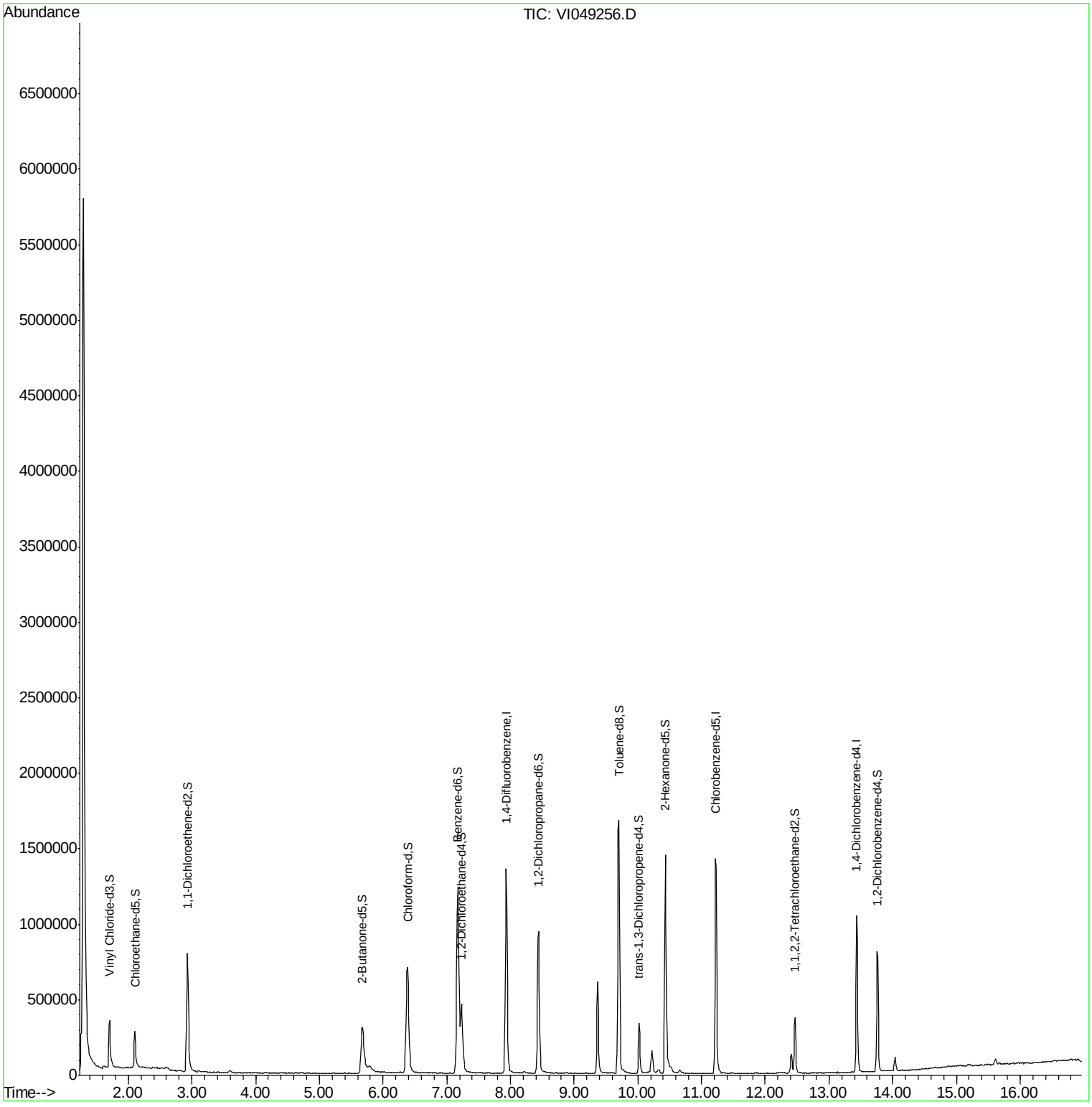
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 06 05:30:20 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VBLK29

Manual Integrations APPROVED
feifei
5/6/2016 11:44:14 AM



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK29

Manual Integrations APPROVED
feifei
5/6/2016 11:44:14 AM

Quant Time: May 06 05:30:20 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1193553	5.00	ug/L	-0.01
28) Chlorobenzene-d5	11.23	117	762181	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	241848	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	350184	4.77	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 95.40%			
7) Chloroethane-d5	2.11	69	232207	5.71	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 114.20%			
11) 1,1-Dichloroethene-d2	2.93	63	615715m	3.56	ug/L	-0.01
Spiked Amount 5.000	Range 60 - 125		Recovery = 71.20%			
20) 2-Butanone-d5	5.67	46	773513	48.62	ug/L	-0.02
Spiked Amount 50.000	Range 40 - 130		Recovery = 97.24%			
24) Chloroform-d	6.39	84	891507	4.77	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.40%			
26) 1,2-Dichloroethane-d4	7.23	65	398378	5.21	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 130		Recovery = 104.20%			
32) Benzene-d6	7.17	84	1591671	5.36	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 107.20%			
36) 1,2-Dichloropropane-d6	8.44	67	450379	5.39	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 107.80%			
41) Toluene-d8	9.70	98	1085476	4.96	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.20%			
43) trans-1,3-Dichloropropene-	10.02	79	162296	4.93	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 98.60%			
46) 2-Hexanone-d5	10.43	63	512237	49.37	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 98.74%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	168251	4.43	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 88.60%			
63) 1,2-Dichlorobenzene-d4	13.77	152	189866	4.48	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 89.60%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK29

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.298	3	7	35	rVB	5761016	12988236	100.00%	29.228%
2	1.613	37	39	42	rBV4	15360	39787	0.31%	0.090%
3	1.712	46	49	57	rVB	312445	567882	4.37%	1.278%
4	1.958	72	74	75	rBV	6686	6609	0.05%	0.015%
5	2.105	86	89	98	rVB	237644	424585	3.27%	0.955%
6	2.381	115	117	119	rBV3	10690	13633	0.10%	0.031%
7	2.597	136	139	141	rBV4	11986	18809	0.14%	0.042%
8	2.775	155	157	159	rBV3	2989	4445	0.03%	0.010%
9	2.932	168	173	182	rBV	782895	1706565	13.14%	3.840%
10	3.030	182	183	185	rVV2	8246	10346	0.08%	0.023%
11	3.109	188	191	197	rBV8	10448	28011	0.22%	0.063%
12	3.208	199	201	206	rVB3	5800	13388	0.10%	0.030%
13	3.523	230	233	235	rVB4	3608	5345	0.04%	0.012%
14	3.591	235	240	244	rBV5	16400	44260	0.34%	0.100%
15	3.719	250	253	254	rBV3	4139	6429	0.05%	0.014%
16	3.818	261	263	267	rVB5	3604	8110	0.06%	0.018%
17	3.877	267	269	273	rVV4	4559	10285	0.08%	0.023%
18	3.936	273	275	276	rVB2	4832	4483	0.03%	0.010%
19	3.995	276	281	285	rBV6	6155	22121	0.17%	0.050%
20	4.074	287	289	291	rVB3	3958	5174	0.04%	0.012%
21	4.152	294	297	298	rVV3	4120	6350	0.05%	0.014%
22	4.221	302	304	306	rBV2	3614	4402	0.03%	0.010%
23	4.408	321	323	324	rBV	3365	4923	0.04%	0.011%
24	4.625	342	345	347	rBV3	3293	6058	0.05%	0.014%
25	4.841	364	367	368	rVB3	5824	9026	0.07%	0.020%
26	4.871	368	370	372	rBV3	4176	7229	0.06%	0.016%
27	4.979	379	381	384	rVB4	3000	4630	0.04%	0.010%
28	5.235	404	407	409	rBV3	6448	11855	0.09%	0.027%
29	5.324	413	416	418	rBV4	3166	6396	0.05%	0.014%
30	5.402	422	424	426	rBV2	3354	4768	0.04%	0.011%
31	5.678	445	452	460	rBV	303378	1105586	8.51%	2.488%
32	5.786	461	463	473	rVB2	37223	121366	0.93%	0.273%
33	5.993	482	484	485	rBV2	3824	5553	0.04%	0.012%
34	6.062	489	491	493	rVB3	3104	4908	0.04%	0.011%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK29

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.101	493	495	498	rVB4	3203	5415	0.04%	0.012%
36	6.268	511	512	515	rVB2	6171	6515	0.05%	0.015%
37	6.387	515	524	536	rBV	704669	2189213	16.86%	4.927%
38	6.515	536	537	540	rVB3	4089	4743	0.04%	0.011%
39	6.613	545	547	549	rBV3	4827	10131	0.08%	0.023%
40	7.174	595	604	608	rBV	1236026	3356853	25.85%	7.554%
41	7.233	608	610	620	rVV	456699	1043395	8.03%	2.348%
42	7.341	620	621	627	rVV6	9459	22951	0.18%	0.052%
43	7.420	627	629	630	rVV2	3387	4626	0.04%	0.010%
44	7.469	633	634	637	rBV3	3738	6024	0.05%	0.014%
45	7.509	637	638	641	rVB3	3387	4499	0.03%	0.010%
46	7.656	652	653	661	rVB7	6004	10866	0.08%	0.024%
47	7.794	666	667	669	rBV2	4130	5538	0.04%	0.012%
48	7.932	674	681	694	rBV	1357669	2962577	22.81%	6.667%
49	8.099	696	698	700	rVB3	4495	4475	0.03%	0.010%
50	8.227	706	711	713	rBV5	8787	22105	0.17%	0.050%
51	8.444	727	733	742	rBV	937070	2114031	16.28%	4.757%
52	8.650	753	754	758	rVB4	6167	9213	0.07%	0.021%
53	8.719	758	761	762	rBV3	4623	8527	0.07%	0.019%
54	8.749	762	764	767	rVB4	4371	5429	0.04%	0.012%
55	8.798	767	769	771	rBV2	3704	5388	0.04%	0.012%
56	9.192	807	809	810	rVB3	5311	5875	0.05%	0.013%
57	9.231	810	813	814	rBV3	2653	4798	0.04%	0.011%
58	9.320	819	822	823	rBV3	3476	4801	0.04%	0.011%
59	9.369	823	827	838	rBV	603704	1081800	8.33%	2.434%
60	9.595	847	850	853	rBV4	4232	9651	0.07%	0.022%
61	9.703	856	861	866	rBV	1674504	3159796	24.33%	7.111%
62	10.018	889	893	900	rVV	333820	579052	4.46%	1.303%
63	10.117	901	903	905	rVV2	7038	13473	0.10%	0.030%
64	10.156	905	907	908	rVV2	8604	12375	0.10%	0.028%
65	10.225	909	914	919	rVV	151337	341164	2.63%	0.768%
66	10.323	919	924	928	rVV7	24891	59925	0.46%	0.135%
67	10.432	931	935	951	rBV	1442646	2751714	21.19%	6.192%
68	10.609	951	953	954	rVV2	5995	6326	0.05%	0.014%
69	10.658	954	958	966	rVB3	20239	51592	0.40%	0.116%
70	10.865	978	979	982	rVB3	2867	4393	0.03%	0.010%
71	11.071	996	1000	1002	rVB4	3243	6872	0.05%	0.015%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK29

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.219	1011	1015	1025	rBV	1425360	2646043	20.37%	5.955%
73	11.357	1025	1029	1033	rVB6	8785	21156	0.16%	0.048%
74	11.475	1038	1041	1044	rVB2	5229	8053	0.06%	0.018%
75	11.623	1053	1056	1058	rBV4	3918	6836	0.05%	0.015%
76	11.859	1075	1080	1084	rVB6	6701	18801	0.14%	0.042%
77	12.036	1095	1098	1099	rBV3	4383	6189	0.05%	0.014%
78	12.203	1109	1115	1118	rBV8	8583	25866	0.20%	0.058%
79	12.410	1129	1136	1139	rBV	129031	257123	1.98%	0.579%
80	12.469	1139	1142	1147	rVV	371114	643483	4.95%	1.448%
81	12.548	1147	1150	1153	rVB5	6727	15221	0.12%	0.034%
82	12.597	1153	1155	1157	rBV2	3715	5737	0.04%	0.013%
83	12.705	1163	1166	1167	rBV2	3866	4853	0.04%	0.011%
84	12.764	1171	1172	1176	rBV3	3390	5803	0.04%	0.013%
85	12.951	1187	1191	1193	rBV4	4687	11574	0.09%	0.026%
86	12.991	1193	1195	1197	rVV3	2898	4474	0.03%	0.010%
87	13.089	1203	1205	1207	rVV3	2774	5428	0.04%	0.012%
88	13.138	1209	1210	1213	rBV3	7018	9489	0.07%	0.021%
89	13.276	1222	1224	1225	rBV2	4061	4738	0.04%	0.011%
90	13.365	1228	1233	1236	rBV7	7105	18337	0.14%	0.041%
91	13.433	1236	1240	1248	rVV	1037779	1801418	13.87%	4.054%
92	13.552	1250	1252	1255	rVB3	4951	8263	0.06%	0.019%
93	13.699	1264	1267	1269	rBV4	2809	6108	0.05%	0.014%
94	13.758	1269	1273	1280	rBV	800431	1506877	11.60%	3.391%
95	13.847	1280	1282	1284	rVV3	6309	9476	0.07%	0.021%
96	13.876	1284	1285	1288	rVV3	5348	6304	0.05%	0.014%
97	14.034	1297	1301	1308	rVV2	92172	174637	1.34%	0.393%
98	14.477	1345	1346	1349	rBV3	4750	6429	0.05%	0.014%
99	14.526	1349	1351	1352	rBV2	6522	6939	0.05%	0.016%
100	15.618	1459	1462	1465	rBV	34295	63688	0.49%	0.143%

Sum of corrected areas: 44437017

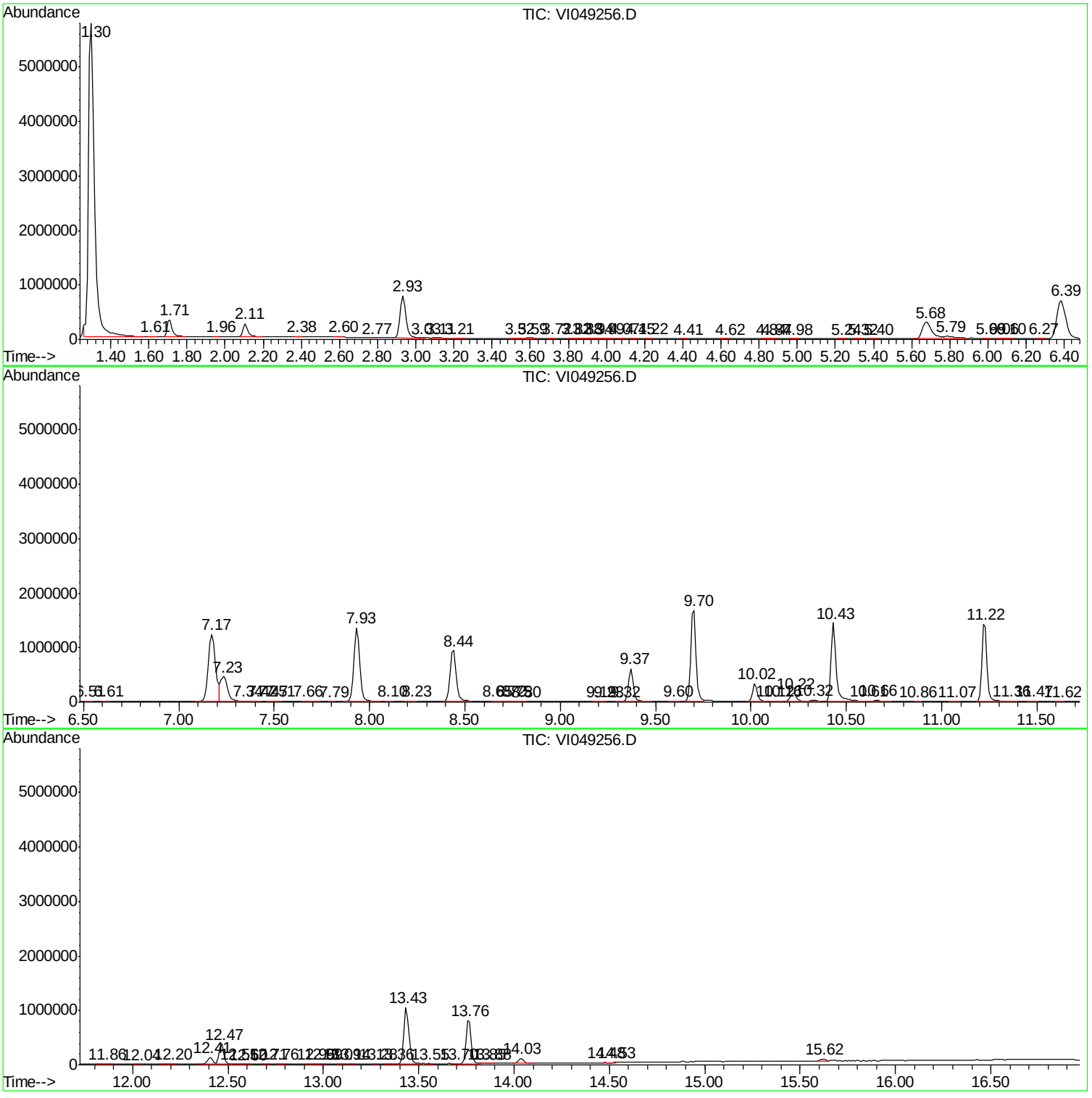
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK29

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
VBLK29

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK29

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard		
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 06 05:30:20 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VBLK29

Manual Integrations APPROVED
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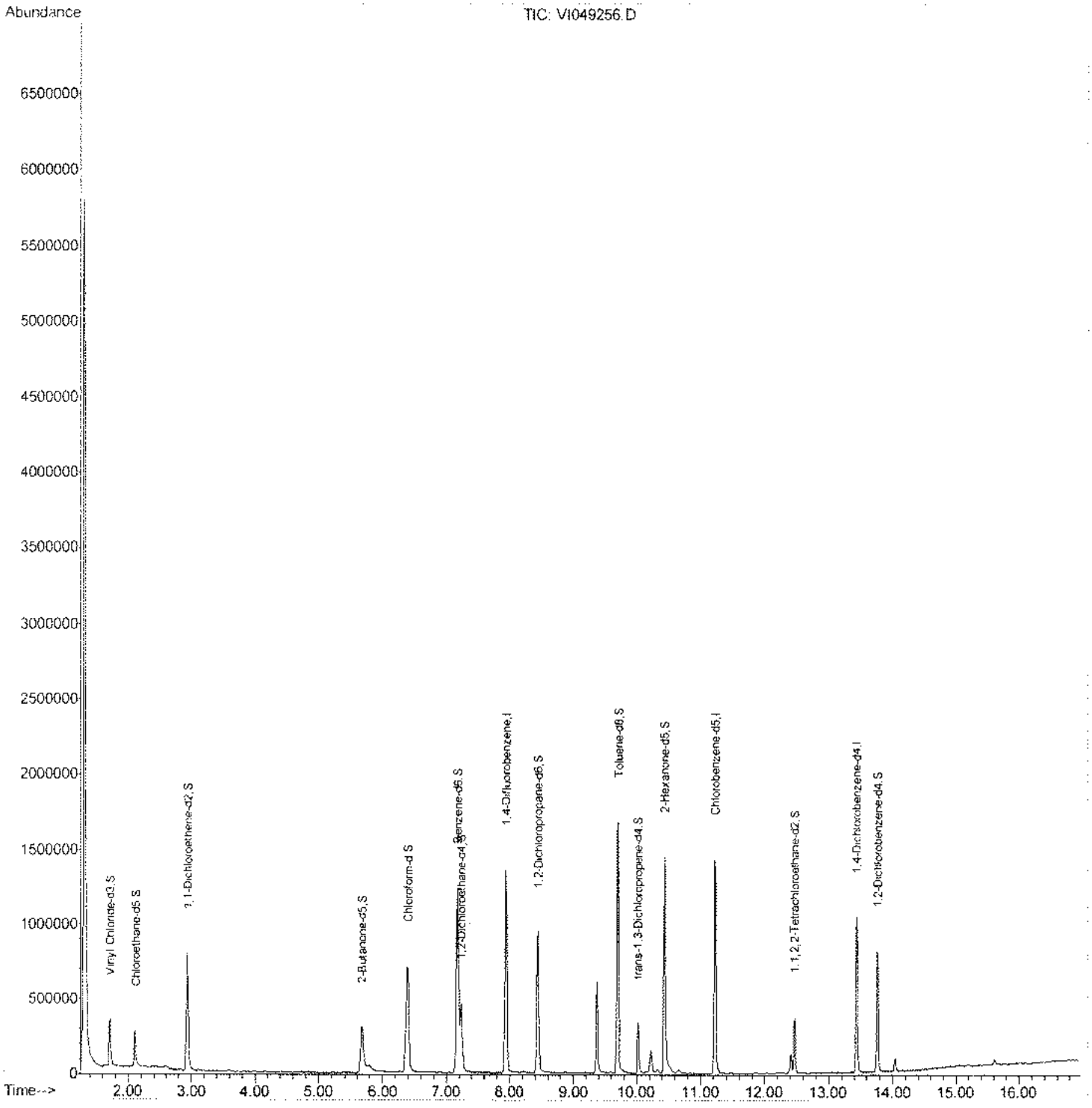


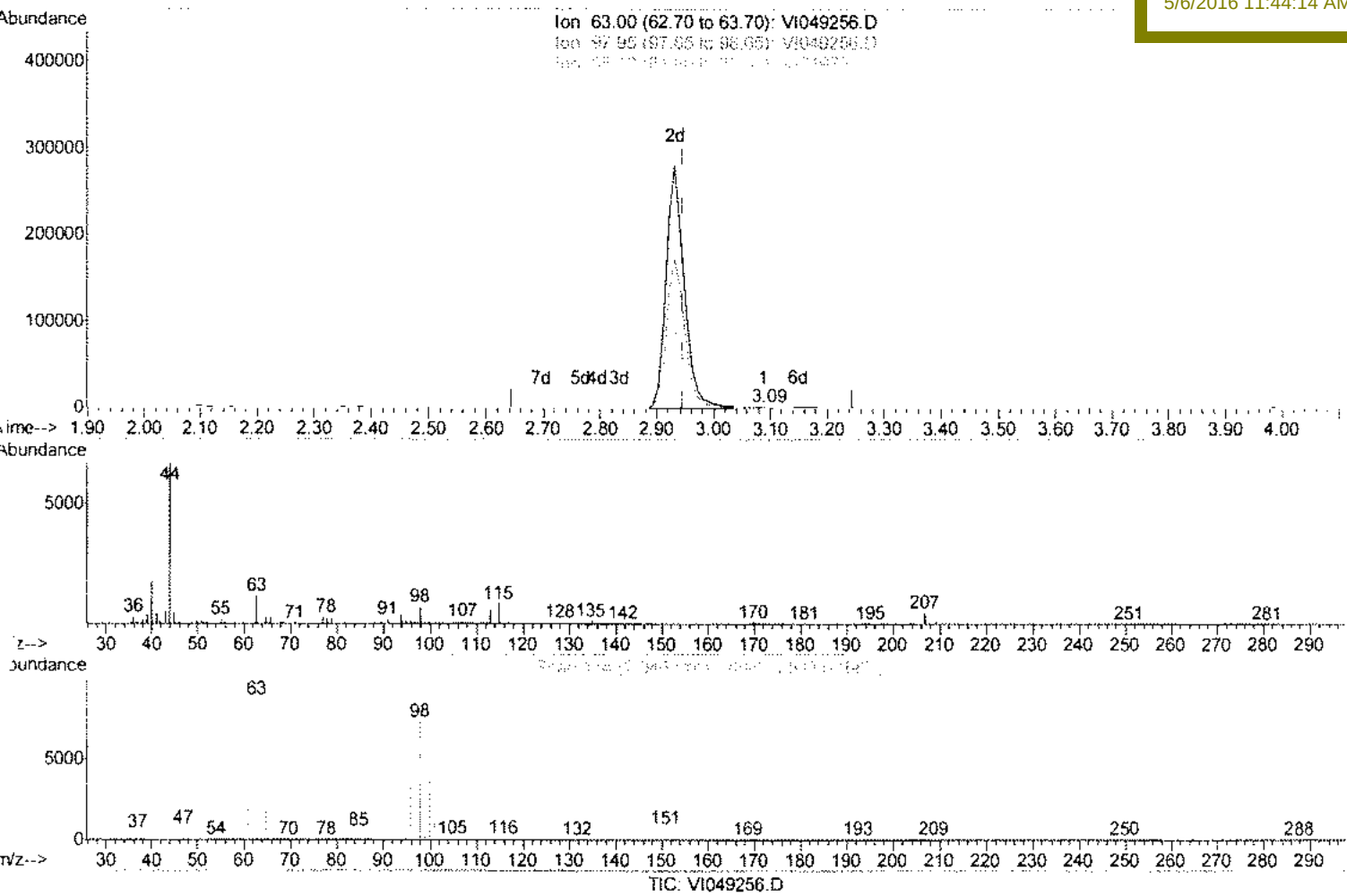
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 06 05:21:54 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VBLK29

Manual Integrations APPROVED
feifei
5/6/2016 11:44:14 AM



TIC: VI049256.D

(11) 1,1-Dichloroethene-d2 (S)

3.090min (+0.144) 0.01ug/L

response 1056

Ion	Exp%	Act%
63.00	100	100
97.95	85.40	82.39
65.10	23.80	20.17
0.00	0.00	0.00

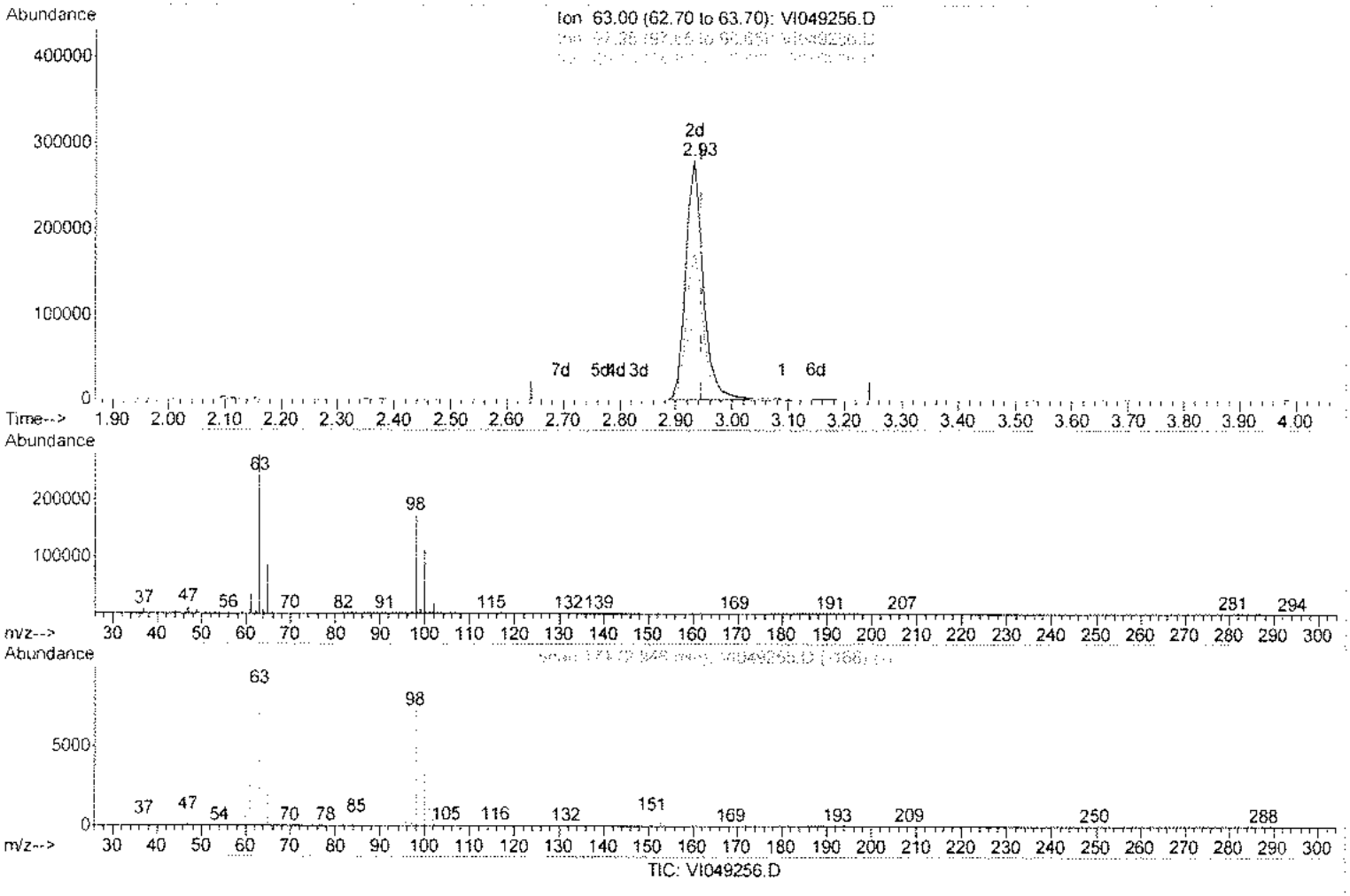
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 06 05:21:54 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument :
MSVOA_I
ClientSampleId :
VBLK29

Manual Integrations APPROVED
feifei
5/6/2016 11:44:14 AM



(11) 1,1-Dichloroethene-d2 (S)

2.932min (-0.014) 3.56ug/L m M.D 05/09/16

response 615715

Ion	Exp%	Act%
63.00	100	100
97.95	85.40	0.14#
65.10	23.80	0.03#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049256.D
Acq On : 5 May 2016 16:54
Operator : FY/SY
Sample : VI0505WBL02
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 06 05:30:20 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 05:16:54 2016
Response via : Initial Calibration

Instrument : MSVOA_I
ClientSampleId : VBLK29

Manual Integrations APPROVED
feifei
5/6/2016 11:44:14 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1193553	5.00	ug/L	-0.01
28) Chlorobenzene-d5	11.23	117	762181	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	241848	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	350184	4.77	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 95.40%			
7) Chloroethane-d5	2.11	69	232207	5.71	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 114.20%			
11) 1,1-Dichloroethene-d2	2.93	63	615715m	3.56	ug/L	-0.01
Spiked Amount 5.000	Range 60 - 125		Recovery = 71.20%			
20) 2-Butanone-d5	5.67	46	773513	48.62	ug/L	-0.02
Spiked Amount 50.000	Range 40 - 130		Recovery = 97.24%			
24) Chloroform-d	6.39	84	891507	4.77	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.40%			
26) 1,2-Dichloroethane-d4	7.23	65	398378	5.21	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 130		Recovery = 104.20%			
32) Benzene-d6	7.17	84	1591671	5.36	ug/L	-0.01
Spiked Amount 5.000	Range 70 - 125		Recovery = 107.20%			
36) 1,2-Dichloropropane-d6	8.44	67	450379	5.39	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 107.80%			
41) Toluene-d8	9.70	98	1085476	4.96	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.20%			
43) trans-1,3-Dichloropropene-	10.02	79	162296	4.93	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 98.60%			
46) 2-Hexanone-d5	10.43	63	512237	49.37	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 98.74%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	168251	4.43	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 88.60%			
63) 1,2-Dichlorobenzene-d4	13.77	152	189866	4.48	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 89.60%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

M.D 05/09/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK30

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0506WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049277.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK30

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0506WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049277.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK30

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0506WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049277.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLK30

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : VI0506WBL01
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049277.D
% Solids :
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/06/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

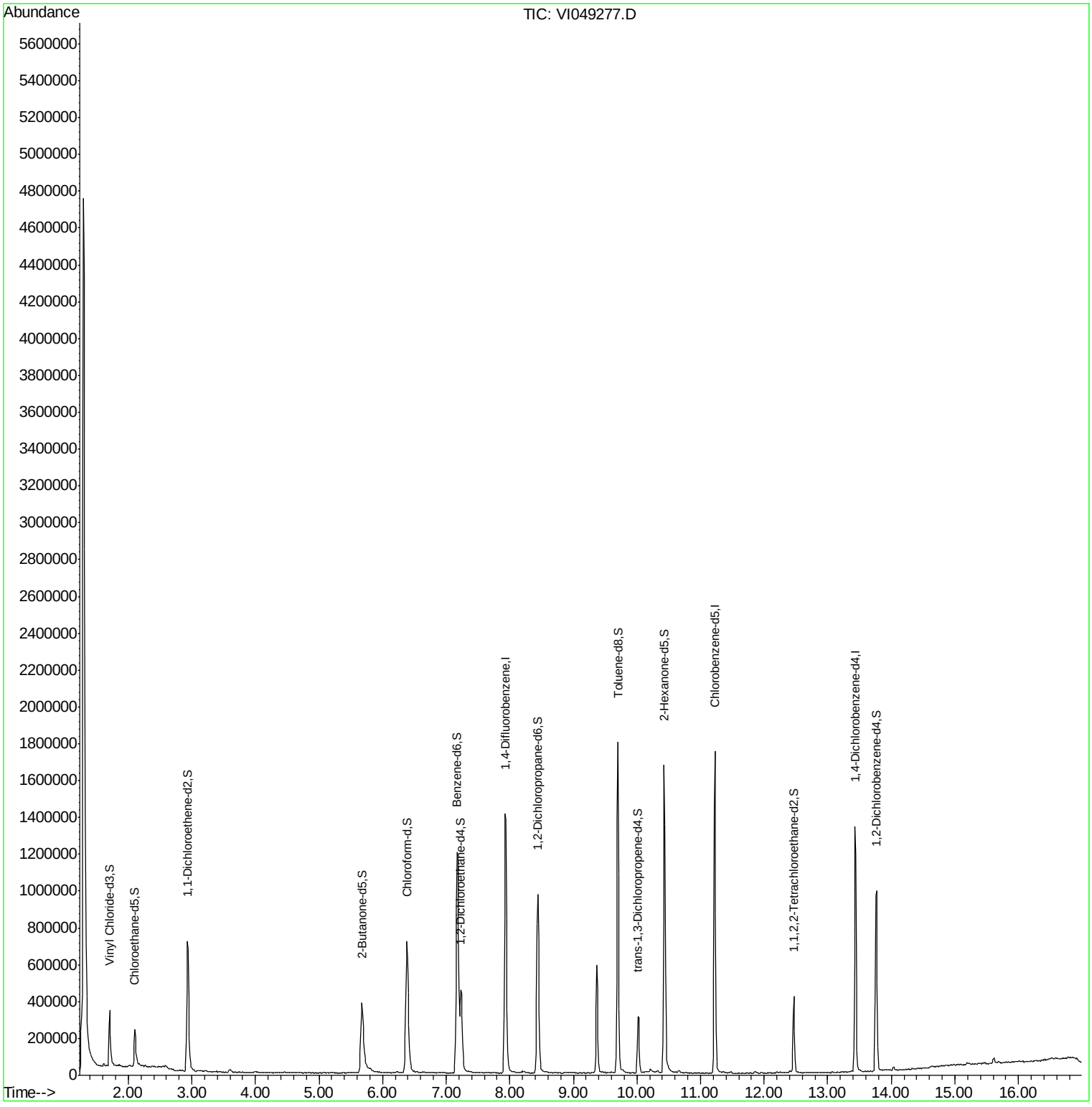
EPA-designated Registry Number.

Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049277.D
Acq On : 6 May 2016 11:45
Operator : FY/SY
Sample : VI0506WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK30

Quant Time: May 07 04:18:57 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration



Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049277.D
Acq On : 6 May 2016 11:45
Operator : FY/SY
Sample : VI0506WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK30

Quant Time: May 07 04:18:57 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1307874	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	851739	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	307505	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	328161	4.08	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 81.60%			
7) Chloroethane-d5	2.10	69	226389	5.08	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 101.60%			
11) 1,1-Dichloroethene-d2	2.93	63	582944	3.07	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 61.40%			
20) 2-Butanone-d5	5.68	46	886506	50.85	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 101.70%			
24) Chloroform-d	6.38	84	889889	4.34	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 86.80%			
26) 1,2-Dichloroethane-d4	7.23	65	399023	4.76	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 95.20%			
32) Benzene-d6	7.17	84	1546049	4.66	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 93.20%			
36) 1,2-Dichloropropane-d6	8.44	67	437564	4.69	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 93.80%			
41) Toluene-d8	9.70	98	1075811	4.40	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 88.00%			
43) trans-1,3-Dichloropropene-	10.03	79	162047	4.41	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 88.20%			
46) 2-Hexanone-d5	10.43	63	553577	47.75	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 95.50%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	181995	4.29	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 85.80%			
63) 1,2-Dichlorobenzene-d4	13.77	152	231762	4.30	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 86.00%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049277.D
Acq On : 6 May 2016 11:45
Operator : FY/SY
Sample : VI0506WBL01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK30

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.296	4	7	33	rVB	4713433	10979095	100.00%	25.425%
2	1.611	37	39	42	rBV4	14359	21533	0.20%	0.050%
3	1.709	46	49	57	rBV	302119	523217	4.77%	1.212%
4	2.103	86	89	95	rBV	200274	410517	3.74%	0.951%
5	2.260	103	105	108	rVB	9898	18779	0.17%	0.043%
6	2.930	168	173	187	rVB	705615	1653298	15.06%	3.829%
7	3.077	187	188	190	rBV2	4389	4938	0.04%	0.011%
8	3.205	199	201	206	rVB4	6429	17089	0.16%	0.040%
9	3.343	213	215	217	rBV3	4346	6505	0.06%	0.015%
10	3.392	219	220	221	rVB	7860	4641	0.04%	0.011%
11	3.422	221	223	224	rBV	4438	5865	0.05%	0.014%
12	3.451	224	226	228	rVB3	3763	5777	0.05%	0.013%
13	3.589	236	240	247	rVB4	15540	47550	0.43%	0.110%
14	3.796	259	261	264	rVB4	4286	6934	0.06%	0.016%
15	3.855	264	267	270	rBV2	3160	7762	0.07%	0.018%
16	4.002	278	282	284	rVB4	4941	10278	0.09%	0.024%
17	4.032	284	285	290	rVB5	5071	4404	0.04%	0.010%
18	4.189	298	301	306	rBV5	4534	12467	0.11%	0.029%
19	4.268	306	309	310	rVB2	3499	5160	0.05%	0.012%
20	4.721	353	355	357	rVB3	3778	6051	0.06%	0.014%
21	4.780	357	361	363	rBV4	3745	7182	0.07%	0.017%
22	4.888	371	372	376	rVB3	5089	7858	0.07%	0.018%
23	5.026	383	386	388	rBV4	3711	6491	0.06%	0.015%
24	5.370	420	421	423	rBV2	3802	4651	0.04%	0.011%
25	5.459	427	430	431	rBV3	2972	4618	0.04%	0.011%
26	5.676	444	452	471	rBV	378917	1420836	12.94%	3.290%
27	5.912	475	476	478	rVV2	4864	6863	0.06%	0.016%
28	5.951	478	480	483	rVB4	3223	5460	0.05%	0.013%
29	6.119	496	497	499	rVB2	3989	4426	0.04%	0.010%
30	6.227	501	508	510	rBV5	5738	16753	0.15%	0.039%
31	6.384	516	524	534	rBV	714424	2142429	19.51%	4.961%
32	6.522	537	538	544	rVB5	5088	9754	0.09%	0.023%
33	6.758	558	562	564	rVB5	3536	7366	0.07%	0.017%
34	6.857	571	572	574	rBV2	2850	4372	0.04%	0.010%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049277.D
Acq On : 6 May 2016 11:45
Operator : FY/SY
Sample : VI0506WBL01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK30

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	7.172	598	604	608	rBV	1200414	3222821	29.35%	7.463%
36	7.231	608	610	621	rVV	447235	1088396	9.91%	2.521%
37	7.349	621	622	626	rVB4	5816	7304	0.07%	0.017%
38	7.575	644	645	647	rVB2	4398	4930	0.04%	0.011%
39	7.605	647	648	651	rBV3	3963	5906	0.05%	0.014%
40	7.644	651	652	658	rVB4	3984	8458	0.08%	0.020%
41	7.929	676	681	694	rBV	1406691	3192302	29.08%	7.393%
42	8.185	705	707	708	rVV2	3502	5116	0.05%	0.012%
43	8.205	708	709	713	rVB4	9751	18779	0.17%	0.043%
44	8.264	713	715	721	rVB5	4042	9759	0.09%	0.023%
45	8.441	726	733	744	rBV	969440	2144005	19.53%	4.965%
46	8.717	757	761	762	rBV4	3372	7056	0.06%	0.016%
47	8.766	765	766	770	rVB4	3966	7057	0.06%	0.016%
48	8.845	773	774	777	rBV2	2578	5516	0.05%	0.013%
49	9.051	794	795	797	rBV2	5165	4559	0.04%	0.011%
50	9.091	797	799	802	rBV4	3021	6027	0.05%	0.014%
51	9.160	804	806	809	rVB4	2841	4958	0.05%	0.011%
52	9.238	811	814	816	rVB3	2416	4740	0.04%	0.011%
53	9.366	823	827	833	rBV	583669	1041705	9.49%	2.412%
54	9.534	842	844	847	rBV4	3992	9110	0.08%	0.021%
55	9.593	847	850	853	rBV5	5623	10545	0.10%	0.024%
56	9.701	856	861	868	rBV	1797850	3159587	28.78%	7.317%
57	9.868	877	878	882	rVB3	4337	5628	0.05%	0.013%
58	10.016	889	893	900	rBV	306602	582872	5.31%	1.350%
59	10.095	900	901	902	rVV	5602	4733	0.04%	0.011%
60	10.144	902	906	907	rVV4	6630	15271	0.14%	0.035%
61	10.213	910	913	917	rVV2	18766	49202	0.45%	0.114%
62	10.301	920	922	923	rVV2	5490	9390	0.09%	0.022%
63	10.331	923	925	931	rVB5	12098	19468	0.18%	0.045%
64	10.429	931	935	948	rBV	1671225	2938547	26.76%	6.805%
65	10.616	952	954	956	rVV3	5518	8888	0.08%	0.021%
66	10.656	956	958	966	rVB8	10464	28197	0.26%	0.065%
67	11.079	999	1001	1002	rBV2	4002	5076	0.05%	0.012%
68	11.099	1002	1003	1007	rVB3	3482	4862	0.04%	0.011%
69	11.227	1011	1016	1026	rBV	1745276	2967634	27.03%	6.872%
70	11.354	1026	1029	1032	rVB4	7697	14672	0.13%	0.034%
71	11.394	1032	1033	1036	rVB3	4679	6107	0.06%	0.014%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049277.D
Acq On : 6 May 2016 11:45
Operator : FY/SY
Sample : VI0506WBL01
Misc : 25mL/MSVOA I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK30

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.473	1039	1041	1044	rVB4	7104	12210	0.11%	0.028%
73	11.601	1052	1054	1057	rVB4	3871	5431	0.05%	0.013%
74	11.660	1057	1060	1061	rBV3	4662	6229	0.06%	0.014%
75	11.778	1070	1072	1074	rVB3	3204	4501	0.04%	0.010%
76	11.856	1077	1080	1088	rVB7	9662	28277	0.26%	0.065%
77	12.083	1102	1103	1106	rBV3	2941	4765	0.04%	0.011%
78	12.201	1111	1115	1118	rBV5	7383	19838	0.18%	0.046%
79	12.250	1118	1120	1122	rVB2	3680	4709	0.04%	0.011%
80	12.309	1124	1126	1131	rVB6	4554	9854	0.09%	0.023%
81	12.408	1133	1136	1138	rVV3	9842	16125	0.15%	0.037%
82	12.467	1138	1142	1146	rVV	411876	687786	6.26%	1.593%
83	12.585	1151	1154	1156	rVB4	3549	5588	0.05%	0.013%
84	12.624	1156	1158	1163	rBV6	3056	7904	0.07%	0.018%
85	13.008	1191	1197	1198	rBV5	3490	9207	0.08%	0.021%
86	13.077	1201	1204	1207	rBV4	5747	15198	0.14%	0.035%
87	13.156	1211	1212	1214	rBV2	5283	6766	0.06%	0.016%
88	13.244	1218	1221	1222	rBV3	2446	4393	0.04%	0.010%
89	13.372	1228	1234	1236	rBV7	7597	21432	0.20%	0.050%
90	13.431	1236	1240	1255	rVV	1332880	2321510	21.14%	5.376%
91	13.667	1262	1264	1268	rBV5	2979	6569	0.06%	0.015%
92	13.766	1269	1274	1280	rBV	979298	1803982	16.43%	4.178%
93	14.031	1298	1301	1304	rBV3	19237	34581	0.31%	0.080%
94	14.130	1308	1311	1312	rBV3	4631	7235	0.07%	0.017%
95	14.228	1319	1321	1323	rBV3	3591	4504	0.04%	0.010%
96	14.268	1323	1325	1326	rVV2	4943	4845	0.04%	0.011%
97	14.327	1329	1331	1332	rBV2	5637	5701	0.05%	0.013%
98	14.711	1368	1370	1373	rBV4	7282	9273	0.08%	0.021%
99	15.193	1416	1419	1421	rBV4	12421	25260	0.23%	0.058%
100	15.616	1458	1462	1465	rBV2	27881	57809	0.53%	0.134%

Sum of corrected areas: 43181584

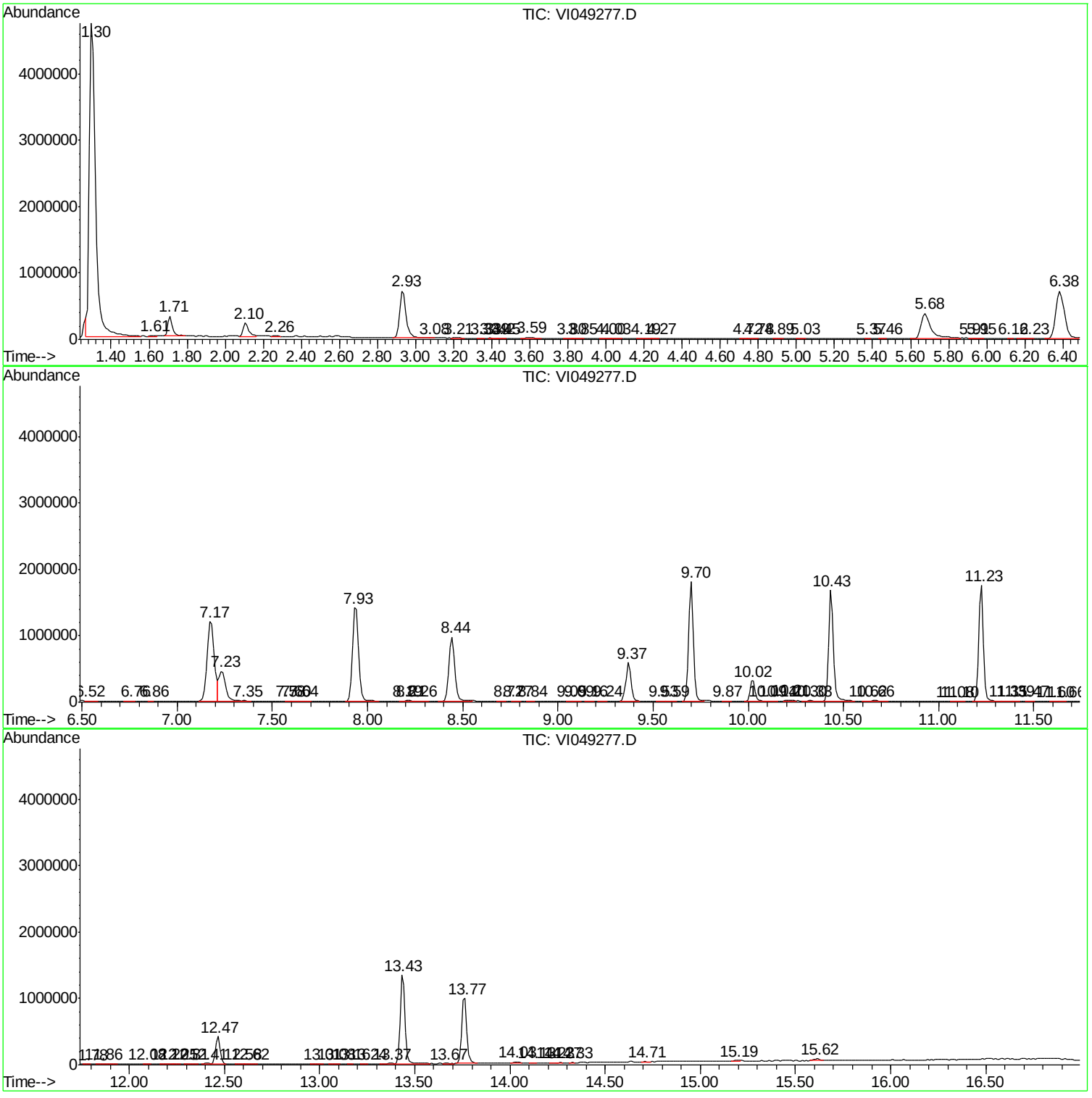
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049277.D
Acq On : 6 May 2016 11:45
Operator : FY/SY
Sample : VI0506WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK30

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049277.D
Acq On : 6 May 2016 11:45
Operator : FY/SY
Sample : VI0506WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
VBLK30

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049277.D
Acq On : 6 May 2016 11:45
Operator : FY/SY
Sample : VI0506WBL01
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VBLK30

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLK01

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-11
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049288.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLK01

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-11
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049288.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLK01

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-11
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049288.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/06/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VHBLK01

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-11
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049288.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/06/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) N
Extraction Type : PT
Purge Volume : 25 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : 1.0 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

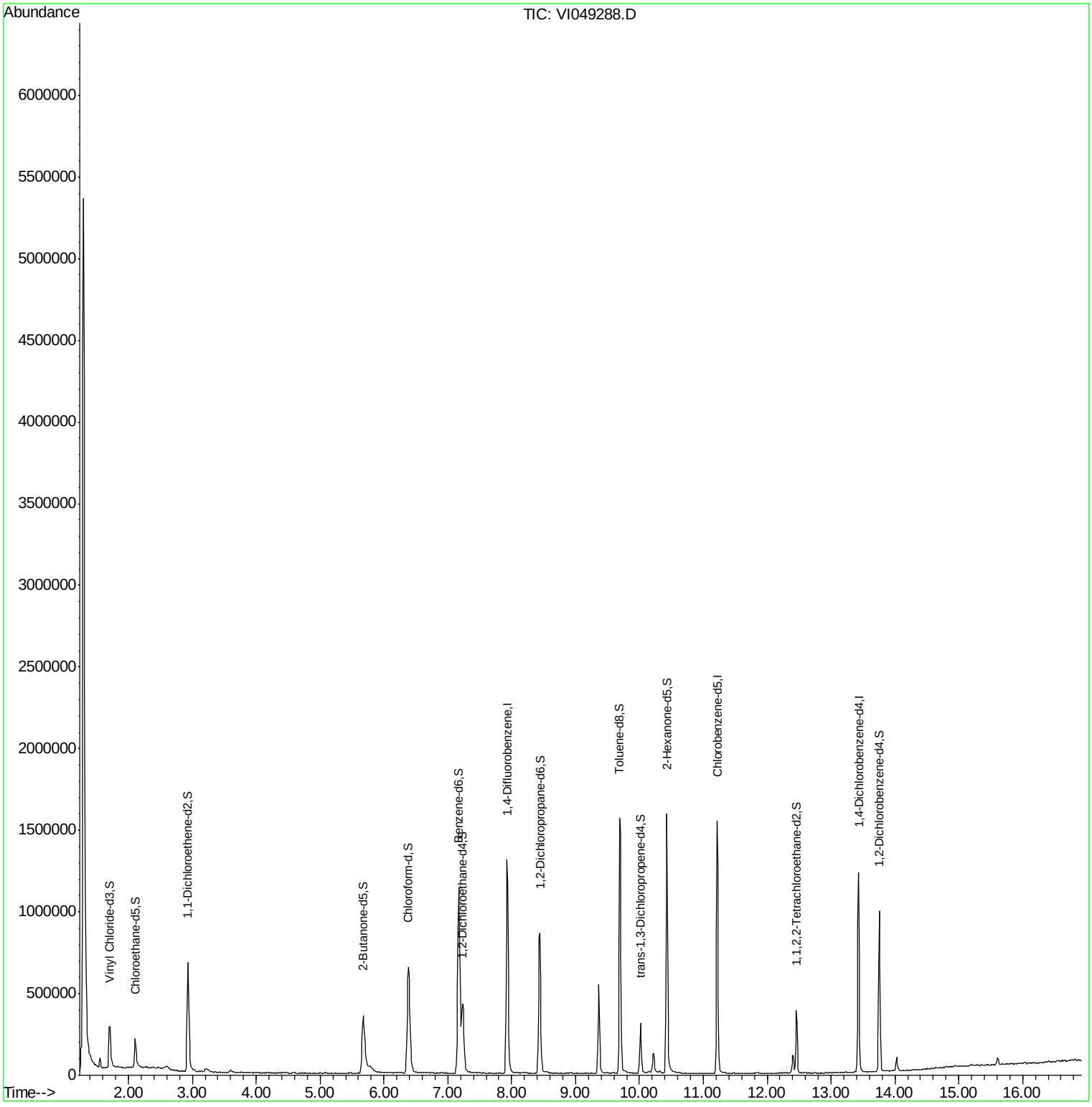
EPA-designated Registry Number.

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049288.D
Acq On : 6 May 2016 18:12
Operator : FY/SY
Sample : H2834-11
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VHBLK01

Quant Time: May 07 05:12:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049288.D
Acq On : 6 May 2016 18:12
Operator : FY/SY
Sample : H2834-11
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VHBLK01

Quant Time: May 07 05:12:37 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Sat May 07 04:11:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.93	114	1159555	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.22	117	753453	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.43	152	273005	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	305597	4.28	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 85.60%			
7) Chloroethane-d5	2.10	69	204007	5.16	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 103.20%			
11) 1,1-Dichloroethene-d2	2.93	63	540658	3.21	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 64.20%			
20) 2-Butanone-d5	5.68	46	836903	54.15	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 108.30%			
24) Chloroform-d	6.38	84	803304	4.42	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 88.40%			
26) 1,2-Dichloroethane-d4	7.23	65	375434	5.05	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.00%			
32) Benzene-d6	7.17	84	1436805	4.90	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.00%			
36) 1,2-Dichloropropane-d6	8.44	67	404608	4.90	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 98.00%			
41) Toluene-d8	9.69	98	981265	4.53	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 90.60%			
43) trans-1,3-Dichloropropene-	10.02	79	145559	4.48	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 89.60%			
46) 2-Hexanone-d5	10.43	63	518206	50.52	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 101.04%			
57) 1,1,2,2-Tetrachloroethane-	12.46	84	172494	4.60	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 92.00%			
63) 1,2-Dichlorobenzene-d4	13.76	152	219864	4.59	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 91.80%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049288.D
Acq On : 6 May 2016 18:12
Operator : FY/SY
Sample : H2834-11
Misc : 25mL/MSVOA I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VHBLK01

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.296	3	7	31	rVB	5318596	12011431	100.00%	28.458%
2	1.551	31	33	37	rVB2	61588	85082	0.71%	0.202%
3	1.610	37	39	40	rBV	7025	7804	0.06%	0.018%
4	1.699	45	48	56	rBV	250644	487457	4.06%	1.155%
5	2.103	86	89	98	rBV	175072	372737	3.10%	0.883%
6	2.565	134	136	138	rBV3	8715	14515	0.12%	0.034%
7	2.762	155	156	158	rVB2	7619	6205	0.05%	0.015%
8	2.929	169	173	181	rBV	668210	1511430	12.58%	3.581%
9	3.136	192	194	196	rVB3	3931	5891	0.05%	0.014%
10	3.205	198	201	209	rVV3	20671	72642	0.60%	0.172%
11	3.303	209	211	214	rVB4	5387	9276	0.08%	0.022%
12	3.362	215	217	220	rVB3	4459	7127	0.06%	0.017%
13	3.421	220	223	225	rBV4	3339	4834	0.04%	0.011%
14	3.599	237	241	251	rVB3	16291	56356	0.47%	0.134%
15	3.874	266	269	272	rVB3	3513	5000	0.04%	0.012%
16	3.914	272	273	277	rVB3	4061	6839	0.06%	0.016%
17	3.982	279	280	285	rBV5	4153	8686	0.07%	0.021%
18	4.051	285	287	290	rVB3	3021	4231	0.04%	0.010%
19	4.120	292	294	296	rVB3	3146	4370	0.04%	0.010%
20	4.238	304	306	311	rVB6	5053	11754	0.10%	0.028%
21	4.327	313	315	317	rVB3	5426	5426	0.05%	0.013%
22	4.376	317	320	321	rBV3	4256	7388	0.06%	0.018%
23	4.612	337	344	348	rVB8	5016	14265	0.12%	0.034%
24	4.711	352	354	358	rVB4	3601	5512	0.05%	0.013%
25	4.780	358	361	363	rVB3	2743	4646	0.04%	0.011%
26	4.908	369	374	376	rVB4	3822	10325	0.09%	0.024%
27	4.967	376	380	381	rBV3	2574	5793	0.05%	0.014%
28	4.996	381	383	385	rBV3	3076	5077	0.04%	0.012%
29	5.075	388	391	393	rBV4	4039	7426	0.06%	0.018%
30	5.587	442	443	446	rBV3	3389	6819	0.06%	0.016%
31	5.675	446	452	462	rBV	353283	1260880	10.50%	2.987%
32	5.941	477	479	481	rVB2	5532	7613	0.06%	0.018%
33	5.971	481	482	485	rBV3	2813	4512	0.04%	0.011%
34	6.039	487	489	493	rVB3	2712	4991	0.04%	0.012%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049288.D
Acq On : 6 May 2016 18:12
Operator : FY/SY
Sample : H2834-11
Misc : 25mL/MSVOA I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VHBLK01

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

35	6.236	505	509	514	rVB7	2956	8753	0.07%	0.021%
36	6.384	517	524	535	rBV	650479	2014508	16.77%	4.773%
37	6.738	558	560	563	rBV4	3982	8104	0.07%	0.019%
38	6.925	574	579	580	rBV5	3818	10044	0.08%	0.024%
39	7.171	598	604	608	rBV	1137211	3054215	25.43%	7.236%
40	7.230	608	610	620	rVV	425833	1004902	8.37%	2.381%
41	7.348	620	622	627	rVV6	8776	20738	0.17%	0.049%
42	7.407	627	628	631	rVV3	3699	4889	0.04%	0.012%
43	7.496	636	637	641	rVB3	4421	6045	0.05%	0.014%
44	7.663	649	654	657	rBV6	3780	8581	0.07%	0.020%
45	7.811	665	669	670	rVB3	3339	5064	0.04%	0.012%
46	7.929	676	681	690	rBV	1308138	2813498	23.42%	6.666%
47	8.165	703	705	706	rBV2	3950	6520	0.05%	0.015%
48	8.224	708	711	715	rVB6	5180	11113	0.09%	0.026%
49	8.441	727	733	740	rBV	859638	1962765	16.34%	4.650%
50	8.726	760	762	764	rVB3	4921	7080	0.06%	0.017%
51	8.775	764	767	768	rBV3	4968	9164	0.08%	0.022%
52	8.825	768	772	773	rBV2	2432	5578	0.05%	0.013%
53	8.874	773	777	778	rBV3	2829	4235	0.04%	0.010%
54	8.923	780	782	786	rVB4	4647	8627	0.07%	0.020%
55	8.992	788	789	791	rBV	3158	4700	0.04%	0.011%
56	9.090	795	799	803	rBV5	2578	7782	0.06%	0.018%
57	9.248	814	815	819	rVB4	3234	6008	0.05%	0.014%
58	9.366	822	827	836	rBV	545006	971422	8.09%	2.302%
59	9.484	836	839	842	rVB5	3531	9401	0.08%	0.022%
60	9.523	842	843	846	rVB3	3281	4341	0.04%	0.010%
61	9.602	846	851	854	rVB7	5499	17423	0.15%	0.041%
62	9.691	856	860	867	rBV	1558967	2883579	24.01%	6.832%
63	10.016	888	893	899	rBV	312225	526583	4.38%	1.248%
64	10.094	899	901	902	rVV2	5321	7442	0.06%	0.018%
65	10.134	902	905	906	rVV3	7166	15231	0.13%	0.036%
66	10.163	906	908	909	rVV2	8321	12619	0.11%	0.030%
67	10.222	909	914	921	rVV	119970	288556	2.40%	0.684%
68	10.321	923	924	931	rVV6	13846	22392	0.19%	0.053%
69	10.429	931	935	952	rVV	1586045	2785981	23.19%	6.601%
70	10.606	952	953	956	rVV3	5848	6766	0.06%	0.016%
71	11.118	1003	1005	1009	rVB5	3296	6288	0.05%	0.015%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA I\DATA\VI050616\
Data File : VI049288.D
Acq On : 6 May 2016 18:12
Operator : FY/SY
Sample : H2834-11
Misc : 25mL/MSVOA I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VHBLK01

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Title : TRACE VOA SOM01.0

72	11.216	1011	1015	1025	rBV	1544452	2602791	21.67%	6.167%
73	11.354	1025	1029	1032	rVB6	6429	15772	0.13%	0.037%
74	11.443	1035	1038	1039	rVB3	3465	5631	0.05%	0.013%
75	11.472	1039	1041	1044	rBV3	5529	9149	0.08%	0.022%
76	11.669	1058	1061	1064	rBV4	2530	4976	0.04%	0.012%
77	11.846	1075	1079	1082	rBV5	5430	14127	0.12%	0.033%
78	12.102	1104	1105	1106	rBV	4681	4500	0.04%	0.011%
79	12.191	1112	1114	1116	rBV3	4863	7114	0.06%	0.017%
80	12.250	1118	1120	1121	rVB2	6869	5871	0.05%	0.014%
81	12.289	1121	1124	1125	rBV3	5397	9321	0.08%	0.022%
82	12.397	1131	1135	1138	rBV	111837	213592	1.78%	0.506%
83	12.456	1138	1141	1146	rVB	382442	640900	5.34%	1.518%
84	12.515	1146	1147	1150	rVB3	3124	4538	0.04%	0.011%
85	12.604	1155	1156	1159	rVB3	3369	4526	0.04%	0.011%
86	12.643	1159	1160	1163	rVB3	4839	5179	0.04%	0.012%
87	12.742	1167	1170	1175	rVB6	3305	5522	0.05%	0.013%
88	13.234	1217	1220	1222	rBV4	4799	8977	0.07%	0.021%
89	13.362	1229	1233	1235	rBV4	4569	9883	0.08%	0.023%
90	13.431	1235	1240	1252	rVV	1225056	2018269	16.80%	4.782%
91	13.677	1262	1265	1267	rVB4	4063	4739	0.04%	0.011%
92	13.756	1267	1273	1279	rBV	987211	1690922	14.08%	4.006%
93	13.854	1281	1283	1285	rVV3	3903	4356	0.04%	0.010%
94	14.031	1295	1301	1306	rBV2	83481	155016	1.29%	0.367%
95	14.267	1323	1325	1327	rBV3	4376	6727	0.06%	0.016%
96	14.307	1327	1329	1332	rVV4	4138	7821	0.07%	0.019%
97	14.641	1358	1363	1365	rBV6	11474	33733	0.28%	0.080%
98	14.710	1369	1370	1373	rVV3	7002	9821	0.08%	0.023%
99	15.350	1433	1435	1436	rBV	9153	9838	0.08%	0.023%
100	15.606	1457	1461	1465	rBV	43555	98035	0.82%	0.232%

Sum of corrected areas: 42206923

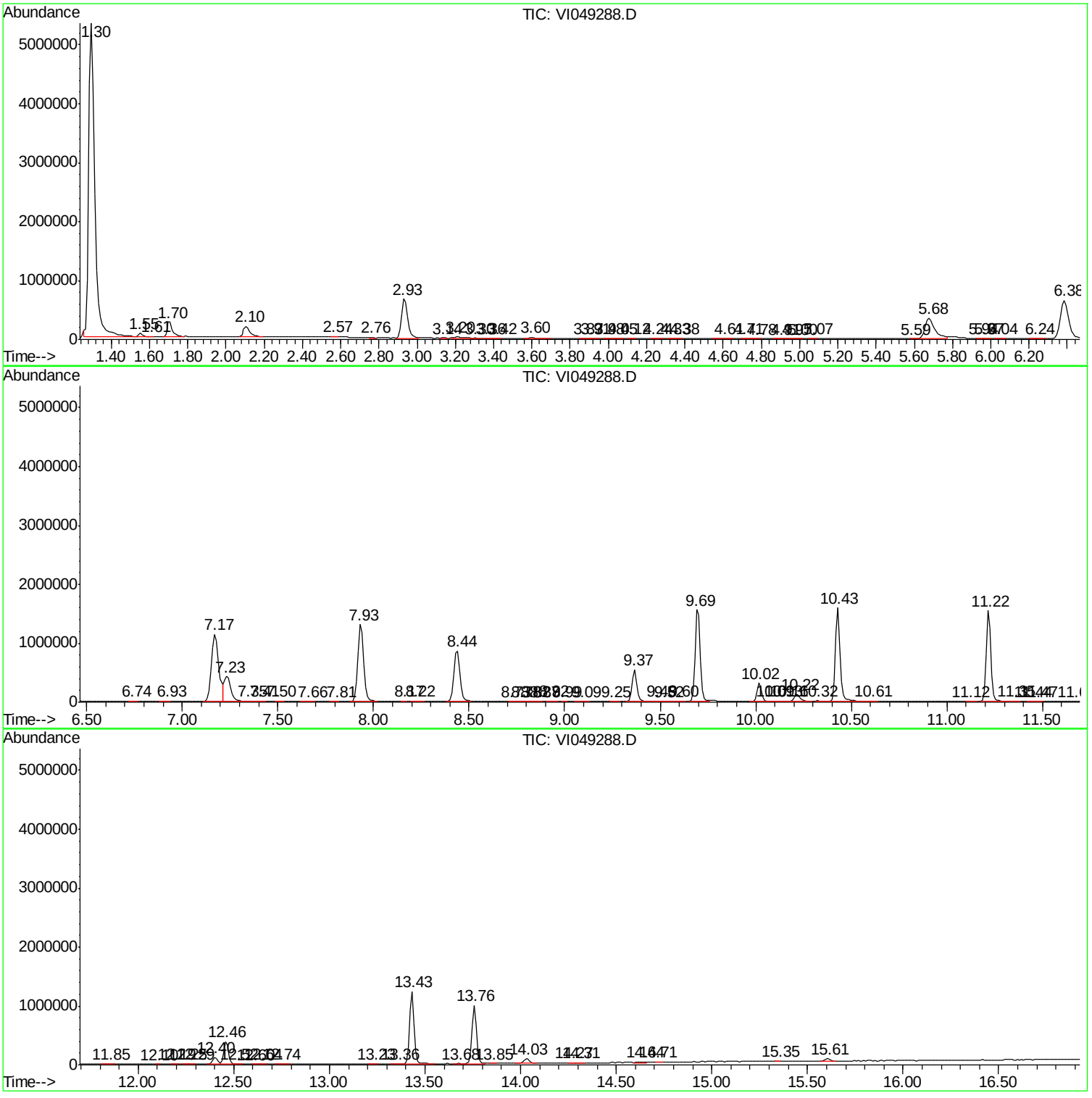
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049288.D
Acq On : 6 May 2016 18:12
Operator : FY/SY
Sample : H2834-11
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VHBLK01

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049288.D
Acq On : 6 May 2016 18:12
Operator : FY/SY
Sample : H2834-11
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument :
MSVOA_I
ClientSampleId :
VHBLK01

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050616\
Data File : VI049288.D
Acq On : 6 May 2016 18:12
Operator : FY/SY
Sample : H2834-11
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 14 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : VHBLK01

Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-02MS
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049253.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	4.6	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.070	J
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.31	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	2.1	
71-55-6	1,1,1-Trichloroethane	0.70	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	5.2	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	5.7	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-02MS
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049253.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.25	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	5.2	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	49	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	5.0	
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-02MS
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049253.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

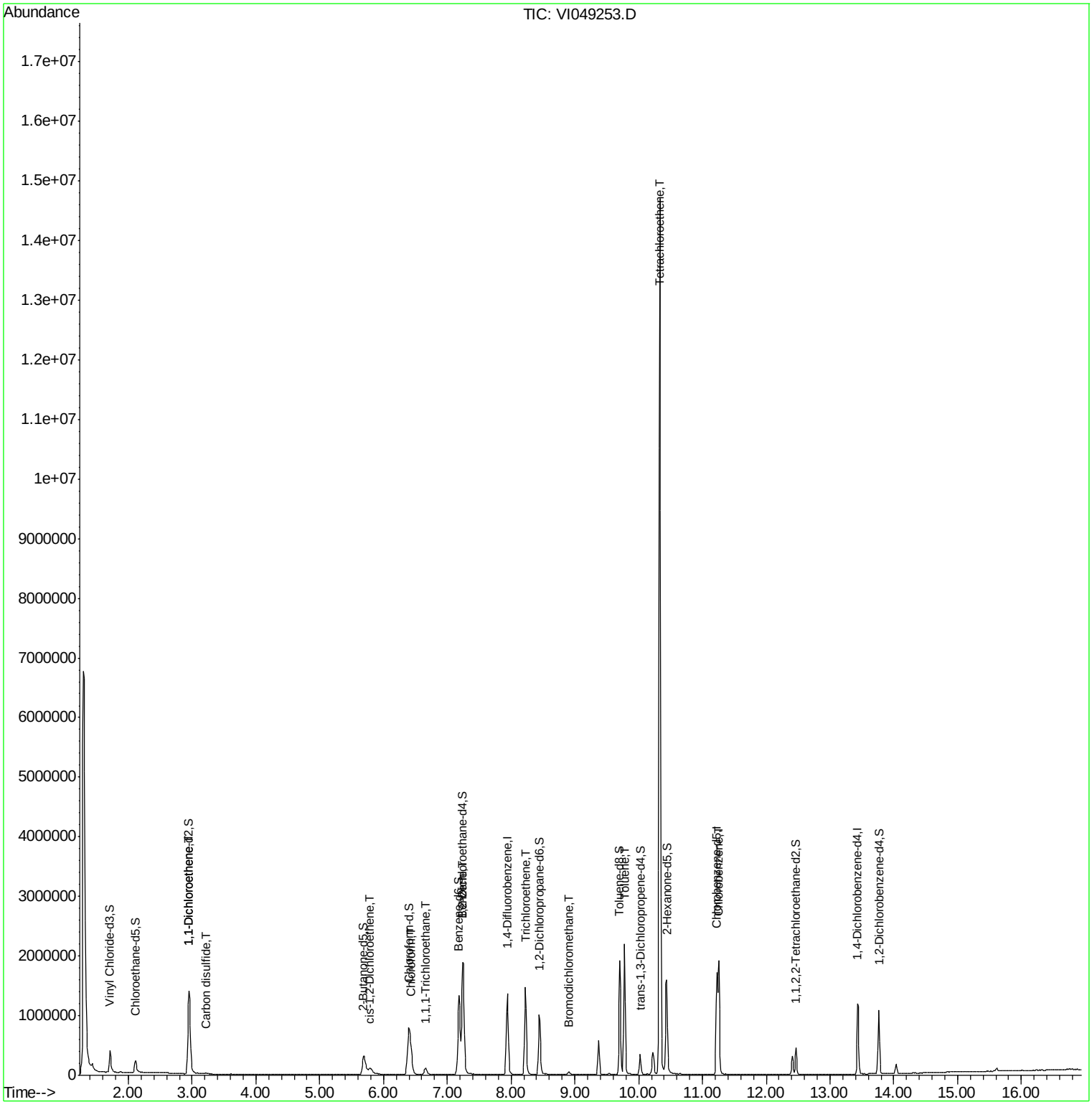
CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

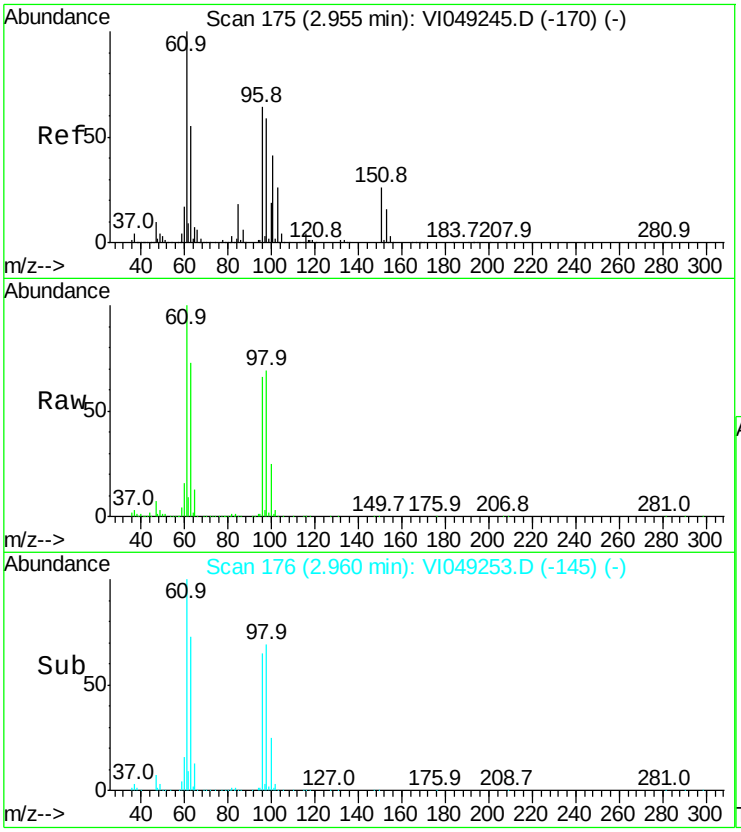
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049253.D
Acq On : 5 May 2016 15:13
Operator : FY/SY
Sample : H2834-02MS
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 11 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002MS

Quant Time: May 06 05:09:40 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration



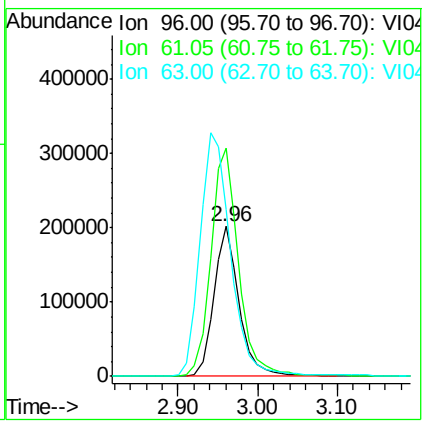


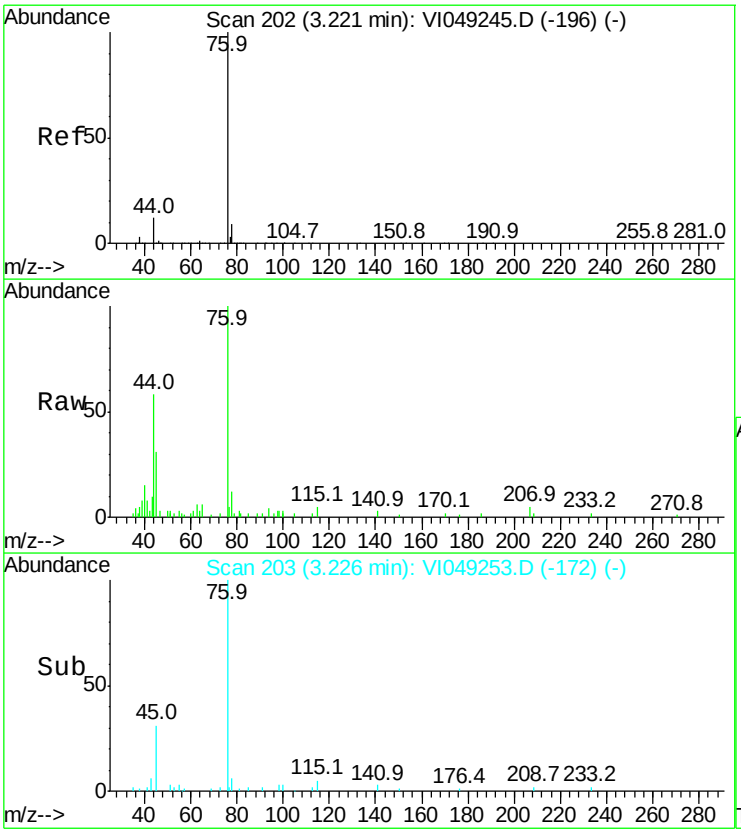
#12
1,1-Dichloroethene
Concen: 4.62 ug/L
RT: 2.96 min Scan# 176
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Instrument : MSVOA_I
ClientSampleId : H4002MS

Tgt Ion: 96 Resp: 446489

Ion	Ratio	Lower	Upper
96	100		
61	152.4	104.6	194.2
63	111.0	73.0	135.6

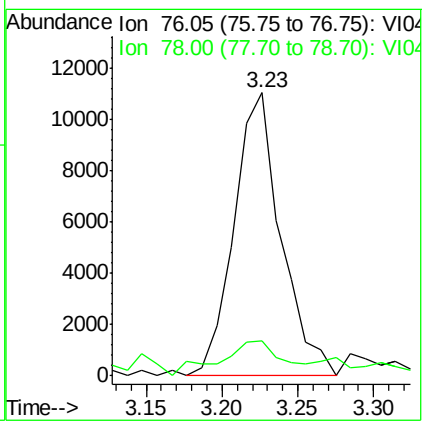


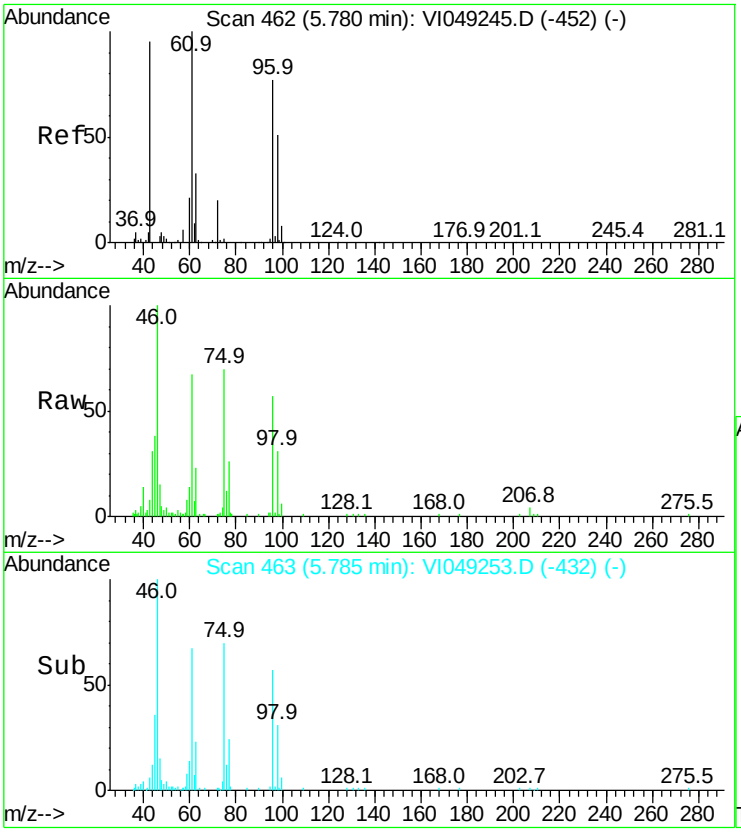


#14
Carbon disulfide
Concen: 0.07 ug/L
RT: 3.23 min Scan# 203
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Tgt Ion: 76 Resp: 23776

Ion	Ratio	Lower	Upper
76	100		
78	12.3	7.4	11.0#



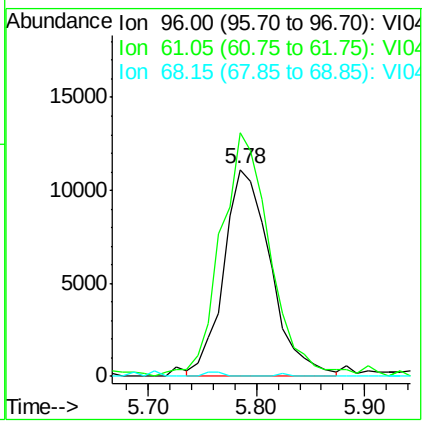


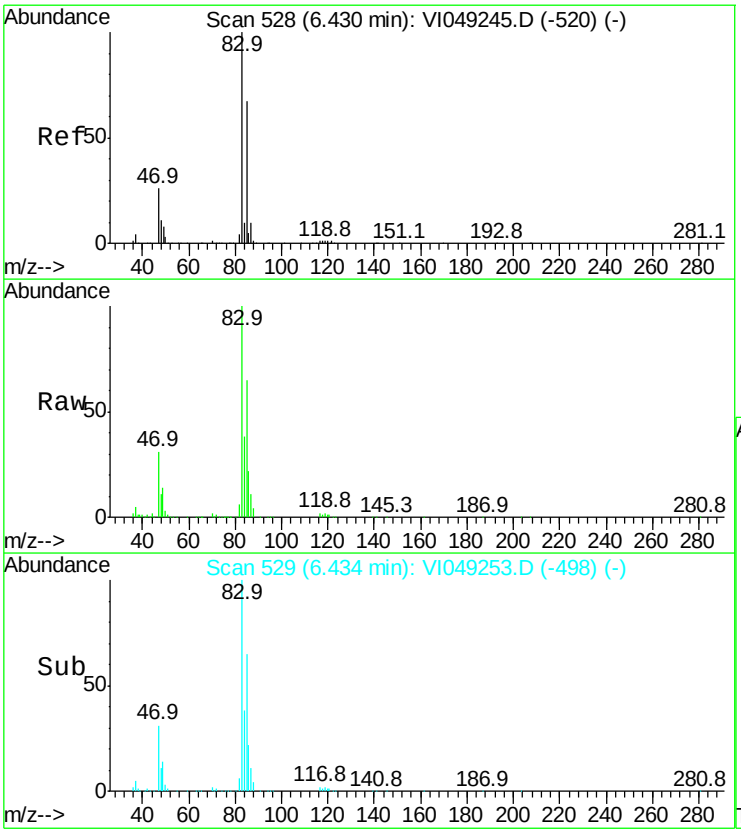
#22
cis-1,2-Dichloroethene
Concen: 0.31 ug/L
RT: 5.78 min Scan# 463
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Instrument : MSVOA_I
ClientSampleId : H4002MS

Tgt Ion: 96 Resp: 33518

Ion	Ratio	Lower	Upper
96	100		
61	117.6	82.1	152.5
68	0.0	0.0	0.0

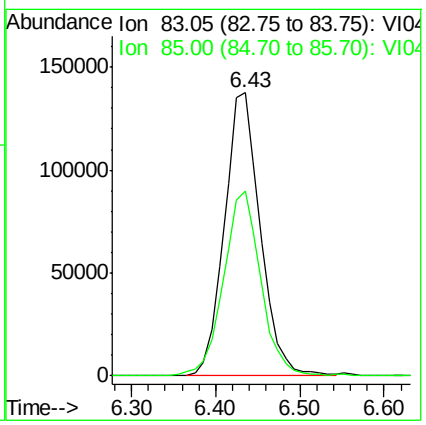


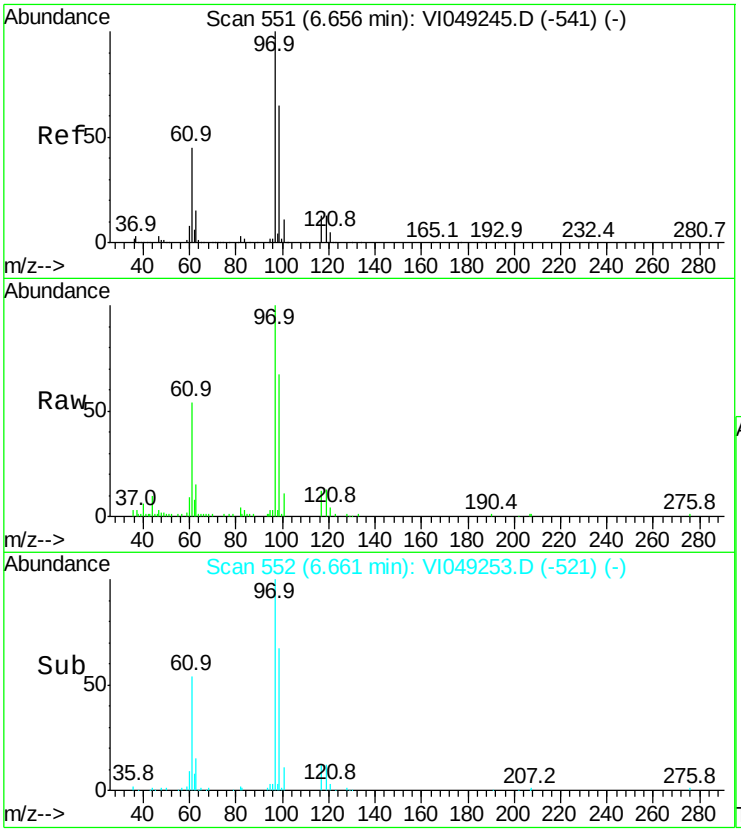


#25
Chloroform
Concen: 2.11 ug/L
RT: 6.43 min Scan# 529
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Tgt Ion: 83 Resp: 407141

Ion	Ratio	Lower	Upper
83	100		
85	65.4	47.3	87.8



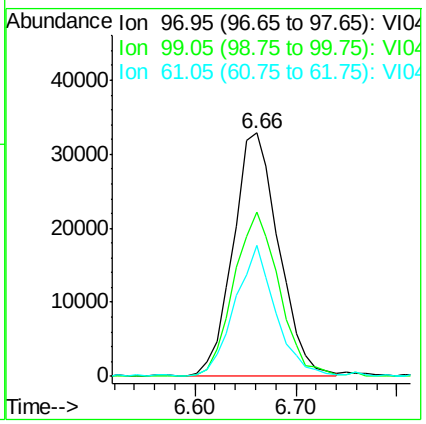


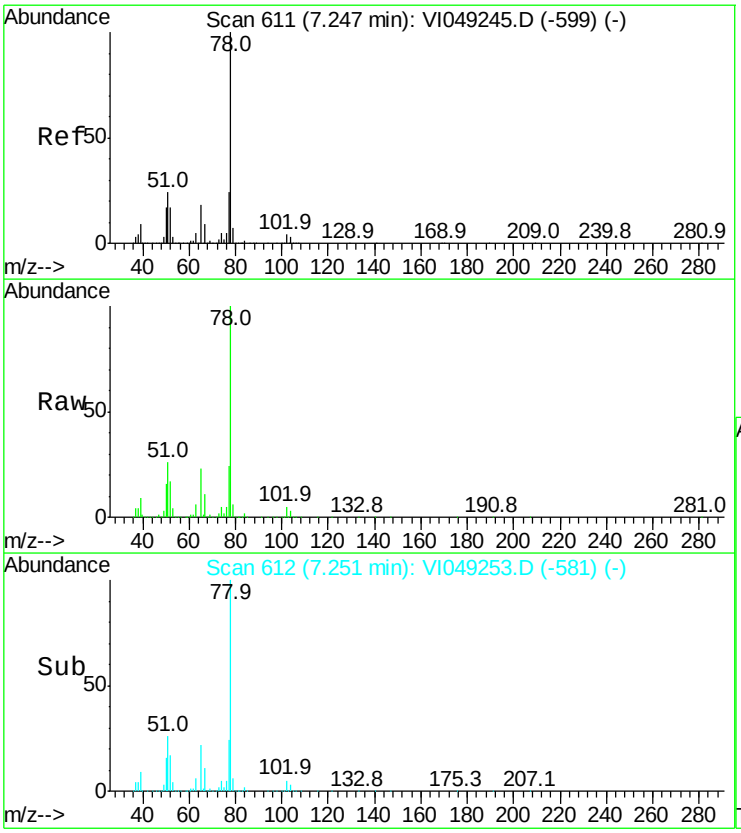
#29
1,1,1-Trichloroethane
Concen: 0.70 ug/L
RT: 6.66 min Scan# 552
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Instrument :
MSVOA_I
ClientSampleId :
H4002MS

Tgt Ion: 97 Resp: 103559

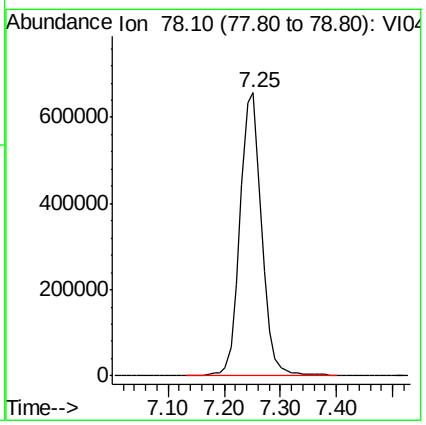
Ion	Ratio	Lower	Upper
97	100		
99	66.8	51.1	76.7
61	48.0	33.3	49.9

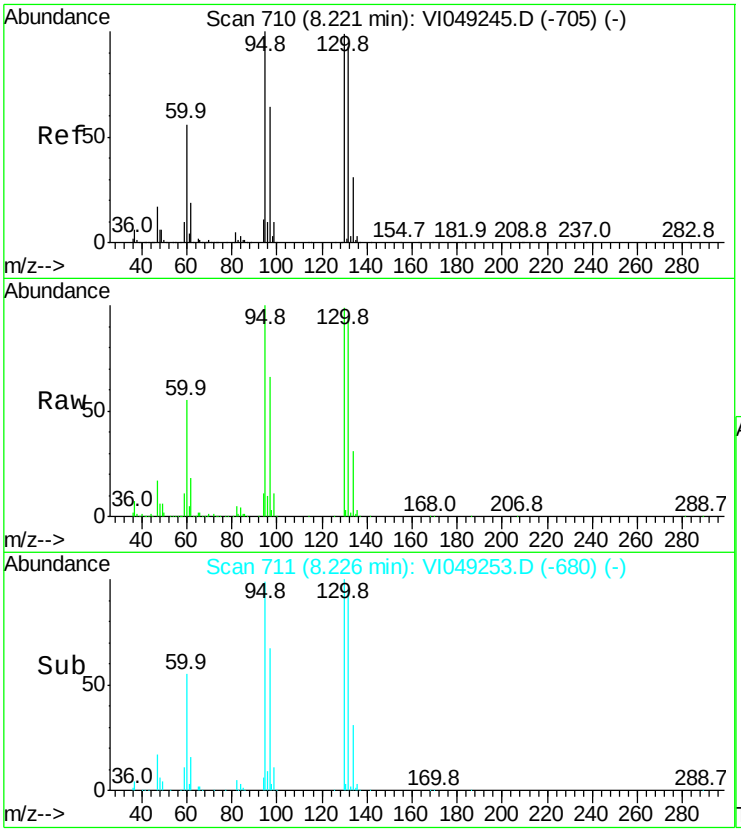




#33
Benzene
Concen: 5.24 ug/L
RT: 7.25 min Scan# 612
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Tgt Ion: 78 Resp: 1759510



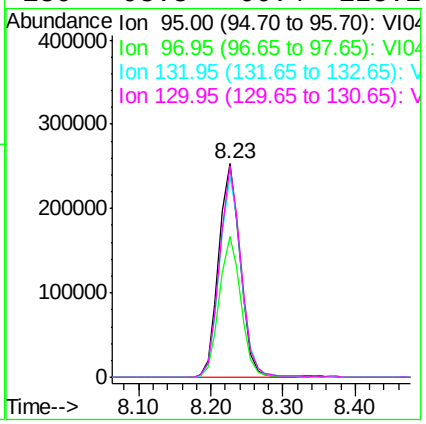


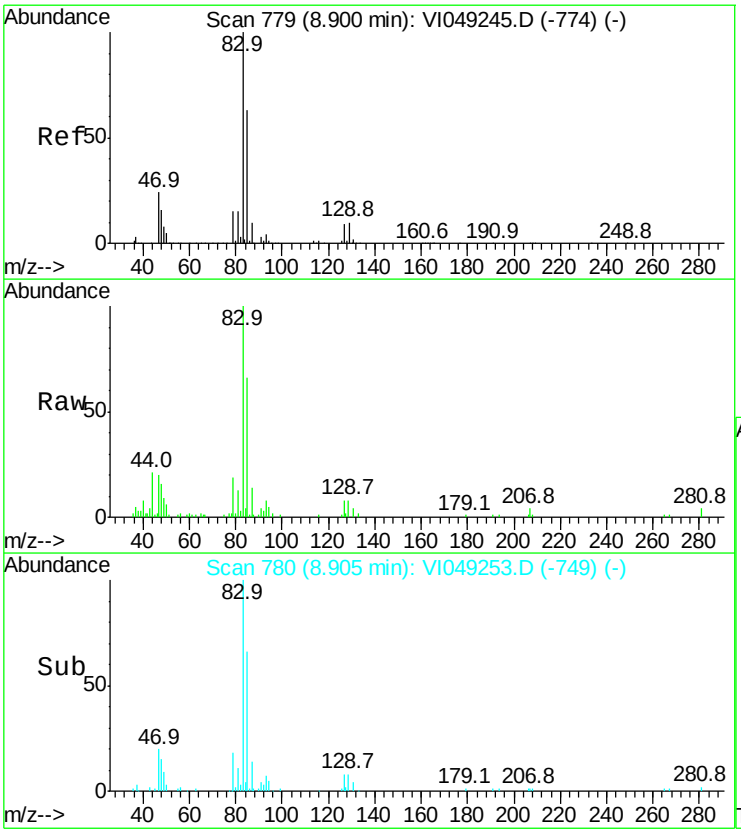
#34
Trichloroethene
Concen: 5.65 ug/L
RT: 8.23 min Scan# 711
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Instrument : MSVOA_I
ClientSampleId : H4002MS

Tgt Ion: 95 Resp: 526287

Ion	Ratio	Lower	Upper
95	100		
97	66.0	45.8	85.2
132	94.1	63.9	118.7
130	98.8	66.4	123.2

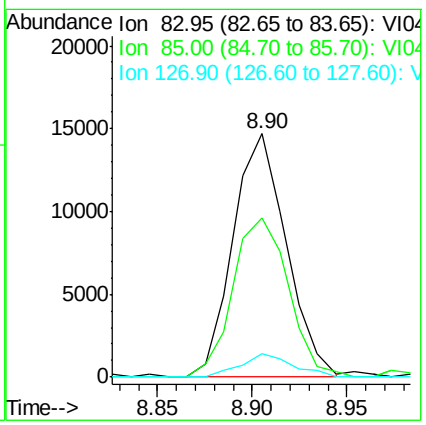


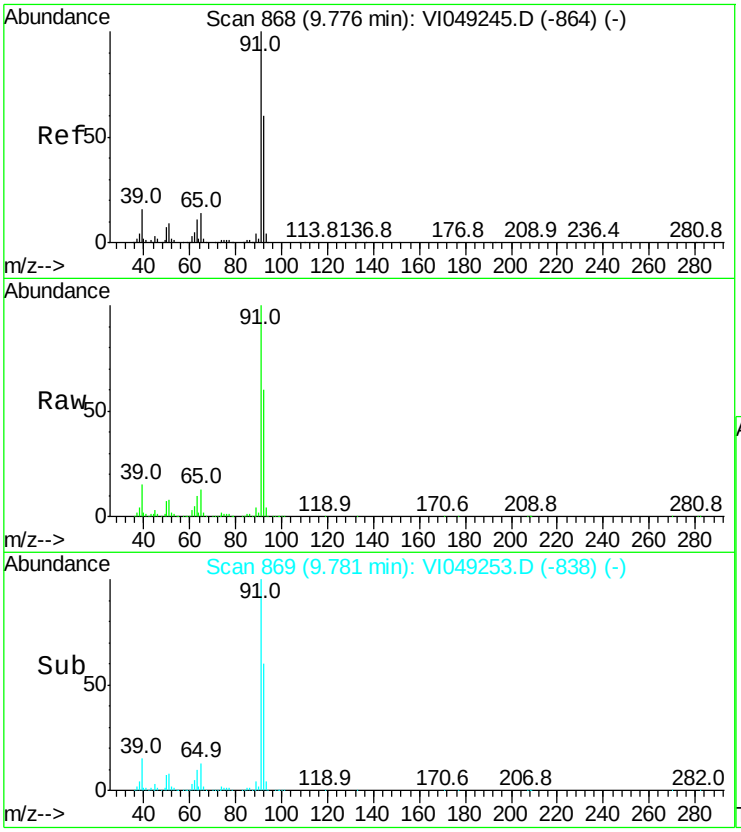


#38
Bromodichloromethane
Concen: 0.25 ug/L
RT: 8.90 min Scan# 780
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Tgt Ion: 83 Resp: 28634

Ion	Ratio	Lower	Upper
83	100		
85	65.5	44.7	83.1
127	9.8	6.6	9.8



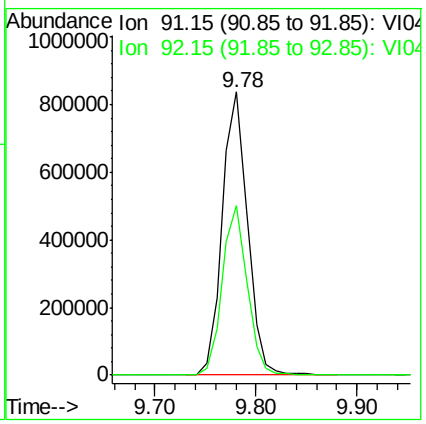


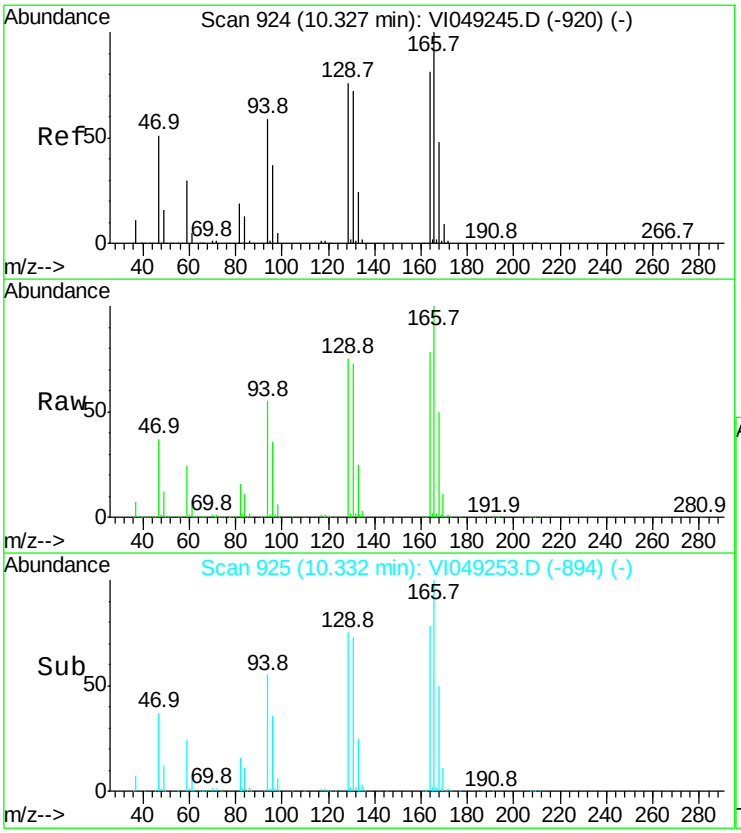
#42
Toluene
Concen: 5.15 ug/L
RT: 9.78 min Scan# 869
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Instrument : MSVOA_I
ClientSampleId : H4002MS

Tgt Ion: 91 Resp: 1458933

Ion	Ratio	Lower	Upper
91	100		
92	59.7	41.2	76.4

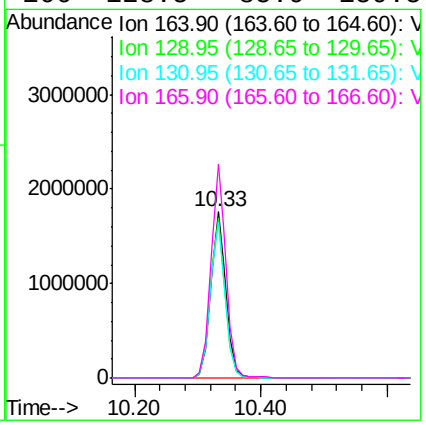


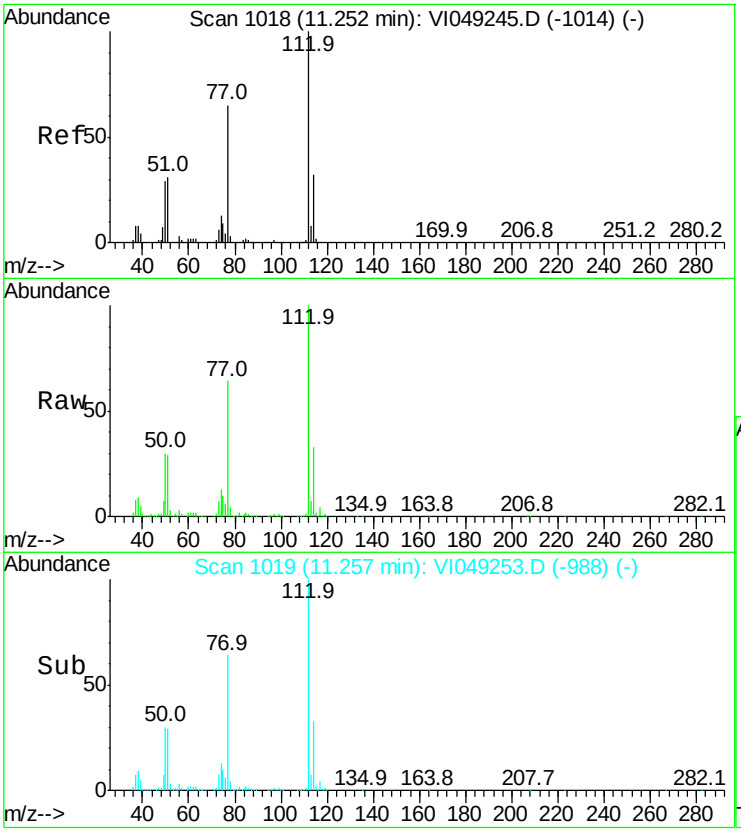


#47
Tetrachloroethene
Concen: 48.83 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Tgt Ion:164 Resp: 2988131

Ion	Ratio	Lower	Upper
164	100		
129	96.5	62.1	115.3
131	93.8	60.6	112.6
166	128.5	85.9	159.5



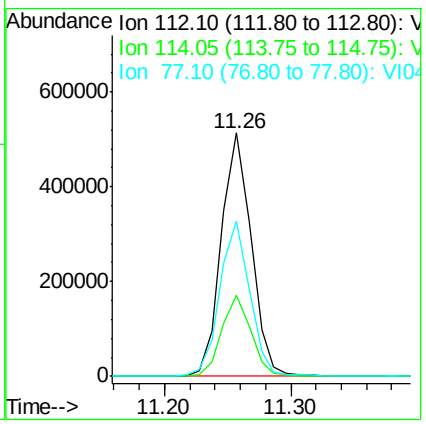


#51
Chlorobenzene
Concen: 4.96 ug/L
RT: 11.26 min Scan# 1019
Delta R.T. 0.00 min
Lab File: VI049253.D
Acq: 5 May 2016 15:13

Instrument :
MSVOA_I
ClientSampleId :
H4002MS

Tgt Ion:112 Resp: 842694

Ion	Ratio	Lower	Upper
112	100		
114	33.2	23.2	43.2
77	63.6	50.3	75.5



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049253.D
Acq On : 5 May 2016 15:13
Operator : FY/SY
Sample : H2834-02MS
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 11 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002MS

Quant Time: May 06 05:09:40 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1197205	5.00	ug/L	0.00
28) Chlorobenzene-d5	11.23	117	784211	5.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	283482	5.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	1.71	65	368855	5.00	ug/L	0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 100.00%			
7) Chloroethane-d5	2.11	69	206439	5.06	ug/L	0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 101.20%			
11) 1,1-Dichloroethene-d2	2.94	63	873027	5.03	ug/L	0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 100.60%			
20) 2-Butanone-d5	5.69	46	806941	50.57	ug/L	0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 101.14%			
24) Chloroform-d	6.40	84	918731	4.90	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 98.00%			
26) 1,2-Dichloroethane-d4	7.24	65	412944	5.38	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 107.60%			
32) Benzene-d6	7.18	84	1645502	5.39	ug/L	0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 107.80%			
36) 1,2-Dichloropropane-d6	8.44	67	456928	5.32	ug/L	0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 106.40%			
41) Toluene-d8	9.70	98	1163062	5.16	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.20%			
43) trans-1,3-Dichloropropene-	10.03	79	163575	4.83	ug/L	0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 96.60%			
46) 2-Hexanone-d5	10.44	63	560083	52.47	ug/L	0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 104.94%			
57) 1,1,2,2-Tetrachloroethane-	12.47	84	193548	4.95	ug/L	0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 99.00%			
63) 1,2-Dichlorobenzene-d4	13.77	152	253228	5.09	ug/L	0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 101.80%			
Target Compounds						Qvalue
12) 1,1-Dichloroethene	2.96	96	446489	4.62	ug/L	96
14) Carbon disulfide	3.23	76	23776	0.07	ug/L #	91
22) cis-1,2-Dichloroethene	5.78	96	33518	0.31	ug/L	100
25) Chloroform	6.43	83	407141	2.11	ug/L	97
29) 1,1,1-Trichloroethane	6.66	97	103559	0.70	ug/L	94
33) Benzene	7.25	78	1759510	5.24	ug/L	100
34) Trichloroethene	8.23	95	526287	5.65	ug/L	97
38) Bromodichloromethane	8.90	83	28634	0.25	ug/L	98
42) Toluene	9.78	91	1458933	5.15	ug/L	99
47) Tetrachloroethene	10.33	164	2988131	48.83	ug/L	93
51) Chlorobenzene	11.26	112	842694	4.96	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-03MSD
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049254.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	4.5	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl Ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.28	J
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	1.9	
71-55-6	1,1,1-Trichloroethane	0.69	
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	5.0	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	5.4	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-03MSD
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049254.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.23	J
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	5.0	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	45	E
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	4.9	
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-trichlorobenzene	0.50	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : Trace VOA
Level :
Matrix : Water
Lab Sample ID : H2834-03MSD
Sample wt/vol : 25.0 (g/mL): mL
Lab File ID : VI049254.D
% Solids :
Date Received : 05/03/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) N
Injection Volume : (µL)
Purge Volume : 25 (mL)
pH : 1.0 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/L

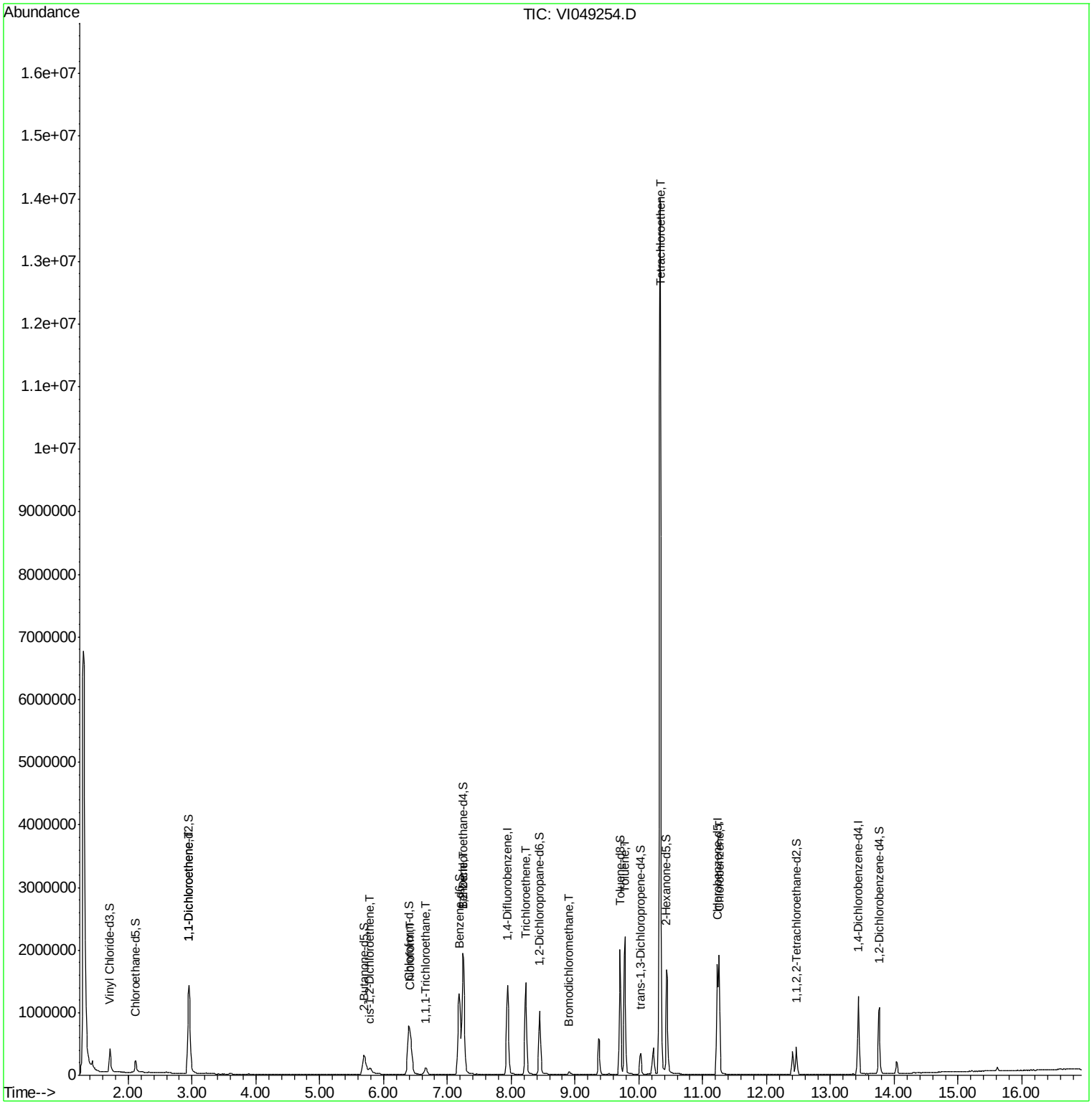
CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	0.50	U

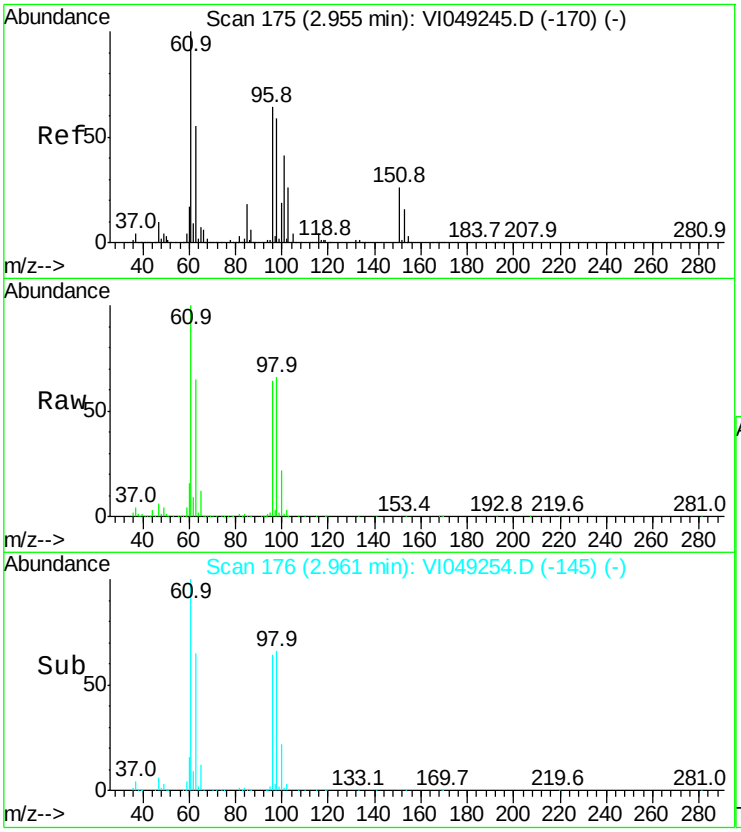
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049254.D
Acq On : 5 May 2016 15:44
Operator : FY/SY
Sample : H2834-03MSD
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002MSD

Quant Time: May 06 05:12:14 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration



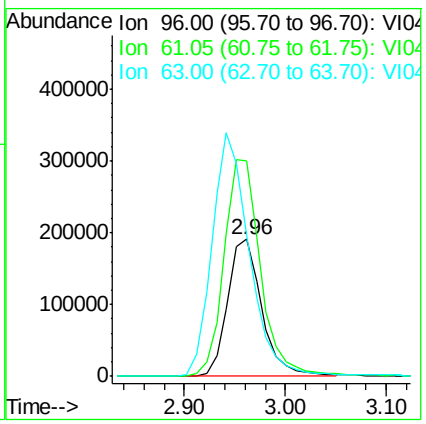


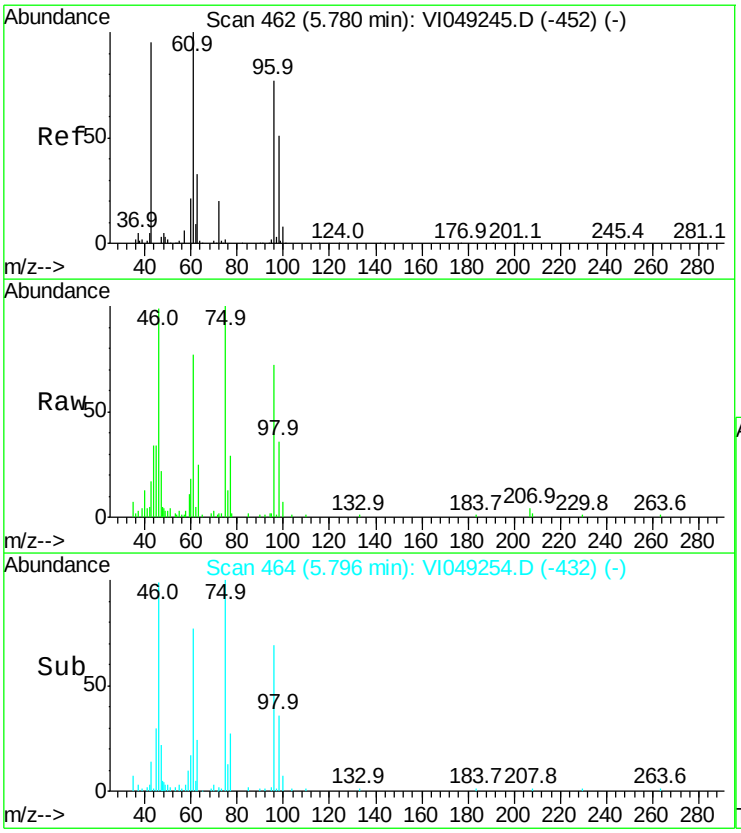
#12
1,1-Dichloroethene
Concen: 4.48 ug/L
RT: 2.96 min Scan# 176
Delta R.T. 0.01 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Instrument : MSVOA_I
ClientSampleId : H4002MSD

Tgt Ion: 96 Resp: 447128

Ion	Ratio	Lower	Upper
96	100		
61	157.3	104.6	194.2
63	102.7	73.0	135.6

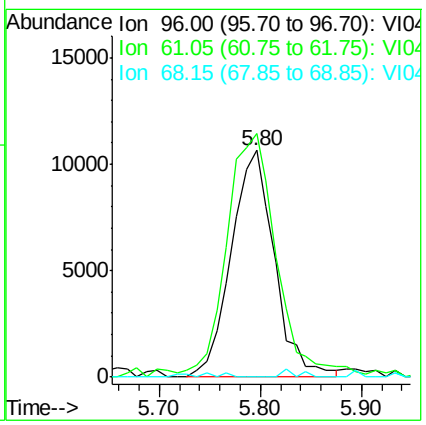


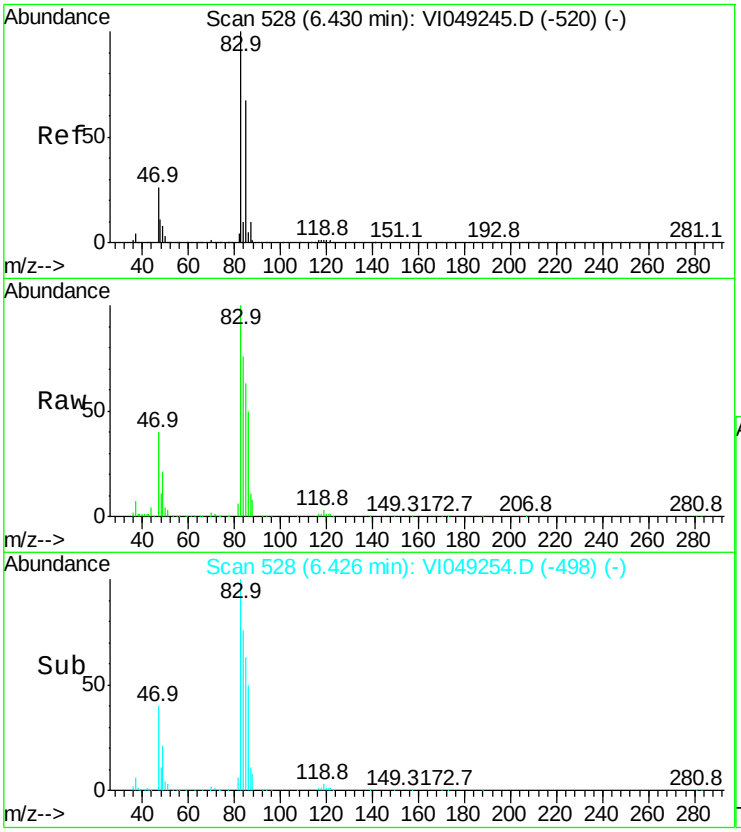


#22
cis-1,2-Dichloroethene
Concen: 0.28 ug/L
RT: 5.80 min Scan# 464
Delta R.T. 0.02 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Tgt Ion: 96 Resp: 31828

Ion	Ratio	Lower	Upper
96	100		
61	107.5	82.1	152.5
68	0.0	0.0	0.0



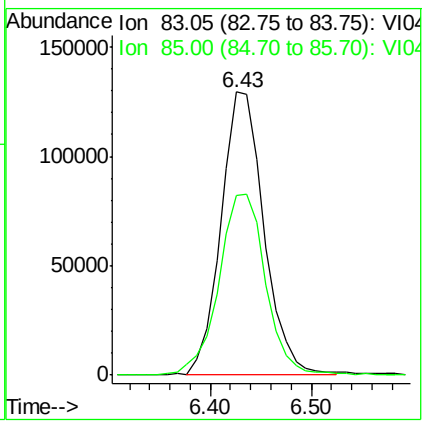


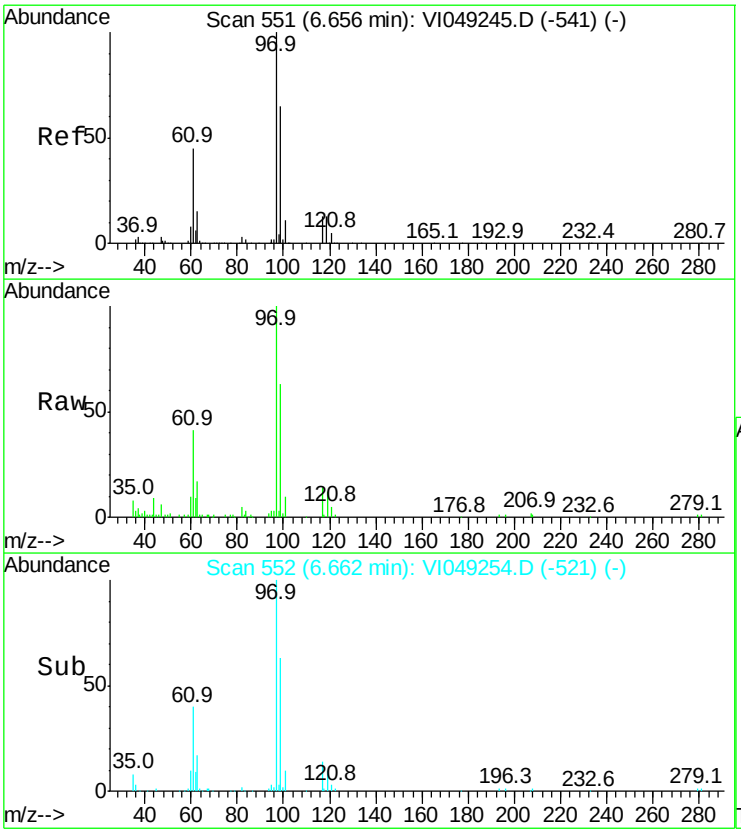
#25
Chloroform
Concen: 1.92 ug/L
RT: 6.43 min Scan# 528
Delta R.T. -0.00 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Instrument :
MSVOA_I
ClientSampleId :
H4002MSD

Tgt Ion: 83 Resp: 382839

Ion	Ratio	Lower	Upper
83	100		
85	63.3	47.3	87.8

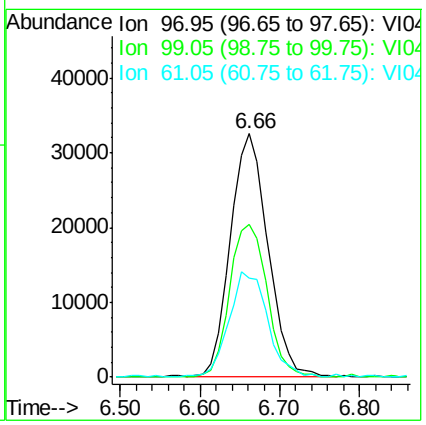


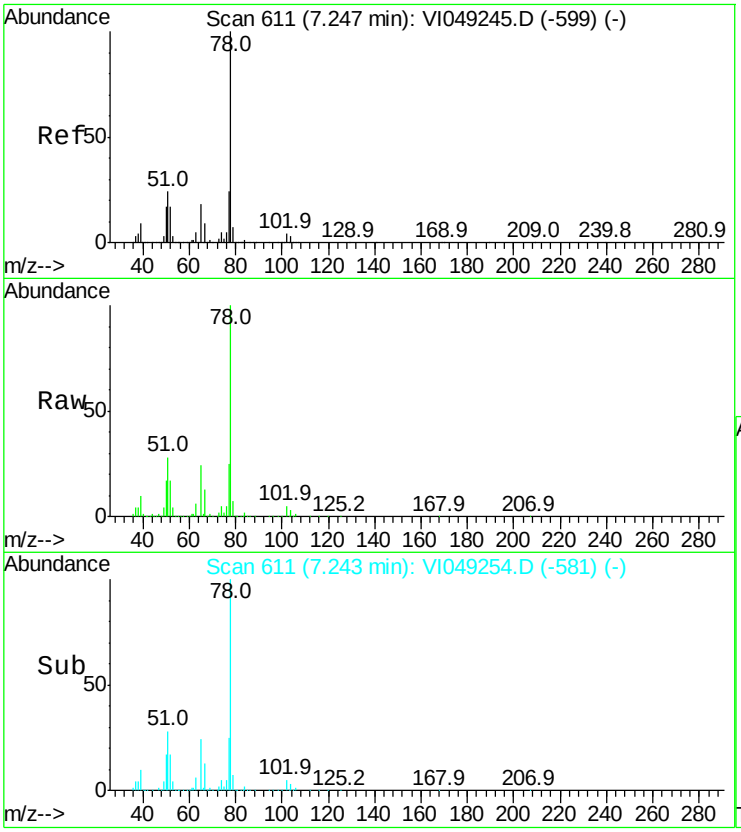


#29
1,1,1-Trichloroethane
Concen: 0.69 ug/L
RT: 6.66 min Scan# 552
Delta R.T. 0.01 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Tgt Ion: 97 Resp: 106777

Ion	Ratio	Lower	Upper
97	100		
99	62.3	51.1	76.7
61	44.1	33.3	49.9

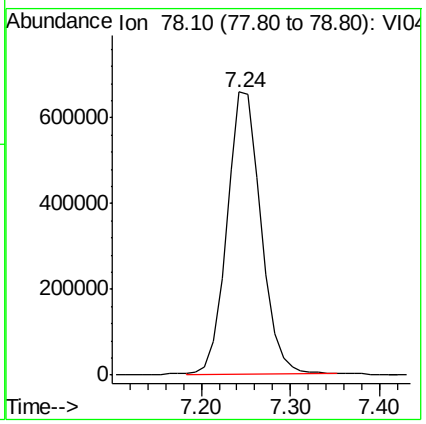


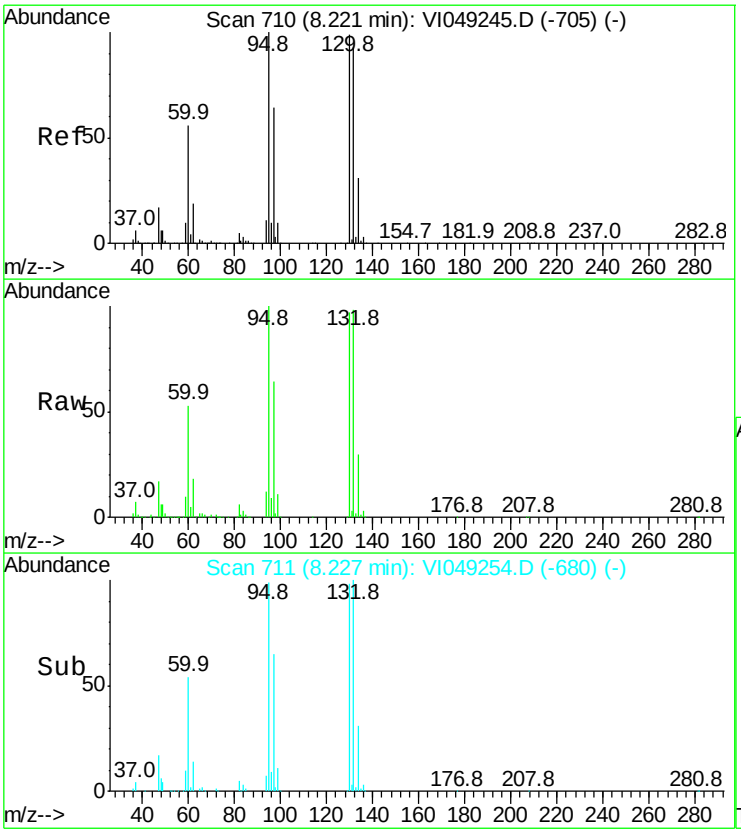


#33
Benzene
Concen: 5.00 ug/L
RT: 7.24 min Scan# 611
Delta R.T. -0.00 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Instrument :
MSVOA_I
ClientSampleId :
H4002MSD

Tgt Ion: 78 Resp: 1741729

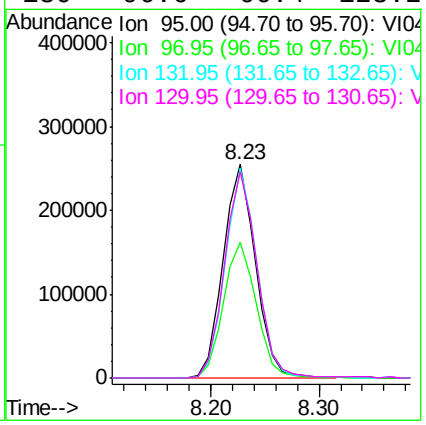


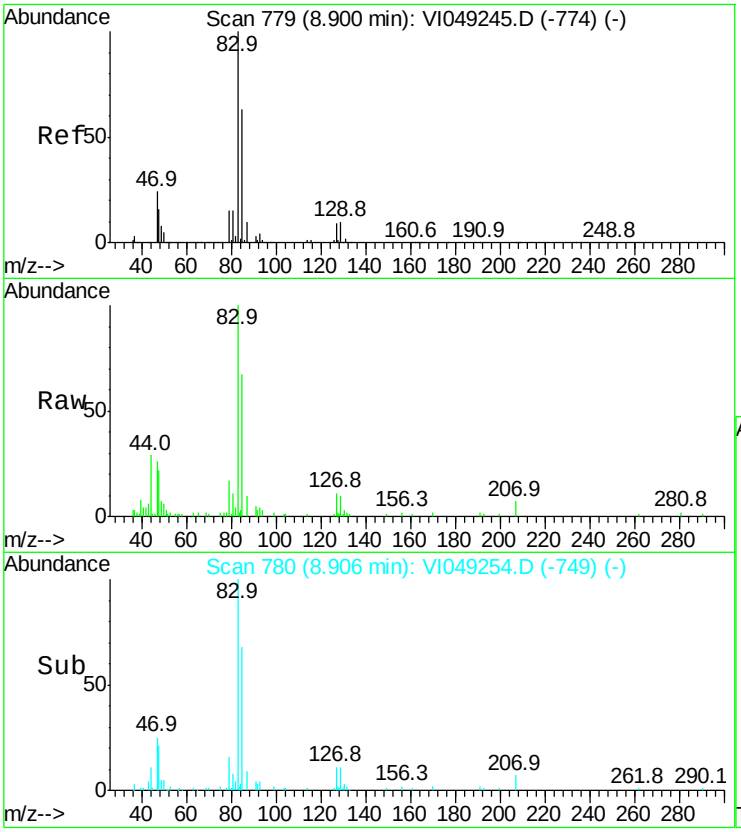


#34
Trichloroethene
Concen: 5.44 ug/L
RT: 8.23 min Scan# 711
Delta R.T. 0.01 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Tgt Ion: 95 Resp: 526160

Ion	Ratio	Lower	Upper
95	100		
97	63.6	45.8	85.2
132	98.3	63.9	118.7
130	96.6	66.4	123.2



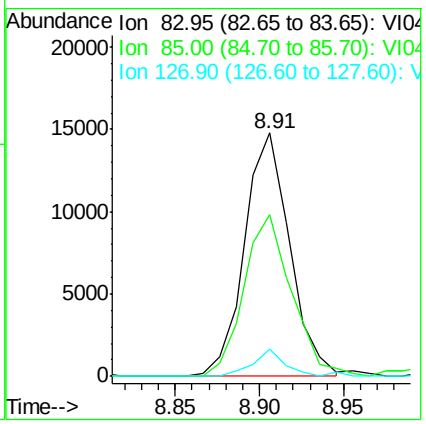


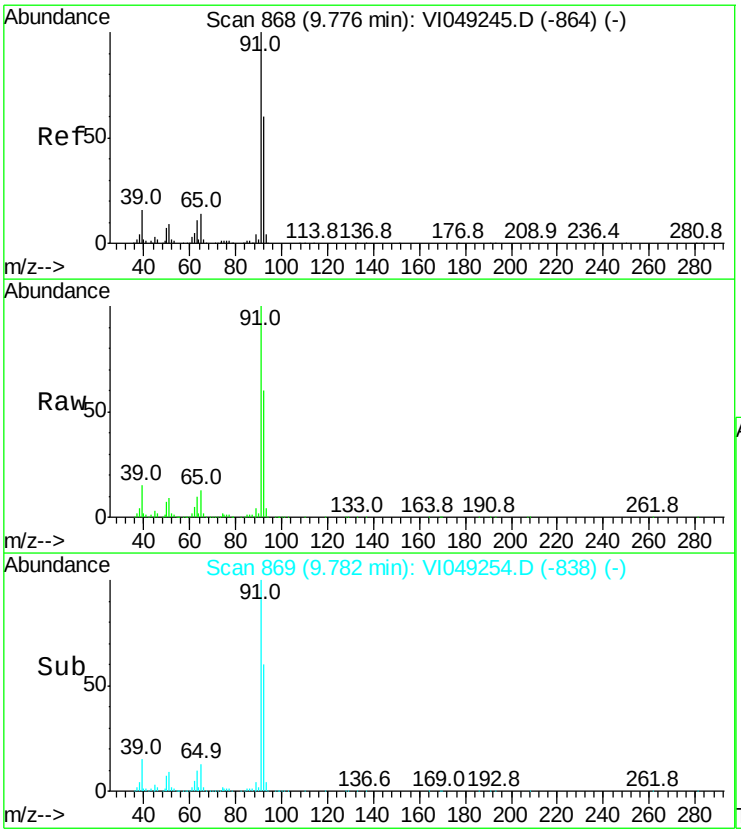
#38
Bromodichloromethane
Concen: 0.23 ug/L
RT: 8.91 min Scan# 780
Delta R.T. 0.01 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Instrument : MSVOA_I
ClientSampleId : H4002MSD

Tgt Ion: 83 Resp: 27568

Ion	Ratio	Lower	Upper
83	100		
85	66.6	44.7	83.1
127	10.9	6.6	9.8#

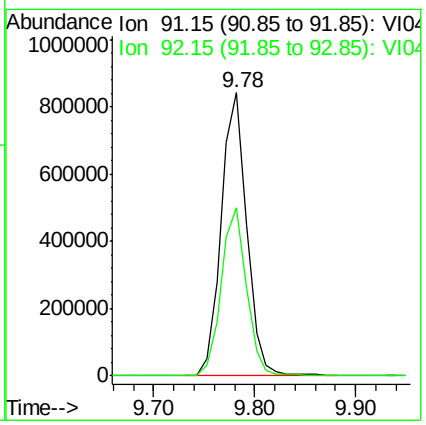


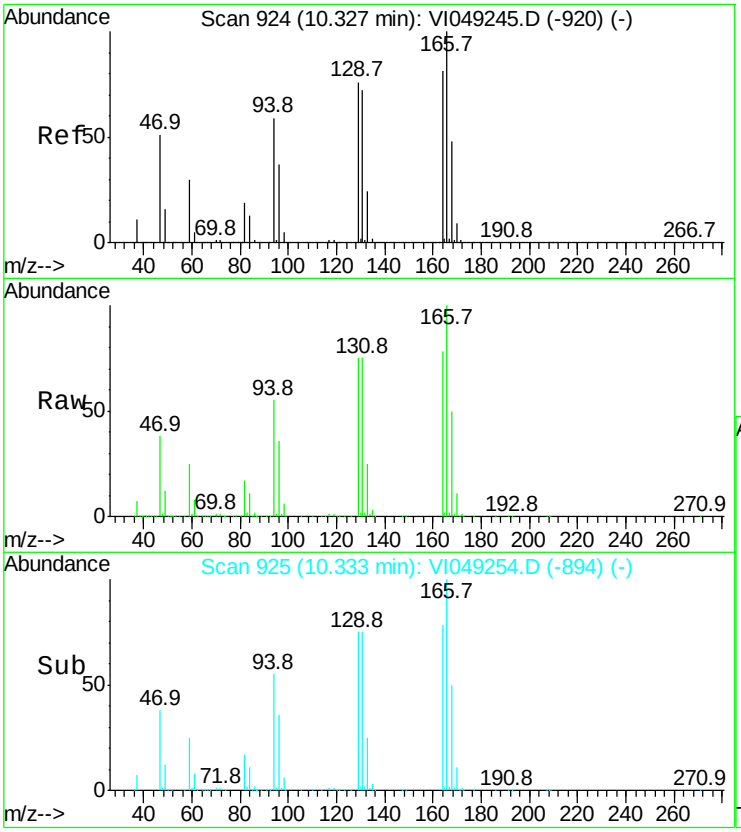


#42
Toluene
Concen: 5.02 ug/L
RT: 9.78 min Scan# 869
Delta R.T. 0.01 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Tgt Ion: 91 Resp: 1477204

Ion	Ratio	Lower	Upper
91	100		
92	59.6	41.2	76.4



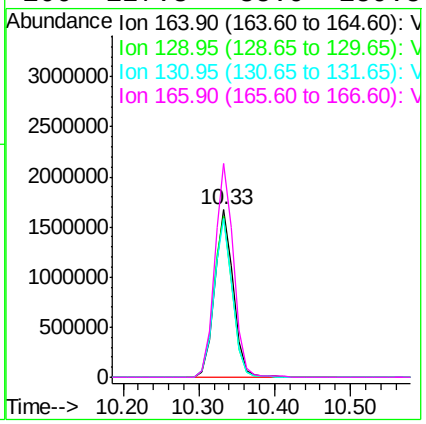


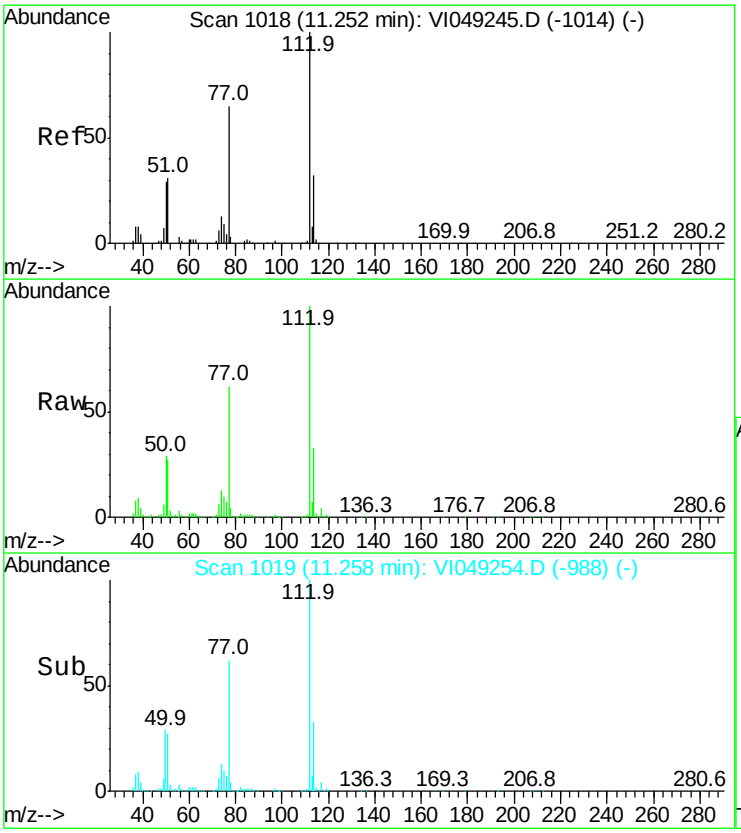
#47
Tetrachloroethene
Concen: 45.40 ug/L
RT: 10.33 min Scan# 925
Delta R.T. 0.01 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Instrument : MSVOA_I
ClientSampleId : H4002MSD

Tgt Ion:164 Resp: 2884877

Ion	Ratio	Lower	Upper
164	100		
129	96.3	62.1	115.3
131	95.2	60.6	112.6
166	127.8	85.9	159.5

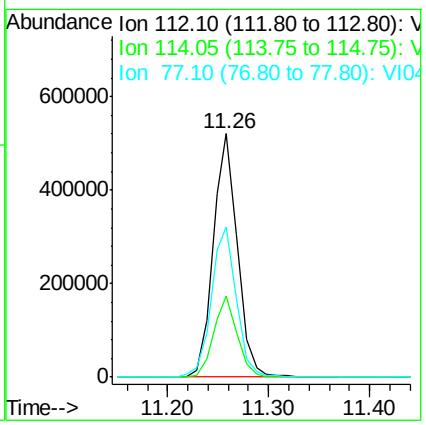




#51
Chlorobenzene
Concen: 4.91 ug/L
RT: 11.26 min Scan# 1019
Delta R.T. 0.01 min
Lab File: VI049254.D
Acq: 5 May 2016 15:44

Tgt Ion:112 Resp: 866097

Ion	Ratio	Lower	Upper
112	100		
114	33.3	23.2	43.2
77	61.8	50.3	75.5



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_I\DATA\VI050516\
Data File : VI049254.D
Acq On : 5 May 2016 15:44
Operator : FY/SY
Sample : H2834-03MSD
Misc : 25mL/MSVOA_I/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument : MSVOA_I
ClientSampleId : H4002MSD

Quant Time: May 06 05:12:14 2016
Quant Method : W:\HPCHEM1\MSVOA_I\METHODS\SOMITR050416W.M
Quant Title : TRACE VOA SOM01.0
QLast Update : Fri May 06 04:42:07 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Difluorobenzene	7.94	114	1236775	5.00	ug/L		0.00
28) Chlorobenzene-d5	11.23	117	814270	5.00	ug/L		0.00
59) 1,4-Dichlorobenzene-d4	13.44	152	293377	5.00	ug/L		0.00
System Monitoring Compounds							
4) Vinyl Chloride-d3	1.71	65	368796	4.84	ug/L		0.00
Spiked Amount 5.000	Range 40 - 130		Recovery = 96.80%				
7) Chloroethane-d5	2.11	69	198962	4.72	ug/L		0.00
Spiked Amount 5.000	Range 65 - 130		Recovery = 94.40%				
11) 1,1-Dichloroethene-d2	2.94	63	869606	4.85	ug/L		0.00
Spiked Amount 5.000	Range 60 - 125		Recovery = 97.00%				
20) 2-Butanone-d5	5.69	46	835235	50.67	ug/L		0.00
Spiked Amount 50.000	Range 40 - 130		Recovery = 101.34%				
24) Chloroform-d	6.40	84	925779	4.78	ug/L		0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 95.60%				
26) 1,2-Dichloroethane-d4	7.24	65	408147	5.15	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.00%				
32) Benzene-d6	7.18	84	1643744	5.18	ug/L		0.00
Spiked Amount 5.000	Range 70 - 125		Recovery = 103.60%				
36) 1,2-Dichloropropane-d6	8.44	67	464007	5.20	ug/L		0.00
Spiked Amount 5.000	Range 60 - 140		Recovery = 104.00%				
41) Toluene-d8	9.70	98	1160924	4.96	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.20%				
43) trans-1,3-Dichloropropene-	10.03	79	163741	4.66	ug/L		0.00
Spiked Amount 5.000	Range 55 - 130		Recovery = 93.20%				
46) 2-Hexanone-d5	10.43	63	573804	51.77	ug/L		0.00
Spiked Amount 50.000	Range 45 - 130		Recovery = 103.54%				
57) 1,1,2,2-Tetrachloroethane-	12.47	84	189225	4.66	ug/L		0.00
Spiked Amount 5.000	Range 65 - 120		Recovery = 93.20%				
63) 1,2-Dichlorobenzene-d4	13.77	152	250585	4.87	ug/L		0.00
Spiked Amount 5.000	Range 80 - 120		Recovery = 97.40%				
Target Compounds							Qvalue
12) 1,1-Dichloroethene	2.96	96	447128	4.48	ug/L		96
22) cis-1,2-Dichloroethene	5.80	96	31828	0.28	ug/L		91
25) Chloroform	6.43	83	382839	1.92	ug/L		95
29) 1,1,1-Trichloroethane	6.66	97	106777	0.69	ug/L		97
33) Benzene	7.24	78	1741729	5.00	ug/L		100
34) Trichloroethene	8.23	95	526160	5.44	ug/L		96
38) Bromodichloromethane	8.91	83	27568	0.23	ug/L	#	96
42) Toluene	9.78	91	1477204	5.02	ug/L		99
47) Tetrachloroethene	10.33	164	2884877	45.40	ug/L		93
51) Chlorobenzene	11.26	112	866097	4.91	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 2A-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4002

Analytical Method : VOA Level : LOW

Matrix : Soil

EPA Sample No .	DMC1 (VCL)	DMC2 (CLA)	DMC3 (DCE)	DMC4 (BUT)	DMC5 (CLF)	DMC6 (DCA)	DMC7 (BEN)	DMC8 (DPA)
VBLK98	74	86	63	99	92	102	84	87
H4061	73	89	66	67	92	99	86	92
VBLK78	105	106	73	105	95	101	100	101
H4076	98	99	65	78	85	92	98	101
H4061MS	111	115	103	87	101	108	113	119
H4061MSD	118	122	108	85	104	109	116	119
VBLK79	111	111	78	97	99	105	103	102
VHBLK02	114	117	79	106	103	110	106	107

	QC LIMITS
DMC1 (VCL) = Vinyl Chloride-d3	(30-150)
DMC2 (CLA) = Chloroethane-d5	(30-150)
DMC3 (DCE) = 1,1-Dichloroethene-d2	(45-110)
DMC4 (BUT) = 2-Butanone-d5	(20-135)
DMC5 (CLF) = Chloroform-d	(40-150)
DMC6 (DCA) = 1,2-Dichloroethane-d4	(70-130)
DMC7 (BEN) = Benzene-d6	(20-135)
DMC8 (DPA) = 1,2-Dichloropropane-d6	(70-120)

FORM 2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030
Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4002
Analytical Method : VOA Level : LOW
Matrix : Soil

EPA Sample No .	DMC9 (TOL)	DMC10 (TDP)	DMC11 (HEX)	DMC12 (TCA)	DMC13 (DCZ)	DMC14	DMC15	DMC16	TOT OUT
VBLK98	83	80	98	90	89				0
H4061	84	75	73	80	80				0
VBLK78	96	99	112	95	97				0
H4076	90	92	96	81	79				0
H4061MS	105	104	102	97	96				0
H4061MSD	109	102	102	98	102				0
VBLK79	103	95	106	95	103				0
VHBLK02	104	101	113	101	105				0

	QC LIMITS
DMC9 (TOL) = Toluene-d8	(30-130)
DMC10 (TDP) = trans-1,3-Dichloropropene-d4	(30-135)
DMC11 (HEX) = 2-Hexanone-d5	(20-135)
DMC12 (TCA) = 1,1,2,2-Tetrachloroethane-d2	(45-120)
DMC13 (DCZ) = 1,2-Dichlorobenzene-d4	(75-120)

FORM 3A-OR
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code : CHM Case No. : 46114 MA No .: SDG No. : H4002

Analytical Method : VOA Level : LOW

Matrix Soil

EPA Sample No.(Matrix Spike/Metrix Spike Duplicate): H4061

Instrument ID : MSVOA_T GC Column RXI-624 ID : 0.25 (mm)

Concentration Units (ug/L,mg/L ug/kg): ug/Kg

ANALYTE	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS %R #	QC Limits %R
1,1-Dichloroethene	84.5	0	79	93	59 - 172
Benzene	84.5	0	91	108	66 - 142
Trichloroethene	84.5	0	87	103	62 - 137
Toluene	84.5	0	85	101	59 - 139
Chlorobenzene	84.5	0	78	92	60 - 133

ANALYTE	SPIKE AADDED	MSD CONCENTRATION	MSD %R #	RPD	QC Limits	
					RPD	%R
1,1-Dichloroethene	110	100	91	3	22	59 - 172
Benzene	110	110	100	7	21	66 - 142
Trichloroethene	110	110	100	3	24	62 - 137
Toluene	110	110	100	1	21	59 - 139
Chlorobenzene	110	98	89	4	21	60 - 133

EPA SAMPLE NO.

VBLK98

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM
Case No.: 46114
MA No. :
SDG No.: H4002
Analytical Method: VOA
Level : LOW
Matrix : Soil
Lab Sample ID: VT0505SBL02
Instrument ID: MSVOA_T
Lab File ID : VT013908.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : RXI-624 ID : 0.25 (mm)
Date Analyzed : 05/05/2016
GC Column ( ) : ID : (mm)
Time Analyzed : 16:51
Heated Purge: (Y/N) Y
Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
H4061	H2834-13	VT013913.D	05/05/2016 19:01

EPA SAMPLE NO.

VBLK78

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM
Case No.: 46114
MA No. :
SDG No.: H4002
Analytical Method: VOA
Level : LOW
Matrix : Soil
Lab Sample ID: VT0509SBL01
Instrument ID: MSVOA_T
Lab File ID : VT013988.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : RXI-624 ID : 0.25 (mm)
Date Analyzed : 05/09/2016
GC Column ( ) : ID : (mm)
Time Analyzed : 11:22
Heated Purge: (Y/N) Y
Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
H4076	H2834-16	VT013989.D	05/09/2016 11:48
H4061MS	H2834-14MS	VT013990.D	05/09/2016 12:14
H4061MSD	H2834-15MSD	VT013991.D	05/09/2016 12:41

EPA SAMPLE NO.

VBLK79

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM
Case No.: 46114
MA No. :
SDG No.: H4002
Analytical Method: VOA
Level : LOW
Matrix : Soil
Lab Sample ID: VT0509SBL02
Instrument ID: MSVOA_T
Lab File ID : VT014000.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : RXI-624 ID : 0.25 (mm)
Date Analyzed : 05/09/2016
GC Column ( ) : ID : (mm)
Time Analyzed : 17:05
Heated Purge: (Y/N) Y
Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
VHBLK02	H2834-17	VT014001.D	05/09/2016 17:32

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB96

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : VOA Lab File ID : VT013543.D

Instrument ID: MSVOA_T BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 04/12/2016 Injection Time: 12:19

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	25.1	
75	30.0 - 80.0% of mass 95	56.9	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.8	
173	Less than 2.0% of mass 174	0.0(0.0)	1
174	50.0 - 120% of mass 95	73.4	
175	5.0 - 9.0% of mass 174	6(8.1)	1
176	95.0 - 101% of mass 174	70.9(96.6)	1
177	5.0 - 9.0% of mass 176	4.7(6.6)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD2.585	VSTD2.585	VT013544.D	04/12/2016	12:45
VSTD00586	VSTD00586	VT013545.D	04/12/2016	13:11
VSTD02587	VSTD02587	VT013546.D	04/12/2016	13:37
VSTD05088	VSTD05088	VT013547.D	04/12/2016	14:03
VSTD10089	VSTD10089	VT013548.D	04/12/2016	14:29

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB87

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : VOA Lab File ID : VT013896.D

Instrument ID: MSVOA_T BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 05/05/2016 Injection Time: 09:36

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	26.7	
75	30.0 - 80.0% of mass 95	59.6	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.9	
173	Less than 2.0% of mass 174	0.0(0.0)	1
174	50.0 - 120% of mass 95	71.1	
175	5.0 - 9.0% of mass 174	6(8.5)	1
176	95.0 - 101% of mass 174	68.5(96.3)	1
177	5.0 - 9.0% of mass 176	4.8(7)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD02579	VSTDCCC025	VT013897.D	05/05/2016	10:40
VSTD02580	VSTDCCC025	VT013907.D	05/05/2016	15:50
VBLK98	VT0505SBL02	VT013908.D	05/05/2016	16:51
H4061	H2834-13	VT013913.D	05/05/2016	19:01
VSTD02581	VSTDCCC025EC	VT013929.D	05/06/2016	02:23

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB88

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : VOA Lab File ID : VT013930.D

Instrument ID: MSVOA_T BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 05/06/2016 Injection Time: 09:01

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	27.4	
75	30.0 - 80.0% of mass 95	60.6	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.4	
173	Less than 2.0% of mass 174	0.0(0.0)	1
174	50.0 - 120% of mass 95	69.2	
175	5.0 - 9.0% of mass 174	5.8(8.4)	1
176	95.0 - 101% of mass 174	66.9(96.7)	1
177	5.0 - 9.0% of mass 176	4.4(6.6)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD2.582	VSTD2.582	VT013931.D	05/06/2016	09:38
VSTD00583	VSTD00583	VT013932.D	05/06/2016	10:05
VSTD02584	VSTD02584	VT013933.D	05/06/2016	10:31
VSTD05085	VSTD05085	VT013934.D	05/06/2016	10:57
VSTD10086	VSTD10086	VT013935.D	05/06/2016	11:23

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB89

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : VOA Lab File ID : VT013986.D

Instrument ID: MSVOA_T BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 05/09/2016 Injection Time: 09:40

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	27.1	
75	30.0 - 80.0% of mass 95	62	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.5	
173	Less than 2.0% of mass 174	0.0(0.0)	1
174	50.0 - 120% of mass 95	71.1	
175	5.0 - 9.0% of mass 174	6.1(8.6)	1
176	95.0 - 101% of mass 174	68.9(97)	1
177	5.0 - 9.0% of mass 176	4.9(7.1)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD02590	VSTDCCC025	VT013987.D	05/09/2016	10:07
VBLK78	VT0509SBL01	VT013988.D	05/09/2016	11:22
H4076	H2834-16	VT013989.D	05/09/2016	11:48
H4061MS	H2834-14MS	VT013990.D	05/09/2016	12:14
H4061MSD	H2834-15MSD	VT013991.D	05/09/2016	12:41
VSTD02591	VSTDCCC025	VT013999.D	05/09/2016	16:11
VBLK79	VT0509SBL02	VT014000.D	05/09/2016	17:05
VHBLK02	H2834-17	VT014001.D	05/09/2016	17:32
VSTD02592	VSTDCCC025EC	VT014021.D	05/10/2016	02:38

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002
Analytical Method: VOA | Level : LOW
EPA Sample No. : VSTD02580 | Lab File ID (Standard) : VT013907.D
Instrument ID : MSVOA_T | Init.Calib.Date(s): 04/12/2016
GC Column : RXI-624 | ID: 0.25 (mm) | Date Analyzed : 05/05/2016
Heated Purge: (Y/N) Y | Time Analyzed : 15:50

	IS1 (DFB) AREA	RT	IS2 (CBZ) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1121340	8.36	920328	11.19	461203	13.12
UPPER LIMIT	2242690	8.53	1840660	11.36	922406	13.29
LOWER LIMIT	560672	8.19	460164	11.02	230602	12.95
EPA SAMPLE NO.						
VBLK98	1057725	8.36	864060	11.19	402304	13.12
H4061	904385	8.36	679626	11.19	281160	13.12

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene -d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002
Analytical Method: VOA | Level : LOW
EPA Sample No. : VSTD02590 | Lab File ID (Standard) : VT013987.D
Instrument ID : MSVOA_T | Init.Calib.Date(s): 05/06/2016
GC Column : RXI-624 | ID: 0.25 (mm) | Date Analyzed : 05/09/2016
Heated Purge: (Y/N) Y | Time Analyzed : 10:07

	IS1 (DFB) AREA	RT	IS2 (CBZ) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1070370	8.36	871792	11.19	428182	13.12
UPPER LIMIT	2140740	8.53	1743580	11.36	856364	13.29
LOWER LIMIT	535185	8.19	435896	11.02	214091	12.95
EPA SAMPLE NO.						
VBLK78	1167681	8.36	942590	11.19	460685	13.12
H4076	1026436	8.36	732121	11.19	245304	13.12
H4061MS	881436	8.36	650608	11.19	242136	13.12
H4061MSD	920276	8.36	682901	11.19	237621	13.12

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene -d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002
Analytical Method: VOA | Level : LOW
EPA Sample No. : VSTD02591 | Lab File ID (Standard) : VT013999.D
Instrument ID : MSVOA_T | Init.Calib.Date(s): 05/06/2016
GC Column : RXI-624 | ID: 0.25 (mm) | Date Analyzed : 05/09/2016
Heated Purge: (Y/N) Y | Time Analyzed : 16:11

	IS1 (DFB) AREA	RT	IS2 (CBZ) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1035710	8.36	861159	11.19	439055	13.12
UPPER LIMIT	2071430	8.53	1722320	11.36	878110	13.29
LOWER LIMIT	517857	8.19	430580	11.02	219528	12.95
EPA SAMPLE NO.						
VBLK79	1052009	8.36	856289	11.19	404277	13.12
VHBLK02	990013	8.36	807452	11.19	399212	13.12

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene -d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 3.75 (g/mL): g
Lab File ID : VT013913.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	51	
75-15-0	Carbon disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene chloride	10	B
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	21	U
74-97-5	Bromochloromethane	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 3.75 (g/mL): g
Lab File ID : VT013913.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-pentanone	21	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	21	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
95-47-6	o-xylene	10	U
179601-23-1	m,p-Xylene	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-trichlorobenzene	10	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 3.75 (g/mL): g
Lab File ID : VT013913.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	10	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 3.75 (g/mL): g
Lab File ID : VT013913.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

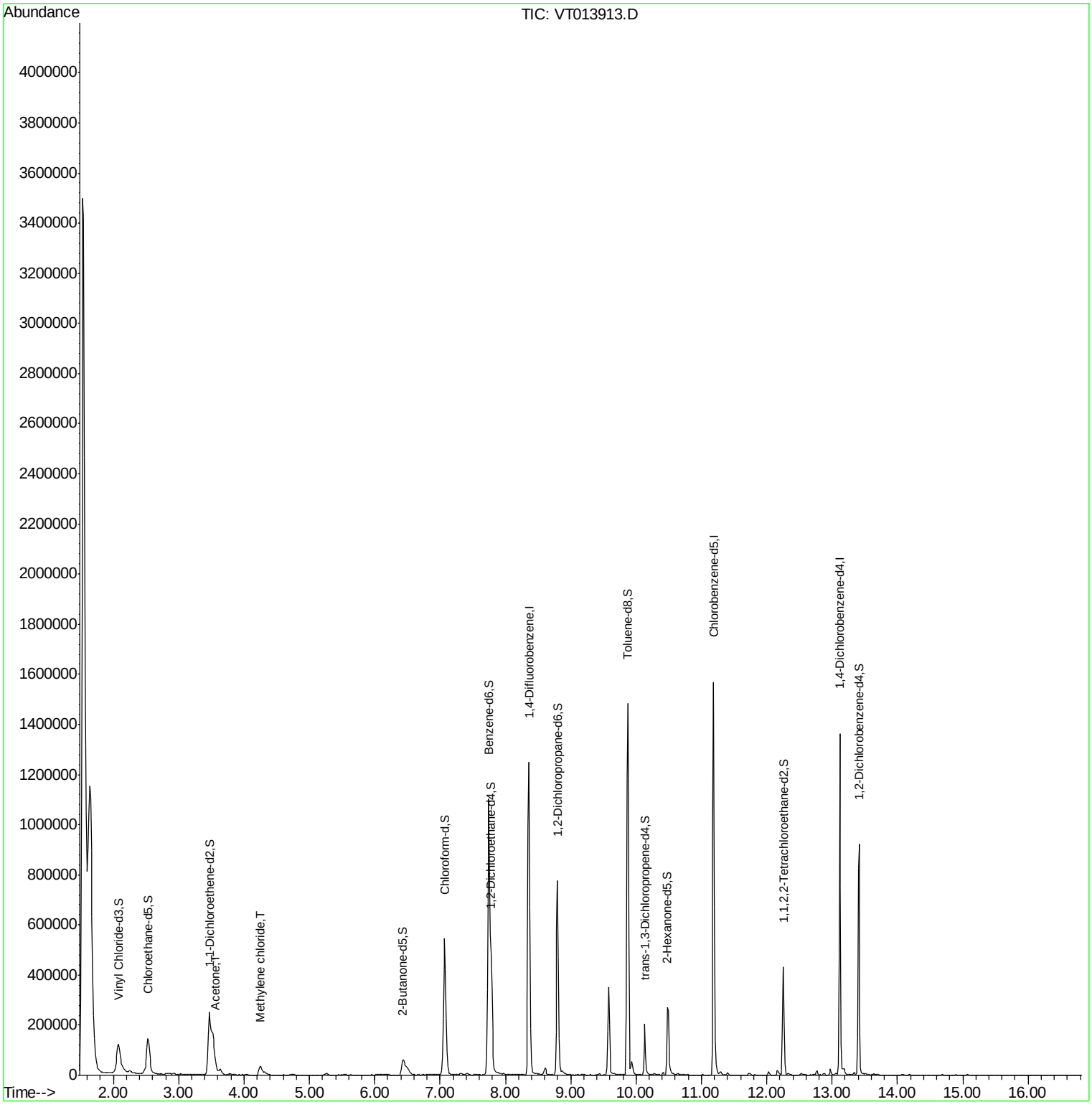
Quantitation Report (LSC Reviewed)

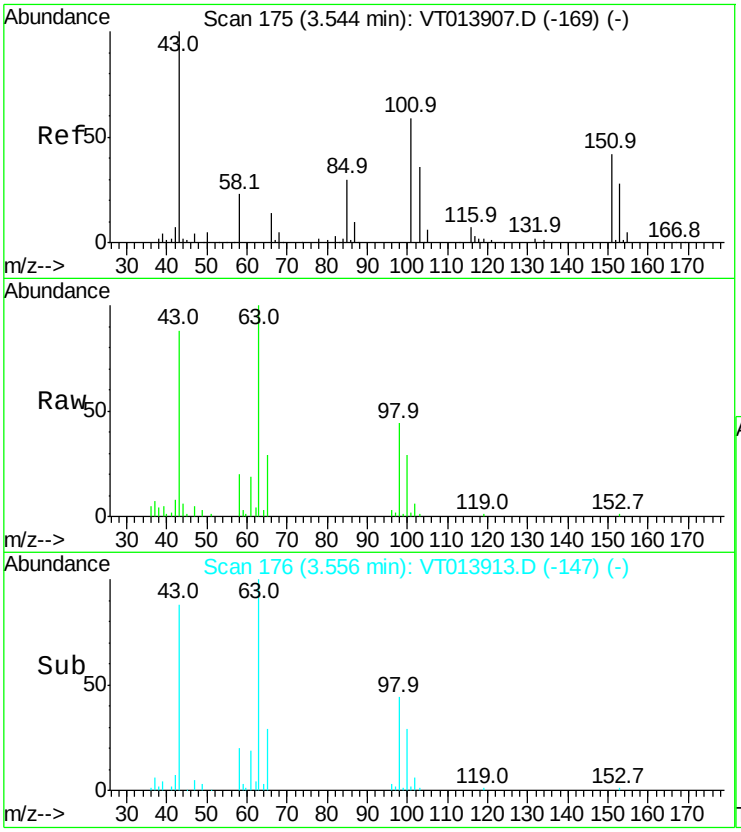
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 06 03:06:53 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:33 PM

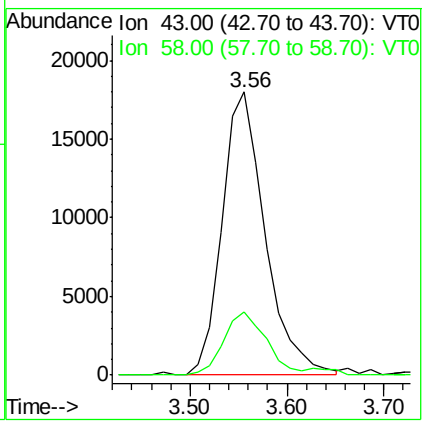




#13
Acetone
Concen: 12.29 ug/L
RT: 3.56 min Scan# 176
Delta R.T. 0.01 min
Lab File: VT013913.D
Acq: 5 May 2016 19:01

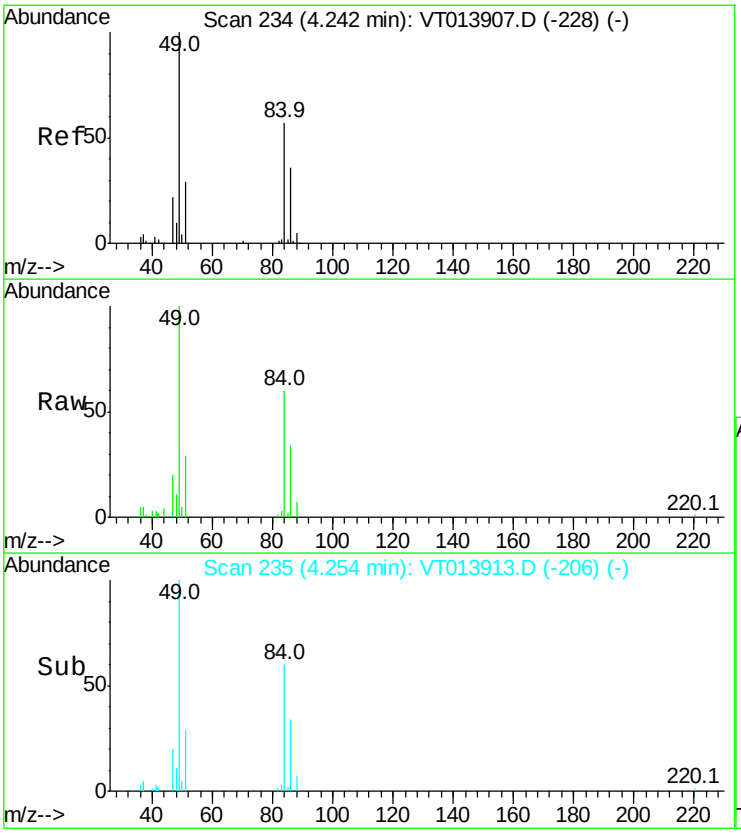
Tgt Ion: 43 Resp: 55164

Ion	Ratio	Lower	Upper
43	100		
58	22.2	0.0	50.2



Instrument :
MSVOA_T
ClientSampleId :
H4061

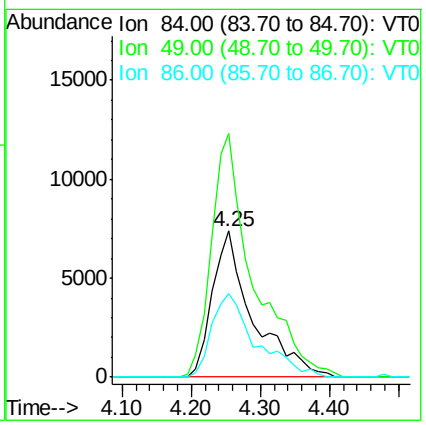
Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:33 PM



#16
Methylene chloride
Concen: 2.46 ug/L m
RT: 4.25 min Scan# 235
Delta R.T. 0.01 min
Lab File: VT013913.D
Acq: 5 May 2016 19:01

Tgt Ion: 84 Resp: 30112

Ion	Ratio	Lower	Upper
84	100		
49	166.6	116.8	216.8
86	57.2	44.9	83.5



Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4061

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:33 PM

Quant Time: May 06 03:06:53 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	904385	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	679626	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	281160	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	321889	18.14	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 72.56%			
7) Chloroethane-d5	2.53	69	265017	22.28	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 89.12%			
10) 1,1-Dichloroethene-d2	3.47	63	502077	16.39	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 65.56%			
20) 2-Butanone-d5	6.43	46	122015	33.64	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 67.28%			
24) Chloroform-d	7.07	84	585517	22.99	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 91.96%			
26) 1,2-Dichloroethane-d4	7.78	65	339292	24.64	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 98.56%			
29) Benzene-d6	7.74	84	1062837	21.39	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 85.56%			
33) 1,2-Dichloropropane-d6	8.80	67	328719	22.92	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 91.68%			
37) Toluene-d8	9.87	98	894972	20.88	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 83.52%			
38) trans-1,3-Dichloropropene-	10.13	79	95043	18.66	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 74.64%			
39) 2-Hexanone-d5	10.48	63	79482	36.48	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 72.96%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	179250	19.92	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 79.68%			
60) 1,2-Dichlorobenzene-d4	13.41	152	214958	20.10	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 80.40%			
Target Compounds						Qvalue
13) Acetone	3.56	43	55164	12.29	ug/L	94
16) Methylene chloride	4.25	84	30112m	2.46	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4061

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.532	3	5	11	rVV	2688240	6773343	100.00%	19.334%
2	1.639	11	14	29	rVB	1140154	4704194	69.45%	13.428%
3	2.077	43	51	63	rBV	113738	528477	7.80%	1.509%
4	2.254	63	66	75	rVB7	11344	46760	0.69%	0.133%
5	2.432	77	81	82	rBV3	2857	8066	0.12%	0.023%
6	2.526	82	89	99	rVB	141758	504574	7.45%	1.440%
7	2.834	110	115	116	rBV3	1873	5500	0.08%	0.016%
8	2.917	120	122	126	rVV3	3601	10305	0.15%	0.029%
9	3.035	128	132	133	rVV3	1627	3189	0.05%	0.009%
10	3.225	145	148	149	rVB2	1695	2808	0.04%	0.008%
11	3.343	154	158	161	rBV3	2409	5830	0.09%	0.017%
12	3.473	163	169	181	rVV2	251169	1344504	19.85%	3.838%
13	3.639	181	183	190	rVB	22271	54329	0.80%	0.155%
14	3.793	190	196	200	rBV5	4284	14568	0.22%	0.042%
15	3.982	209	212	214	rBV2	1495	2604	0.04%	0.007%
16	4.017	214	215	221	rVB2	1554	4460	0.07%	0.013%
17	4.254	227	235	239	rBV	35836	123468	1.82%	0.352%
18	4.609	262	265	266	rVV	871	1750	0.03%	0.005%
19	4.727	271	275	281	rVV5	3788	12654	0.19%	0.036%
20	5.070	298	304	305	rBV3	688	2464	0.04%	0.007%
21	5.248	314	319	326	rBV4	6085	24727	0.37%	0.071%
22	5.556	344	345	349	rVB3	1513	2601	0.04%	0.007%
23	5.627	349	351	358	rVB	1558	4235	0.06%	0.012%
24	5.911	372	375	377	rBV2	799	1805	0.03%	0.005%
25	6.029	380	385	387	rBV2	1577	5047	0.07%	0.014%
26	6.124	389	393	394	rVV3	1084	2373	0.04%	0.007%
27	6.147	394	395	399	rVB3	834	1851	0.03%	0.005%
28	6.431	414	419	437	rVV4	59446	322043	4.75%	0.919%
29	6.810	447	451	453	rBV3	2232	5354	0.08%	0.015%
30	6.845	453	454	456	rVV2	2700	4654	0.07%	0.013%
31	6.940	456	462	467	rVV4	3225	15677	0.23%	0.045%
32	7.070	467	473	484	rVV	543749	1488449	21.98%	4.249%
33	7.319	488	494	498	rVV6	4361	17034	0.25%	0.049%
34	7.413	498	502	508	rVB4	6015	19445	0.29%	0.056%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4061

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Title : VOC Analysis

35	7.532	508	512	516	rBV4	2432	7811	0.12%	0.022%
36	7.745	525	530	544	rBV2	1100922	3514521	51.89%	10.032%
37	7.970	547	549	552	rVV3	2513	6382	0.09%	0.018%
38	8.218	565	570	572	rBV3	2503	5734	0.08%	0.016%
39	8.277	572	575	577	rVB2	972	1891	0.03%	0.005%
40	8.360	578	582	592	rBV	1245468	2471688	36.49%	7.055%
41	8.490	592	593	597	rVB3	2124	3503	0.05%	0.010%
42	8.608	600	603	611	rVB4	25782	61865	0.91%	0.177%
43	8.798	615	619	624	rBV	773692	1570990	23.19%	4.484%
44	9.200	647	653	658	rVB5	2782	10048	0.15%	0.029%
45	9.307	658	662	664	rBV2	2338	4628	0.07%	0.013%
46	9.437	670	673	676	rVB2	4656	9127	0.13%	0.026%
47	9.579	681	685	691	rBV	349183	590625	8.72%	1.686%
48	9.673	691	693	698	rVV5	4992	12703	0.19%	0.036%
49	9.756	698	700	702	rVV3	2666	4352	0.06%	0.012%
50	9.804	702	704	706	rVV3	2447	3881	0.06%	0.011%
51	9.875	706	710	713	rVV	1482146	2547051	37.60%	7.271%
52	9.934	713	715	721	rVV	53364	106291	1.57%	0.303%
53	10.028	721	723	724	rVV	1555	2897	0.04%	0.008%
54	10.064	724	726	728	rVV3	2240	3765	0.06%	0.011%
55	10.135	728	732	742	rVV	204333	348428	5.14%	0.995%
56	10.277	742	744	747	rVV	7046	14277	0.21%	0.041%
57	10.348	747	750	753	rVB4	3915	6833	0.10%	0.020%
58	10.419	753	756	758	rBV	9406	16408	0.24%	0.047%
59	10.478	758	761	772	rVV	267794	557912	8.24%	1.593%
60	10.632	772	774	777	rVV3	7054	13200	0.19%	0.038%
61	10.738	781	783	785	rVB2	2304	3153	0.05%	0.009%
62	10.786	785	787	789	rVB2	1715	2227	0.03%	0.006%
63	11.011	805	806	809	rVB2	3279	5318	0.08%	0.015%
64	11.188	817	821	828	rBV	1569368	2505485	36.99%	7.152%
65	11.295	828	830	834	rVB2	13297	21132	0.31%	0.060%
66	11.401	836	839	844	rVB2	10759	21311	0.31%	0.061%
67	11.732	864	867	871	rVB2	7635	17066	0.25%	0.049%
68	11.815	871	874	879	rBV4	1654	4156	0.06%	0.012%
69	11.898	879	881	885	rVB3	823	1753	0.03%	0.005%
70	12.028	890	892	895	rVB2	12380	17370	0.26%	0.050%
71	12.099	895	898	901	rBV2	797	2577	0.04%	0.007%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4061

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Title : VOC Analysis

72	12.158	901	903	908	rBV3	17791	41846	0.62%	0.119%
73	12.253	908	911	915	rVV	429349	636872	9.40%	1.818%
74	12.324	915	917	922	rVB3	7179	18622	0.27%	0.053%
75	12.431	922	926	927	rBV2	1086	2369	0.03%	0.007%
76	12.537	931	935	937	rBV2	6738	16980	0.25%	0.048%
77	12.584	937	939	943	rVB3	2937	6286	0.09%	0.018%
78	12.667	943	946	947	rBV3	1585	3003	0.04%	0.009%
79	12.726	950	951	952	rBV	2435	3145	0.05%	0.009%
80	12.774	952	955	957	rVB	14849	24876	0.37%	0.071%
81	12.868	960	963	966	rVB	6082	11082	0.16%	0.032%
82	12.975	966	972	976	rBV	23697	41977	0.62%	0.120%
83	13.058	976	979	981	rBV2	7032	16515	0.24%	0.047%
84	13.117	981	984	987	rVV	1362273	1965752	29.02%	5.611%
85	13.188	987	990	994	rVB2	24328	60797	0.90%	0.174%
86	13.271	994	997	999	rBV4	1089	2685	0.04%	0.008%
87	13.342	999	1003	1005	rVV	8204	15205	0.22%	0.043%
88	13.413	1005	1009	1012	rVV	920096	1544255	22.80%	4.408%
89	13.507	1016	1017	1020	rVB	3975	6717	0.10%	0.019%
90	13.637	1023	1028	1031	rBV3	3829	11372	0.17%	0.032%
91	13.850	1045	1046	1049	rBV3	1292	2031	0.03%	0.006%
92	13.921	1049	1052	1055	rVV2	674	1798	0.03%	0.005%
93	14.075	1060	1065	1066	rBV3	1495	4433	0.07%	0.013%
94	14.194	1071	1075	1078	rVV3	4162	7117	0.11%	0.020%
95	14.679	1114	1116	1120	rVV2	3579	5705	0.08%	0.016%
96	14.892	1132	1134	1137	rVB2	1680	3260	0.05%	0.009%
97	15.034	1144	1146	1147	rBV	1152	1968	0.03%	0.006%
98	15.069	1147	1149	1151	rVB	2769	3762	0.06%	0.011%
99	15.460	1179	1182	1186	rBV2	726	2716	0.04%	0.008%
100	16.466	1264	1267	1269	rBV	821	1989	0.03%	0.006%

Sum of corrected areas: 35032636

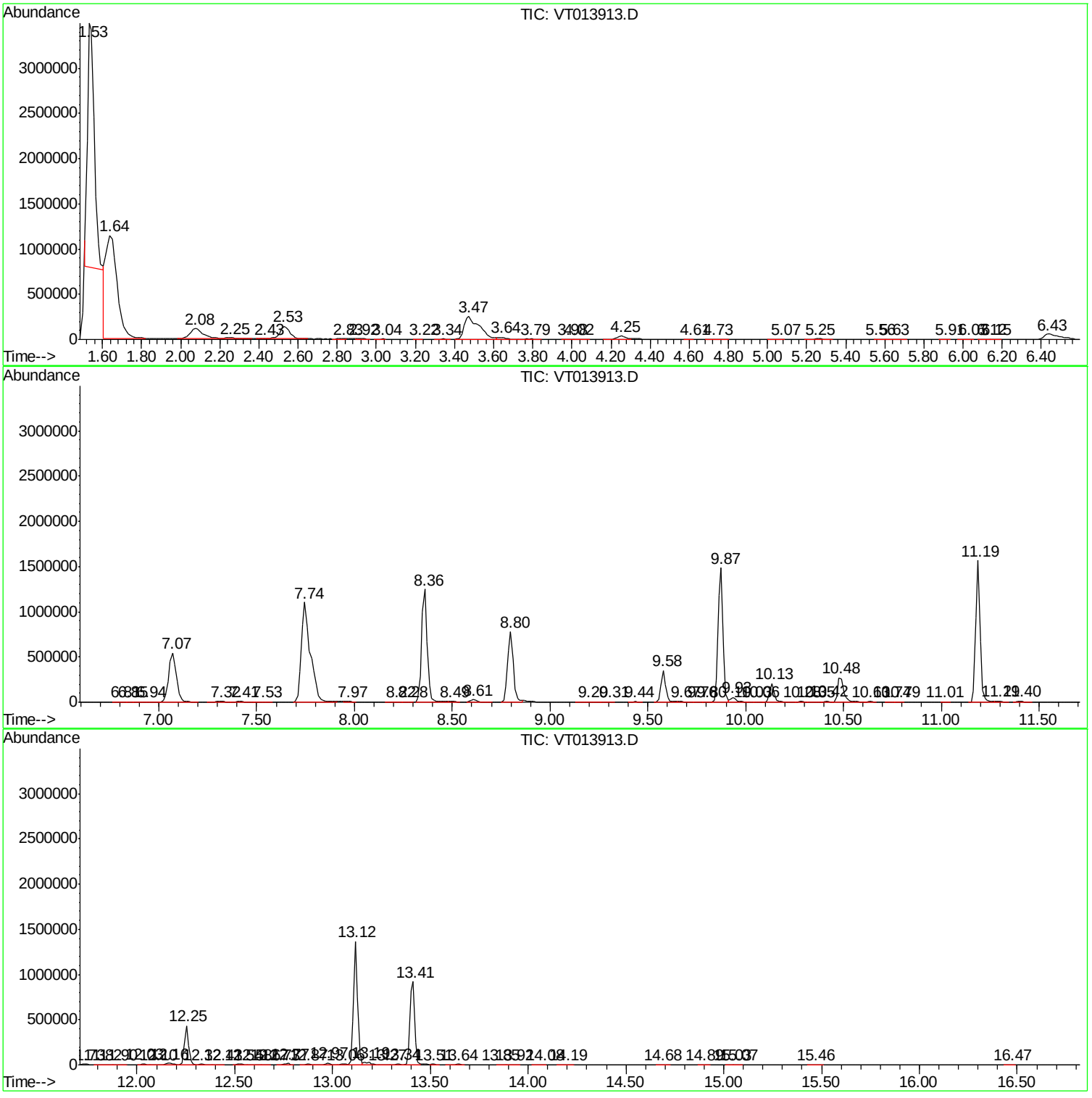
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4061

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4061

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4061

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

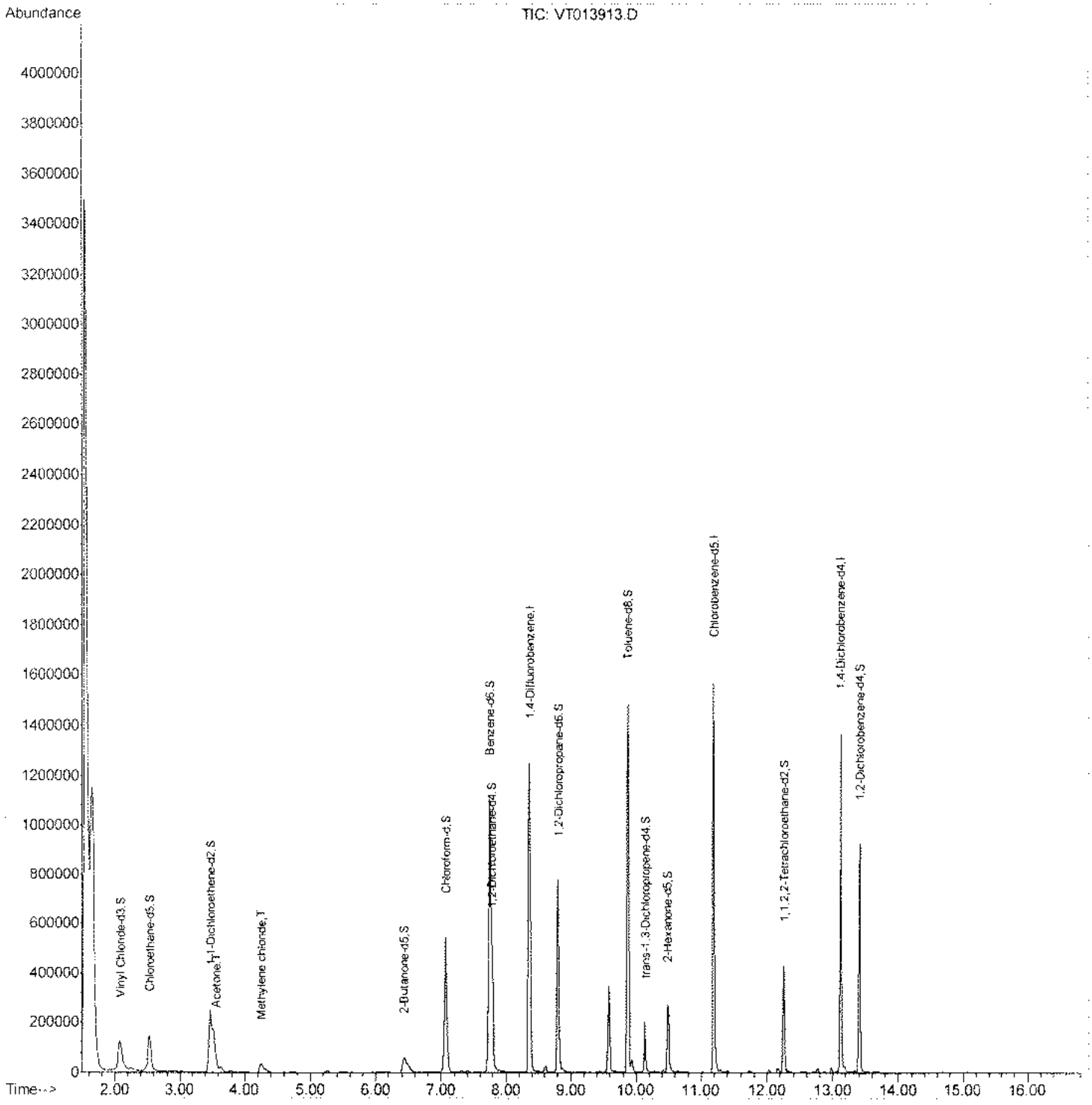
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4061

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:33 PM

Quant Time: May 06 03:06:53 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration



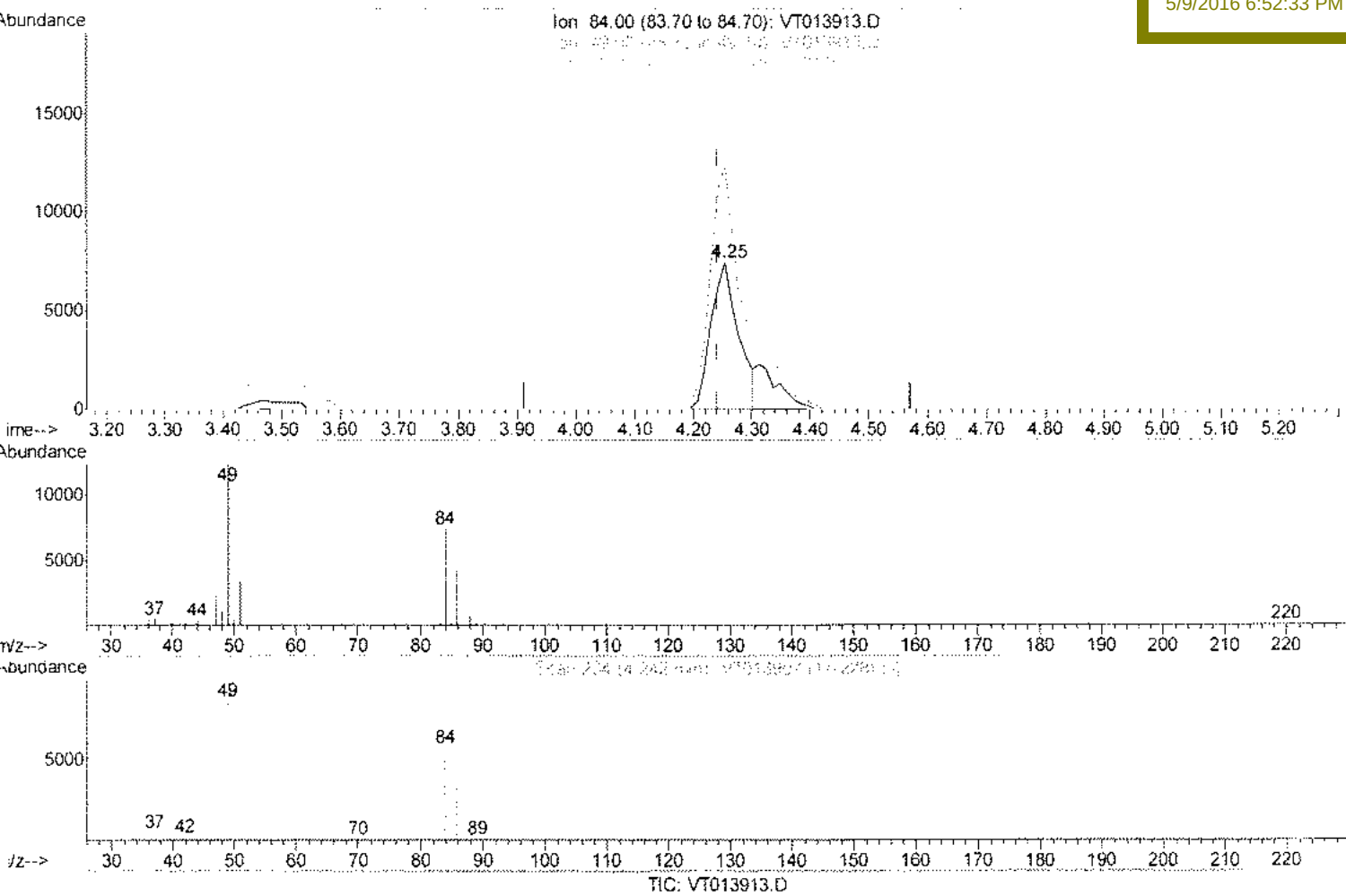
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 06 02:19:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:33 PM



(16) Methylene chloride (T)

4.254min (+0.012) 1.97ug/L

response 24133

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	166.56
86.00	64.20	57.15
0.00	0.00	0.00

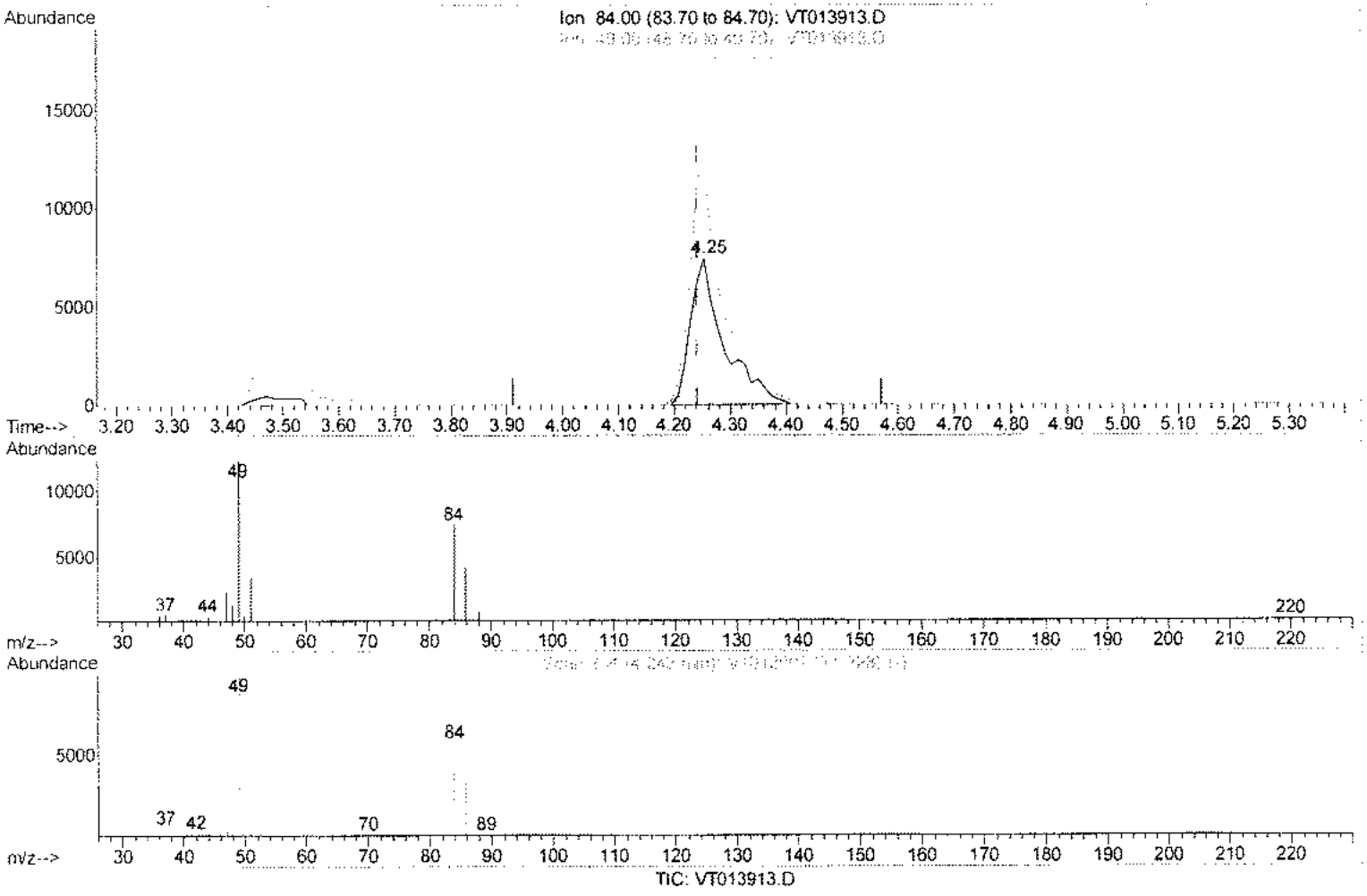
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 06 02:19:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : H4061

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:33 PM



(16) Methylene chloride (T)

4.254min (+0.012) 2.46ug/L m M D 05/09/16

response 30112

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	166.56
86.00	64.20	57.15
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013913.D
Acq On : 5 May 2016 19:01
Operator : FY/SY
Sample : H2834-13
Misc : 3.75g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 06 03:06:53 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : H4061

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:33 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	904385	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	679626	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	281160	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	321889	18.14	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 72.56%			
7) Chloroethane-d5	2.53	69	265017	22.28	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 89.12%			
10) 1,1-Dichloroethene-d2	3.47	63	502077	16.39	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 65.56%			
20) 2-Butanone-d5	6.43	46	122015	33.64	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 67.28%			
24) Chloroform-d	7.07	84	585517	22.99	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 91.96%			
26) 1,2-Dichloroethane-d4	7.78	65	339292	24.64	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 98.56%			
29) Benzene-d6	7.74	84	1062837	21.39	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 85.56%			
33) 1,2-Dichloropropane-d6	8.80	67	328719	22.92	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 91.68%			
37) Toluene-d8	9.87	98	894972	20.88	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 83.52%			
38) trans-1,3-Dichloropropene-	10.13	79	95043	18.66	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 74.64%			
39) 2-Hexanone-d5	10.48	63	79482	36.48	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 72.96%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	179250	19.92	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 79.68%			
60) 1,2-Dichlorobenzene-d4	13.41	152	214958	20.10	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 80.40%			
Target Compounds						Qvalue
13) Acetone	3.56	43	55164	12.29	ug/L	94
16) Methylene chloride	4.25	84	30112m	2.46	ug/L	

M.D 5/05/09/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 4.45 (g/mL): g
Lab File ID : VT013989.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	20	U
75-15-0	Carbon disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	20	U
74-97-5	Bromochloromethane	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 4.45 (g/mL): g
Lab File ID : VT013989.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-pentanone	20	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	22	
591-78-6	2-Hexanone	20	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
95-47-6	o-xylene	10	U
179601-23-1	m,p-Xylene	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-trichlorobenzene	10	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 4.45 (g/mL): g
Lab File ID : VT013989.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	10	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 4.45 (g/mL): g
Lab File ID : VT013989.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/09/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

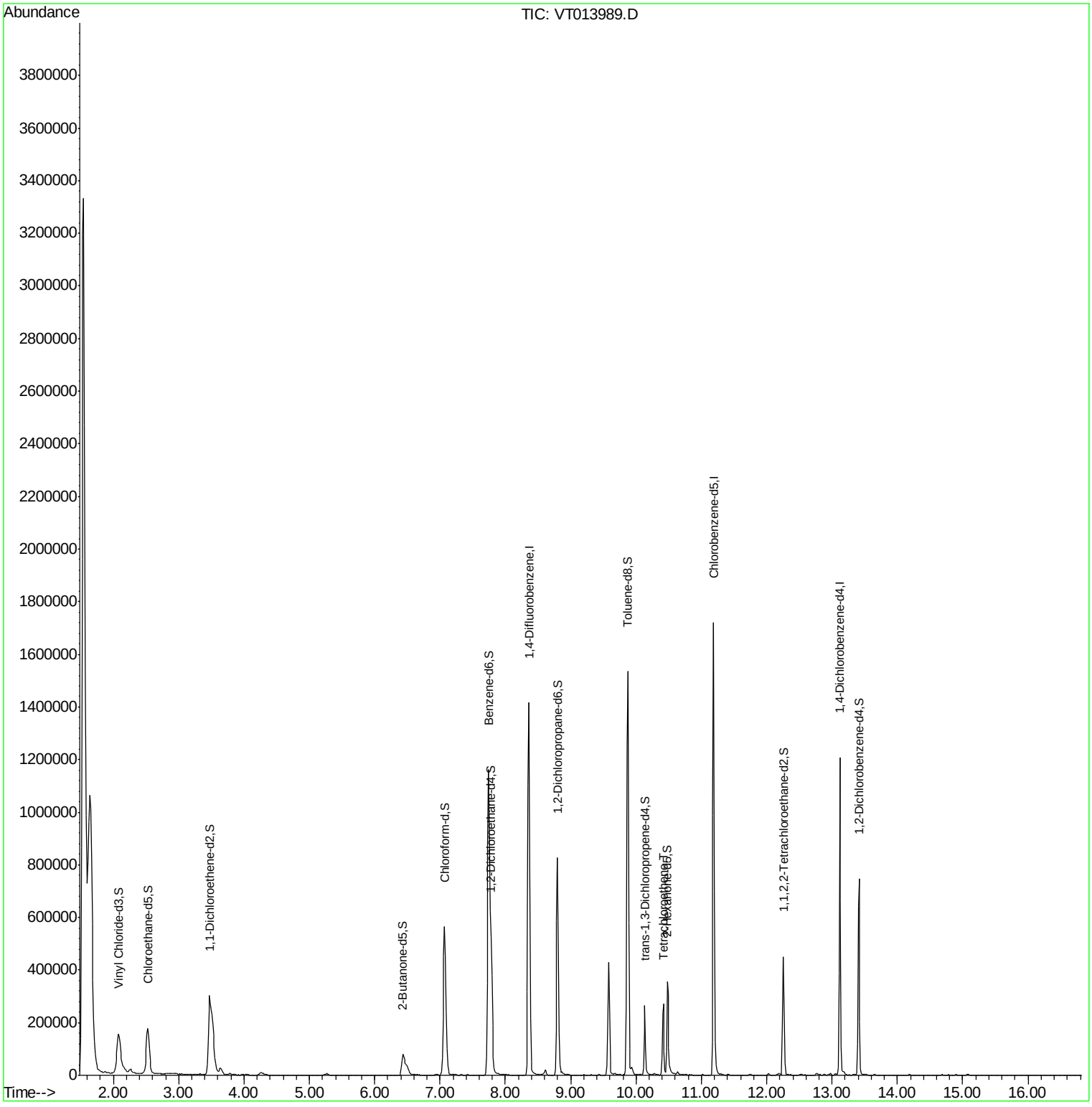
EPA-designated Registry Number.

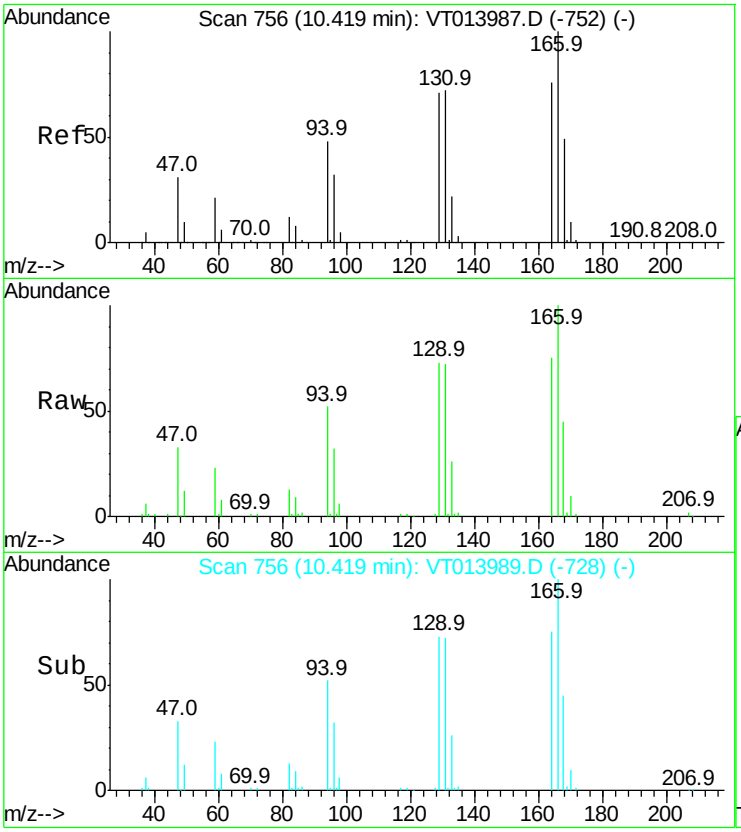
Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013989.D
Acq On : 9 May 2016 11:48
Operator : FY/SY
Sample : H2834-16
Misc : 4.45g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4076

Quant Time: May 10 01:29:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration



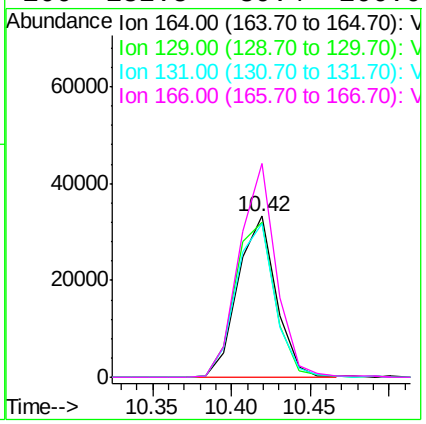


#47
Tetrachloroethene
Concen: 5.47 ug/L
RT: 10.42 min Scan# 756
Delta R.T. -0.00 min
Lab File: VT013989.D
Acq: 9 May 2016 11:48

Instrument :
MSVOA_T
ClientSampleId :
H4076

Tgt Ion:164 Resp: 55950

Ion	Ratio	Lower	Upper
164	100		
129	96.4	63.1	117.3
131	95.6	61.7	114.5
166	132.5	89.4	166.0



Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013989.D
Acq On : 9 May 2016 11:48
Operator : FY/SY
Sample : H2834-16
Misc : 4.45g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4076

Quant Time: May 10 01:29:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1026436	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	732121	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	245304	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	414794	24.39	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 97.56%			
7) Chloroethane-d5	2.53	69	303161	24.65	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 98.60%			
10) 1,1-Dichloroethene-d2	3.47	63	571177	16.33	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 65.32%			
20) 2-Butanone-d5	6.43	46	157502	38.92	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 77.84%			
24) Chloroform-d	7.07	84	605782	21.15	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 84.60%			
26) 1,2-Dichloroethane-d4	7.78	65	385124	22.94	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 91.76%			
29) Benzene-d6	7.74	84	1124400	24.55	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 98.20%			
33) 1,2-Dichloropropane-d6	8.80	67	340224	25.18	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 100.72%			
37) Toluene-d8	9.87	98	931193	22.59	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 90.36%			
38) trans-1,3-Dichloropropene-	10.13	79	120497	23.00	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 92.00%			
39) 2-Hexanone-d5	10.48	63	103939	48.13	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 96.26%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	188938	20.30	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 81.20%			
60) 1,2-Dichlorobenzene-d4	13.41	152	170074	19.75	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 79.00%			
Target Compounds						Qvalue
47) Tetrachloroethene	10.42	164	55950	5.47	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

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Misc : 4.45g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4076

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.544	3	6	11	rVV	2614034	6778362	100.00%	18.918%
2	1.639	11	14	31	rVB	1052134	4281747	63.17%	11.950%
3	2.077	43	51	63	rBV	149465	682142	10.06%	1.904%
4	2.266	63	67	77	rVB4	17583	65522	0.97%	0.183%
5	2.526	82	89	101	rVB	173980	594734	8.77%	1.660%
6	2.692	101	103	104	rBV	878	1272	0.02%	0.004%
7	2.858	116	117	120	rVB3	2392	3346	0.05%	0.009%
8	2.929	120	123	126	rBV3	2340	4538	0.07%	0.013%
9	3.224	145	148	151	rVB4	2137	5338	0.08%	0.015%
10	3.307	153	155	156	rVV	1196	2534	0.04%	0.007%
11	3.331	156	157	158	rVV	2658	3041	0.04%	0.008%
12	3.366	158	160	161	rVV2	2243	3803	0.06%	0.011%
13	3.473	164	169	180	rVV	301768	1478501	21.81%	4.126%
14	3.639	180	183	190	rVV	26464	84011	1.24%	0.234%
15	3.781	190	195	200	rVV3	6239	20597	0.30%	0.057%
16	3.982	208	212	214	rBV2	1412	3232	0.05%	0.009%
17	4.041	214	217	223	rVB3	1818	5634	0.08%	0.016%
18	4.254	230	235	246	rBV2	8955	41942	0.62%	0.117%
19	4.431	248	250	255	rVB3	1048	3037	0.04%	0.008%
20	4.597	261	264	266	rBV	815	1691	0.02%	0.005%
21	5.082	300	305	315	rBV4	1288	6157	0.09%	0.017%
22	5.260	315	320	329	rVB3	6852	23516	0.35%	0.066%
23	5.508	337	341	343	rVB2	494	1216	0.02%	0.003%
24	5.603	348	349	354	rBV3	1128	2920	0.04%	0.008%
25	6.431	414	419	433	rBV2	78520	357018	5.27%	0.996%
26	6.751	444	446	449	rVB2	634	1571	0.02%	0.004%
27	6.798	449	450	456	rVB2	680	1807	0.03%	0.005%
28	6.940	459	462	467	rVB3	2899	7753	0.11%	0.022%
29	7.070	467	473	486	rBV	565005	1556340	22.96%	4.344%
30	7.236	486	487	491	rVB3	1043	1339	0.02%	0.004%
31	7.319	491	494	497	rVB3	1004	2704	0.04%	0.008%
32	7.425	499	503	506	rVB4	1571	4085	0.06%	0.011%
33	7.543	510	513	515	rBV2	855	1923	0.03%	0.005%
34	7.745	525	530	545	rBV2	1160270	3711490	54.75%	10.358%

LSC Area Percent Report

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Sample : H2834-16
Misc : 4.45g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4076

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

35	8.005	550	552	555	rVB4	2544	4208	0.06%	0.012%
36	8.052	555	556	559	rVB2	1009	1495	0.02%	0.004%
37	8.123	561	562	568	rBV2	967	3046	0.04%	0.009%
38	8.206	568	569	572	rBV2	805	1338	0.02%	0.004%
39	8.360	578	582	594	rVV	1415255	2814936	41.53%	7.856%
40	8.549	597	598	599	rVV	1447	1710	0.03%	0.005%
41	8.608	599	603	608	rVB2	18072	37242	0.55%	0.104%
42	8.798	615	619	624	rBV	824942	1651852	24.37%	4.610%
43	9.200	651	653	655	rVB2	1530	2403	0.04%	0.007%
44	9.236	655	656	658	rBV	929	1237	0.02%	0.003%
45	9.318	658	663	664	rVB2	1474	2784	0.04%	0.008%
46	9.378	664	668	670	rBV2	640	2295	0.03%	0.006%
47	9.437	670	673	676	rVB3	2357	3823	0.06%	0.011%
48	9.579	681	685	691	rVV	428155	710234	10.48%	1.982%
49	9.673	691	693	698	rVV	7533	17121	0.25%	0.048%
50	9.768	698	701	703	rVV3	1644	3551	0.05%	0.010%
51	9.804	703	704	706	rVV	2076	2864	0.04%	0.008%
52	9.875	706	710	714	rVV	1533745	2685664	39.62%	7.495%
53	9.934	714	715	722	rVV	29338	53661	0.79%	0.150%
54	10.076	725	727	728	rVV	2503	4473	0.07%	0.012%
55	10.135	728	732	738	rVV	265887	437320	6.45%	1.221%
56	10.277	741	744	748	rVV2	7591	18274	0.27%	0.051%
57	10.419	752	756	759	rVV	271631	488119	7.20%	1.362%
58	10.478	759	761	769	rVV	356044	673735	9.94%	1.880%
59	10.632	772	774	779	rVV4	11735	24414	0.36%	0.068%
60	10.750	782	784	787	rVV3	1288	3232	0.05%	0.009%
61	10.845	789	792	794	rVB2	1139	2405	0.04%	0.007%
62	11.022	804	807	810	rVB	2050	3444	0.05%	0.010%
63	11.188	817	821	829	rBV	1719045	2647488	39.06%	7.389%
64	11.401	837	839	844	rVB2	4334	8886	0.13%	0.025%
65	11.732	863	867	870	rBV3	2516	5729	0.08%	0.016%
66	12.028	889	892	894	rVB	4680	7123	0.11%	0.020%
67	12.194	898	906	908	rBV4	5160	16135	0.24%	0.045%
68	12.253	908	911	916	rBV	449829	674567	9.95%	1.883%
69	12.336	916	918	919	rVB2	1172	1654	0.02%	0.005%
70	12.371	919	921	923	rVB2	2470	3191	0.05%	0.009%
71	12.454	926	928	929	rBV	951	1492	0.02%	0.004%

LSC Area Percent Report

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ClientSampleId : H4076

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

72	12.513	931	933	937	rVB4	3659	8849	0.13%	0.025%
73	12.584	937	939	942	rVB	1532	2054	0.03%	0.006%
74	12.774	949	955	957	rBV	7617	14772	0.22%	0.041%
75	12.809	957	958	961	rVB	1341	2453	0.04%	0.007%
76	12.868	961	963	967	rVB3	2118	3999	0.06%	0.011%
77	12.975	967	972	975	rBV3	8088	15981	0.24%	0.045%
78	13.058	975	979	981	rBV3	5383	9878	0.15%	0.028%
79	13.117	981	984	988	rBV	1203591	1710400	25.23%	4.774%
80	13.342	1000	1003	1005	rVB2	3569	5768	0.09%	0.016%
81	13.413	1005	1009	1012	rBV	746447	1236569	18.24%	3.451%
82	13.531	1017	1019	1021	rVV	2332	3699	0.05%	0.010%
83	13.649	1025	1029	1035	rVB4	2420	5982	0.09%	0.017%
84	14.099	1064	1067	1069	rVB2	777	1314	0.02%	0.004%
85	14.194	1071	1075	1079	rVB	2722	4947	0.07%	0.014%
86	14.430	1093	1095	1098	rVB2	766	1336	0.02%	0.004%
87	14.679	1112	1116	1118	rBV4	4105	6258	0.09%	0.017%
88	14.785	1121	1125	1128	rVB2	2338	3634	0.05%	0.010%
89	14.904	1132	1135	1139	rBV	2689	5816	0.09%	0.016%
90	14.963	1139	1140	1143	rBV	597	1418	0.02%	0.004%
91	15.069	1146	1149	1153	rVV3	2195	4643	0.07%	0.013%
92	15.389	1175	1176	1180	rVB2	774	1380	0.02%	0.004%
93	15.507	1184	1186	1188	rBV	906	1375	0.02%	0.004%
94	15.815	1211	1212	1216	rVB2	530	1213	0.02%	0.003%
95	15.945	1222	1223	1226	rBV3	505	1205	0.02%	0.003%
96	16.075	1232	1234	1235	rVB	822	1144	0.02%	0.003%
97	16.122	1235	1238	1240	rBV2	1118	2437	0.04%	0.007%
98	16.241	1245	1248	1249	rBV	844	1414	0.02%	0.004%
99	16.418	1261	1263	1266	rVB2	717	1635	0.02%	0.005%
100	16.607	1275	1279	1280	rVV	486	1324	0.02%	0.004%

Sum of corrected areas: 35830905

LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
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Acq On : 9 May 2016 11:48
Operator : FY/SY
Sample : H2834-16
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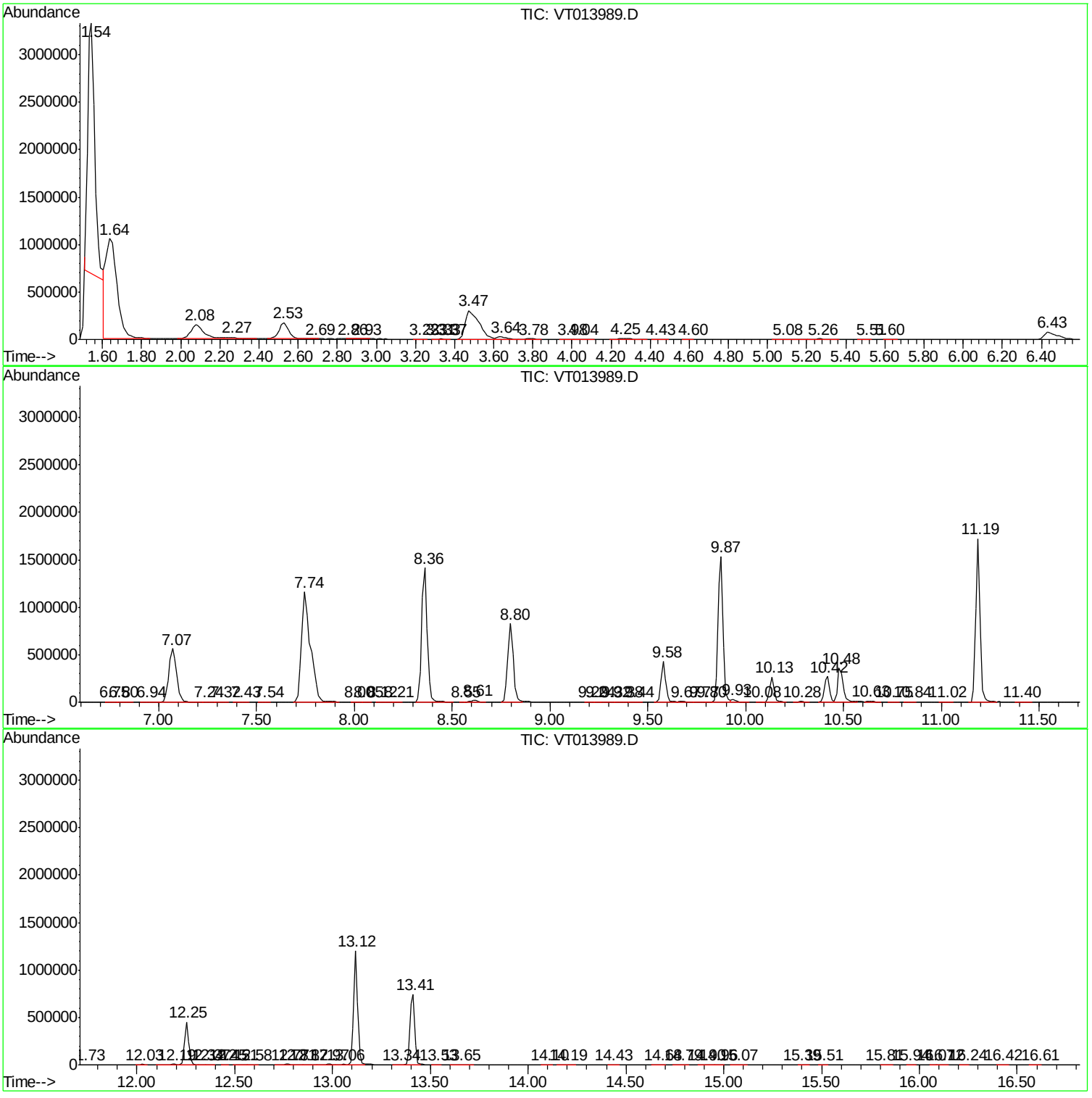
ALS Vial : 4 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4076

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013989.D
Acq On : 9 May 2016 11:48
Operator : FY/SY
Sample : H2834-16
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ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4076

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
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Sample : H2834-16
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Instrument : MSVOA_T
ClientSampleId : H4076

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030
Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002
Analytical Method : VOA Level : LOW
Instrument ID: MSVOA_T Calibration Date(s): 04/12/2016 04/12/2016
GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 12:45 14:29
Length : 20 (m)
Heated Purge: (Y/N): Y Purge Volume : 10 (mL)

LAB FILE ID: RRF2.5 = VT013544.D RRF5.0 = VT013545.D
RRF25 = VT013546.D RRF50 = VT013547.D RRF100 = VT013548.D

ANALYTE	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.488	0.492	0.531	0.450	0.416	0.475	9.3
Chloromethane	0.570	0.587	0.557	0.507	0.492	0.543	7.6
Vinyl chloride	0.526	0.537	0.508	0.465	0.451	0.497	7.6
Bromomethane	0.254	0.272	0.250	0.228	0.223	0.245	8.2
Chloroethane	0.299	0.302	0.276	0.255	0.252	0.277	8.4
Trichlorofluoromethane	0.600	0.643	0.597	0.586	0.540	0.593	6.2
1,1-Dichloroethene	0.339	0.360	0.321	0.335	0.308	0.333	5.9
1,1,2-Trichloro-1,2,2-trifluoroetha	0.376	0.399	0.349	0.359	0.332	0.363	7.1
Acetone	0.124	0.130	0.143	0.119	0.104	0.124	11.3
Carbon disulfide	1.144	1.223	1.199	1.229	1.150	1.189	3.4
Methyl Acetate	0.188	0.216	0.183	0.195	0.195	0.196	6.4
Methylene chloride	0.370	0.375	0.313	0.328	0.308	0.339	9.3
trans-1,2-Dichloroethene	0.351	0.379	0.348	0.368	0.344	0.358	4.2
Methyl tert-butyl Ether	0.561	0.632	0.594	0.655	0.648	0.618	6.4
1,1-Dichloroethane	0.754	0.801	0.741	0.783	0.730	0.762	3.9
cis-1,2-Dichloroethene	0.350	0.366	0.369	0.358	0.335	0.356	3.9
2-Butanone	0.137	0.146	0.165	0.140	0.137	0.145	8.1
Bromochloromethane	0.131	0.134	0.132	0.128	0.122	0.130	3.5
Chloroform	0.679	0.668	0.663	0.635	0.598	0.649	5
1,1,1-Trichloroethane	0.724	0.722	0.764	0.726	0.686	0.724	3.8
Cyclohexane	1.034	1.072	1.143	1.083	1.021	1.071	4.5
Carbon tetrachloride	0.672	0.662	0.704	0.672	0.637	0.669	3.6
Benzene	1.985	1.909	1.981	1.938	1.858	1.934	2.7
1,2-Dichloroethane	0.471	0.470	0.462	0.453	0.432	0.458	3.4
Trichloroethene	0.480	0.478	0.498	0.479	0.460	0.479	2.8
Methylcyclohexane	0.960	0.959	1.020	0.987	0.938	0.973	3.3
1,2-Dichloropropane	0.485	0.473	0.497	0.492	0.465	0.482	2.8
Bromodichloromethane	0.519	0.531	0.565	0.554	0.534	0.541	3.5
cis-1,3-Dichloropropene	0.545	0.598	0.682	0.673	0.635	0.627	9.1
4-Methyl-2-pentanone	0.309	0.331	0.336	0.324	0.324	0.325	3.1
Toluene	1.961	1.875	1.936	1.927	1.903	1.920	1.7
trans-1,3-Dichloropropene	0.419	0.472	0.548	0.554	0.544	0.508	11.7

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030
Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002
Analytical Method : VOA Level : LOW
Instrument ID: MSVOA_T Calibration Date(s): 04/12/2016 04/12/2016
GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 12:45 14:29
Length : 20 (m)
Heated Purge: (Y/N): Y Purge Volume : 10 (mL)

LAB FILE ID: RRF2.5 = VT013544.D RRF5.0 = VT013545.D
RRF25 = VT013546.D RRF50 = VT013547.D RRF100 = VT013548.D

ANALYTE	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	% RSD
1,1,2-Trichloroethane	0.247	0.249	0.257	0.253	0.249	0.251	1.6
Tetrachloroethene	0.348	0.331	0.358	0.358	0.352	0.349	3.1
2-Hexanone	0.249	0.248	0.314	0.257	0.254	0.264	10.6
Dibromochloromethane	0.285	0.297	0.319	0.324	0.319	0.309	5.5
1,2-Dibromoethane	0.226	0.240	0.247	0.240	0.236	0.238	3.2
Chlorobenzene	1.107	1.084	1.094	1.075	1.052	1.082	1.9
Ethylbenzene	2.160	2.149	2.245	2.227	2.199	2.196	1.9
o-xylene	0.706	0.740	0.787	0.798	0.784	0.763	5
m,p-Xylene	0.786	0.767	0.825	0.818	0.806	0.801	3
Styrene	1.134	1.140	1.228	1.234	1.211	1.190	4.1
Bromoform	0.274	0.294	0.331	0.341	0.349	0.318	10.2
Isopropylbenzene	2.035	2.084	2.224	2.250	2.223	2.163	4.5
1,1,2,2-Tetrachloroethane	0.318	0.328	0.319	0.312	0.312	0.318	2
1,3-Dichlorobenzene	1.617	1.636	1.650	1.628	1.604	1.627	1.1
1,4-Dichlorobenzene	1.616	1.608	1.588	1.595	1.583	1.598	0.8
1,2-Dichlorobenzene	1.468	1.383	1.418	1.424	1.419	1.423	2.1
1,2-Dibromo-3-chloropropane	0.093	0.095	0.107	0.110	0.108	0.103	7.7
1,2,4-trichlorobenzene	0.842	0.850	0.910	0.926	0.879	0.881	4.2
1,2,3-Trichlorobenzene	0.763	0.739	0.736	0.723	0.672	0.726	4.7
Vinyl Chloride-d3	0.497	0.504	0.491	0.484	0.478	0.491	2.1
Chloroethane-d5	0.332	0.346	0.323	0.320	0.323	0.329	3.1
1,1-Dichloroethene-d2	0.855	0.904	0.816	0.870	0.789	0.847	5.3
2-Butanone-d5	0.085	0.097	0.102	0.108	0.110	0.100	10
Chloroform-d	0.728	0.718	0.704	0.702	0.668	0.704	3.2
1,2-Dichloroethane-d4	0.385	0.383	0.380	0.381	0.373	0.381	1.2
Benzene-d6	1.831	1.782	1.842	1.864	1.819	1.828	1.6
1,2-Dichloropropane-d6	0.506	0.511	0.544	0.545	0.532	0.528	3.4
Toluene-d8	1.469	1.529	1.597	1.638	1.650	1.577	4.8
trans-1,3-Dichloropropene-d4	0.153	0.154	0.205	0.209	0.216	0.187	16.8
2-Hexanone-d5	0.061	0.072	0.086	0.090	0.092	0.080	16.5
1,1,2,2-Tetrachloroethane-d2	0.309	0.332	0.339	0.335	0.341	0.331	3.9
1,2-Dichlorobenzene-d4	0.971	0.918	0.936	0.961	0.969	0.951	2.4

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : VOA Level : LOW

Instrument ID: MSVOA_T Calibration Date(s): 05/06/2016 05/06/2016

GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 09:38 11:23

Length : 20 (m)

Heated Purge: (Y/N): Y Purge Volume : 10 (mL)

LAB FILE ID: RRF2.5 = VT013931.D RRF5.0 = VT013932.D
RRF25 = VT013933.D RRF50 = VT013934.D RRF100 = VT013935.D

ANALYTE	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.496	0.496	0.532	0.552	0.476	0.511	6
Chloromethane	0.609	0.606	0.618	0.624	0.547	0.601	5.2
Vinyl chloride	0.567	0.599	0.596	0.594	0.516	0.574	6.1
Bromomethane	0.302	0.314	0.296	0.284	0.264	0.292	6.4
Chloroethane	0.309	0.343	0.334	0.318	0.282	0.317	7.4
Trichlorofluoromethane	0.716	0.742	0.759	0.729	0.641	0.718	6.3
1,1-Dichloroethene	0.373	0.385	0.388	0.366	0.323	0.367	7.1
1,1,2-Trichloro-1,2,2-trifluoroetha	0.415	0.430	0.421	0.394	0.348	0.402	8.1
Acetone	0.195	0.166	0.175	0.140	0.117	0.158	19.3
Carbon disulfide	1.077	1.240	1.318	1.310	1.181	1.225	8.2
Methyl Acetate	0.229	0.202	0.233	0.200	0.189	0.210	9.2
Methylene chloride	0.409	0.369	0.355	0.334	0.299	0.353	11.6
trans-1,2-Dichloroethene	0.359	0.372	0.398	0.382	0.338	0.370	6.2
Methyl tert-butyl Ether	0.605	0.608	0.742	0.688	0.647	0.658	8.8
1,1-Dichloroethane	0.807	0.832	0.876	0.845	0.740	0.820	6.2
cis-1,2-Dichloroethene	0.330	0.352	0.387	0.369	0.325	0.353	7.4
2-Butanone	0.169	0.153	0.182	0.146	0.129	0.156	13.2
Bromochloromethane	0.127	0.133	0.140	0.131	0.118	0.130	6.3
Chloroform	0.718	0.730	0.739	0.689	0.606	0.697	7.8
1,1,1-Trichloroethane	0.764	0.817	0.820	0.801	0.710	0.783	5.9
Cyclohexane	0.902	1.001	1.096	1.086	0.967	1.010	8.1
Carbon tetrachloride	0.673	0.736	0.751	0.733	0.654	0.709	6
Benzene	1.885	1.865	1.896	1.871	1.717	1.847	4
1,2-Dichloroethane	0.558	0.543	0.559	0.521	0.471	0.530	6.9
Trichloroethene	0.473	0.480	0.504	0.495	0.446	0.480	4.7
Methylcyclohexane	0.867	0.931	0.991	0.996	0.889	0.935	6.2
1,2-Dichloropropane	0.471	0.481	0.476	0.468	0.429	0.465	4.4
Bromodichloromethane	0.520	0.549	0.585	0.573	0.522	0.550	5.3
cis-1,3-Dichloropropene	0.509	0.570	0.695	0.648	0.598	0.604	11.9
4-Methyl-2-pentanone	0.315	0.303	0.365	0.321	0.300	0.321	8.1
Toluene	1.784	1.823	1.886	1.863	1.747	1.821	3.1
trans-1,3-Dichloropropene	0.402	0.494	0.594	0.569	0.534	0.519	14.5

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method : VOA Level : LOW

Instrument ID: MSVOA_T Calibration Date(s): 05/06/2016 05/06/2016

GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 09:38 11:23

Length : 20 (m)

Heated Purge: (Y/N): Y Purge Volume : 10 (mL)

LAB FILE ID: RRF2.5 = VT013931.D RRF5.0 = VT013932.D
RRF25 = VT013933.D RRF50 = VT013934.D RRF100 = VT013935.D

ANALYTE	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	% RSD
1,1,2-Trichloroethane	0.254	0.259	0.264	0.250	0.230	0.251	5.2
Tetrachloroethene	0.333	0.347	0.364	0.368	0.336	0.349	4.5
2-Hexanone	0.274	0.250	0.315	0.264	0.242	0.269	10.7
Dibromochloromethane	0.265	0.286	0.332	0.326	0.307	0.303	9.3
1,2-Dibromoethane	0.241	0.228	0.258	0.244	0.228	0.240	5.3
Chlorobenzene	1.078	1.051	1.116	1.079	0.994	1.064	4.2
Ethylbenzene	2.093	2.132	2.247	2.224	2.067	2.153	3.7
o-xylene	0.634	0.696	0.794	0.799	0.746	0.734	9.5
m,p-Xylene	0.703	0.767	0.818	0.819	0.756	0.773	6.2
Styrene	1.129	1.130	1.214	1.219	1.154	1.169	3.8
Bromoform	0.328	0.289	0.332	0.336	0.338	0.324	6.2
Isopropylbenzene	1.904	2.085	2.295	2.296	2.129	2.142	7.6
1,1,2,2-Tetrachloroethane	0.332	0.320	0.346	0.311	0.287	0.319	7
1,3-Dichlorobenzene	1.469	1.536	1.677	1.687	1.551	1.584	6
1,4-Dichlorobenzene	1.726	1.640	1.651	1.632	1.525	1.635	4.4
1,2-Dichlorobenzene	1.399	1.410	1.481	1.434	1.356	1.416	3.2
1,2-Dibromo-3-chloropropane	0.122	0.094	0.122	0.111	0.111	0.112	10.3
1,2,4-trichlorobenzene	0.727	0.779	0.947	0.951	0.882	0.857	11.7
1,2,3-Trichlorobenzene	0.713	0.719	0.783	0.746	0.678	0.728	5.4
Vinyl Chloride-d3	0.310	0.345	0.503	0.472	0.441	0.414	20
Chloroethane-d5	0.246	0.273	0.349	0.323	0.306	0.299	13.5
1,1-Dichloroethene-d2	0.784	0.830	0.953	0.899	0.794	0.852	8.5
2-Butanone-d5	0.095	0.092	0.111	0.097	0.098	0.099	7.2
Chloroform-d	0.706	0.734	0.745	0.678	0.624	0.698	6.9
1,2-Dichloroethane-d4	0.448	0.417	0.435	0.380	0.364	0.409	8.7
Benzene-d6	1.500	1.581	1.649	1.560	1.529	1.564	3.6
1,2-Dichloropropane-d6	0.444	0.458	0.487	0.465	0.453	0.461	3.5
Toluene-d8	1.325	1.412	1.490	1.419	1.392	1.408	4.2
trans-1,3-Dichloropropene-d4	0.147	0.166	0.196	0.188	0.198	0.179	12.2
2-Hexanone-d5	0.061	0.068	0.088	0.075	0.078	0.074	13.8
1,1,2,2-Tetrachloroethane-d2	0.334	0.326	0.339	0.295	0.295	0.318	6.7
1,2-Dichlorobenzene-d4	0.885	0.874	0.899	0.859	0.872	0.878	1.7

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013544.D
Acq On : 12 Apr 2016 12:45
Operator : FY/SY
Sample : VSTD2.585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 12 14:01:04 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 12:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.585

Manual Integrations APPROVED
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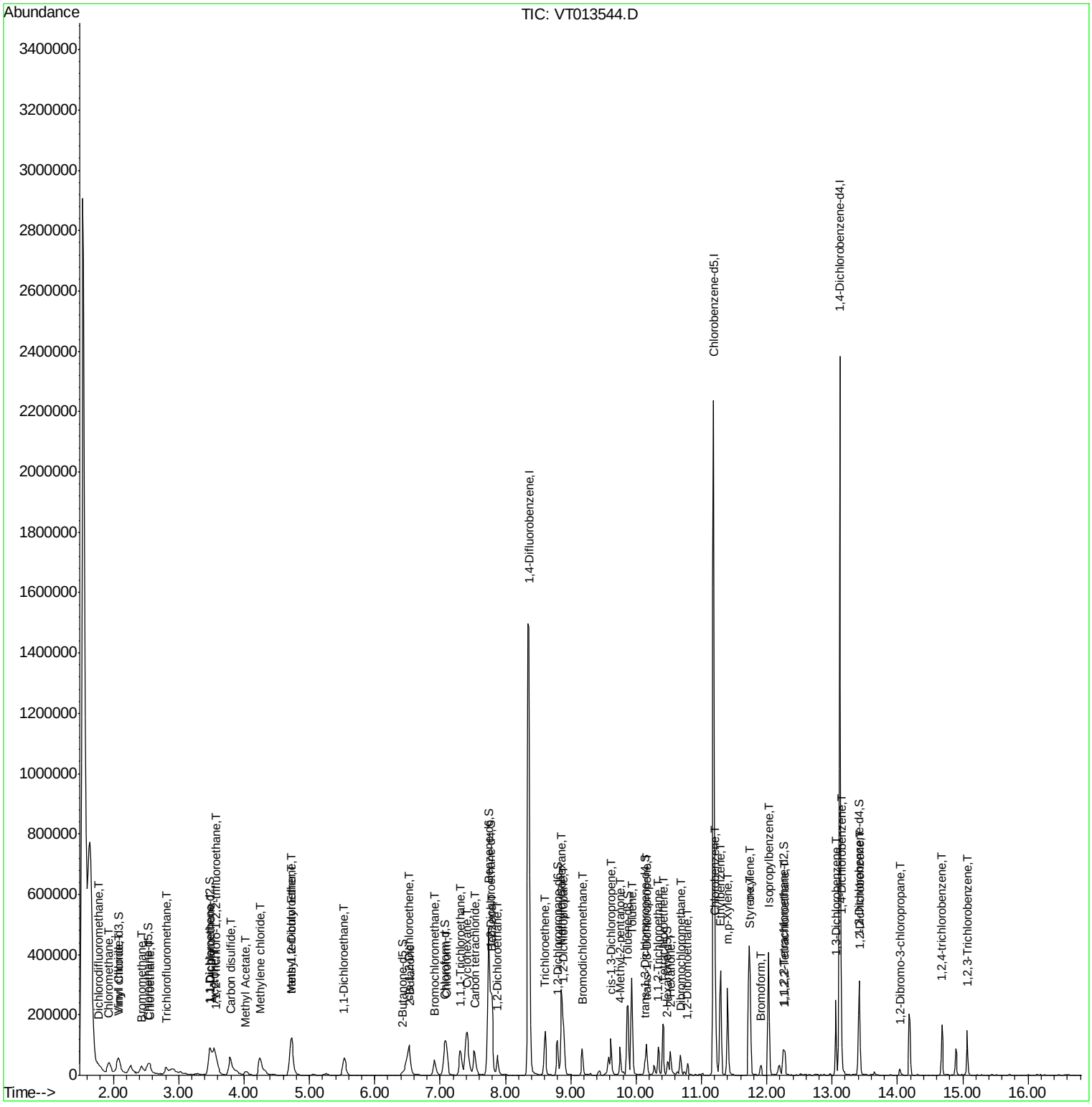
4/13/2016 2:36:22 PM



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Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:22 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1293291	25.00	ug/L		0.00
28) Chlorobenzene-d5	11.19	117	1033720	25.00	ug/L		0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	507731	25.00	ug/L		0.00
System Monitoring Compounds							
4) Vinyl Chloride-d3	2.08	65	64216	3.18	ug/L		0.00
7) Chloroethane-d5	2.53	69	42889	2.84	ug/L		0.00
10) 1,1-Dichloroethene-d2	3.47	63	110593	2.79	ug/L		0.00
20) 2-Butanone-d5	6.43	46	21894	4.75	ug/L		0.00
24) Chloroform-d	7.07	84	94162	2.88	ug/L		0.00
26) 1,2-Dichloroethane-d4	7.78	65	49851	2.83	ug/L		0.00
29) Benzene-d6	7.74	84	189285	2.89	ug/L		0.00
33) 1,2-Dichloropropane-d6	8.80	67	52353	2.72	ug/L		0.00
37) Toluene-d8	9.87	98	151898	2.69	ug/L		0.00
38) trans-1,3-Dichloropropene-	10.13	79	15794	2.45	ug/L		0.00
39) 2-Hexanone-d5	10.48	63	12662	4.32	ug/L		0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	31902	2.62	ug/L		0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	49290	2.86	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.77	85	63052	2.24	ug/L		98
3) Chloromethane	1.93	50	73752	2.47	ug/L		98
5) Vinyl chloride	2.09	62	67980	2.49	ug/L		100
6) Bromomethane	2.43	94	32903	2.46	ug/L		98
8) Chloroethane	2.56	64	38615	2.54	ug/L		97
9) Trichlorofluoromethane	2.81	101	77609m	2.49	ug/L		
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	48660	2.52	ug/L		99
12) 1,1-Dichloroethene	3.48	96	43896	2.44	ug/L		94
13) Acetone	3.54	43	32180	5.60	ug/L		97
14) Carbon disulfide	3.79	76	147926	2.46	ug/L		98
15) Methyl Acetate	4.03	43	24349	2.56	ug/L		99
16) Methylene chloride	4.24	84	47814	2.63	ug/L		99
17) Methyl tert-butyl Ether	4.73	73	72616	2.36	ug/L		98
18) trans-1,2-Dichloroethene	4.73	96	45412	2.42	ug/L		96
19) 1,1-Dichloroethane	5.53	63	97472	2.49	ug/L		99
21) 2-Butanone	6.54	43	35524	5.50	ug/L		100
22) cis-1,2-Dichloroethene	6.53	96	45292	2.55	ug/L		84
23) Bromochloromethane	6.92	128	17001	2.64	ug/L		89
25) Chloroform	7.09	83	87833	2.68	ug/L		98
27) 1,2-Dichloroethane	7.87	62	60863	2.70	ug/L		100
30) Cyclohexane	7.41	56	106925	2.54	ug/L		99
31) 1,1,1-Trichloroethane	7.31	97	74839	2.61	ug/L		98
32) Carbon tetrachloride	7.53	117	69478	2.61	ug/L		99
34) Benzene	7.79	78	205192	2.63	ug/L		100
35) Trichloroethene	8.61	95	49636	2.56	ug/L		98
36) Methylcyclohexane	8.86	83	99186	2.66	ug/L		97
40) 1,2-Dichloropropane	8.89	63	50133	2.62	ug/L	#	98
41) Bromodichloromethane	9.18	83	53608	2.60	ug/L		100
42) cis-1,3-Dichloropropene	9.61	75	56319	2.36	ug/L		99
43) 4-Methyl-2-pentanone	9.76	43	63955	5.45	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013544.D
Acq On : 12 Apr 2016 12:45
Operator : FY/SY
Sample : VSTD2.585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 12 14:01:04 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 12:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.585

Manual Integrations APPROVED
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4/13/2016 2:36:22 PM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
44) Toluene	9.93	91	202702	2.67 ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	43355	2.25 ug/L	98
46) 1,1,2-Trichloroethane	10.34	97	25581	2.60 ug/L	98
47) Tetrachloroethene	10.42	164	35991	2.53 ug/L	96
49) 2-Hexanone	10.53	43	51553	5.50 ug/L	96
50) Dibromochloromethane	10.68	129	29427	2.52 ug/L	99
51) 1,2-Dibromoethane	10.79	107	23387	2.56 ug/L	93
52) Chlorobenzene	11.21	112	114394	2.65 ug/L	97
53) Ethylbenzene	11.29	91	223259	2.55 ug/L	99
54) m,p-Xylene	11.40	106	81288	2.54 ug/L	98
55) o-xylene	11.73	106	73031	2.44 ug/L	91
56) Styrene	11.74	104	117245	2.51 ug/L	98
57) Isopropylbenzene	12.03	105	210345	2.46 ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	32850	2.75 ug/L	99
61) Bromoform	11.91	173	13907	2.47 ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	82104	2.58 ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	82033	2.53 ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	74546	2.67 ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.04	75	4722	2.68 ug/L	95
66) 1,2,4-trichlorobenzene	14.68	180	42733	2.53 ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	38734	2.77 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013544.D
Acq On : 12 Apr 2016 12:45
Operator : FY/SY
Sample : VSTD2.585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 12 14:01:04 2016
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Quant Title : VOC Analysis
QLast Update : Tue Apr 12 12:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
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Manual Integrations APPROVED
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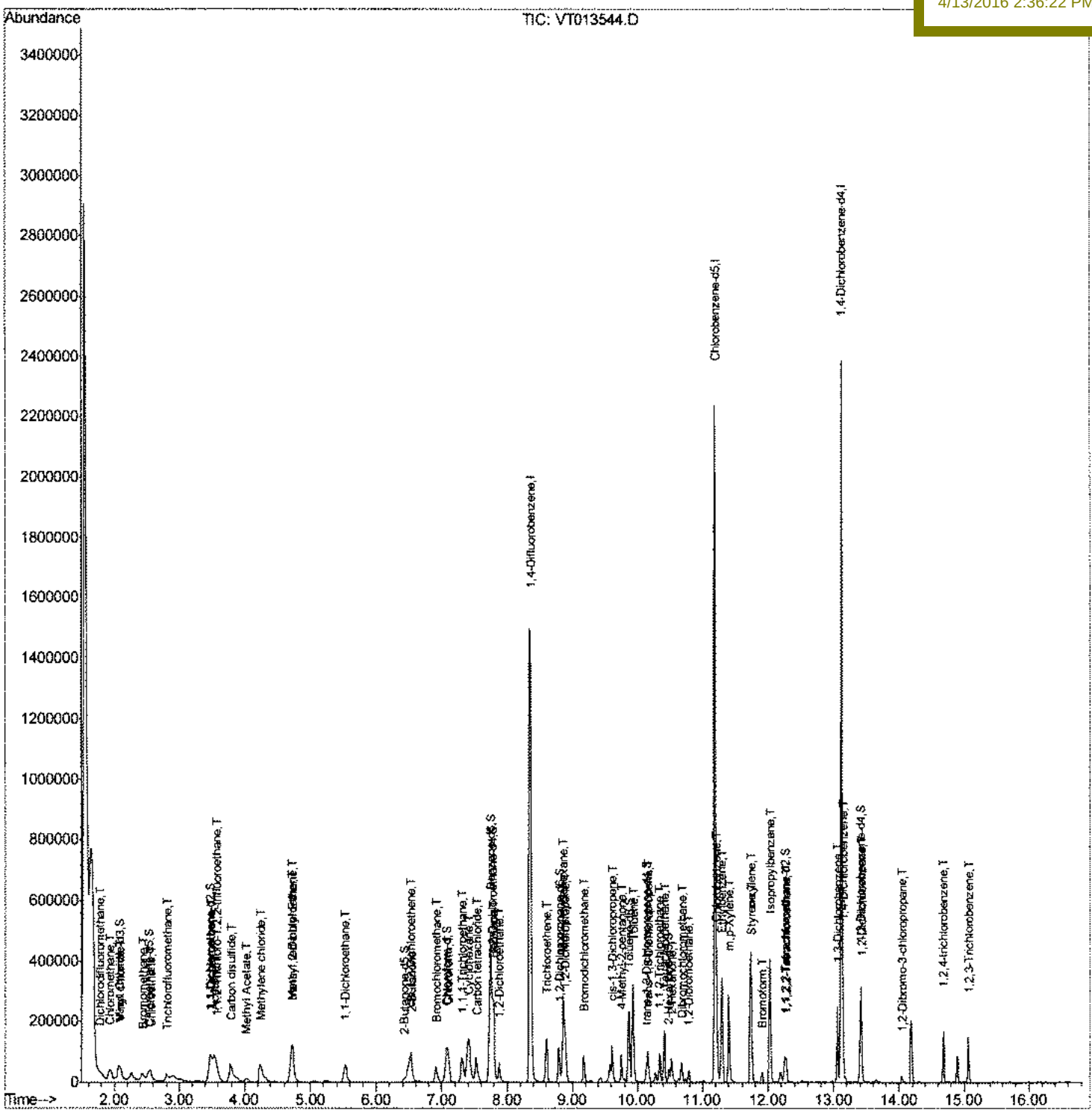
4/13/2016 2:36:22 PM



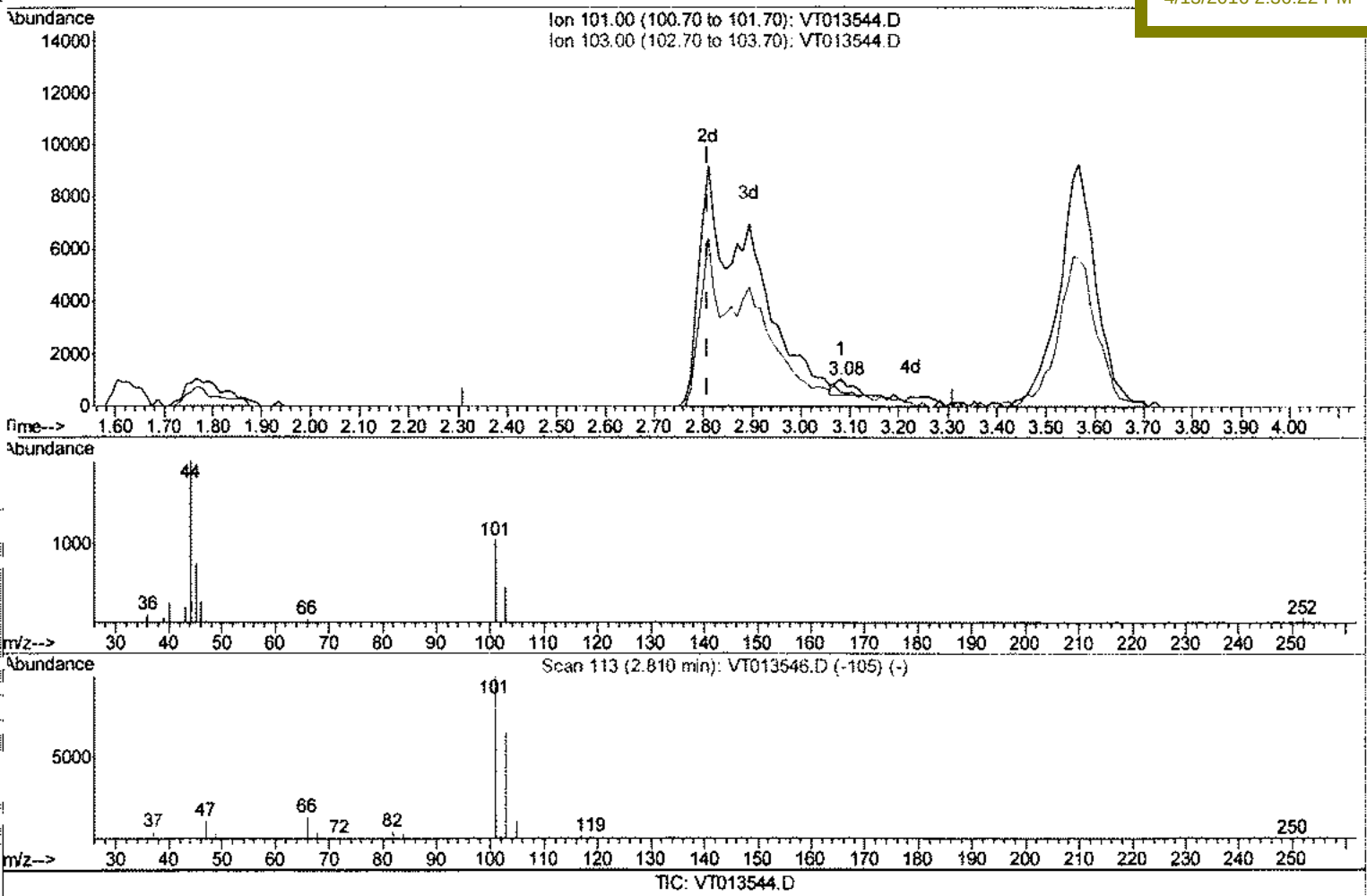
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013544.D
Acq On : 12 Apr 2016 12:45
Operator : FY/SY
Sample : VSTD2.585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 12 13:28:04 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 12:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.585

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:22 PM



TIC: VT013544.D

(9) Trichlorofluoromethane (T)

3.082min (+0.272) 0.05ug/L

response 1485

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	21.21
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013544.D
Acq On : 12 Apr 2016 12:45
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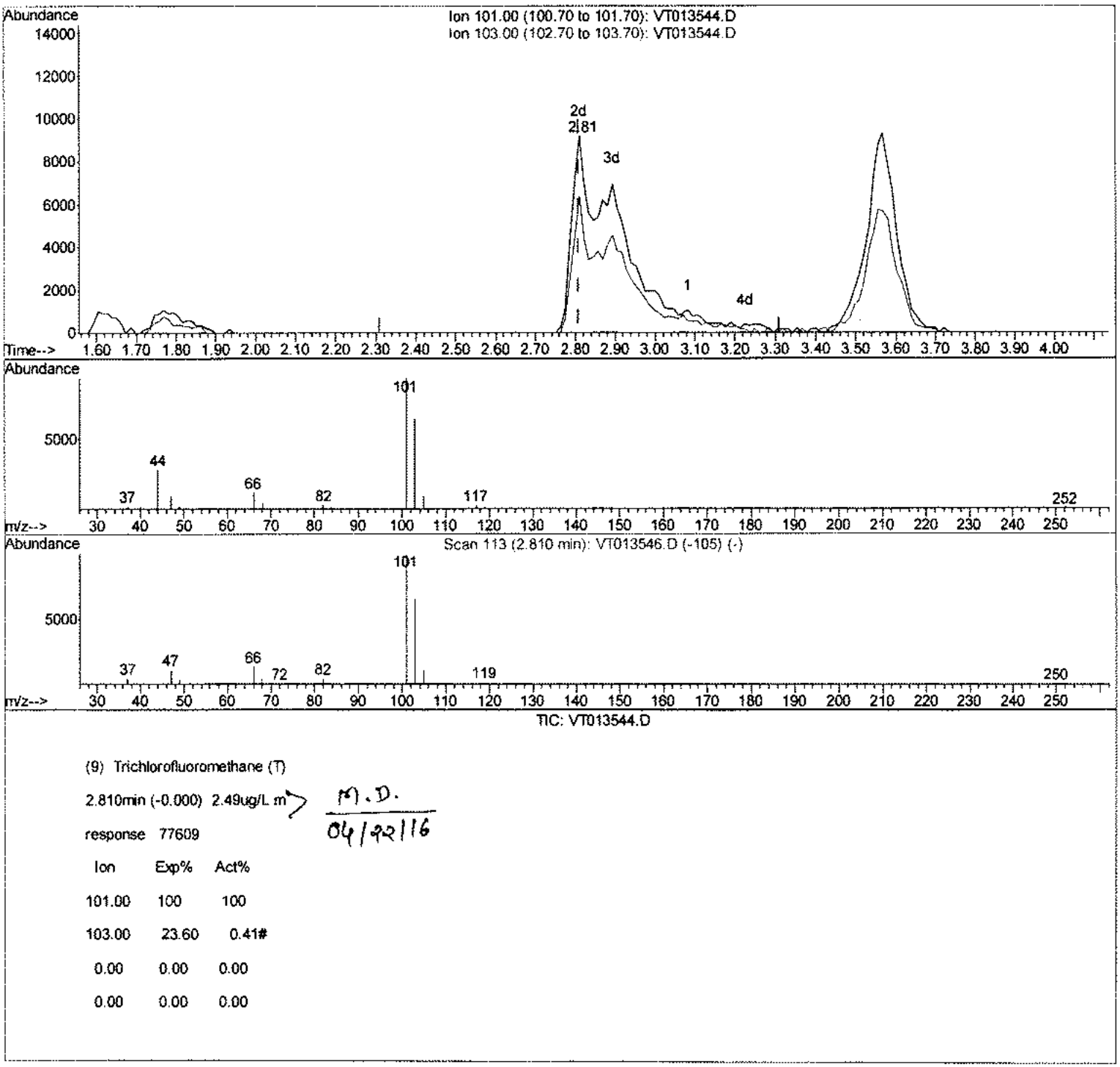
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.585

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:22 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 2.49ug/L m

response 77609

M.D. 04/22/16

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	0.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013544.D
Acq On : 12 Apr 2016 12:45
Operator : FY/SY
Sample : VSTD2.585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 12 14:01:04 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 12:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.585

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:22 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1293291	25.00	ug/L		0.00
28) Chlorobenzene-d5	11.19	117	1033720	25.00	ug/L		0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	507731	25.00	ug/L		0.00
System Monitoring Compounds							
4) Vinyl Chloride-d3	2.08	65	64216	3.18	ug/L		0.00
7) Chloroethane-d5	2.53	69	42889	2.84	ug/L		0.00
10) 1,1-Dichloroethene-d2	3.47	63	110593	2.79	ug/L		0.00
20) 2-Butanone-d5	6.43	46	21894	4.75	ug/L		0.00
24) Chloroform-d	7.07	84	94162	2.88	ug/L		0.00
26) 1,2-Dichloroethane-d4	7.78	65	49851	2.83	ug/L		0.00
29) Benzene-d6	7.74	84	189285	2.89	ug/L		0.00
33) 1,2-Dichloropropane-d6	8.80	67	52353	2.72	ug/L		0.00
37) Toluene-d8	9.87	98	151898	2.69	ug/L		0.00
38) trans-1,3-Dichloropropene-	10.13	79	15794	2.45	ug/L		0.00
39) 2-Hexanone-d5	10.48	63	12662	4.32	ug/L		0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	31902	2.62	ug/L		0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	49290	2.86	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.77	85	63052	2.24	ug/L		98
3) Chloromethane	1.93	50	73752	2.47	ug/L		98
5) Vinyl chloride	2.09	62	67980	2.49	ug/L		100
6) Bromomethane	2.43	94	32903	2.46	ug/L		98
8) Chloroethane	2.56	64	38615	2.54	ug/L		97
9) Trichlorofluoromethane	2.81	101	77609m	2.49	ug/L		
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	48660	2.52	ug/L		99
12) 1,1-Dichloroethene	3.48	96	43896	2.44	ug/L		94
13) Acetone	3.54	43	32180	5.60	ug/L		97
14) Carbon disulfide	3.79	76	147926	2.46	ug/L		98
15) Methyl Acetate	4.03	43	24349	2.56	ug/L		99
16) Methylene chloride	4.24	84	47814	2.63	ug/L		99
17) Methyl tert-butyl Ether	4.73	73	72616	2.36	ug/L		98
18) trans-1,2-Dichloroethene	4.73	96	45412	2.42	ug/L		96
19) 1,1-Dichloroethane	5.53	63	97472	2.49	ug/L		99
21) 2-Butanone	6.54	43	35524	5.50	ug/L		100
22) cis-1,2-Dichloroethene	6.53	96	45292	2.55	ug/L		84
23) Bromochloromethane	6.92	128	17001	2.64	ug/L		89
25) Chloroform	7.09	83	87833	2.68	ug/L		98
27) 1,2-Dichloroethane	7.87	62	60863	2.70	ug/L		100
30) Cyclohexane	7.41	56	106925	2.54	ug/L		99
31) 1,1,1-Trichloroethane	7.31	97	74839	2.61	ug/L		98
32) Carbon tetrachloride	7.53	117	69478	2.61	ug/L		99
34) Benzene	7.79	78	205192	2.63	ug/L		100
35) Trichloroethene	8.61	95	49636	2.56	ug/L		98
36) Methylcyclohexane	8.86	83	99186	2.66	ug/L		97
40) 1,2-Dichloropropane	8.89	63	50133	2.62	ug/L	#	98
41) Bromodichloromethane	9.18	83	53608	2.60	ug/L		100
42) cis-1,3-Dichloropropene	9.61	75	56319	2.36	ug/L		99
43) 4-Methyl-2-pentanone	9.76	43	63955	5.45	ug/L		99

M.D. 04/22/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013544.D
Acq On : 12 Apr 2016 12:45
Operator : FY/SY
Sample : VSTD2.585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.585

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:22 PM

Quant Time: Apr 12 14:01:04 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 12:27:43 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
44) Toluene	9.93	91	202702	2.67 ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	43355	2.25 ug/L	98
46) 1,1,2-Trichloroethane	10.34	97	25581	2.60 ug/L	98
47) Tetrachloroethene	10.42	164	35991	2.53 ug/L	96
49) 2-Hexanone	10.53	43	51553	5.50 ug/L	96
50) Dibromochloromethane	10.68	129	29427	2.52 ug/L	99
51) 1,2-Dibromoethane	10.79	107	23387	2.56 ug/L	93
52) Chlorobenzene	11.21	112	114394	2.65 ug/L	97
53) Ethylbenzene	11.29	91	223259	2.55 ug/L	99
54) m,p-Xylene	11.40	106	81288	2.54 ug/L	98
55) o-xylene	11.73	106	73031	2.44 ug/L	91
56) Styrene	11.74	104	117245	2.51 ug/L	98
57) Isopropylbenzene	12.03	105	210345	2.46 ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	32850	2.75 ug/L	99
61) Bromoform	11.91	173	13907	2.47 ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	82104	2.58 ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	82033	2.53 ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	74546	2.67 ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.04	75	4722	2.68 ug/L	95
66) 1,2,4-trichlorobenzene	14.68	180	42733	2.53 ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	38734	2.77 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

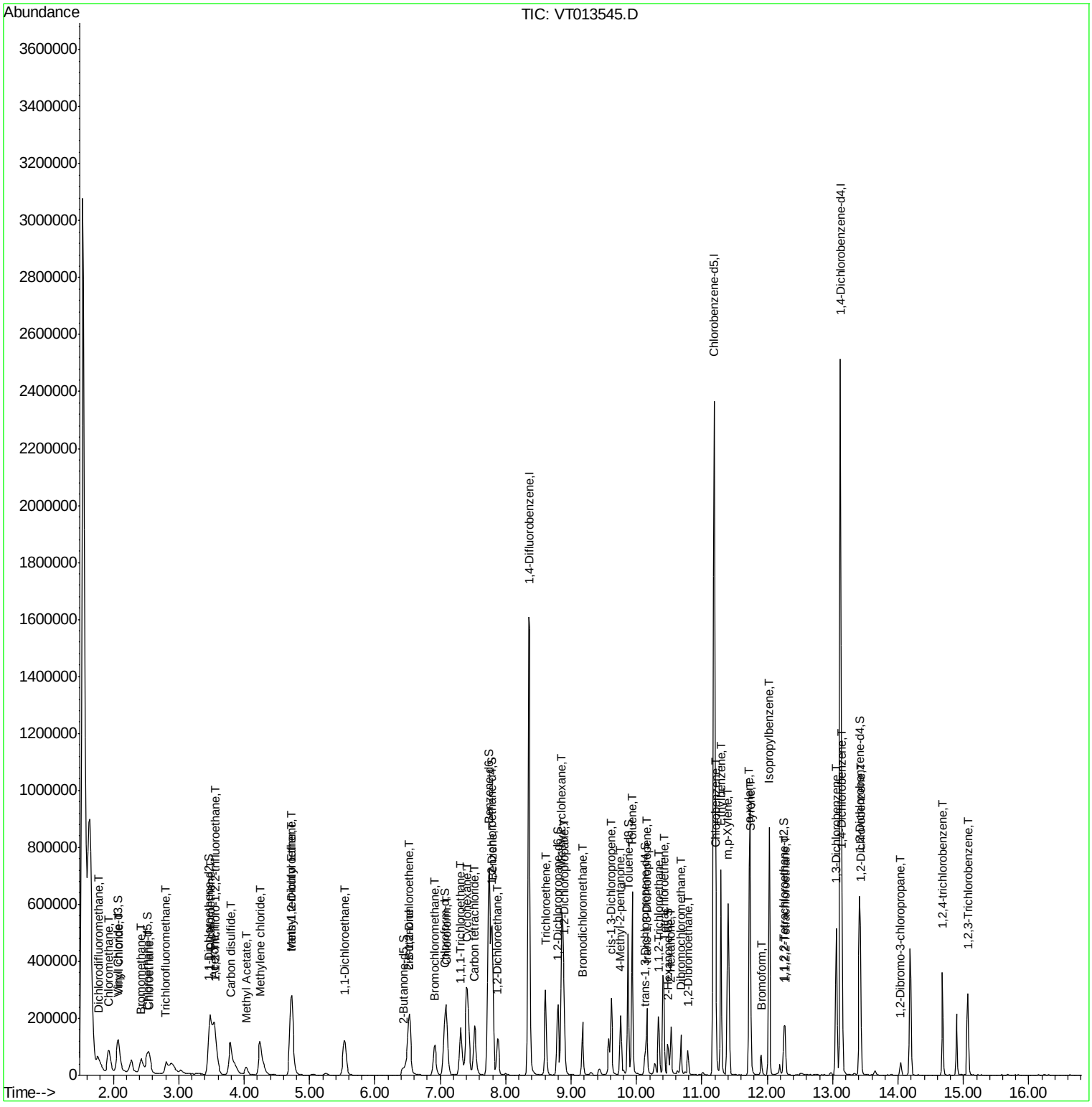
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013545.D
Acq On : 12 Apr 2016 13:11
Operator : FY/SY
Sample : VSTD00586
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 12 14:03:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 13:31:25 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00586

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:20 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013545.D
Acq On : 12 Apr 2016 13:11
Operator : FY/SY
Sample : VSTD00586
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 12 14:03:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 13:31:25 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00586

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:20 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1350243	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1093553	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	531440	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.06	65	135977	6.45	ug/L	-0.01
7) Chloroethane-d5	2.51	69	93325	5.93	ug/L	-0.01
10) 1,1-Dichloroethene-d2	3.46	63	244125	5.91	ug/L	-0.01
20) 2-Butanone-d5	6.43	46	52479	10.91	ug/L	0.00
24) Chloroform-d	7.07	84	193821	5.68	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	103478	5.63	ug/L	0.00
29) Benzene-d6	7.74	84	389843	5.62	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	111784	5.50	ug/L	0.00
37) Toluene-d8	9.87	98	334485	5.59	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	33591	4.92	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	31302	10.09	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	72592	5.65	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	97549	5.40	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	132854	4.52	ug/L	100
3) Chloromethane	1.92	50	158522	5.09	ug/L	100
5) Vinyl chloride	2.08	62	144983	5.08	ug/L	96
6) Bromomethane	2.42	94	73442	5.26	ug/L	98
8) Chloroethane	2.55	64	81423	5.14	ug/L	95
9) Trichlorofluoromethane	2.80	101	173708m	5.33	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.56	101	107849	5.36	ug/L	98
12) 1,1-Dichloroethene	3.48	96	97131	5.17	ug/L	89
13) Acetone	3.54	43	70172	11.69	ug/L	98
14) Carbon disulfide	3.79	76	330229	5.26	ug/L	98
15) Methyl Acetate	4.03	43	58418	5.87	ug/L	96
16) Methylene chloride	4.24	84	101215	5.34	ug/L	100
17) Methyl tert-butyl Ether	4.73	73	170538	5.31	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	102449	5.23	ug/L	96
19) 1,1-Dichloroethane	5.53	63	216208	5.29	ug/L	97
21) 2-Butanone	6.53	43	79112	11.72	ug/L	97
22) cis-1,2-Dichloroethene	6.53	96	98921	5.34	ug/L	96
23) Bromochloromethane	6.92	128	36063	5.37	ug/L	94
25) Chloroform	7.09	83	180483	5.28	ug/L	97
27) 1,2-Dichloroethane	7.87	62	126834	5.39	ug/L	99
30) Cyclohexane	7.40	56	234356	5.26	ug/L	99
31) 1,1,1-Trichloroethane	7.31	97	157887	5.21	ug/L	98
32) Carbon tetrachloride	7.52	117	144705	5.13	ug/L	100
34) Benzene	7.79	78	417603	5.07	ug/L	100
35) Trichloroethene	8.61	95	104535	5.10	ug/L	98
36) Methylcyclohexane	8.86	83	209717	5.32	ug/L	99
40) 1,2-Dichloropropane	8.89	63	103441	5.11	ug/L	100
41) Bromodichloromethane	9.18	83	116183	5.32	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	130701	5.17	ug/L	97
43) 4-Methyl-2-pentanone	9.76	43	144679	11.65	ug/L	99

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013545.D
Acq On : 12 Apr 2016 13:11
Operator : FY/SY
Sample : VSTD00586
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD00586

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:20 PM

Quant Time: Apr 12 14:03:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 13:31:25 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	410136	5.11	ug/L	100
45) trans-1,3-Dichloropropene	10.16	75	103266	5.07	ug/L	98
46) 1,1,2-Trichloroethane	10.34	97	54426	5.23	ug/L	98
47) Tetrachloroethene	10.42	164	72465	4.82	ug/L	97
49) 2-Hexanone	10.53	43	108288	10.91	ug/L	100
50) Dibromochloromethane	10.68	129	64925	5.25	ug/L	96
51) 1,2-Dibromoethane	10.79	107	52550	5.44	ug/L	95
52) Chlorobenzene	11.21	112	237043	5.19	ug/L	100
53) Ethylbenzene	11.29	91	469993	5.07	ug/L	100
54) m,p-Xylene	11.40	106	167782	4.95	ug/L	97
55) o-xylene	11.72	106	161944	5.11	ug/L	95
56) Styrene	11.74	104	249263	5.05	ug/L	100
57) Isopropylbenzene	12.03	105	455823	5.04	ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	71714	5.68	ug/L	97
61) Bromoform	11.91	173	31270	5.30	ug/L	97
62) 1,3-Dichlorobenzene	13.06	146	173848	5.23	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	170874	5.03	ug/L	98
64) 1,2-Dichlorobenzene	13.42	146	147048	5.02	ug/L	96
65) 1,2-Dibromo-3-chloropropan	14.04	75	10142	5.49	ug/L	95
66) 1,2,4-trichlorobenzene	14.68	180	90325	5.10	ug/L	98
67) 1,2,3-Trichlorobenzene	15.07	180	78539	5.37	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

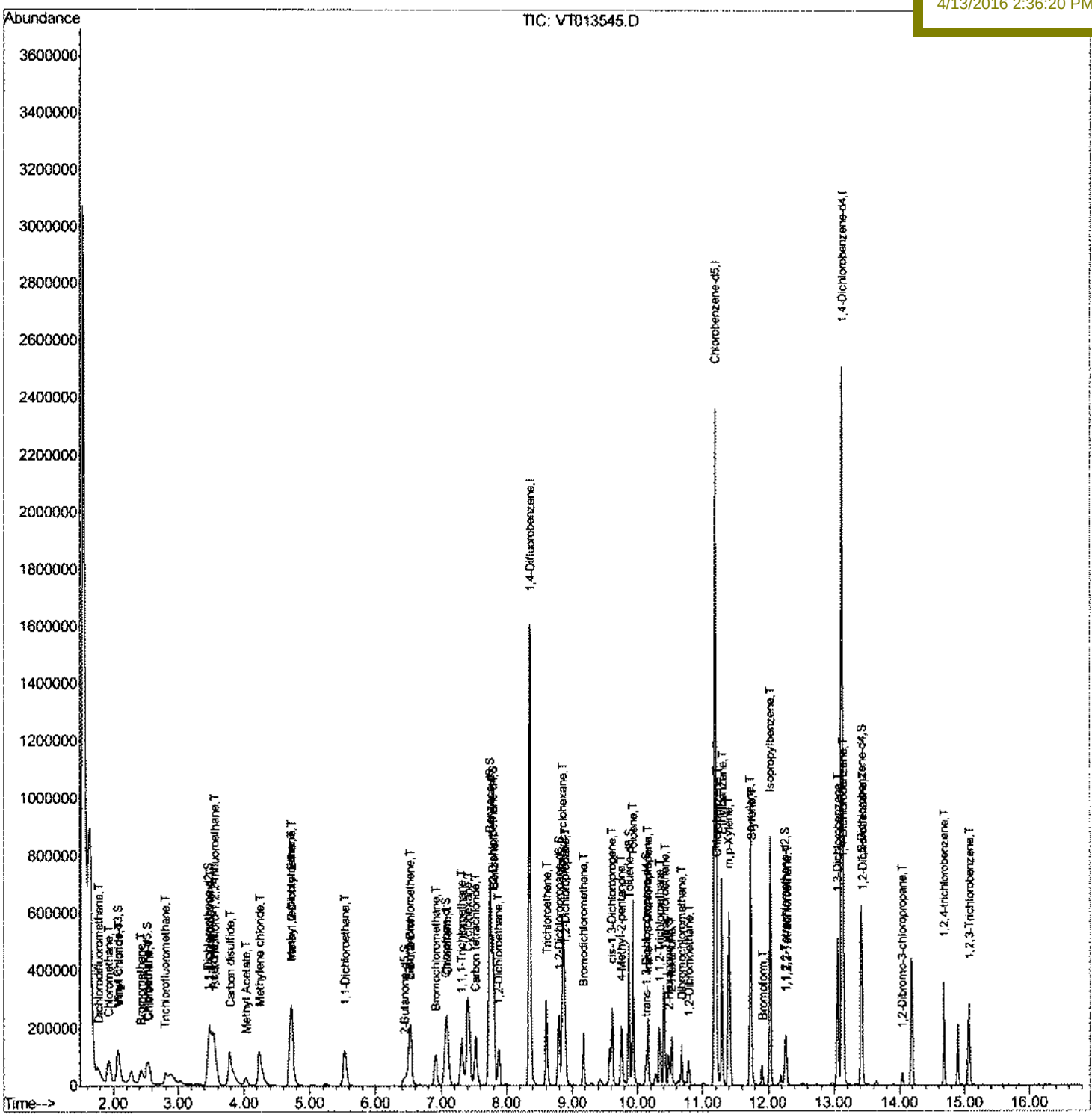
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013545.D
Acq On : 12 Apr 2016 13:11
Operator : FY/SY
Sample : VSTD00586
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 12 14:03:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 13:31:25 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00586

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:20 PM



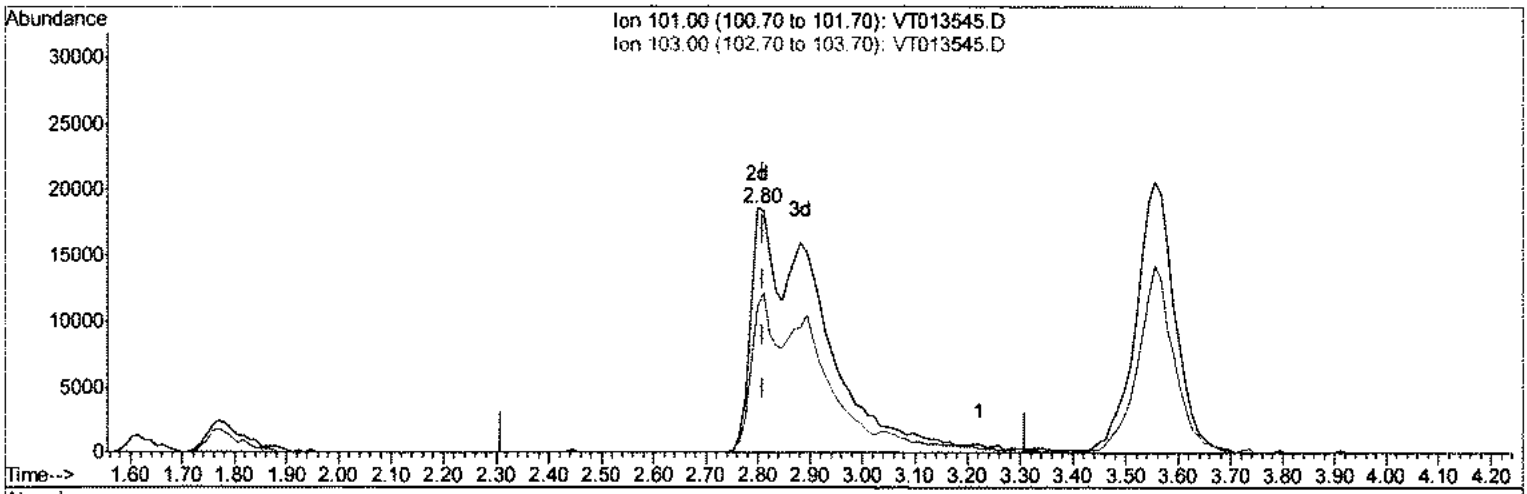
Quantitation Report (Qedit)

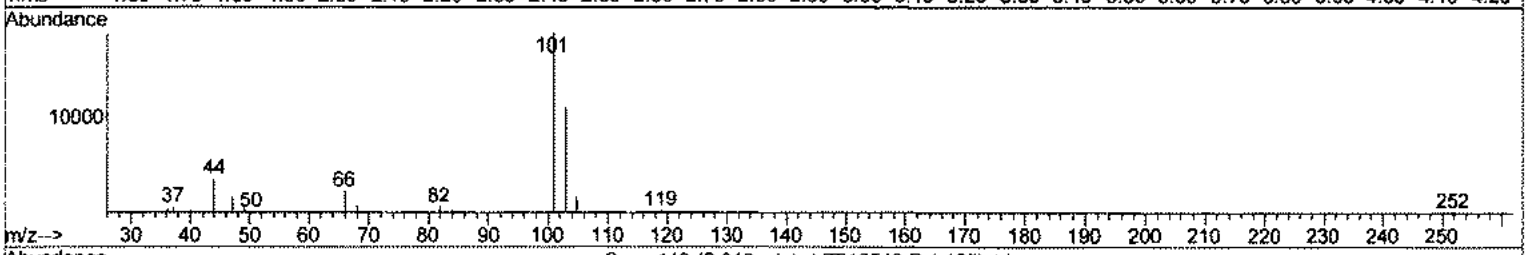
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013545.D
Acq On : 12 Apr 2016 13:11
Operator : FY/SY
Sample : VSTD00586
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

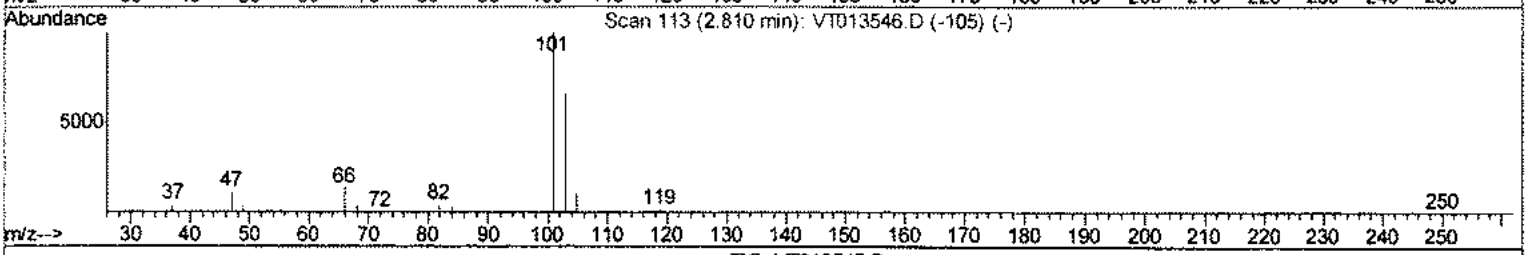
Quant Time: Apr 12 13:34:32 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 13:31:25 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00586

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:20 PM







TIC: VT013545.D

(9) Trichlorofluoromethane (T)

2.799min (-0.012) 5.33ug/L m

response 173708

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	0.04#
0.00	0.00	0.00
0.00	0.00	0.00

m. D.
04/22/16

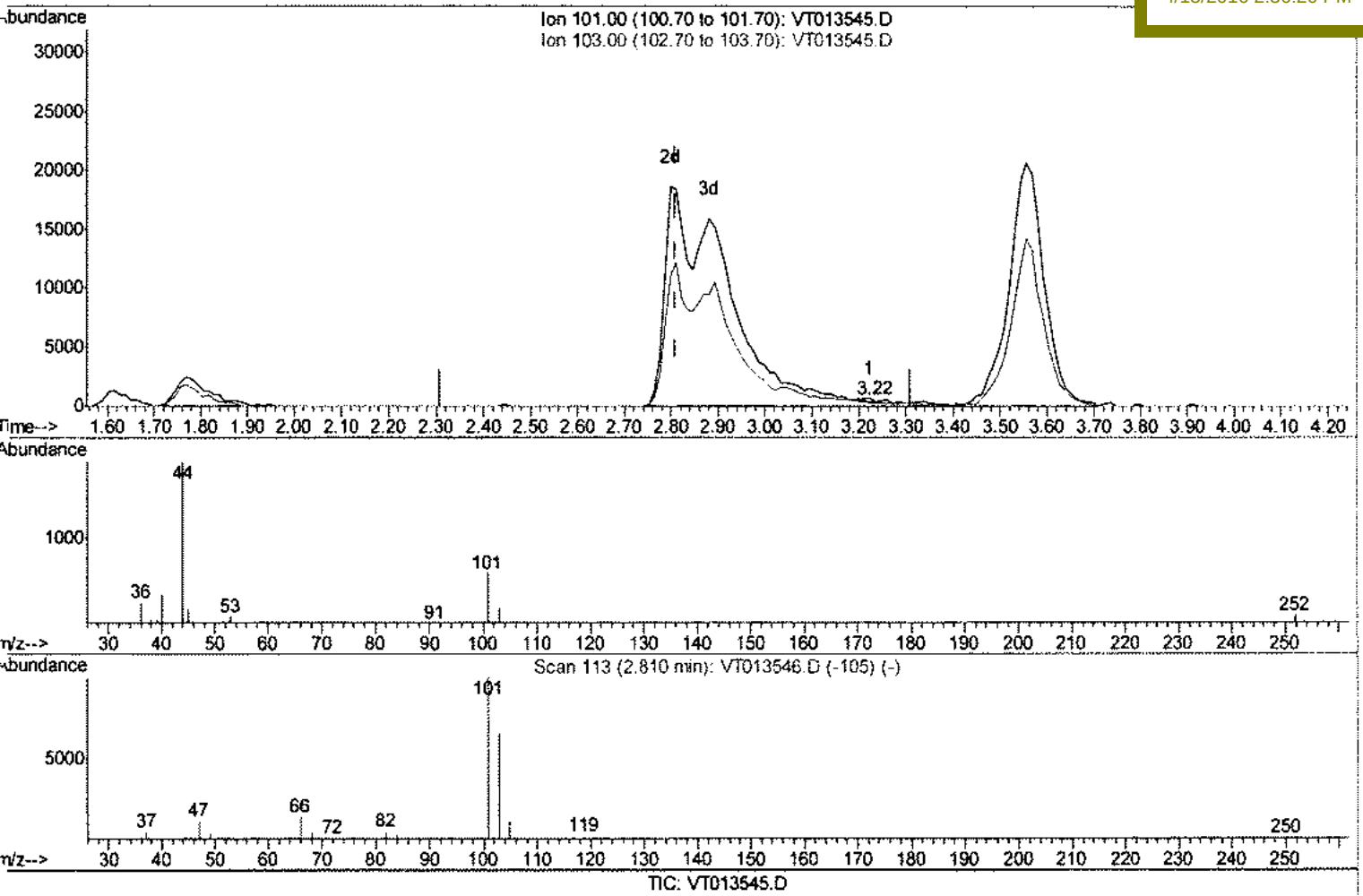
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013545.D
Acq On : 12 Apr 2016 13:11
Operator : FY/SY
Sample : VSTD00586
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 12 13:34:32 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 13:31:25 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00586

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:20 PM



TIC: VT013545.D

(9) Trichlorofluoromethane (T)

3.225min (+0.414) 0.01ug/L

response 307

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	25.08
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013545.D
Acq On : 12 Apr 2016 13:11
Operator : FY/SY
Sample : VSTD00586
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 12 14:03:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 13:31:25 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00586

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:20 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1350243	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1093553	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	531440	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.06	65	135977	6.45	ug/L	-0.01
7) Chloroethane-d5	2.51	69	93325	5.93	ug/L	-0.01
10) 1,1-Dichloroethene-d2	3.46	63	244125	5.91	ug/L	-0.01
20) 2-Butanone-d5	6.43	46	52479	10.91	ug/L	0.00
24) Chloroform-d	7.07	84	193821	5.68	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	103478	5.63	ug/L	0.00
29) Benzene-d6	7.74	84	389843	5.62	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	111784	5.50	ug/L	0.00
37) Toluene-d8	9.87	98	334485	5.59	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	33591	4.92	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	31302	10.09	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	72592	5.65	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	97549	5.40	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	132854	4.52	ug/L	100
3) Chloromethane	1.92	50	158522	5.09	ug/L	100
5) Vinyl chloride	2.08	62	144983	5.08	ug/L	96
6) Bromomethane	2.42	94	73442	5.26	ug/L	98
8) Chloroethane	2.55	64	81423	5.14	ug/L	95
9) Trichlorofluoromethane	2.80	101	173708m	5.33	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.56	101	107849	5.36	ug/L	98
12) 1,1-Dichloroethene	3.48	96	97131	5.17	ug/L	89
13) Acetone	3.54	43	70172	11.69	ug/L	98
14) Carbon disulfide	3.79	76	330229	5.26	ug/L	98
15) Methyl Acetate	4.03	43	58418	5.87	ug/L	96
16) Methylene chloride	4.24	84	101215	5.34	ug/L	100
17) Methyl tert-butyl Ether	4.73	73	170538	5.31	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	102449	5.23	ug/L	96
19) 1,1-Dichloroethane	5.53	63	216208	5.29	ug/L	97
21) 2-Butanone	6.53	43	79112	11.72	ug/L	97
22) cis-1,2-Dichloroethene	6.53	96	98921	5.34	ug/L	96
23) Bromochloromethane	6.92	128	36063	5.37	ug/L	94
25) Chloroform	7.09	83	180483	5.28	ug/L	97
27) 1,2-Dichloroethane	7.87	62	126834	5.39	ug/L	99
30) Cyclohexane	7.40	56	234356	5.26	ug/L	99
31) 1,1,1-Trichloroethane	7.31	97	157887	5.21	ug/L	98
32) Carbon tetrachloride	7.52	117	144705	5.13	ug/L	100
34) Benzene	7.79	78	417603	5.07	ug/L	100
35) Trichloroethene	8.61	95	104535	5.10	ug/L	98
36) Methylcyclohexane	8.86	83	209717	5.32	ug/L	99
40) 1,2-Dichloropropane	8.89	63	103441	5.11	ug/L	100
41) Bromodichloromethane	9.18	83	116183	5.32	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	130701	5.17	ug/L	97
43) 4-Methyl-2-pentanone	9.76	43	144679	11.65	ug/L	99

M.D. 04/22/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013545.D
Acq On : 12 Apr 2016 13:11
Operator : FY/SY
Sample : VSTD00586
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD00586

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:20 PM

Quant Time: Apr 12 14:03:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 13:31:25 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
44) Toluene	9.93	91	410136	5.11 ug/L	100
45) trans-1,3-Dichloropropene	10.16	75	103266	5.07 ug/L	98
46) 1,1,2-Trichloroethane	10.34	97	54426	5.23 ug/L	98
47) Tetrachloroethene	10.42	164	72465	4.82 ug/L	97
49) 2-Hexanone	10.53	43	108288	10.91 ug/L	100
50) Dibromochloromethane	10.68	129	64925	5.25 ug/L	96
51) 1,2-Dibromoethane	10.79	107	52550	5.44 ug/L	95
52) Chlorobenzene	11.21	112	237043	5.19 ug/L	100
53) Ethylbenzene	11.29	91	469993	5.07 ug/L	100
54) m,p-Xylene	11.40	106	167782	4.95 ug/L	97
55) o-xylene	11.72	106	161944	5.11 ug/L	95
56) Styrene	11.74	104	249263	5.05 ug/L	100
57) Isopropylbenzene	12.03	105	455823	5.04 ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	71714	5.68 ug/L	97
61) Bromoform	11.91	173	31270	5.30 ug/L	97
62) 1,3-Dichlorobenzene	13.06	146	173848	5.23 ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	170874	5.03 ug/L	98
64) 1,2-Dichlorobenzene	13.42	146	147048	5.02 ug/L	96
65) 1,2-Dibromo-3-chloropropan	14.04	75	10142	5.49 ug/L	95
66) 1,2,4-trichlorobenzene	14.68	180	90325	5.10 ug/L	98
67) 1,2,3-Trichlorobenzene	15.07	180	78539	5.37 ug/L	99

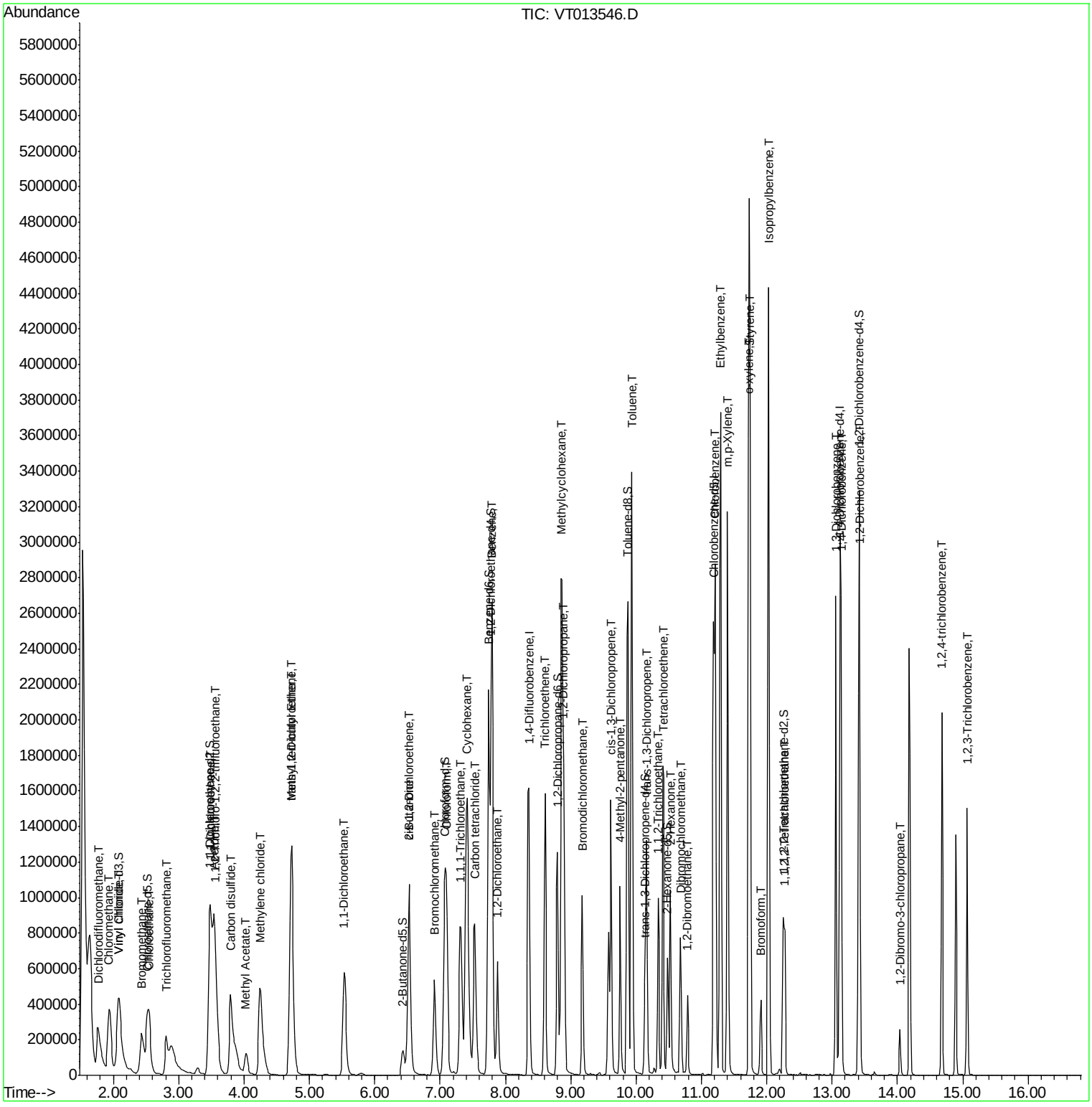
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013546.D
Acq On : 12 Apr 2016 13:37
Operator : FY/SY
Sample : VSTD02587
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 12 14:04:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:01:20 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02587

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013546.D
Acq On : 12 Apr 2016 13:37
Operator : FY/SY
Sample : VSTD02587
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 12 14:04:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:01:20 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02587

Manual Integrations APPROVED
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4/13/2016 2:36:21 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1387721	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1092901	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	554247	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	681272	31.43	ug/L	0.00
7) Chloroethane-d5	2.51	69	448695	27.73	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	1132798	26.68	ug/L	0.00
20) 2-Butanone-d5	6.43	46	283729	57.40	ug/L	0.00
24) Chloroform-d	7.07	84	976831	27.84	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	527211	27.91	ug/L	0.00
29) Benzene-d6	7.74	84	2013411	29.06	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	594509	29.26	ug/L	0.00
37) Toluene-d8	9.87	98	1745011	29.18	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	223778	32.78	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	188038	60.67	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	370561	28.84	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	518787	27.56	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	737166	24.39	ug/L	98
3) Chloromethane	1.93	50	772554	24.13	ug/L	100
5) Vinyl chloride	2.09	62	705010	24.02	ug/L	98
6) Bromomethane	2.43	94	346443	24.12	ug/L	98
8) Chloroethane	2.55	64	382718	23.49	ug/L	97
9) Trichlorofluoromethane	2.81	101	829133m	24.75	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.56	101	483932	23.40	ug/L	100
12) 1,1-Dichloroethene	3.48	96	446117	23.10	ug/L	86
13) Acetone	3.54	43	395601	64.14	ug/L	100
14) Carbon disulfide	3.79	76	1663233	25.77	ug/L	100
15) Methyl Acetate	4.03	43	254620	24.90	ug/L	98
16) Methylene chloride	4.24	84	434144	22.28	ug/L	98
17) Methyl tert-butyl Ether	4.73	73	824367	24.99	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	482592	23.96	ug/L	99
19) 1,1-Dichloroethane	5.53	63	1027998	24.46	ug/L	99
21) 2-Butanone	6.53	43	457869	66.01	ug/L	97
22) cis-1,2-Dichloroethene	6.53	96	512703	26.94	ug/L	99
23) Bromochloromethane	6.92	128	183805	26.63	ug/L	98
25) Chloroform	7.09	83	920676	26.21	ug/L	99
27) 1,2-Dichloroethane	7.87	62	641359	26.52	ug/L	98
30) Cyclohexane	7.41	56	1249352	28.04	ug/L	99
31) 1,1,1-Trichloroethane	7.31	97	835320	27.59	ug/L	99
32) Carbon tetrachloride	7.53	117	769687	27.30	ug/L	98
34) Benzene	7.79	78	2165048	26.30	ug/L	100
35) Trichloroethene	8.61	95	544656	26.61	ug/L	100
36) Methylcyclohexane	8.86	83	1115048	28.29	ug/L	99
40) 1,2-Dichloropropane	8.89	63	543331	26.88	ug/L	99
41) Bromodichloromethane	9.18	83	617900	28.32	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	745630	29.54	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	735226	59.23	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013546.D
Acq On : 12 Apr 2016 13:37
Operator : FY/SY
Sample : VSTD02587
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 12 14:04:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:01:20 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02587

Manual Integrations APPROVED
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4/13/2016 2:36:21 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	2116243	26.39	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	598623	29.39	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	281353	27.07	ug/L	100
47) Tetrachloroethene	10.42	164	391767	26.07	ug/L	98
49) 2-Hexanone	10.53	43	686341	69.22	ug/L	100
50) Dibromochloromethane	10.68	129	348597	28.22	ug/L	93
51) 1,2-Dibromoethane	10.79	107	270222	27.99	ug/L	98
52) Chlorobenzene	11.21	112	1195094	26.16	ug/L	98
53) Ethylbenzene	11.29	91	2453203	26.49	ug/L	99
54) m,p-Xylene	11.40	106	901966	26.62	ug/L	97
55) o-xylene	11.72	106	859586	27.14	ug/L	99
56) Styrene	11.74	104	1342516	27.21	ug/L	98
57) Isopropylbenzene	12.03	105	2431022	26.91	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	348245	27.60	ug/L	99
61) Bromoform	11.91	173	183726	29.88	ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	914256	26.37	ug/L	100
63) 1,4-Dichlorobenzene	13.14	146	880423	24.86	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	785788	25.75	ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.04	75	59563	30.93	ug/L	96
66) 1,2,4-trichlorobenzene	14.68	180	504369	27.33	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	407723	26.73	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013546.D
Acq On : 12 Apr 2016 13:37
Operator : FY/SY
Sample : VSTD02587
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 12 14:04:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:01:20 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02587

Manual Integrations APPROVED
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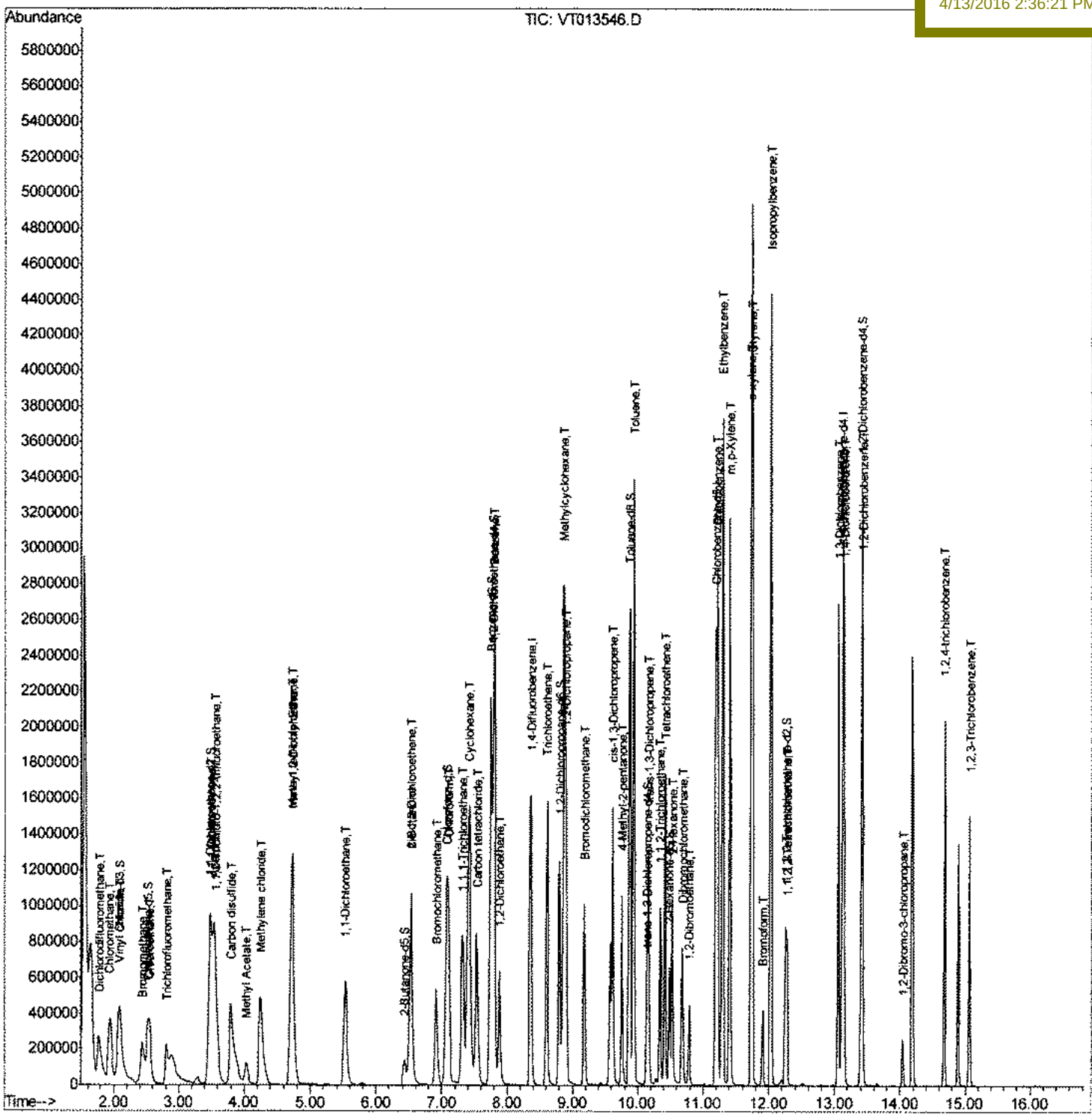


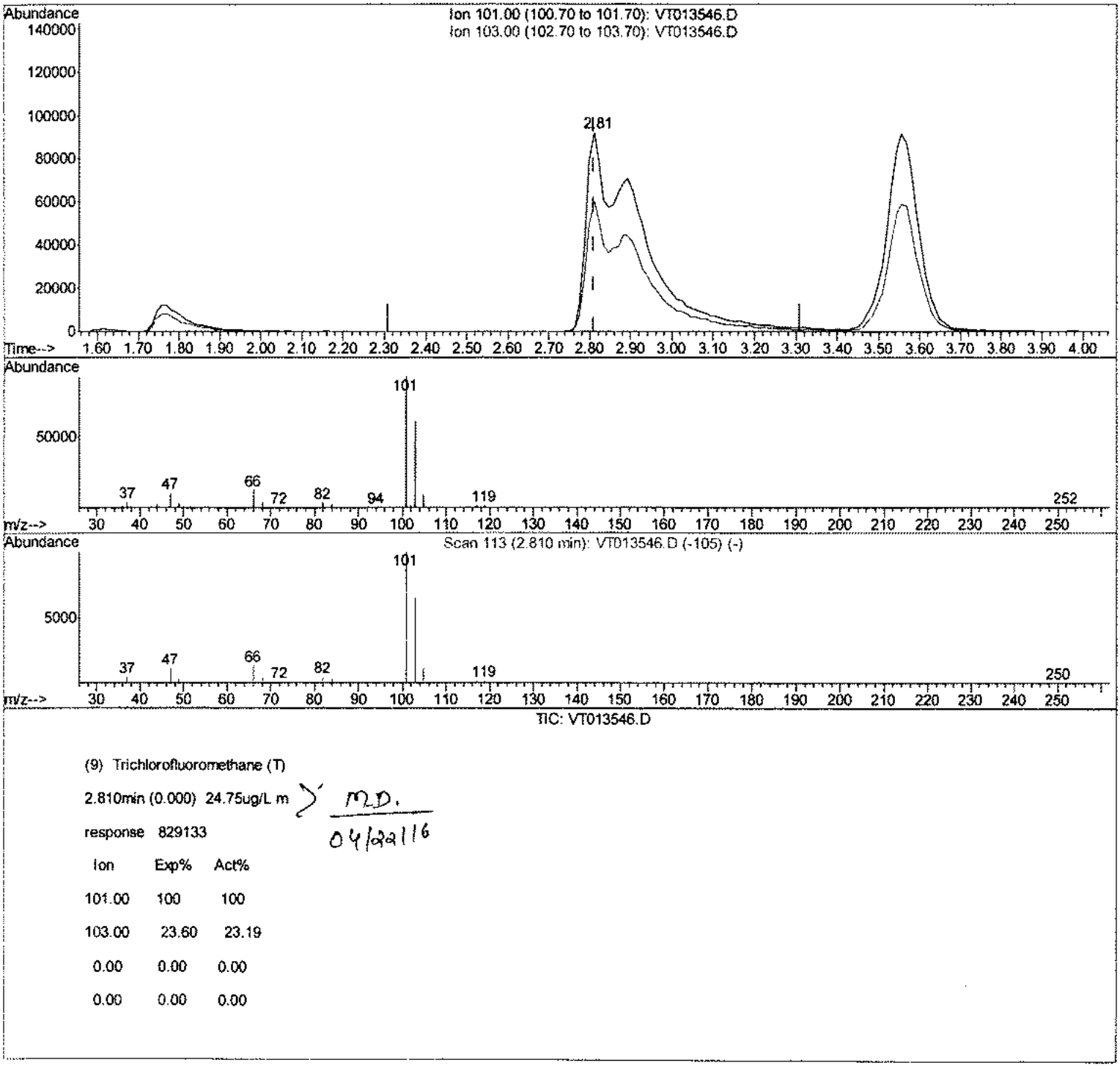
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013546.D
Acq On : 12 Apr 2016 13:37
Operator : FY/SY
Sample : VSTD02587
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 12 14:04:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:01:20 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02587

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM



TIC: VT013546.D

(9) Trichlorofluoromethane (T)

2.810min (0.000) 24.75ug/L m

response 829133

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	23.19
0.00	0.00	0.00
0.00	0.00	0.00

MD.
04/22/16

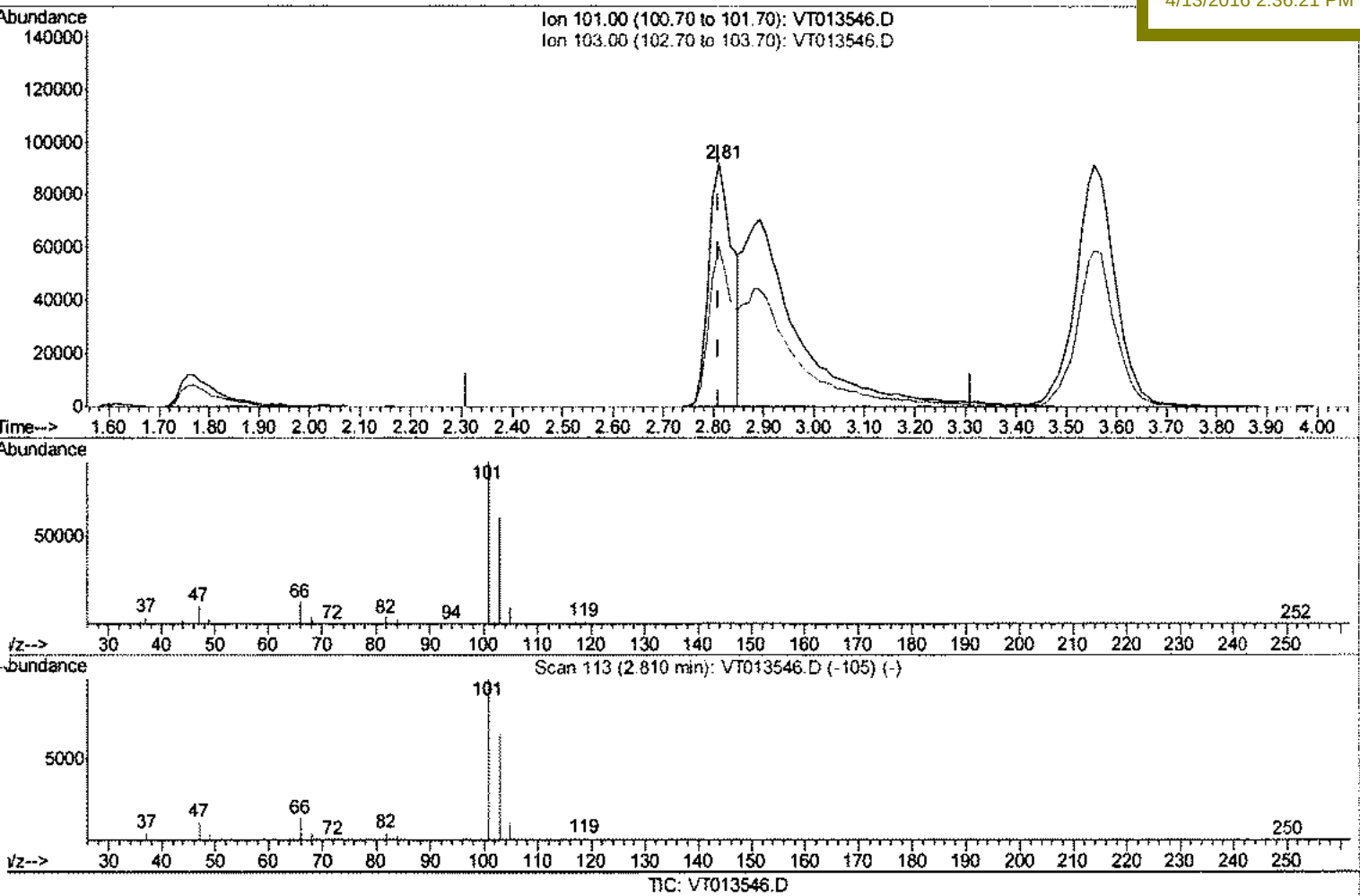
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013546.D
Acq On : 12 Apr 2016 13:37
Operator : FY/SY
Sample : VSTD02587
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 12 14:04:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:01:20 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02587

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM



TIC: VT013546.D

(9) Trichlorofluoromethane (T)

2.810min (0.000) 8.93ug/L

response 299089

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	64.29#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013546.D
Acq On : 12 Apr 2016 13:37
Operator : FY/SY
Sample : VSTD02587
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 12 14:04:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:01:20 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02587

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1387721	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1092901	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	554247	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	681272	31.43	ug/L	0.00
7) Chloroethane-d5	2.51	69	448695	27.73	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	1132798	26.68	ug/L	0.00
20) 2-Butanone-d5	6.43	46	283729	57.40	ug/L	0.00
24) Chloroform-d	7.07	84	976831	27.84	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	527211	27.91	ug/L	0.00
29) Benzene-d6	7.74	84	2013411	29.06	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	594509	29.26	ug/L	0.00
37) Toluene-d8	9.87	98	1745011	29.18	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	223778	32.78	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	188038	60.67	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	370561	28.84	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	518787	27.56	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	737166	24.39	ug/L	98
3) Chloromethane	1.93	50	772554	24.13	ug/L	100
5) Vinyl chloride	2.09	62	705010	24.02	ug/L	98
6) Bromomethane	2.43	94	346443	24.12	ug/L	98
8) Chloroethane	2.55	64	382718	23.49	ug/L	97
9) Trichlorofluoromethane	2.81	101	829133m	24.75	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.56	101	483932	23.40	ug/L	100
12) 1,1-Dichloroethene	3.48	96	446117	23.10	ug/L	86
13) Acetone	3.54	43	395601	64.14	ug/L	100
14) Carbon disulfide	3.79	76	1663233	25.77	ug/L	100
15) Methyl Acetate	4.03	43	254620	24.90	ug/L	98
16) Methylene chloride	4.24	84	434144	22.28	ug/L	98
17) Methyl tert-butyl Ether	4.73	73	824367	24.99	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	482592	23.96	ug/L	99
19) 1,1-Dichloroethane	5.53	63	1027998	24.46	ug/L	99
21) 2-Butanone	6.53	43	457869	66.01	ug/L	97
22) cis-1,2-Dichloroethene	6.53	96	512703	26.94	ug/L	99
23) Bromochloromethane	6.92	128	183805	26.63	ug/L	98
25) Chloroform	7.09	83	920676	26.21	ug/L	99
27) 1,2-Dichloroethane	7.87	62	641359	26.52	ug/L	98
30) Cyclohexane	7.41	56	1249352	28.04	ug/L	99
31) 1,1,1-Trichloroethane	7.31	97	835320	27.59	ug/L	99
32) Carbon tetrachloride	7.53	117	769687	27.30	ug/L	98
34) Benzene	7.79	78	2165048	26.30	ug/L	100
35) Trichloroethene	8.61	95	544656	26.61	ug/L	100
36) Methylcyclohexane	8.86	83	1115048	28.29	ug/L	99
40) 1,2-Dichloropropane	8.89	63	543331	26.88	ug/L	99
41) Bromodichloromethane	9.18	83	617900	28.32	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	745630	29.54	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	735226	59.23	ug/L	99

M.D. 04/22/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013546.D
Acq On : 12 Apr 2016 13:37
Operator : FY/SY
Sample : VSTD02587
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02587

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM

Quant Time: Apr 12 14:04:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:01:20 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	2116243	26.39	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	598623	29.39	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	281353	27.07	ug/L	100
47) Tetrachloroethene	10.42	164	391767	26.07	ug/L	98
49) 2-Hexanone	10.53	43	686341	69.22	ug/L	100
50) Dibromochloromethane	10.68	129	348597	28.22	ug/L	93
51) 1,2-Dibromoethane	10.79	107	270222	27.99	ug/L	98
52) Chlorobenzene	11.21	112	1195094	26.16	ug/L	98
53) Ethylbenzene	11.29	91	2453203	26.49	ug/L	99
54) m,p-Xylene	11.40	106	901966	26.62	ug/L	97
55) o-xylene	11.72	106	859586	27.14	ug/L	99
56) Styrene	11.74	104	1342516	27.21	ug/L	98
57) Isopropylbenzene	12.03	105	2431022	26.91	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	348245	27.60	ug/L	99
61) Bromoform	11.91	173	183726	29.88	ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	914256	26.37	ug/L	100
63) 1,4-Dichlorobenzene	13.14	146	880423	24.86	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	785788	25.75	ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.04	75	59563	30.93	ug/L	96
66) 1,2,4-trichlorobenzene	14.68	180	504369	27.33	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	407723	26.73	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

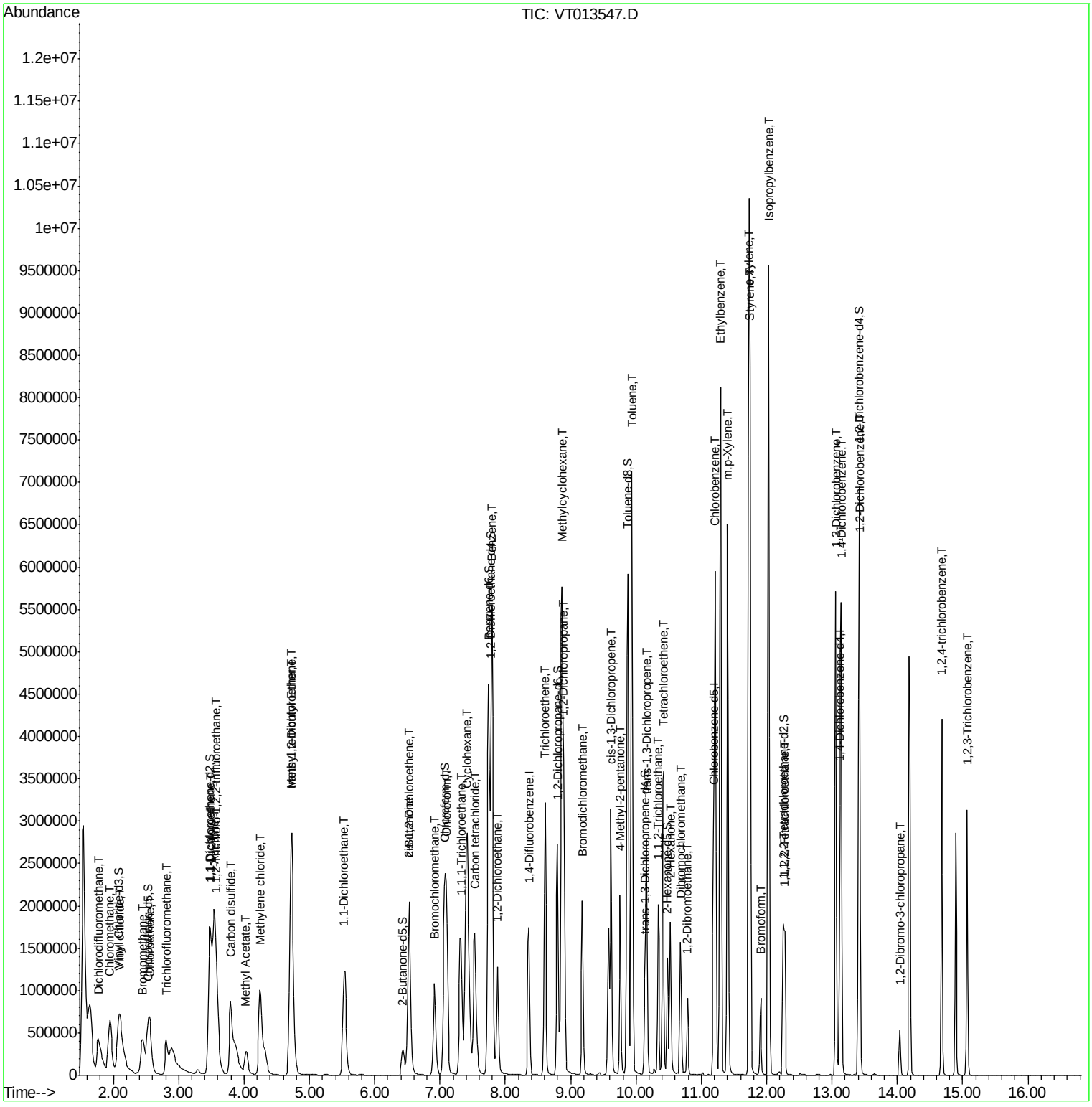
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 12 14:25:06 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05088

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD05088

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM

Quant Time: Apr 12 14:25:06 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1437169	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1147620	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	583686	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	1392262	48.73	ug/L	0.01
7) Chloroethane-d5	2.53	69	920244	48.00	ug/L	0.01
10) 1,1-Dichloroethene-d2	3.47	63	2500641	50.67	ug/L	0.00
20) 2-Butanone-d5	6.43	46	619079	113.74	ug/L	0.00
24) Chloroform-d	7.07	84	2017706	48.98	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	1096196	49.81	ug/L	0.00
29) Benzene-d6	7.74	84	4277521	51.24	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	1250204	52.32	ug/L	0.00
37) Toluene-d8	9.87	98	3759250	53.46	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	480559	61.44	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	414161	123.69	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	767827	51.23	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	1122301	51.05	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	1293523	44.68	ug/L	100
3) Chloromethane	1.95	50	1457287	44.37	ug/L	100
5) Vinyl chloride	2.10	62	1336546	44.41	ug/L	98
6) Bromomethane	2.44	94	655177	44.06	ug/L	99
8) Chloroethane	2.56	64	734299	43.75	ug/L	99
9) Trichlorofluoromethane	2.81	101	1684801m	47.76	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	1033091	47.95	ug/L	100
12) 1,1-Dichloroethene	3.48	96	962937m	49.24	ug/L	
13) Acetone	3.54	43	685337	90.12	ug/L	100
14) Carbon disulfide	3.79	76	3531932	51.70	ug/L	100
15) Methyl Acetate	4.03	43	560495	49.74	ug/L	99
16) Methylene chloride	4.24	84	943348	46.56	ug/L	99
17) Methyl tert-butyl Ether	4.73	73	1882624	54.98	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	1056331	51.12	ug/L	97
19) 1,1-Dichloroethane	5.53	63	2251080	51.19	ug/L	99
21) 2-Butanone	6.53	43	805232	93.63	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	1028275	49.41	ug/L	100
23) Bromochloromethane	6.92	128	367727	48.28	ug/L	98
25) Chloroform	7.09	83	1826113	47.39	ug/L	99
27) 1,2-Dichloroethane	7.87	62	1303475	48.50	ug/L	100
30) Cyclohexane	7.41	56	2484835	49.98	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	1667406	49.30	ug/L	99
32) Carbon tetrachloride	7.53	117	1543035	49.48	ug/L	97
34) Benzene	7.79	78	4449304	49.49	ug/L	100
35) Trichloroethene	8.61	95	1099352	49.33	ug/L	99
36) Methylcyclohexane	8.87	83	2266181	50.40	ug/L	99
40) 1,2-Dichloropropane	8.89	63	1129107	50.71	ug/L	100
41) Bromodichloromethane	9.18	83	1272367	51.48	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	1545292	55.35	ug/L	97
43) 4-Methyl-2-pentanone	9.76	43	1488997	99.66	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 12 14:25:06 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05088

Manual Integrations APPROVED
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4/13/2016 2:36:21 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	4422050	50.06	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	1271278	57.72	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	581100	50.38	ug/L	99
47) Tetrachloroethene	10.42	164	820663	51.67	ug/L	99
49) 2-Hexanone	10.53	43	1181071	95.18	ug/L	98
50) Dibromochloromethane	10.68	129	743648	53.97	ug/L	96
51) 1,2-Dibromoethane	10.79	107	551668	50.51	ug/L	98
52) Chlorobenzene	11.21	112	2467409	49.10	ug/L	99
53) Ethylbenzene	11.29	91	5110951	50.97	ug/L	99
54) m,p-Xylene	11.40	106	1877990	51.59	ug/L	97
55) o-xylene	11.73	106	1832346	53.62	ug/L	90
56) Styrene	11.74	104	2832994	52.86	ug/L	100
57) Isopropylbenzene	12.03	105	5163298	53.20	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	717074	48.60	ug/L	97
61) Bromoform	11.91	173	398026	56.85	ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	1901012	49.83	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	1862370	49.73	ug/L	98
64) 1,2-Dichlorobenzene	13.42	146	1662677	50.04	ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.04	75	127857	55.52	ug/L	99
66) 1,2,4-trichlorobenzene	14.68	180	1080965	53.39	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	844176	48.48	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 12 14:25:06 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05088

Manual Integrations APPROVED
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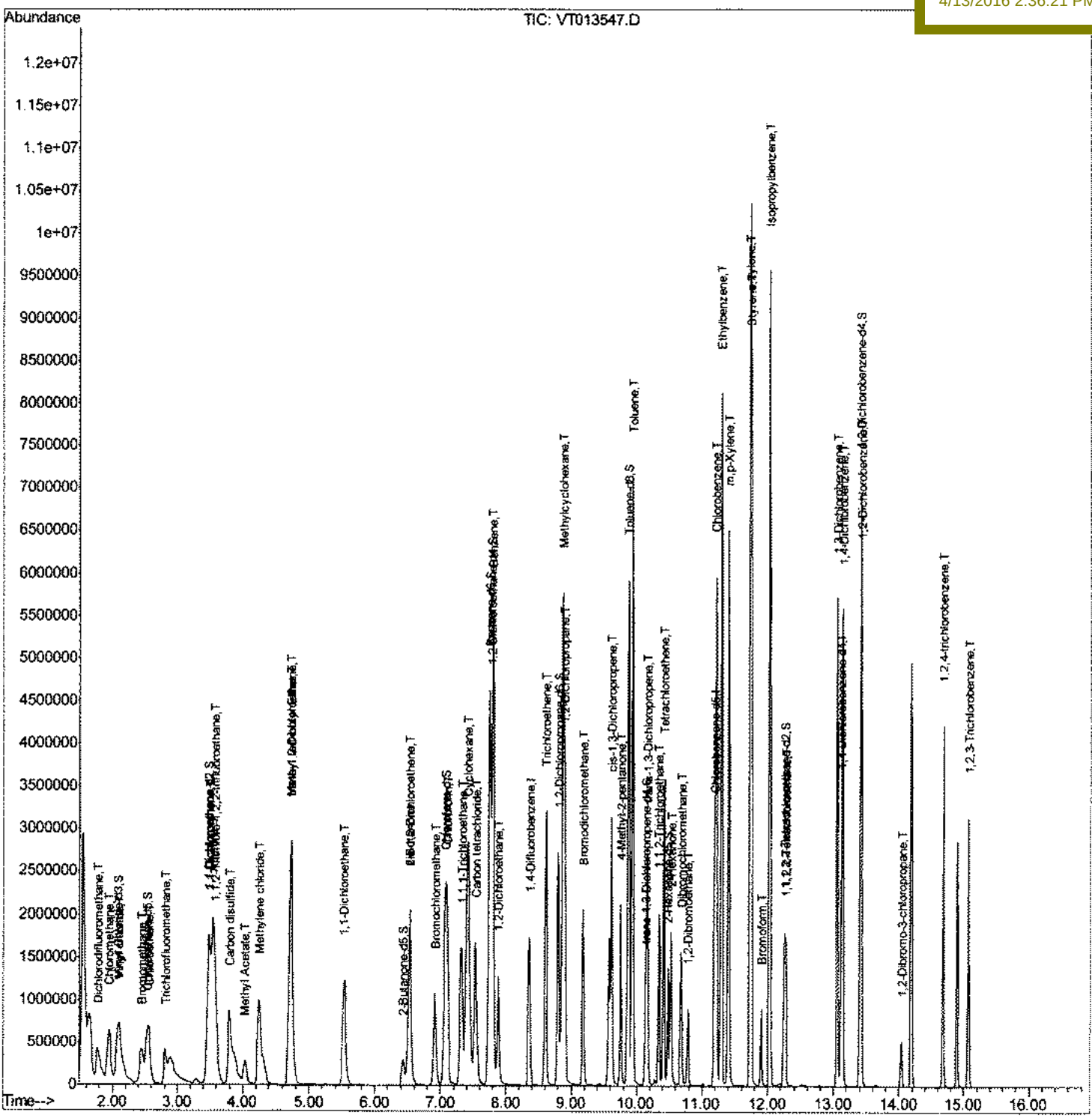

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 12 14:23:21 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05088

Manual Integrations APPROVED
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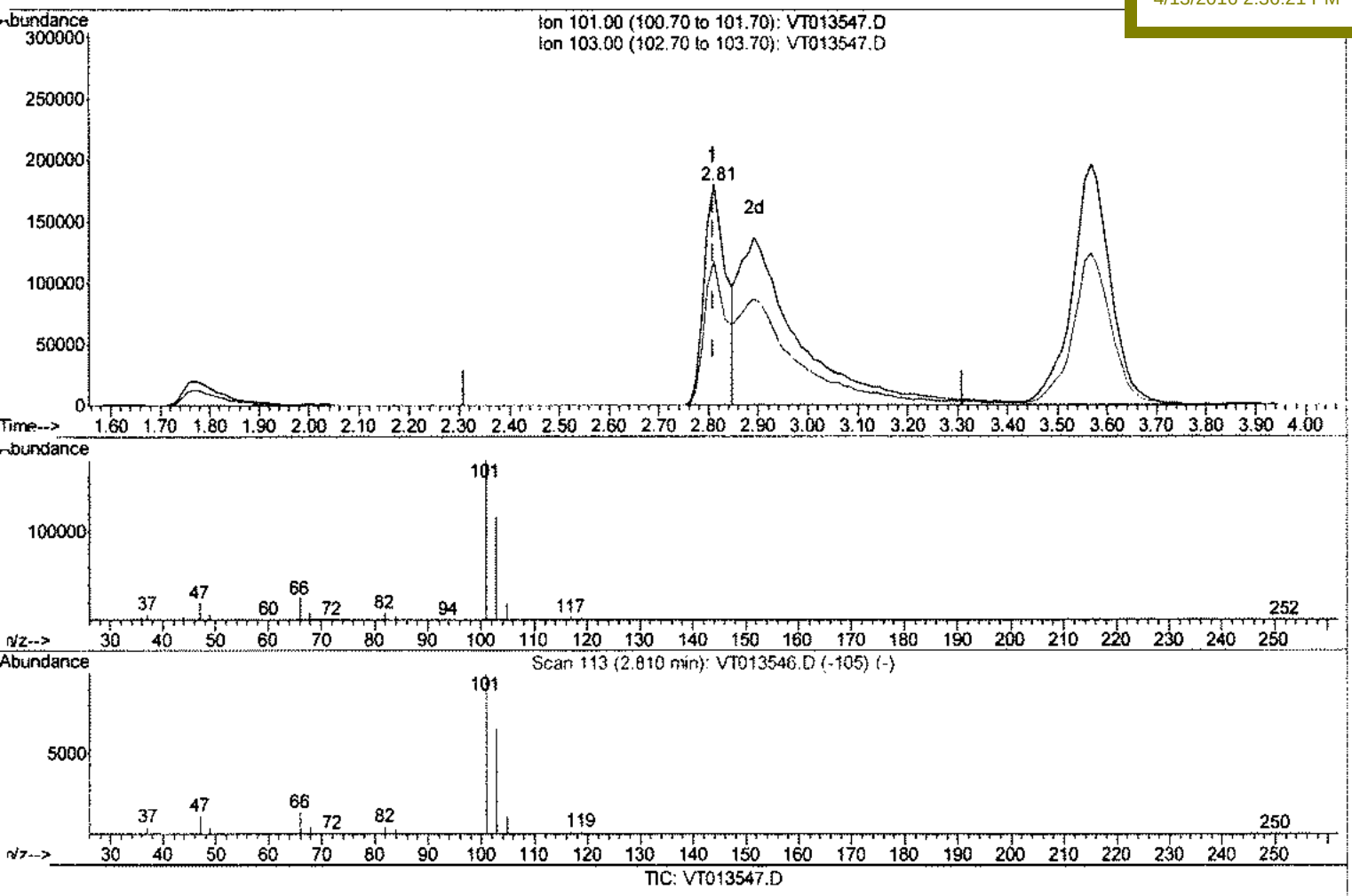


(9) Trichlorofluoromethane (T)

2.810min (-0.000) 15.60ug/L

response 550155

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	64.98#
0.00	0.00	0.00
0.00	0.00	0.00

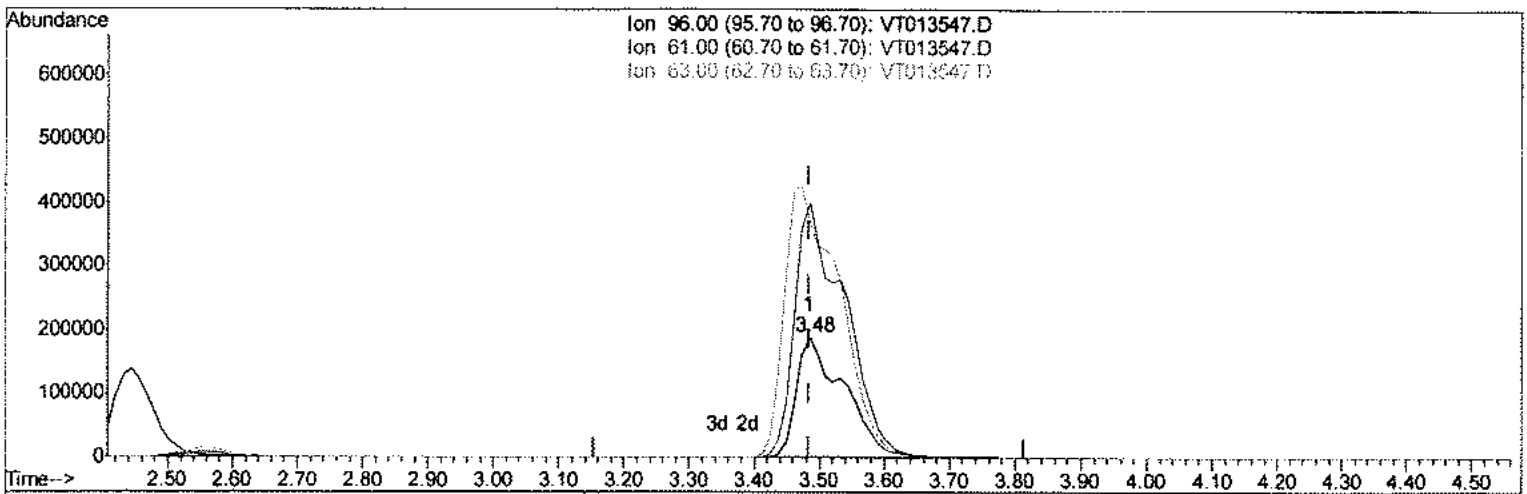
Quantitation Report (Qedit)

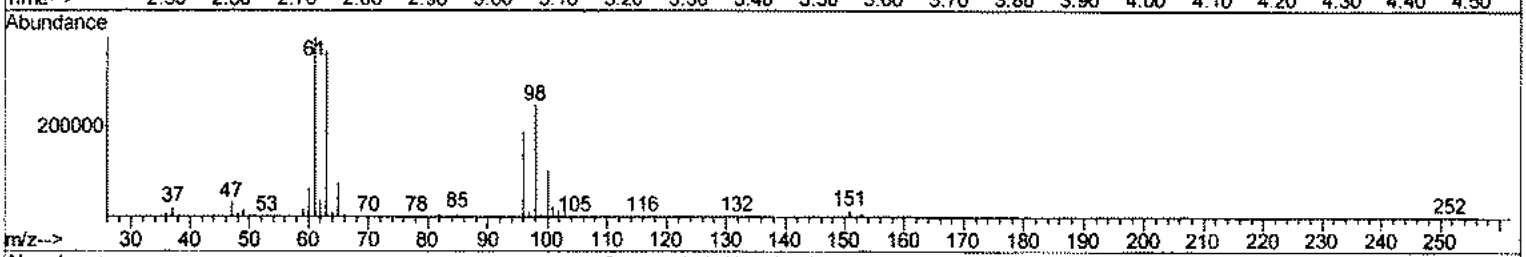
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

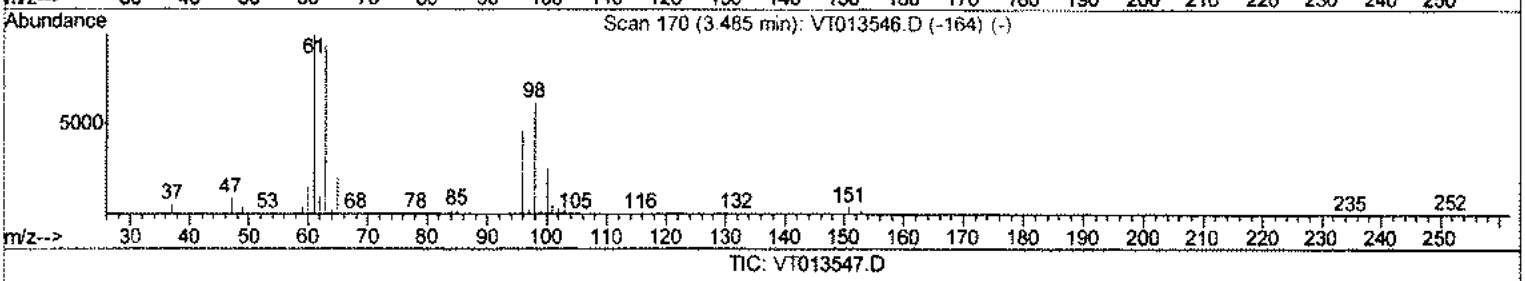
Quant Time: Apr 12 14:23:21 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05088

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM







(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 49.24ug/L m

response 962937

M.D. 04/22/16

Ion	Exp%	Act%
96.00	100	100
61.00	211.90	211.79
63.00	170.40	195.62
0.00	0.00	0.00

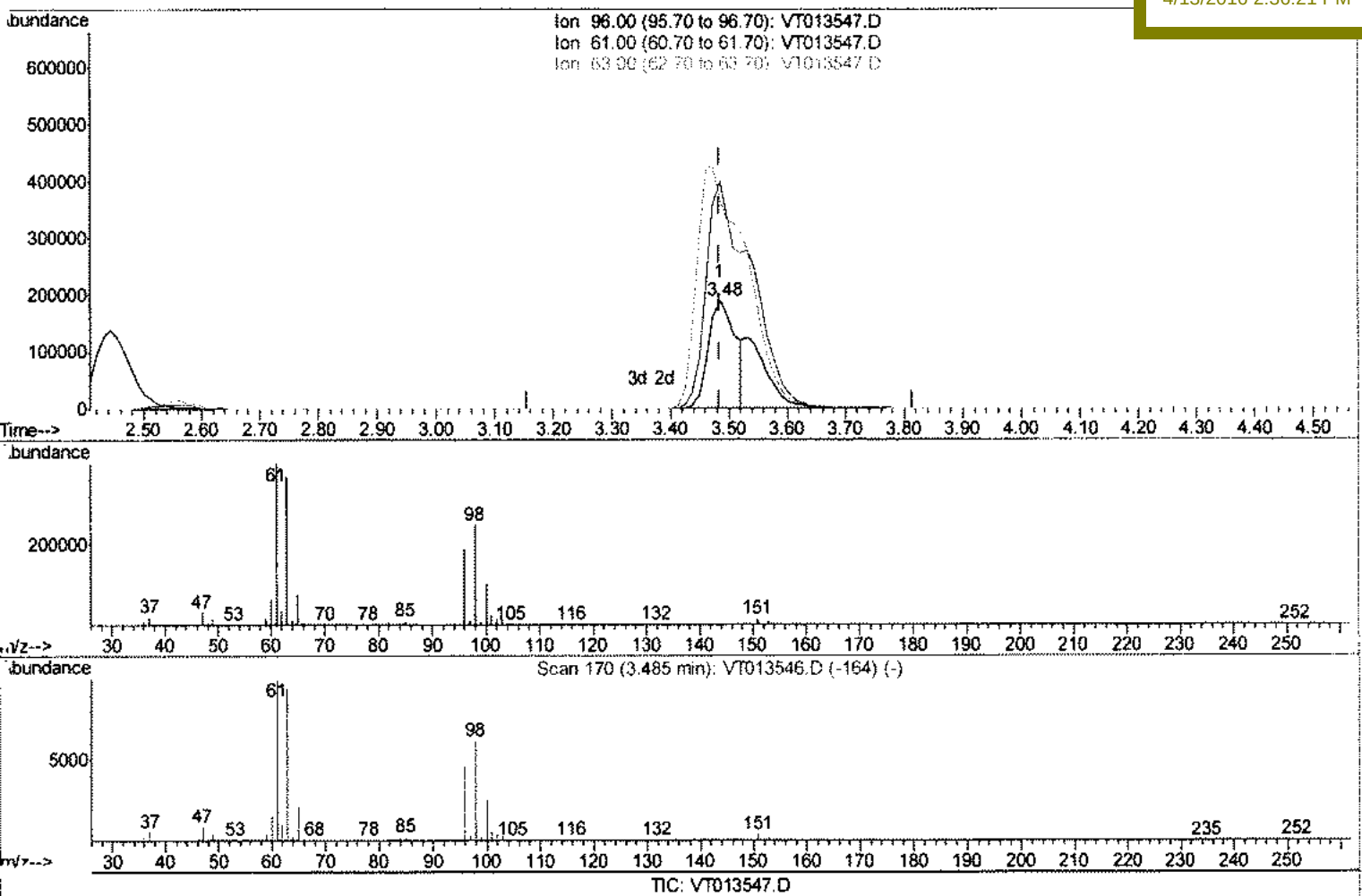
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 12 14:23:21 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD05088

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM



TIC: VT013547.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 31.50ug/L

response 616019

Ion	Exp%	Act%
96.00	100	100
61.00	211.90	211.79
63.00	170.40	195.62
0.00	0.00	0.00

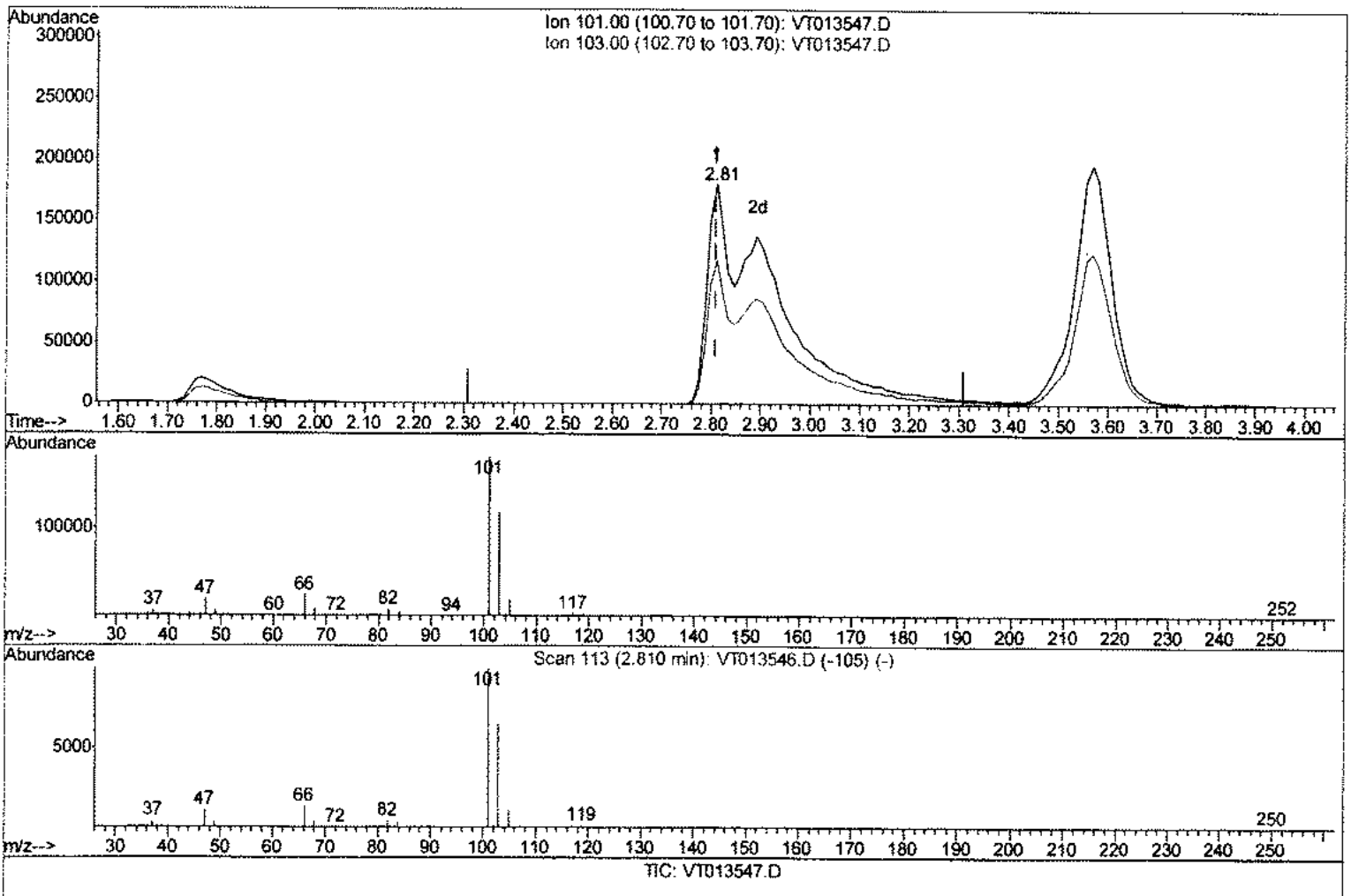
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 12 14:23:21 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05088

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM



TIC: VT013547.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 47.76ug/L m

M.D. 04/22/16

response 1684801

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	21.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 12 14:25:06 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD05088

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1437169	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1147620	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	583686	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	1392262	48.73	ug/L	0.01
7) Chloroethane-d5	2.53	69	920244	48.00	ug/L	0.01
10) 1,1-Dichloroethene-d2	3.47	63	2500641	50.67	ug/L	0.00
20) 2-Butanone-d5	6.43	46	619079	113.74	ug/L	0.00
24) Chloroform-d	7.07	84	2017706	48.98	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	1096196	49.81	ug/L	0.00
29) Benzene-d6	7.74	84	4277521	51.24	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	1250204	52.32	ug/L	0.00
37) Toluene-d8	9.87	98	3759250	53.46	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	480559	61.44	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	414161	123.69	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	767827	51.23	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	1122301	51.05	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	1293523	44.68	ug/L	100
3) Chloromethane	1.95	50	1457287	44.37	ug/L	100
5) Vinyl chloride	2.10	62	1336546	44.41	ug/L	98
6) Bromomethane	2.44	94	655177	44.06	ug/L	99
8) Chloroethane	2.56	64	734299	43.75	ug/L	99
9) Trichlorofluoromethane	2.81	101	1684801m	47.76	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	1033091	47.95	ug/L	100
12) 1,1-Dichloroethene	3.48	96	962937m	49.24	ug/L	
13) Acetone	3.54	43	685337	90.12	ug/L	100
14) Carbon disulfide	3.79	76	3531932	51.70	ug/L	100
15) Methyl Acetate	4.03	43	560495	49.74	ug/L	99
16) Methylene chloride	4.24	84	943348	46.56	ug/L	99
17) Methyl tert-butyl Ether	4.73	73	1882624	54.98	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	1056331	51.12	ug/L	97
19) 1,1-Dichloroethane	5.53	63	2251080	51.19	ug/L	99
21) 2-Butanone	6.53	43	805232	93.63	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	1028275	49.41	ug/L	100
23) Bromochloromethane	6.92	128	367727	48.28	ug/L	98
25) Chloroform	7.09	83	1826113	47.39	ug/L	99
27) 1,2-Dichloroethane	7.87	62	1303475	48.50	ug/L	100
30) Cyclohexane	7.41	56	2484835	49.98	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	1667406	49.30	ug/L	99
32) Carbon tetrachloride	7.53	117	1543035	49.48	ug/L	97
34) Benzene	7.79	78	4449304	49.49	ug/L	100
35) Trichloroethene	8.61	95	1099352	49.33	ug/L	99
36) Methylcyclohexane	8.87	83	2266181	50.40	ug/L	99
40) 1,2-Dichloropropane	8.89	63	1129107	50.71	ug/L	100
41) Bromodichloromethane	9.18	83	1272367	51.48	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	1545292	55.35	ug/L	97
43) 4-Methyl-2-pentanone	9.76	43	1488997	99.66	ug/L	99

M.D. 04/22/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013547.D
Acq On : 12 Apr 2016 14:03
Operator : FY/SY
Sample : VSTD05088
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD05088

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:21 PM

Quant Time: Apr 12 14:25:06 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:08:37 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
44) Toluene	9.93	91	4422050	50.06 ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	1271278	57.72 ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	581100	50.38 ug/L	99
47) Tetrachloroethene	10.42	164	820663	51.67 ug/L	99
49) 2-Hexanone	10.53	43	1181071	95.18 ug/L	98
50) Dibromochloromethane	10.68	129	743648	53.97 ug/L	96
51) 1,2-Dibromoethane	10.79	107	551668	50.51 ug/L	98
52) Chlorobenzene	11.21	112	2467409	49.10 ug/L	99
53) Ethylbenzene	11.29	91	5110951	50.97 ug/L	99
54) m,p-Xylene	11.40	106	1877990	51.59 ug/L	97
55) o-xylene	11.73	106	1832346	53.62 ug/L	90
56) Styrene	11.74	104	2832994	52.86 ug/L	100
57) Isopropylbenzene	12.03	105	5163298	53.20 ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	717074	48.60 ug/L	97
61) Bromoform	11.91	173	398026	56.85 ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	1901012	49.83 ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	1862370	49.73 ug/L	98
64) 1,2-Dichlorobenzene	13.42	146	1662677	50.04 ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.04	75	127857	55.52 ug/L	99
66) 1,2,4-trichlorobenzene	14.68	180	1080965	53.39 ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	844176	48.48 ug/L	99

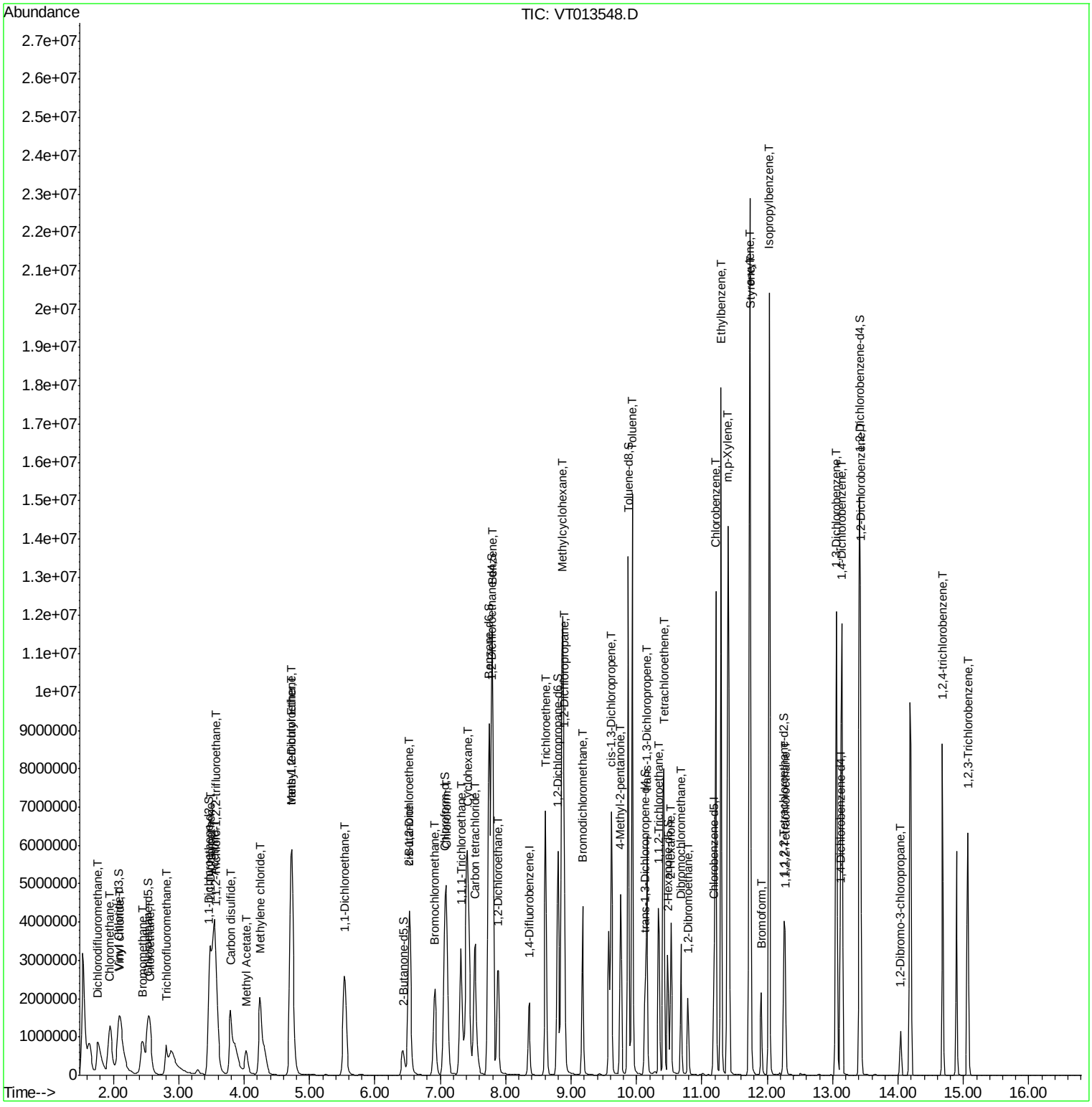
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 14:50:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 14:50:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1586737	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1271075	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	637157	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	3031377	96.71	ug/L	0.01
7) Chloroethane-d5	2.53	69	2051633	97.90	ug/L	0.01
10) 1,1-Dichloroethene-d2	3.46	63	5007367	91.59	ug/L	-0.01
20) 2-Butanone-d5	6.43	46	1390529	223.71	ug/L	0.00
24) Chloroform-d	7.07	84	4238374	93.67	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	2368401	97.56	ug/L	0.00
29) Benzene-d6	7.74	84	9250780	99.43	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	2704031	101.00	ug/L	0.00
37) Toluene-d8	9.87	98	8391416	105.91	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	1099146	120.02	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	932432	237.36	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	1732371	103.71	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	2470451	102.41	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.76	85	2638852	84.82	ug/L	100
3) Chloromethane	1.95	50	3122952	88.62	ug/L	99
5) Vinyl chloride	2.10	62	2863691	88.66	ug/L	99
6) Bromomethane	2.44	94	1414890	88.82	ug/L	99
8) Chloroethane	2.56	64	1598084	89.02	ug/L	98
9) Trichlorofluoromethane	2.81	101	3428564m	89.03	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	2105763	89.44	ug/L	98
12) 1,1-Dichloroethene	3.48	96	1953859m	90.84	ug/L	
13) Acetone	3.54	43	1324770	161.77	ug/L	99
14) Carbon disulfide	3.79	76	7297511m	95.93	ug/L	
15) Methyl Acetate	4.03	43	1236478	99.51	ug/L	98
16) Methylene chloride	4.24	84	1957699	89.05	ug/L	98
17) Methyl tert-butyl Ether	4.73	73	4110587	106.08	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	2181929	95.11	ug/L	97
19) 1,1-Dichloroethane	5.53	63	4633404	94.86	ug/L	98
21) 2-Butanone	6.53	43	1733492	185.53	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	2125732	92.79	ug/L	99
23) Bromochloromethane	6.92	128	776384	93.13	ug/L	98
25) Chloroform	7.09	83	3795127	90.38	ug/L	99
27) 1,2-Dichloroethane	7.89	62	2744497	93.20	ug/L	99
30) Cyclohexane	7.41	56	5191991	94.30	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	3486574	93.41	ug/L	98
32) Carbon tetrachloride	7.53	117	3236382	93.95	ug/L	97
34) Benzene	7.79	78	9446909	95.12	ug/L	100
35) Trichloroethene	8.61	95	2340420	95.13	ug/L	99
36) Methylcyclohexane	8.87	83	4769608	95.58	ug/L	98
40) 1,2-Dichloropropane	8.89	63	2364598	95.55	ug/L	100
41) Bromodichloromethane	9.18	83	2716877	98.52	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	3228465	101.68	ug/L	98
43) 4-Methyl-2-pentanone	9.76	43	3295590	199.32	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM

Quant Time: Apr 12 14:50:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	9674561	98.86	ug/L	100
45) trans-1,3-Dichloropropene	10.16	75	2768401	109.27	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	1267461	99.03	ug/L	98
47) Tetrachloroethene	10.42	164	1789128	100.86	ug/L	99
49) 2-Hexanone	10.53	43	2583445	190.27	ug/L	100
50) Dibromochloromethane	10.68	129	1623889	104.34	ug/L	95
51) 1,2-Dibromoethane	10.79	107	1201453	99.07	ug/L	99
52) Chlorobenzene	11.21	112	5349680	96.55	ug/L	100
53) Ethylbenzene	11.29	91	11178258	100.16	ug/L	99
54) m,p-Xylene	11.40	106	4099092	100.87	ug/L	100
55) o-xylene	11.73	106	3983889	103.38	ug/L	93
56) Styrene	11.74	104	6157285	102.27	ug/L	99
57) Isopropylbenzene	12.03	105	11304553	103.50	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	1586797	97.78	ug/L	99
61) Bromoform	11.91	173	890429	112.65	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	4088331	98.25	ug/L	100
63) 1,4-Dichlorobenzene	13.14	146	4035383	98.85	ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	3617339	99.71	ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.04	75	276333	106.98	ug/L	95
66) 1,2,4-trichlorobenzene	14.68	180	2239480	99.64	ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	1711696	90.74	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

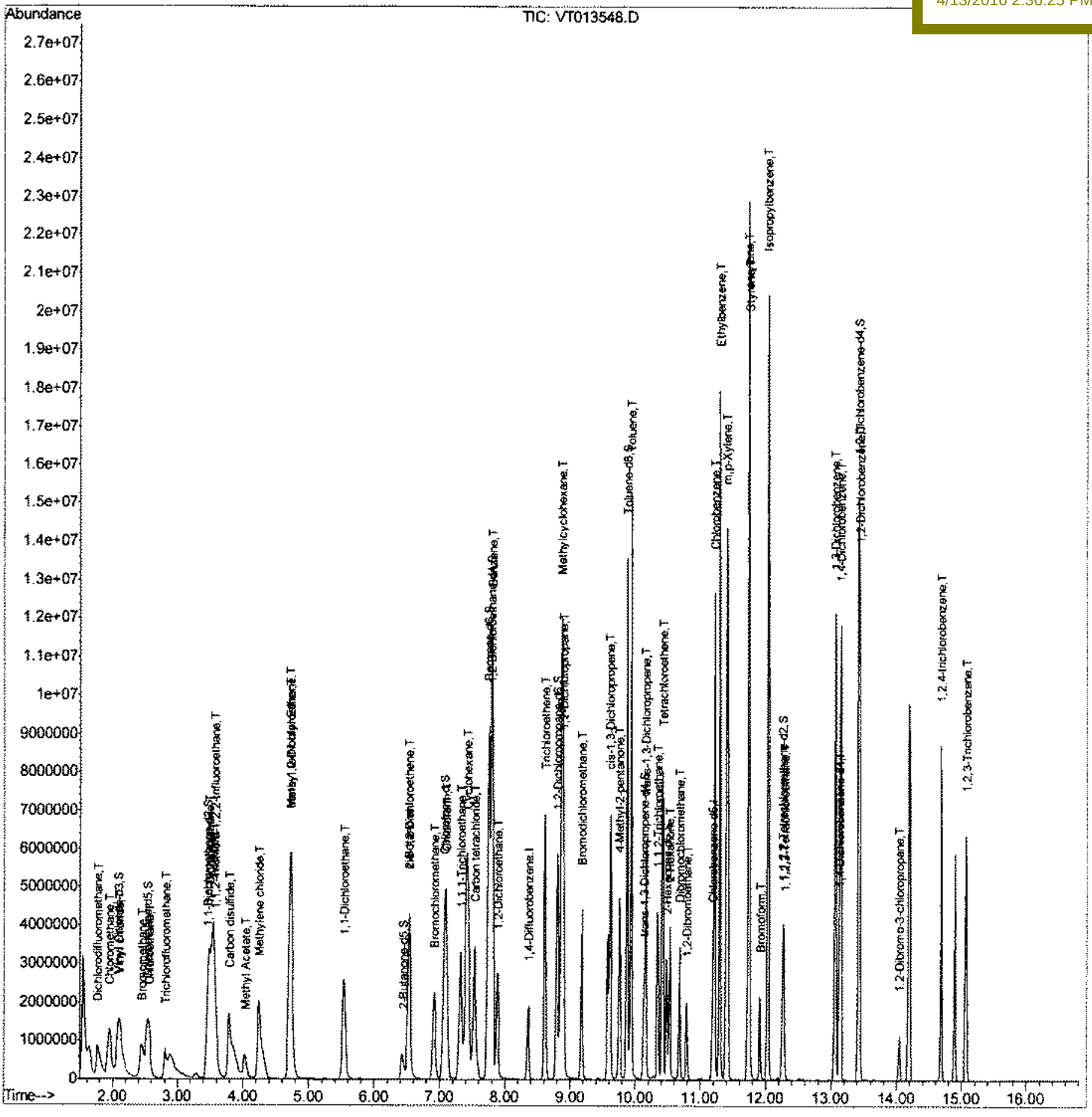
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 14:50:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM



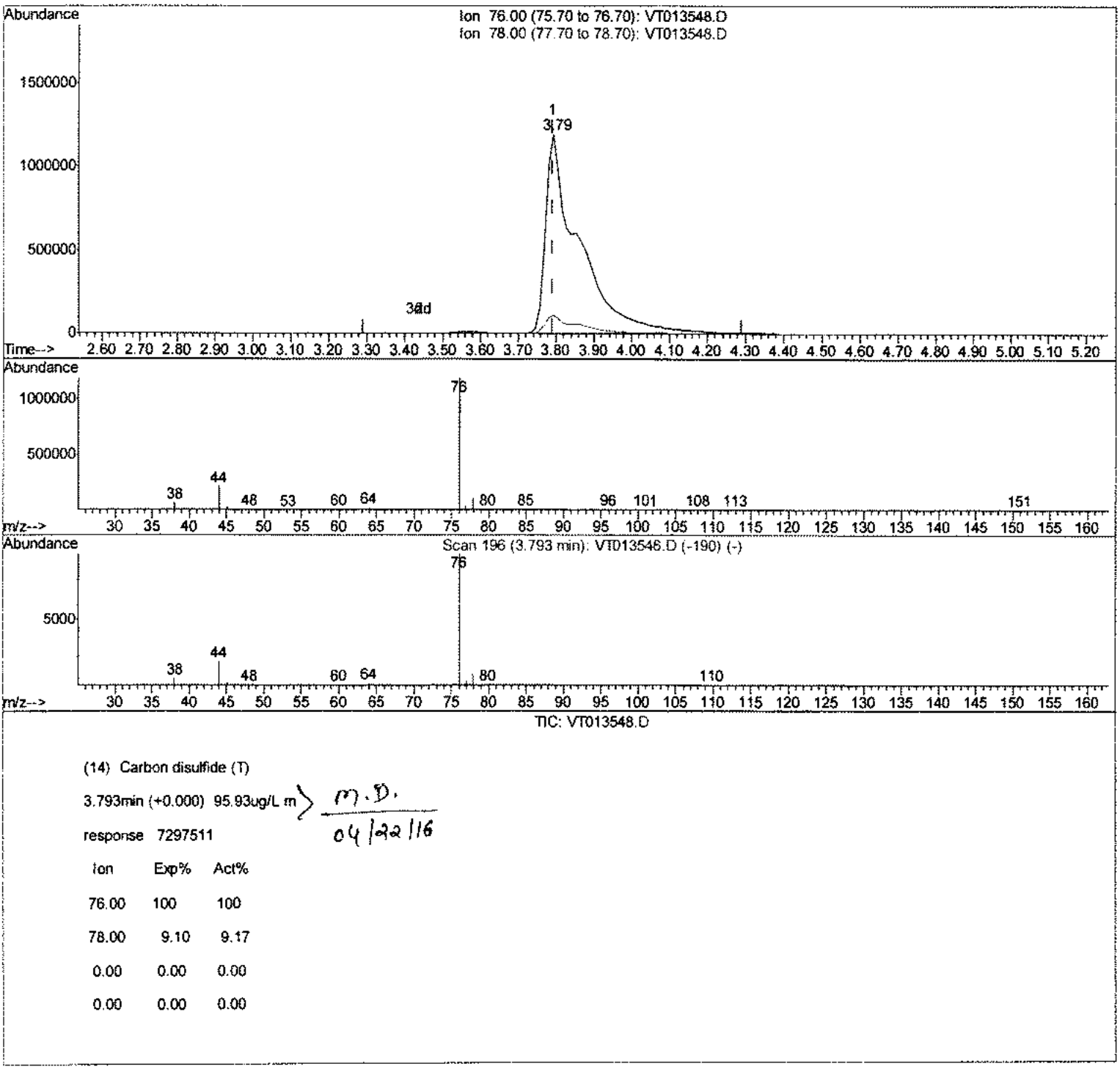
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 14:48:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM



(14) Carbon disulfide (T)

3.793min (+0.000) 95.93ug/L m

response 7297511

M.D. 04/22/16

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.17
0.00	0.00	0.00
0.00	0.00	0.00

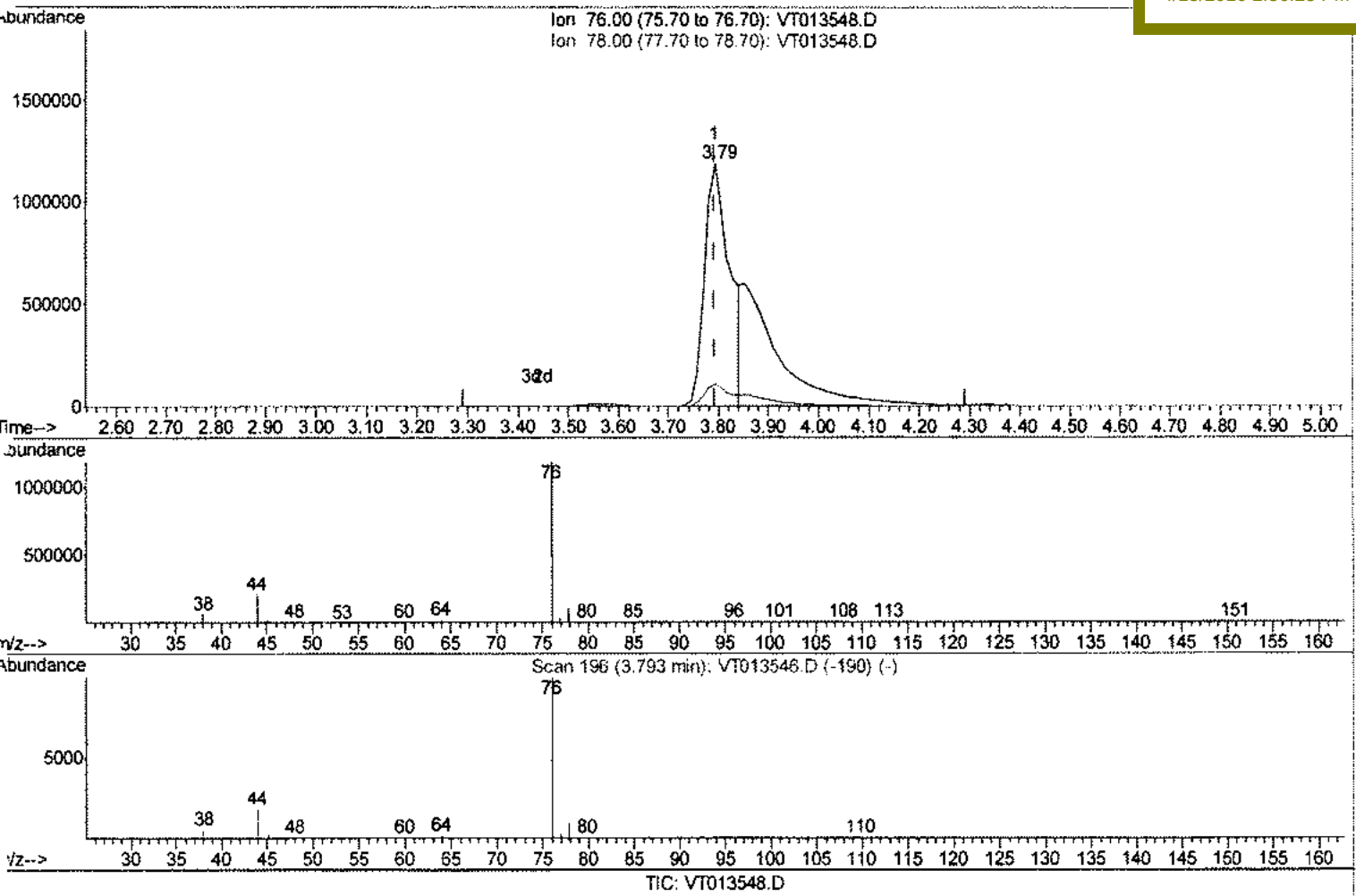
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 14:48:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM



TIC: VT013548.D

(14) Carbon disulfide (T)

3.793min (+0.000) 54.63ug/L

response 4155542

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.17
0.00	0.00	0.00
0.00	0.00	0.00

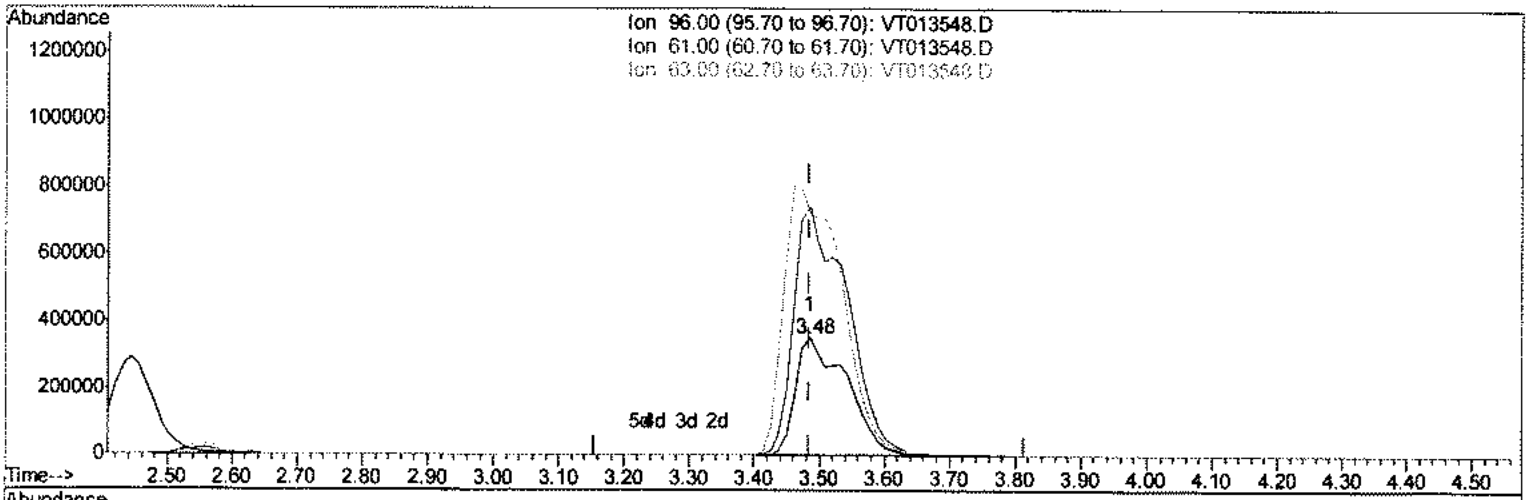
Quantitation Report (Qedit)

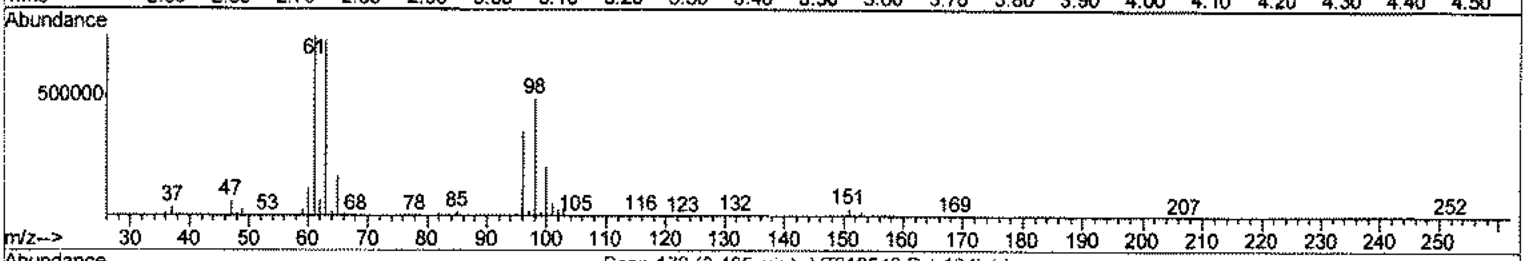
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

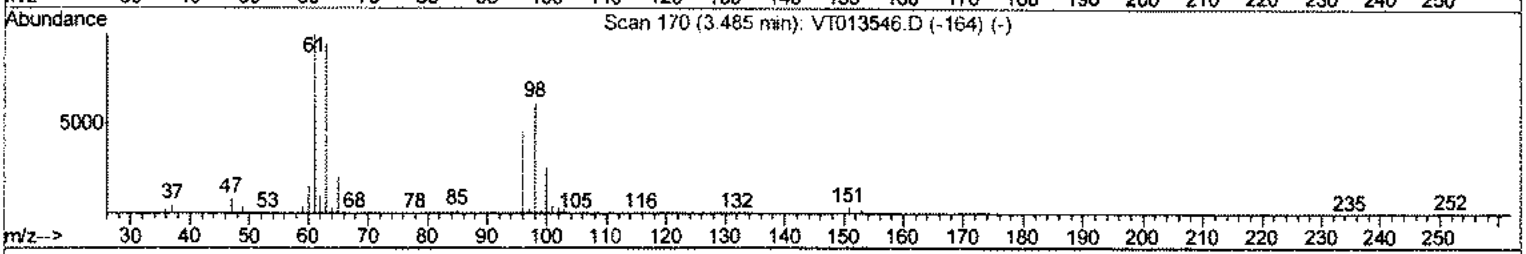
Quant Time: Apr 12 14:48:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM







TIC: VT013548.D

(12) 1,1-Dichloroethene (T)

3.485min (+0.000) 90.84ug/L m M.D. 04/20/16

response 1953859

Ion	Exp%	Act%
96.00	100	100
61.00	211.90	210.73
63.00	170.40	205.70
0.00	0.00	0.00

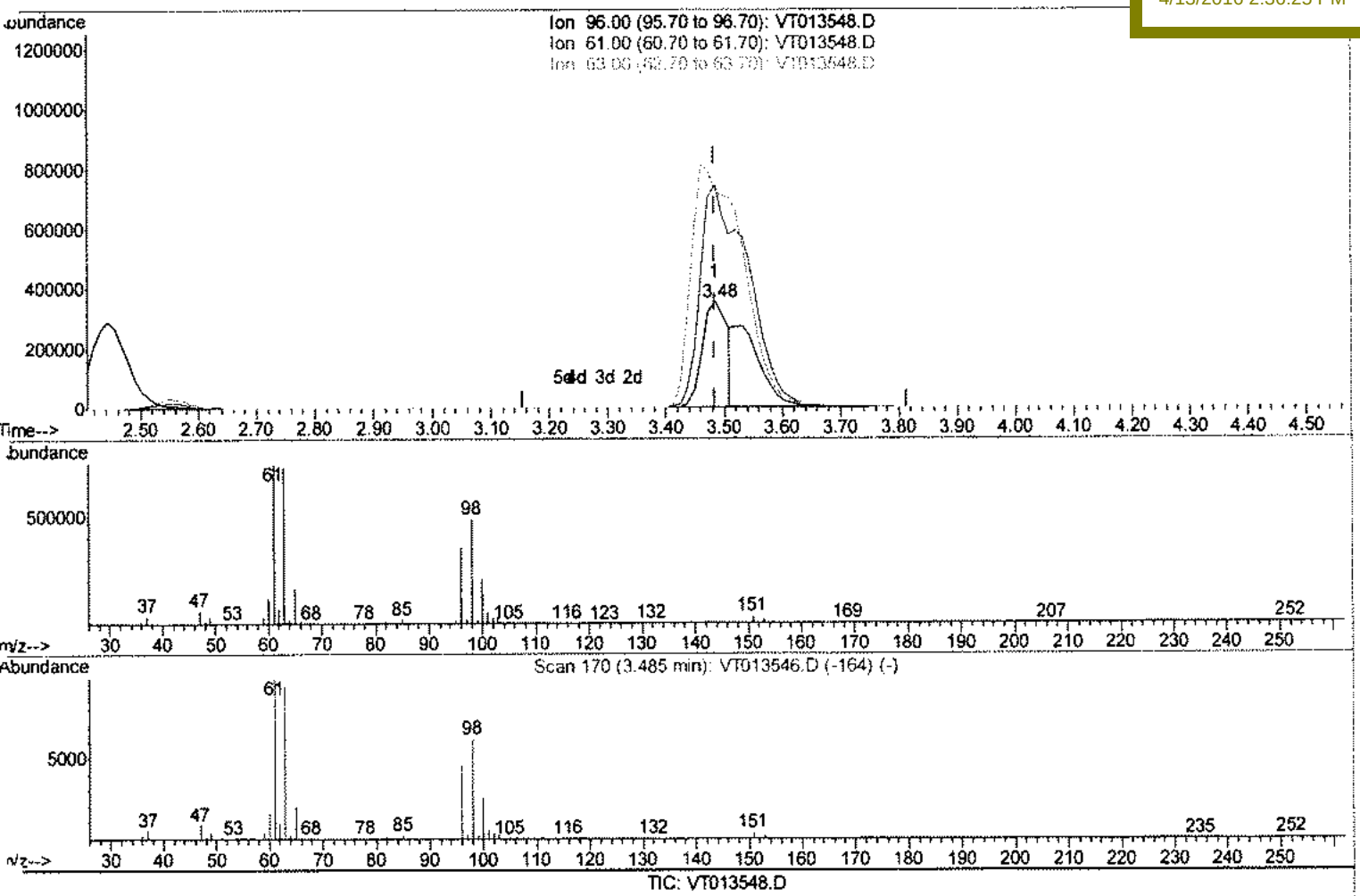
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 14:48:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM



TIC: VT013548.D

(12) 1,1-Dichloroethene (T)

3.485min (+0.000) 48.95ug/L

response 1052831

Ion	Exp%	Act%
96.00	100	100
61.00	211.90	210.73
63.00	170.40	205.70
0.00	0.00	0.00

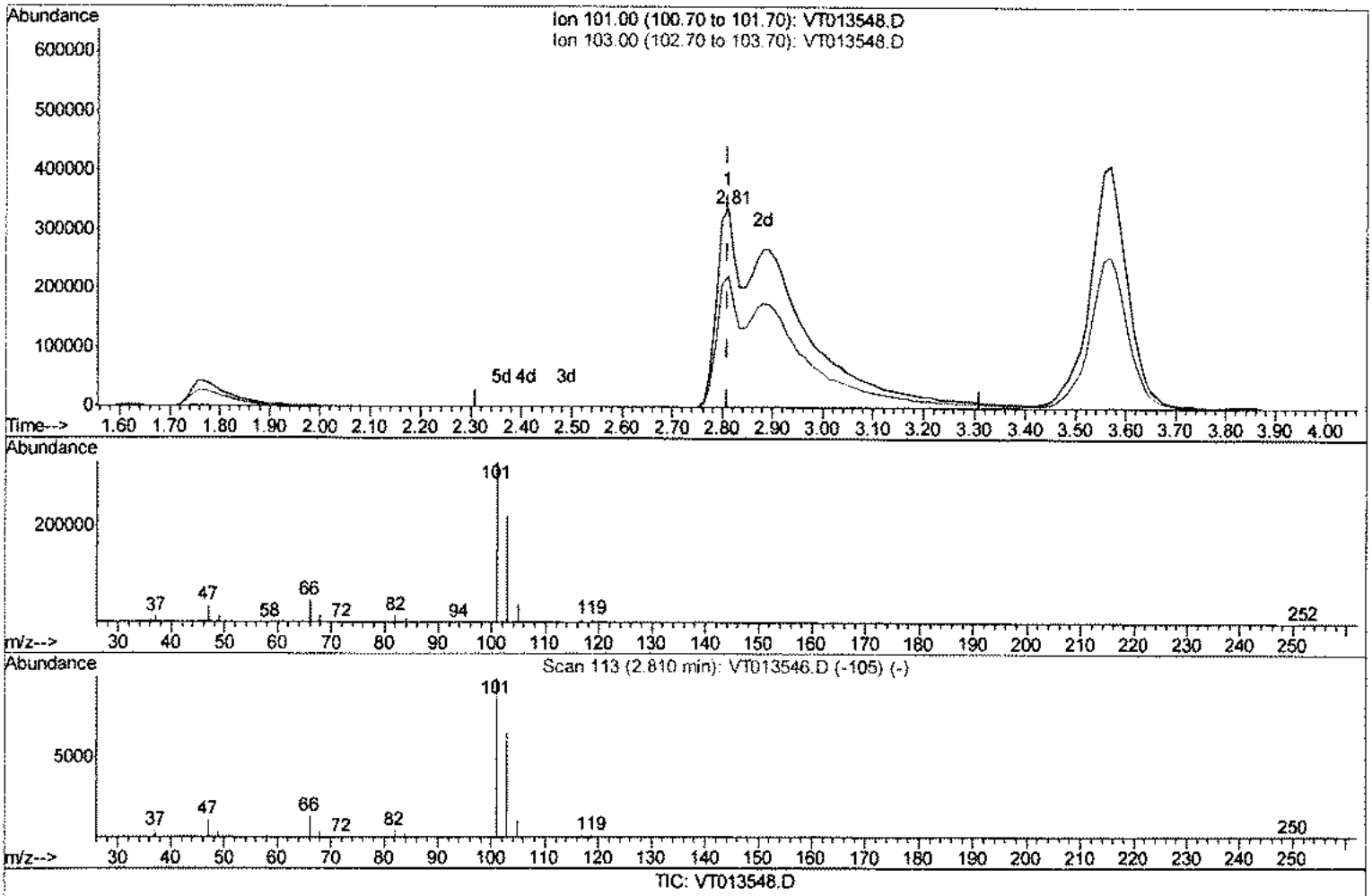
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 14:48:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM



TIC: VT013548.D

(9) Trichlorofluoromethane (T)

2.810min (+0.000) 89.03ug/L m

M.D. 04/22/16

response 3428564

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	18.46
0.00	0.00	0.00
0.00	0.00	0.00

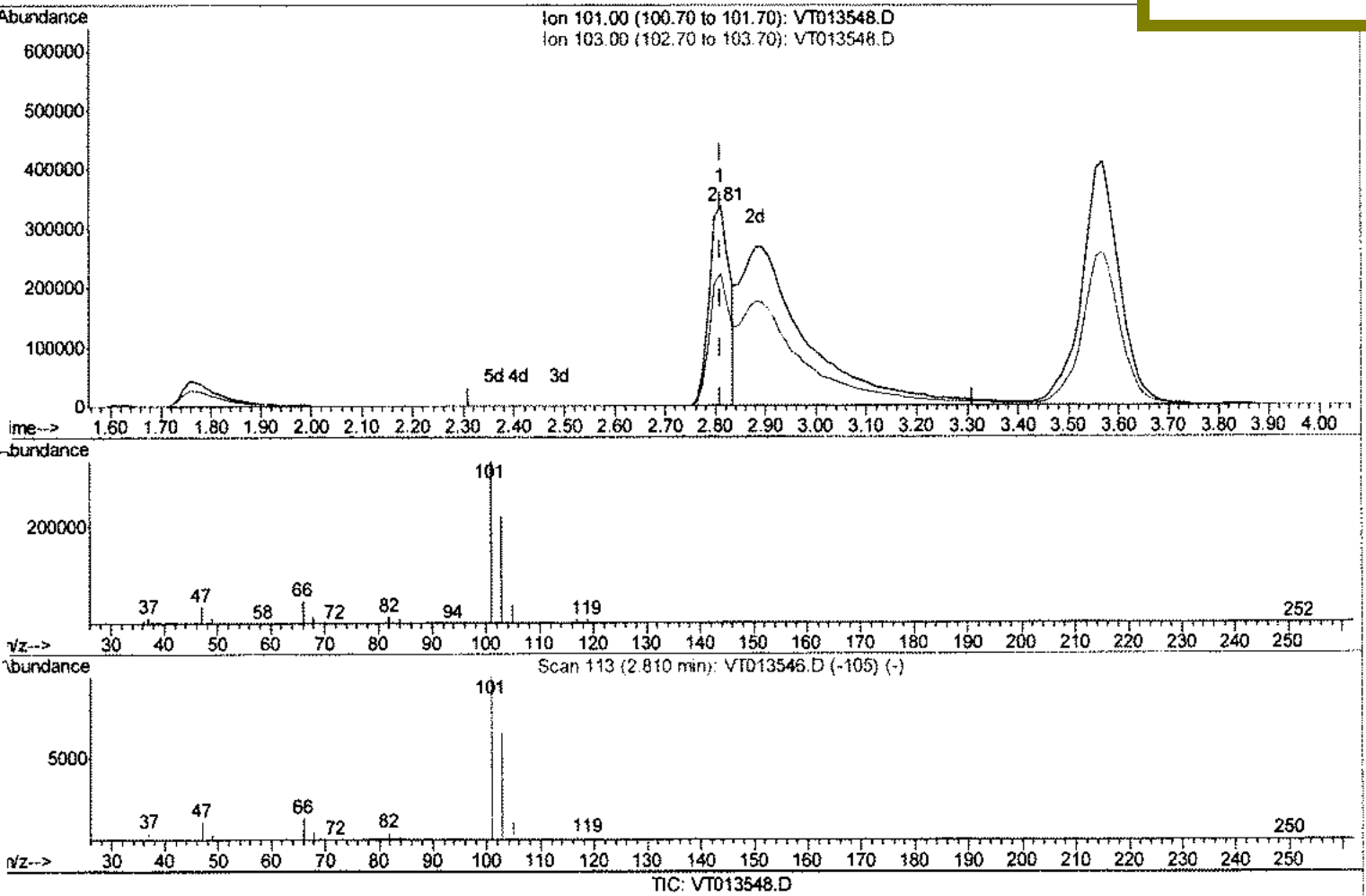
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 14:48:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM



(9) Trichlorofluoromethane (T)

2.810min (+0.000) 25.07ug/L

response 965310

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	65.57#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 14:50:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1586737	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1271075	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	637157	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	3031377	96.71	ug/L	0.01
7) Chloroethane-d5	2.53	69	2051633	97.90	ug/L	0.01
10) 1,1-Dichloroethene-d2	3.46	63	5007367	91.59	ug/L	-0.01
20) 2-Butanone-d5	6.43	46	1390529	223.71	ug/L	0.00
24) Chloroform-d	7.07	84	4238374	93.67	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	2368401	97.56	ug/L	0.00
29) Benzene-d6	7.74	84	9250780	99.43	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	2704031	101.00	ug/L	0.00
37) Toluene-d8	9.87	98	8391416	105.91	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	1099146	120.02	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	932432	237.36	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	1732371	103.71	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	2470451	102.41	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.76	85	2638852	84.82	ug/L	100
3) Chloromethane	1.95	50	3122952	88.62	ug/L	99
5) Vinyl chloride	2.10	62	2863691	88.66	ug/L	99
6) Bromomethane	2.44	94	1414890	88.82	ug/L	99
8) Chloroethane	2.56	64	1598084	89.02	ug/L	98
9) Trichlorofluoromethane	2.81	101	3428564m	89.03	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	2105763	89.44	ug/L	98
12) 1,1-Dichloroethene	3.48	96	1953859m	90.84	ug/L	
13) Acetone	3.54	43	1324770	161.77	ug/L	99
14) Carbon disulfide	3.79	76	7297511m	95.93	ug/L	
15) Methyl Acetate	4.03	43	1236478	99.51	ug/L	98
16) Methylene chloride	4.24	84	1957699	89.05	ug/L	98
17) Methyl tert-butyl Ether	4.73	73	4110587	106.08	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	2181929	95.11	ug/L	97
19) 1,1-Dichloroethane	5.53	63	4633404	94.86	ug/L	98
21) 2-Butanone	6.53	43	1733492	185.53	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	2125732	92.79	ug/L	99
23) Bromochloromethane	6.92	128	776384	93.13	ug/L	98
25) Chloroform	7.09	83	3795127	90.38	ug/L	99
27) 1,2-Dichloroethane	7.89	62	2744497	93.20	ug/L	99
30) Cyclohexane	7.41	56	5191991	94.30	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	3486574	93.41	ug/L	98
32) Carbon tetrachloride	7.53	117	3236382	93.95	ug/L	97
34) Benzene	7.79	78	9446909	95.12	ug/L	100
35) Trichloroethene	8.61	95	2340420	95.13	ug/L	99
36) Methylcyclohexane	8.87	83	4769608	95.58	ug/L	98
40) 1,2-Dichloropropane	8.89	63	2364598	95.55	ug/L	100
41) Bromodichloromethane	9.18	83	2716877	98.52	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	3228465	101.68	ug/L	98
43) 4-Methyl-2-pentanone	9.76	43	3295590	199.32	ug/L	98

M.D. 04/22/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT041216\
Data File : VT013548.D
Acq On : 12 Apr 2016 14:29
Operator : FY/SY
Sample : VSTD10089
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD10089

Manual Integrations APPROVED
MMdadoda
4/13/2016 2:36:25 PM

Quant Time: Apr 12 14:50:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Tue Apr 12 14:29:35 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	9674561	98.86	ug/L	100
45) trans-1,3-Dichloropropene	10.16	75	2768401	109.27	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	1267461	99.03	ug/L	98
47) Tetrachloroethene	10.42	164	1789128	100.86	ug/L	99
49) 2-Hexanone	10.53	43	2583445	190.27	ug/L	100
50) Dibromochloromethane	10.68	129	1623889	104.34	ug/L	95
51) 1,2-Dibromoethane	10.79	107	1201453	99.07	ug/L	99
52) Chlorobenzene	11.21	112	5349680	96.55	ug/L	100
53) Ethylbenzene	11.29	91	11178258	100.16	ug/L	99
54) m,p-Xylene	11.40	106	4099092	100.87	ug/L	100
55) o-xylene	11.73	106	3983889	103.38	ug/L	93
56) Styrene	11.74	104	6157285	102.27	ug/L	99
57) Isopropylbenzene	12.03	105	11304553	103.50	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	1586797	97.78	ug/L	99
61) Bromoform	11.91	173	890429	112.65	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	4088331	98.25	ug/L	100
63) 1,4-Dichlorobenzene	13.14	146	4035383	98.85	ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	3617339	99.71	ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.04	75	276333	106.98	ug/L	95
66) 1,2,4-trichlorobenzene	14.68	180	2239480	99.64	ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	1711696	90.74	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

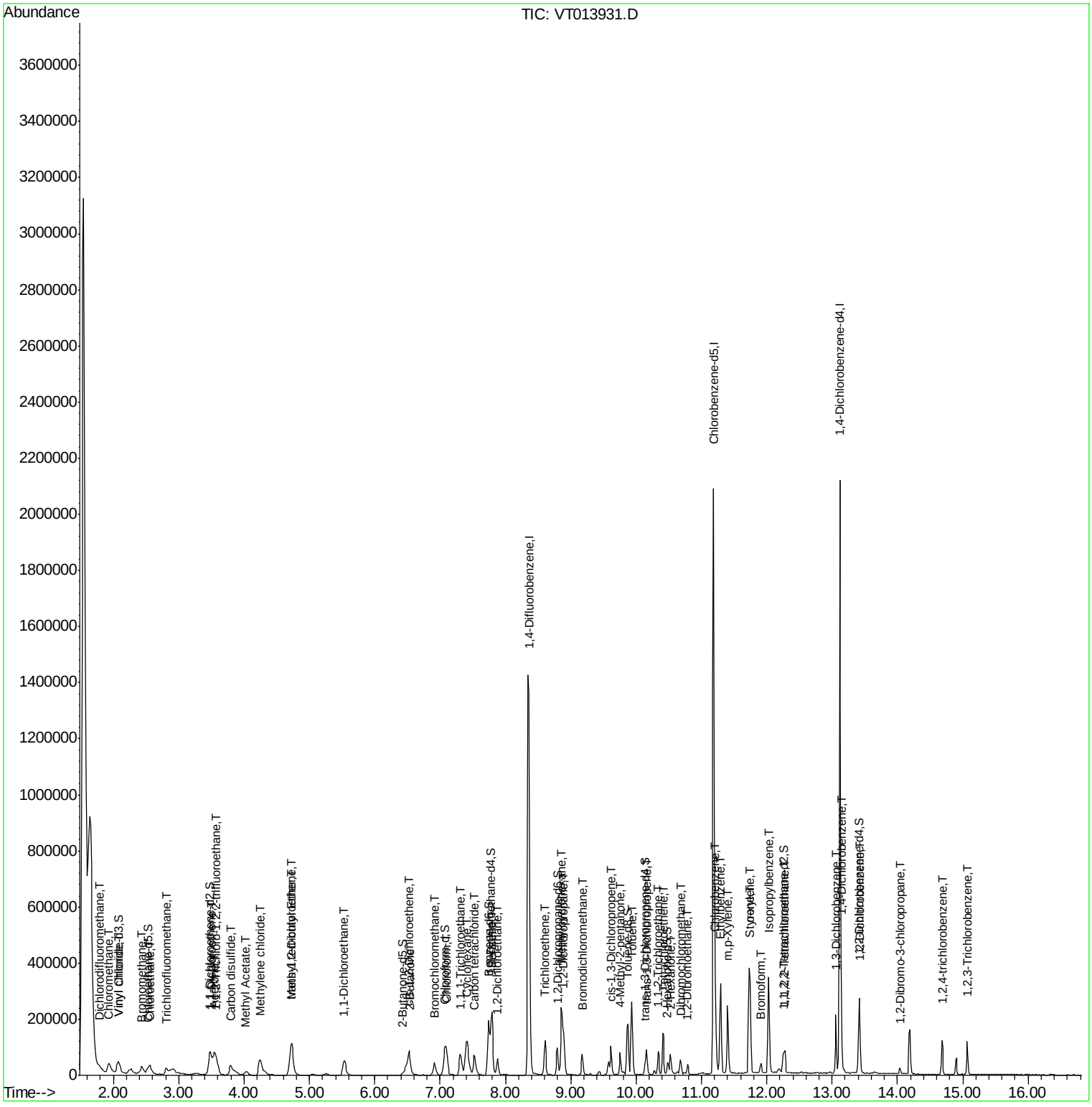
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:13:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.582

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:39 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:13:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.582

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:39 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1111448	25.00	ug/L		0.00
28) Chlorobenzene-d5	11.19	117	893398	25.00	ug/L		0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	433491	25.00	ug/L		0.00
System Monitoring Compounds							
4) Vinyl Chloride-d3	2.08	65	34499	2.01	ug/L		0.00
7) Chloroethane-d5	2.54	69	27381	2.13	ug/L		0.01
10) 1,1-Dichloroethene-d2	3.47	63	87116	2.29	ug/L		0.00
20) 2-Butanone-d5	6.43	46	21134	4.78	ug/L		0.00
24) Chloroform-d	7.07	84	78478	2.42	ug/L		0.00
26) 1,2-Dichloroethane-d4	7.78	65	49761	2.58	ug/L		0.00
29) Benzene-d6	7.74	84	134044	2.38	ug/L		0.00
33) 1,2-Dichloropropane-d6	8.80	67	39674	2.40	ug/L		0.00
37) Toluene-d8	9.87	98	118363	2.35	ug/L		0.00
38) trans-1,3-Dichloropropene-	10.13	79	13149	2.17	ug/L		0.00
39) 2-Hexanone-d5	10.48	63	10869	4.22	ug/L		0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	29806	2.51	ug/L		0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	38351	2.50	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.78	85	55146	2.44	ug/L		87
3) Chloromethane	1.93	50	67674	2.49	ug/L		96
5) Vinyl chloride	2.08	62	62982	2.41	ug/L		95
6) Bromomethane	2.43	94	33595	2.49	ug/L		92
8) Chloroethane	2.56	64	34381	2.35	ug/L		95
9) Trichlorofluoromethane	2.81	101	79618m	4.07	ug/L		
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	46180	2.46	ug/L		99
12) 1,1-Dichloroethene	3.50	96	41497	2.44	ug/L		78
13) Acetone	3.54	43	43368	5.46	ug/L		97
14) Carbon disulfide	3.79	76	119687m	2.49	ug/L		
15) Methyl Acetate	4.03	43	25405	2.58	ug/L		96
16) Methylene chloride	4.24	84	45441	2.71	ug/L		96
17) Methyl tert-butyl Ether	4.73	73	67200	2.32	ug/L		96
18) trans-1,2-Dichloroethene	4.73	96	39952	2.39	ug/L		89
19) 1,1-Dichloroethane	5.53	63	89663	2.41	ug/L		98
21) 2-Butanone	6.54	43	37515	5.03	ug/L		96
22) cis-1,2-Dichloroethene	6.53	96	36666	2.31	ug/L		90
23) Bromochloromethane	6.92	128	14084	2.38	ug/L		96
25) Chloroform	7.09	83	79821	2.46	ug/L		98
27) 1,2-Dichloroethane	7.87	62	61989	2.52	ug/L	#	94
30) Cyclohexane	7.41	56	80569	2.26	ug/L		98
31) 1,1,1-Trichloroethane	7.31	97	68296	2.39	ug/L		97
32) Carbon tetrachloride	7.52	117	60143	2.34	ug/L		99
34) Benzene	7.79	78	168449	2.50	ug/L		100
35) Trichloroethene	8.61	95	42224	2.43	ug/L		96
36) Methylcyclohexane	8.86	83	77487	2.33	ug/L		93
40) 1,2-Dichloropropane	8.89	63	42065	2.47	ug/L	#	96
41) Bromodichloromethane	9.18	83	46455	2.36	ug/L		96
42) cis-1,3-Dichloropropene	9.61	75	45478	2.15	ug/L		96
43) 4-Methyl-2-pentanone	9.76	43	56359	4.81	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:13:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.582

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:39 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	159417	2.44	ug/L		100
45) trans-1,3-Dichloropropene	10.16	75	35934	2.02	ug/L		98
46) 1,1,2-Trichloroethane	10.34	97	22680	2.45	ug/L		98
47) Tetrachloroethene	10.42	164	29791	2.40	ug/L		94
49) 2-Hexanone	10.53	43	48879	4.89	ug/L		94
50) Dibromochloromethane	10.68	129	23647	2.25	ug/L		95
51) 1,2-Dibromoethane	10.79	107	21551	2.49	ug/L		99
52) Chlorobenzene	11.21	112	96287	2.49	ug/L		93
53) Ethylbenzene	11.29	91	186993	2.43	ug/L		95
54) m,p-Xylene	11.40	106	62817	2.30	ug/L		95
55) o-xylene	11.73	106	56681	2.24	ug/L		98
56) Styrene	11.74	104	100873	2.44	ug/L		90
57) Isopropylbenzene	12.03	105	170100	2.27	ug/L		97
58) 1,1,2,2-Tetrachloroethane	12.28	83	29656	2.50	ug/L		96
61) Bromoform	11.91	173	14228	2.59	ug/L		99
62) 1,3-Dichlorobenzene	13.06	146	63700	2.35	ug/L		95
63) 1,4-Dichlorobenzene	13.14	146	74806	2.58	ug/L		98
64) 1,2-Dichlorobenzene	13.42	146	60657	2.45	ug/L		94
65) 1,2-Dibromo-3-chloropropan	14.04	75	5270	2.70	ug/L	#	74
66) 1,2,4-trichlorobenzene	14.69	180	31521	2.22	ug/L		97
67) 1,2,3-Trichlorobenzene	15.07	180	30914	2.41	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

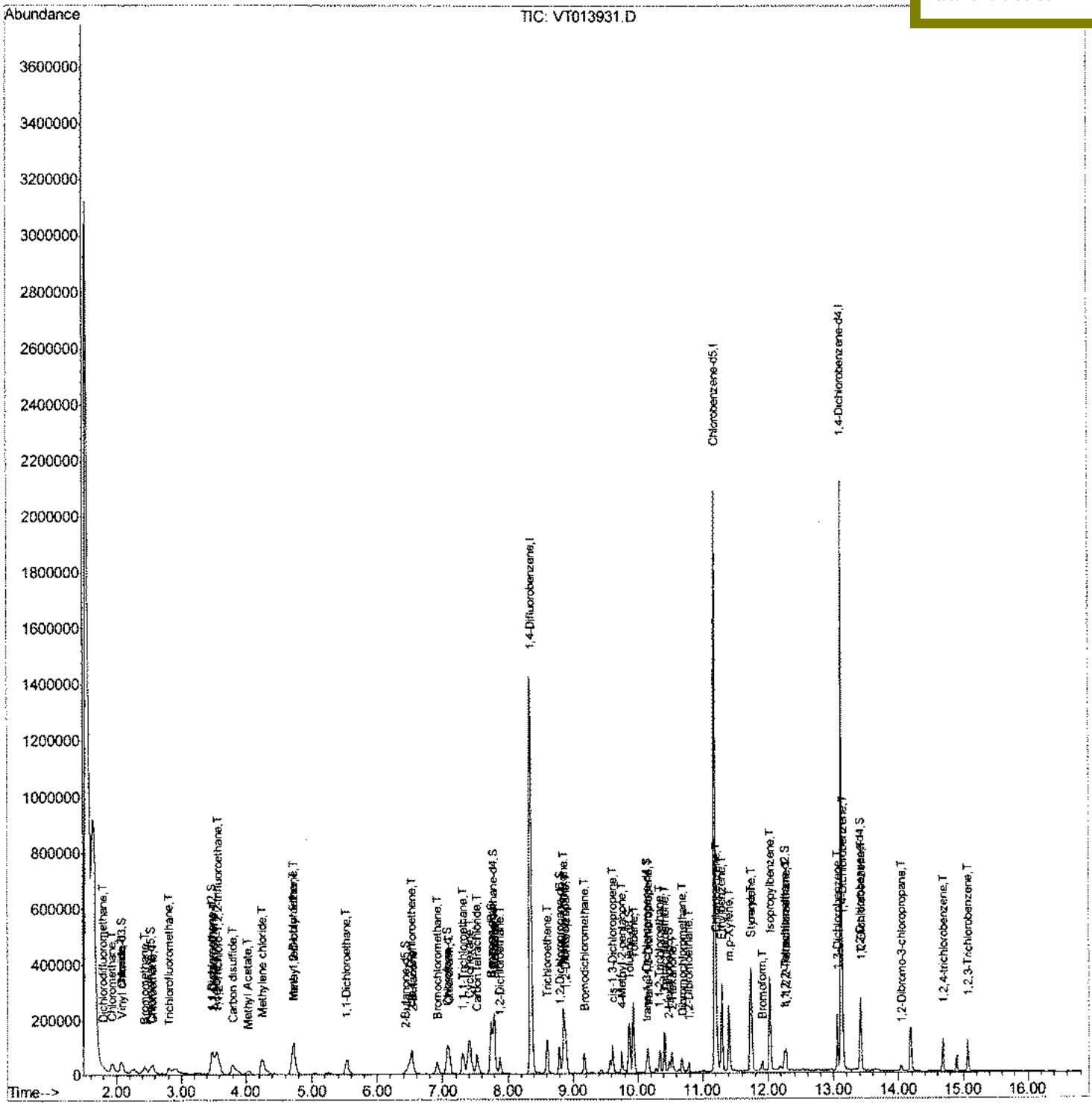
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:13:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.582

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:39 PM



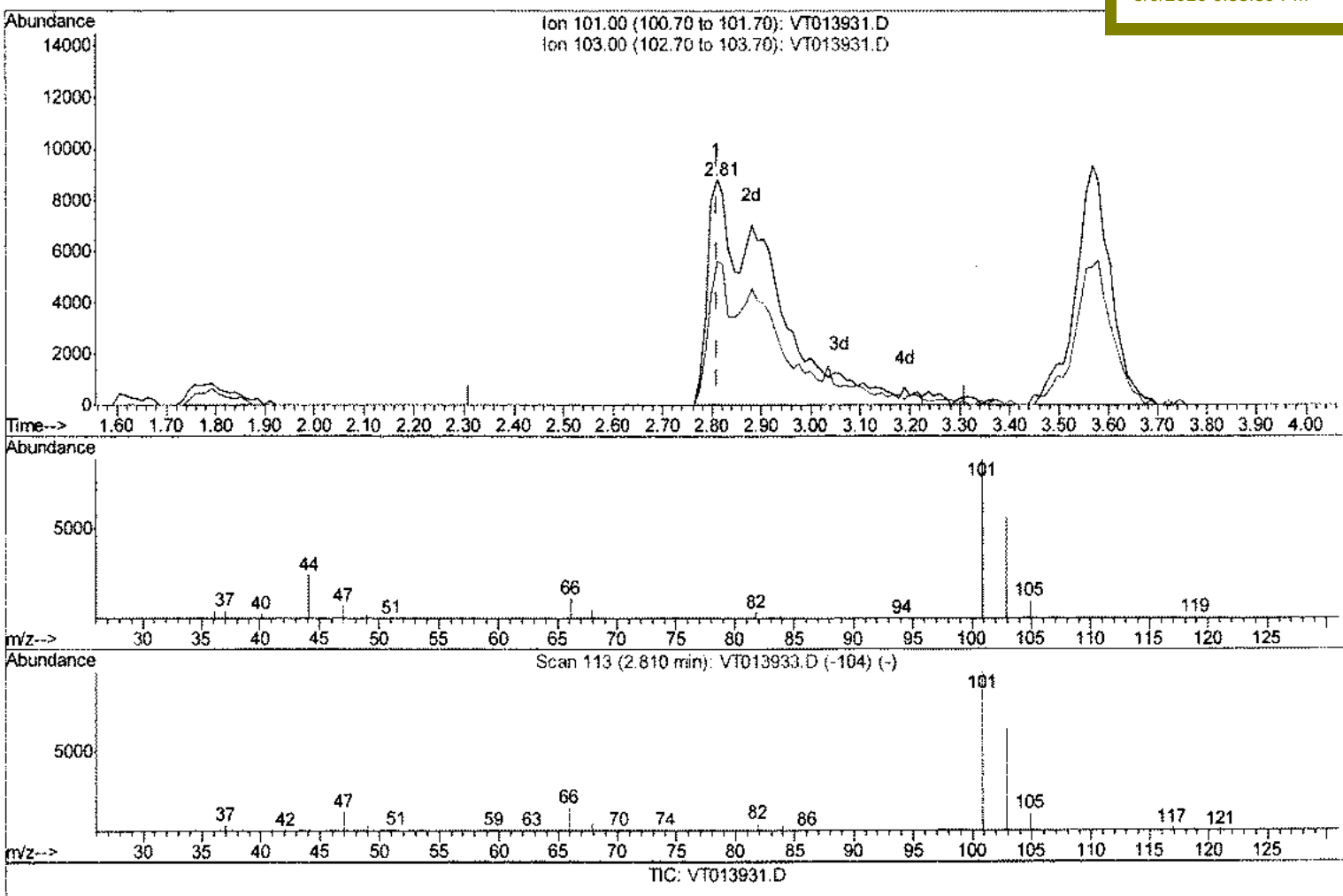
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:10:39 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.582

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:39 PM



TIC: VT013931.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 4.07ug/L m

response 79618

M.D 05/13/16

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	22.14
0.00	0.00	0.00
0.00	0.00	0.00

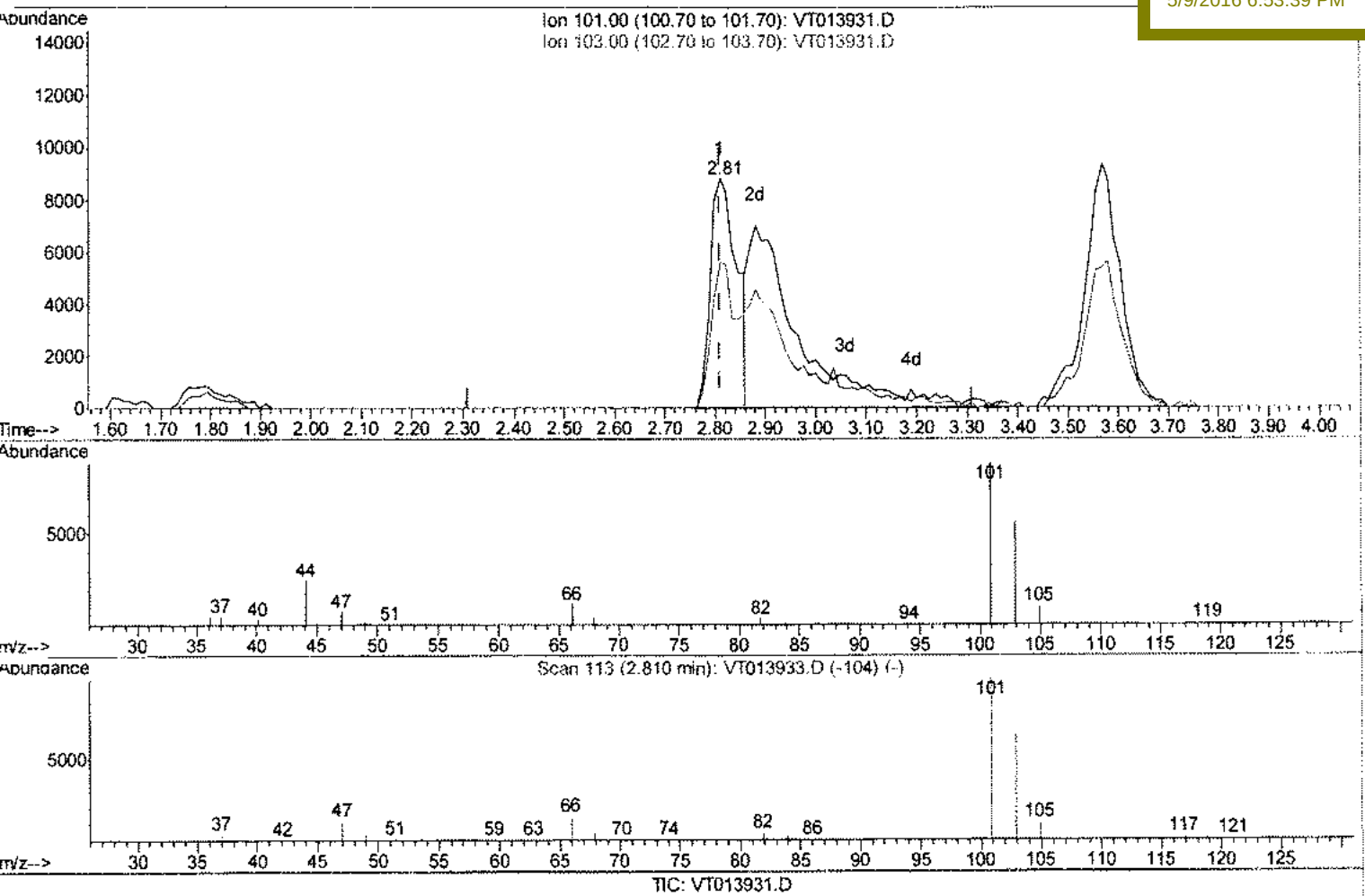
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:10:39 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.582

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:39 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 1.66ug/L

response 32432

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	54.36#
0.00	0.00	0.00
0.00	0.00	0.00

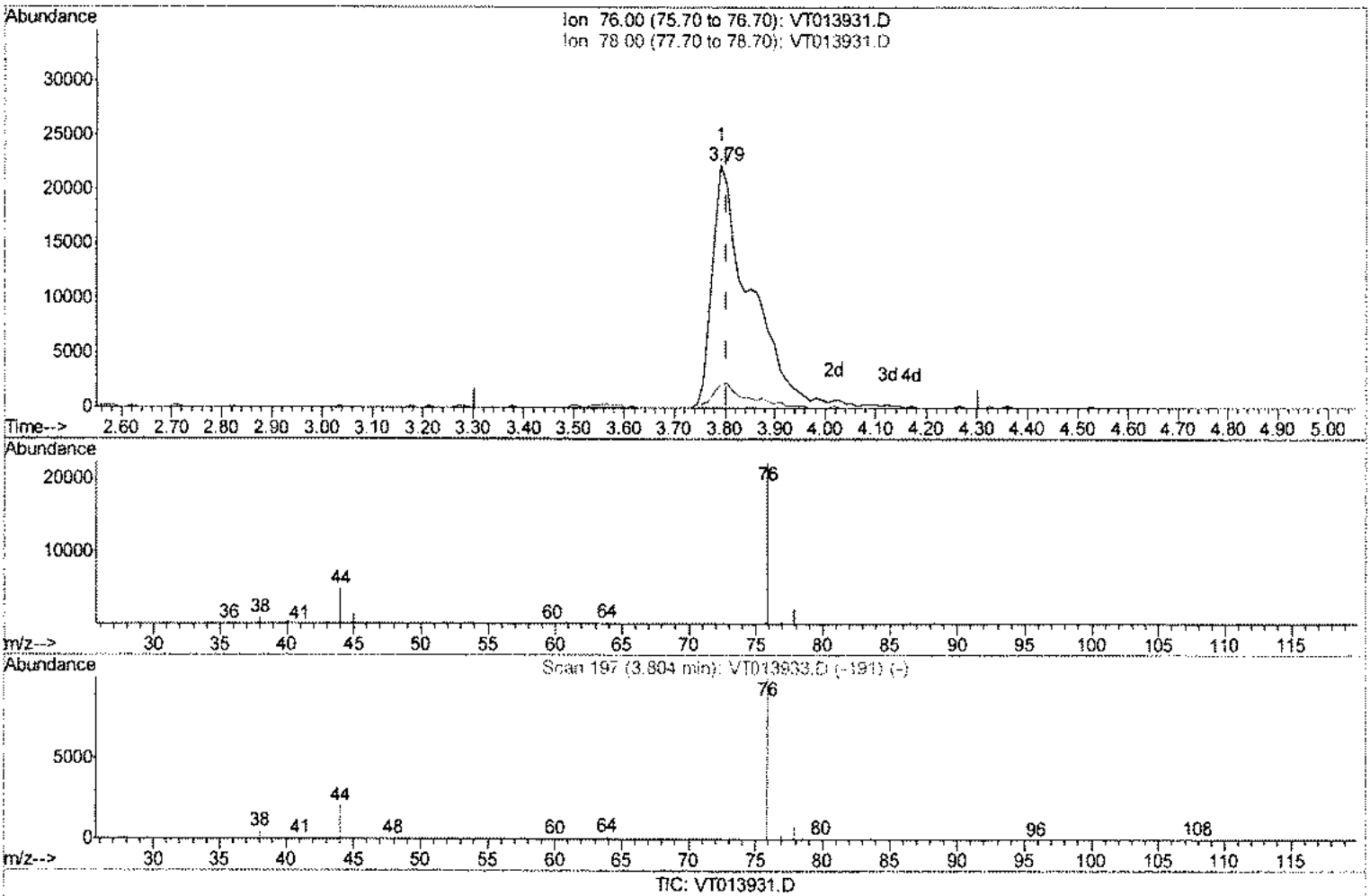
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:10:39 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.582

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:39 PM



TIC: VT013931.D

(14) Carbon disulfide (T)

3.792min (-0.012) 2.49ug/L m M.D 05/13/16

response 119687

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.56
0.00	0.00	0.00
0.00	0.00	0.00

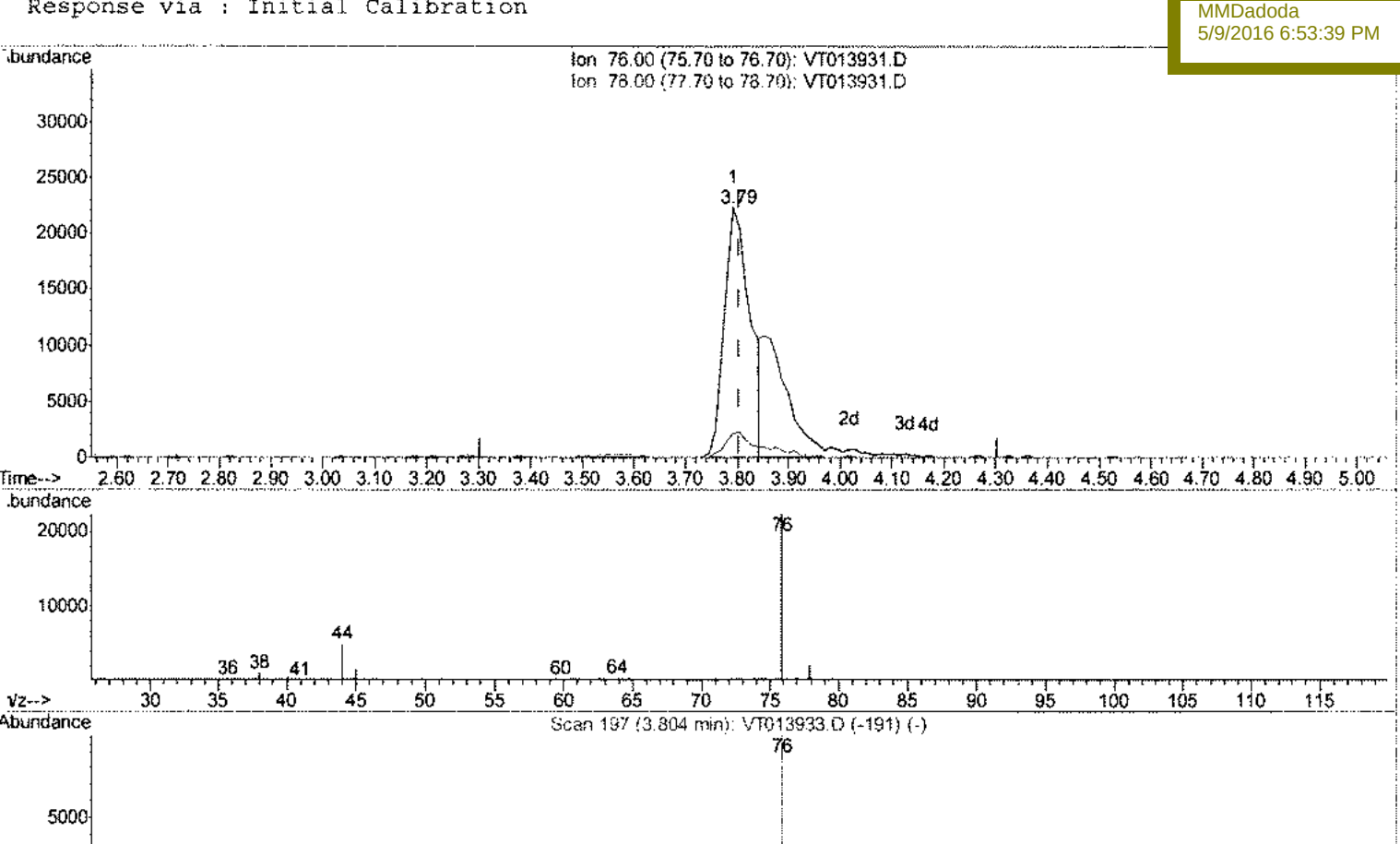
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:10:39 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.582

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:39 PM



(14) Carbon disulfide (T)

3.792min (-0.012) 1.59ug/L

response 76414

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:13:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.582

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:39 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1111448	25.00	ug/L		0.00
28) Chlorobenzene-d5	11.19	117	893398	25.00	ug/L		0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	433491	25.00	ug/L		0.00
System Monitoring Compounds							
4) Vinyl Chloride-d3	2.08	65	34499	2.01	ug/L		0.00
7) Chloroethane-d5	2.54	69	27381	2.13	ug/L		0.01
10) 1,1-Dichloroethene-d2	3.47	63	87116	2.29	ug/L		0.00
20) 2-Butanone-d5	6.43	46	21134	4.78	ug/L		0.00
24) Chloroform-d	7.07	84	78478	2.42	ug/L		0.00
26) 1,2-Dichloroethane-d4	7.78	65	49761	2.58	ug/L		0.00
29) Benzene-d6	7.74	84	134044	2.38	ug/L		0.00
33) 1,2-Dichloropropane-d6	8.80	67	39674	2.40	ug/L		0.00
37) Toluene-d8	9.87	98	118363	2.35	ug/L		0.00
38) trans-1,3-Dichloropropene-	10.13	79	13149	2.17	ug/L		0.00
39) 2-Hexanone-d5	10.48	63	10869	4.22	ug/L		0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	29806	2.51	ug/L		0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	38351	2.50	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.78	85	55146	2.44	ug/L		87
3) Chloromethane	1.93	50	67674	2.49	ug/L		96
5) Vinyl chloride	2.08	62	62982	2.41	ug/L		95
6) Bromomethane	2.43	94	33595	2.49	ug/L		92
8) Chloroethane	2.56	64	34381	2.35	ug/L		95
9) Trichlorofluoromethane	2.81	101	79618m	4.07	ug/L		
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	46180	2.46	ug/L		99
12) 1,1-Dichloroethene	3.50	96	41497	2.44	ug/L		78
13) Acetone	3.54	43	43368	5.46	ug/L		97
14) Carbon disulfide	3.79	76	119687m	2.49	ug/L		
15) Methyl Acetate	4.03	43	25405	2.58	ug/L		96
16) Methylene chloride	4.24	84	45441	2.71	ug/L		96
17) Methyl tert-butyl Ether	4.73	73	67200	2.32	ug/L		96
18) trans-1,2-Dichloroethene	4.73	96	39952	2.39	ug/L		89
19) 1,1-Dichloroethane	5.53	63	89663	2.41	ug/L		98
21) 2-Butanone	6.54	43	37515	5.03	ug/L		96
22) cis-1,2-Dichloroethene	6.53	96	36666	2.31	ug/L		90
23) Bromochloromethane	6.92	128	14084	2.38	ug/L		96
25) Chloroform	7.09	83	79821	2.46	ug/L		98
27) 1,2-Dichloroethane	7.87	62	61989	2.52	ug/L	#	94
30) Cyclohexane	7.41	56	80569	2.26	ug/L		98
31) 1,1,1-Trichloroethane	7.31	97	68296	2.39	ug/L		97
32) Carbon tetrachloride	7.52	117	60143	2.34	ug/L		99
34) Benzene	7.79	78	168449	2.50	ug/L		100
35) Trichloroethene	8.61	95	42224	2.43	ug/L		96
36) Methylcyclohexane	8.86	83	77487	2.33	ug/L		93
40) 1,2-Dichloropropane	8.89	63	42065	2.47	ug/L	#	96
41) Bromodichloromethane	9.18	83	46455	2.36	ug/L		96
42) cis-1,3-Dichloropropene	9.61	75	45478	2.15	ug/L		96
43) 4-Methyl-2-pentanone	9.76	43	56359	4.81	ug/L		97

M.D 05/13/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013931.D
Acq On : 6 May 2016 9:38
Operator : FY/SY
Sample : VSTD2.582
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 11:13:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.582

Manual Integrations APPROVED
MMDadoda
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Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	159417	2.44	ug/L		100
45) trans-1,3-Dichloropropene	10.16	75	35934	2.02	ug/L		98
46) 1,1,2-Trichloroethane	10.34	97	22680	2.45	ug/L		98
47) Tetrachloroethene	10.42	164	29791	2.40	ug/L		94
49) 2-Hexanone	10.53	43	48879	4.89	ug/L		94
50) Dibromochloromethane	10.68	129	23647	2.25	ug/L		95
51) 1,2-Dibromoethane	10.79	107	21551	2.49	ug/L		99
52) Chlorobenzene	11.21	112	96287	2.49	ug/L		93
53) Ethylbenzene	11.29	91	186993	2.43	ug/L		95
54) m,p-Xylene	11.40	106	62817	2.30	ug/L		95
55) o-xylene	11.73	106	56681	2.24	ug/L		98
56) Styrene	11.74	104	100873	2.44	ug/L		90
57) Isopropylbenzene	12.03	105	170100	2.27	ug/L		97
58) 1,1,2,2-Tetrachloroethane	12.28	83	29656	2.50	ug/L		96
61) Bromoform	11.91	173	14228	2.59	ug/L		99
62) 1,3-Dichlorobenzene	13.06	146	63700	2.35	ug/L		95
63) 1,4-Dichlorobenzene	13.14	146	74806	2.58	ug/L		98
64) 1,2-Dichlorobenzene	13.42	146	60657	2.45	ug/L		94
65) 1,2-Dibromo-3-chloropropan	14.04	75	5270	2.70	ug/L	#	74
66) 1,2,4-trichlorobenzene	14.69	180	31521	2.22	ug/L		97
67) 1,2,3-Trichlorobenzene	15.07	180	30914	2.41	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013932.D
Acq On : 6 May 2016 10:05
Operator : FY/SY
Sample : VSTD00583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 11:15:50 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00583

Manual Integrations APPROVED
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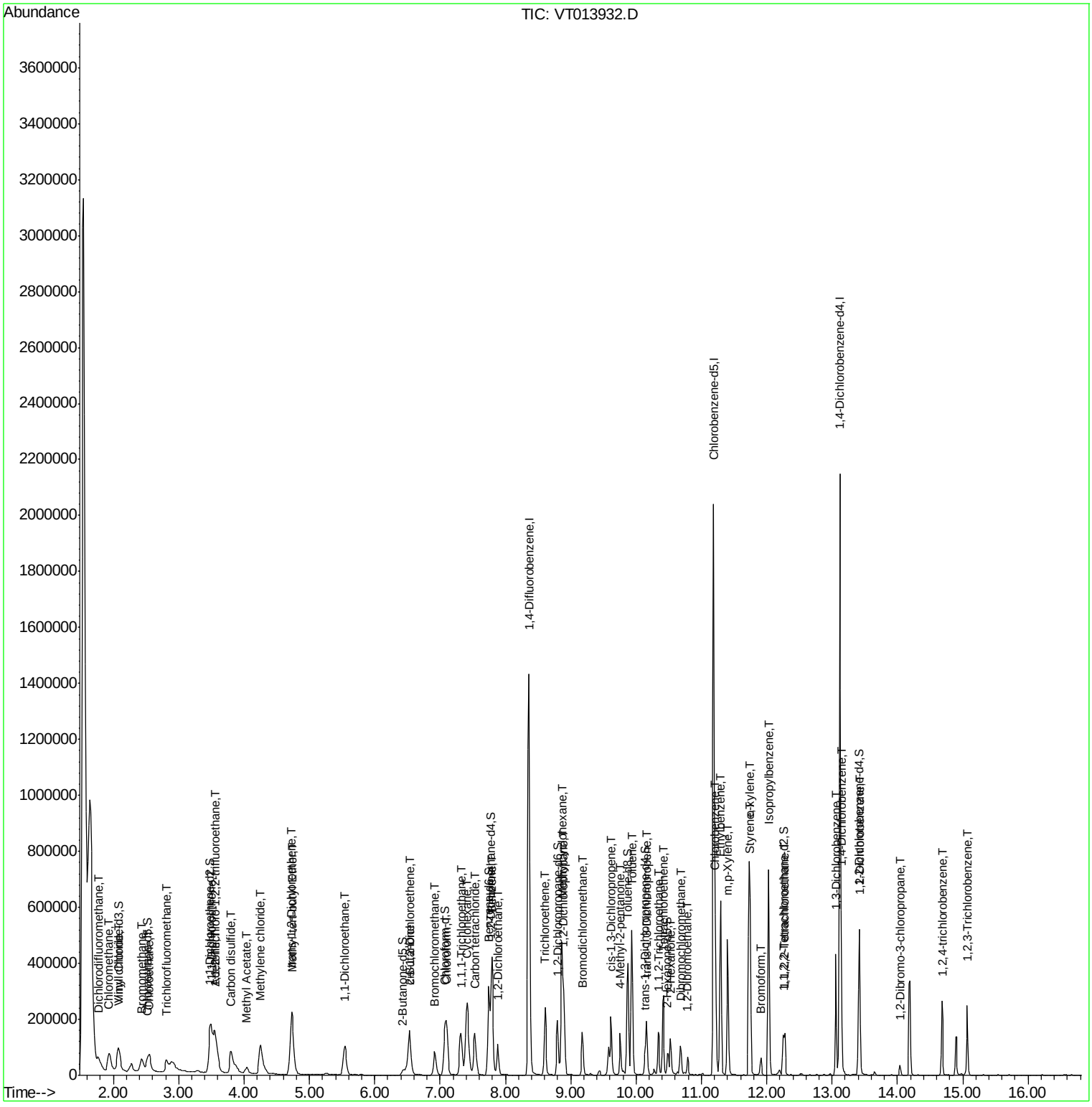

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013932.D
Acq On : 6 May 2016 10:05
Operator : FY/SY
Sample : VSTD00583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 11:15:50 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00583

Manual Integrations APPROVED
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5/9/2016 6:53:45 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1050755	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	861113	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	435064	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	72489	4.47	ug/L	0.00
7) Chloroethane-d5	2.51	69	57426	4.72	ug/L	-0.01
10) 1,1-Dichloroethene-d2	3.47	63	174434	4.85	ug/L	0.00
20) 2-Butanone-d5	6.43	46	38797	9.29	ug/L	0.00
24) Chloroform-d	7.07	84	154266	5.04	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	87618	4.81	ug/L	0.00
29) Benzene-d6	7.74	84	272326	5.01	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	78947	4.95	ug/L	0.00
37) Toluene-d8	9.87	98	243232	5.01	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	28516	4.88	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	23275	9.39	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	56127	4.89	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	76038	4.93	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	104308	4.88	ug/L	97
3) Chloromethane	1.93	50	127300	4.95	ug/L	99
5) Vinyl chloride	2.09	62	125905	5.10	ug/L	96
6) Bromomethane	2.43	94	65914	5.16	ug/L	97
8) Chloroethane	2.55	64	71977	5.21	ug/L	96
9) Trichlorofluoromethane	2.81	101	156011m	8.44	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.56	101	90389	5.10	ug/L	98
12) 1,1-Dichloroethene	3.50	96	80813	5.03	ug/L	94
13) Acetone	3.56	43	69610	9.27	ug/L	96
14) Carbon disulfide	3.80	76	260514	5.73	ug/L	99
15) Methyl Acetate	4.04	43	42406	4.56	ug/L	98
16) Methylene chloride	4.25	84	77522	4.89	ug/L	93
17) Methyl tert-butyl Ether	4.74	73	127852	4.67	ug/L	95
18) trans-1,2-Dichloroethene	4.73	96	78124	4.94	ug/L	92
19) 1,1-Dichloroethane	5.54	63	174942	4.97	ug/L	97
21) 2-Butanone	6.54	43	64161	9.10	ug/L	99
22) cis-1,2-Dichloroethene	6.54	96	74078	4.94	ug/L	98
23) Bromochloromethane	6.92	128	27985	5.00	ug/L	93
25) Chloroform	7.11	83	153496	5.01	ug/L	99
27) 1,2-Dichloroethane	7.89	62	114038	4.91	ug/L	97
30) Cyclohexane	7.41	56	172379	5.01	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	140778	5.10	ug/L	98
32) Carbon tetrachloride	7.53	117	126830	5.11	ug/L	99
34) Benzene	7.79	78	321243	4.95	ug/L	100
35) Trichloroethene	8.61	95	82707	4.94	ug/L	96
36) Methylcyclohexane	8.87	83	160383	5.01	ug/L	96
40) 1,2-Dichloropropane	8.89	63	82888	5.06	ug/L	99
41) Bromodichloromethane	9.18	83	94492	4.98	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	98192	4.82	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	104240	9.24	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013932.D
Acq On : 6 May 2016 10:05
Operator : FY/SY
Sample : VSTD00583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 11:15:50 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00583

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:45 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	313971	4.98	ug/L		99
45) trans-1,3-Dichloropropene	10.16	75	85044	4.97	ug/L		99
46) 1,1,2-Trichloroethane	10.35	97	44558	5.00	ug/L		91
47) Tetrachloroethene	10.42	164	59693	4.98	ug/L		99
49) 2-Hexanone	10.53	43	86248	8.95	ug/L		96
50) Dibromochloromethane	10.68	129	49217	4.86	ug/L		99
51) 1,2-Dibromoethane	10.79	107	39194	4.69	ug/L		96
52) Chlorobenzene	11.21	112	181037	4.86	ug/L		95
53) Ethylbenzene	11.29	91	367254	4.94	ug/L		98
54) m,p-Xylene	11.40	106	132170	5.03	ug/L		97
55) o-xylene	11.73	106	119917	4.92	ug/L		100
56) Styrene	11.74	104	194570	4.88	ug/L		93
57) Isopropylbenzene	12.03	105	359161	4.98	ug/L		97
58) 1,1,2,2-Tetrachloroethane	12.28	83	55088	4.81	ug/L		98
61) Bromoform	11.91	173	25145	4.57	ug/L		99
62) 1,3-Dichlorobenzene	13.06	146	133622	4.92	ug/L		97
63) 1,4-Dichlorobenzene	13.14	146	142660	4.90	ug/L		97
64) 1,2-Dichlorobenzene	13.42	146	122695	4.93	ug/L		95
65) 1,2-Dibromo-3-chloropropan	14.04	75	8159	4.16	ug/L	#	84
66) 1,2,4-trichlorobenzene	14.69	180	67821	4.76	ug/L		98
67) 1,2,3-Trichlorobenzene	15.07	180	62538	4.87	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

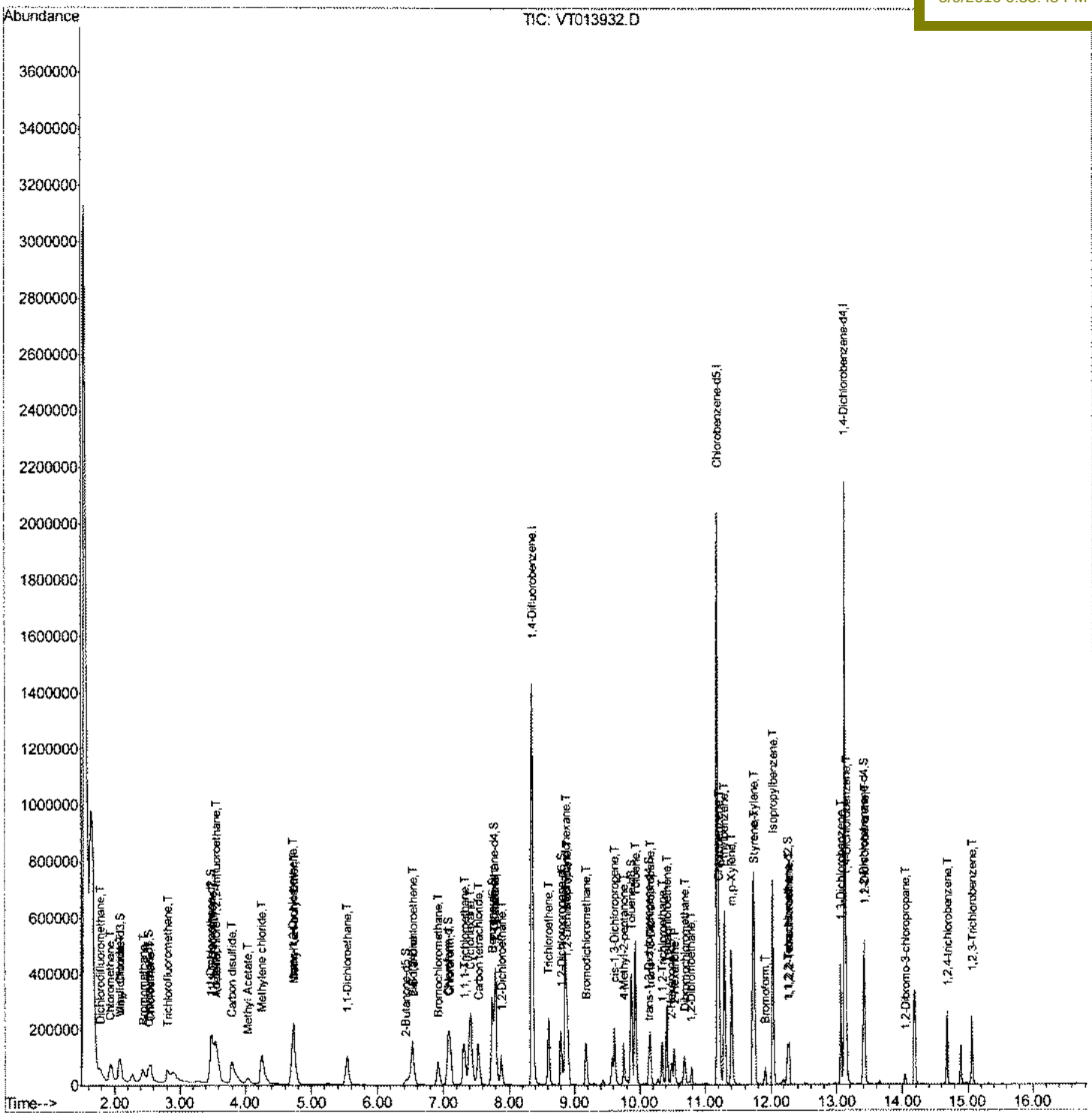
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013932.D
Acq On : 6 May 2016 10:05
Operator : FY/SY
Sample : VSTD00583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 11:15:50 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00583

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:45 PM



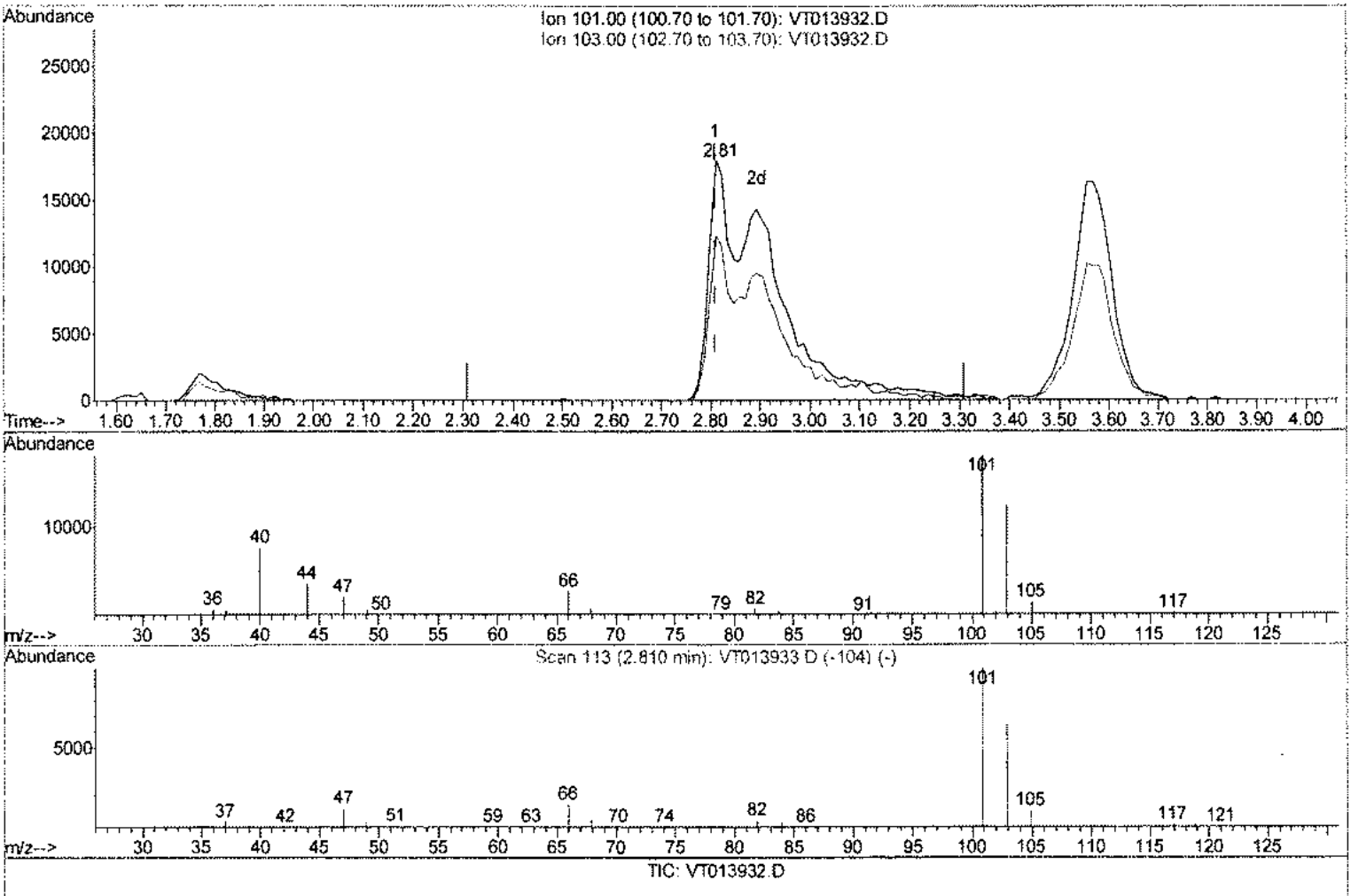
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013932.D
Acq On : 6 May 2016 10:05
Operator : FY/SY
Sample : VSTD00583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 11:10:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00583

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:45 PM



TIC: VT013932.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 8.44ug/L m

response 156011

M.D 05/13/16

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	23.34
0.00	0.00	0.00
0.00	0.00	0.00

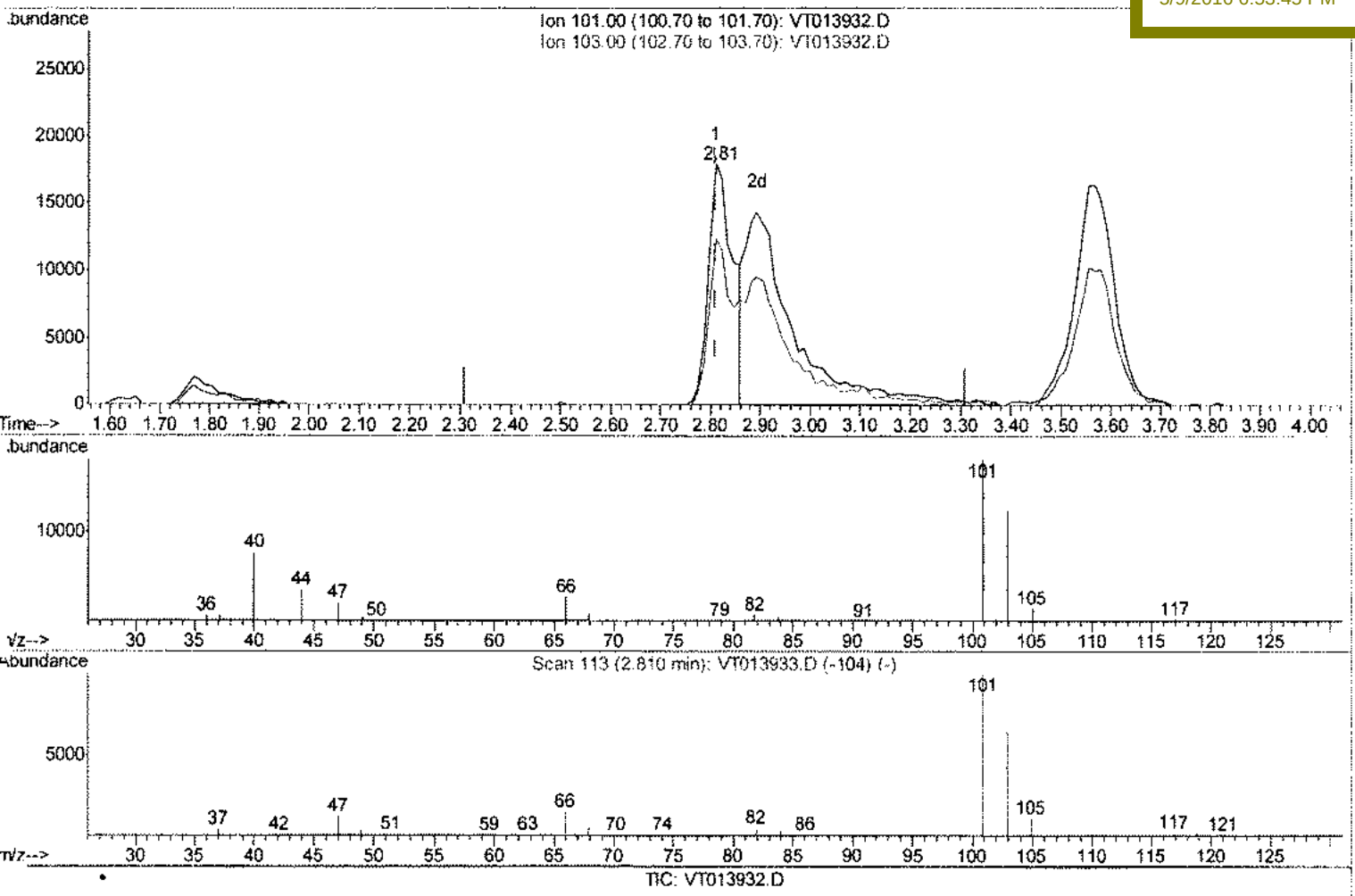
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013932.D
Acq On : 6 May 2016 10:05
Operator : FY/SY
Sample : VSTD00583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 11:10:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00583

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:45 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 3.30ug/L

response 61034

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	59.67#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013932.D
Acq On : 6 May 2016 10:05
Operator : FY/SY
Sample : VSTD00583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD00583

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:45 PM

Quant Time: May 06 11:15:50 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1050755	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	861113	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	435064	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	72489	4.47	ug/L	0.00
7) Chloroethane-d5	2.51	69	57426	4.72	ug/L	-0.01
10) 1,1-Dichloroethene-d2	3.47	63	174434	4.85	ug/L	0.00
20) 2-Butanone-d5	6.43	46	38797	9.29	ug/L	0.00
24) Chloroform-d	7.07	84	154266	5.04	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	87618	4.81	ug/L	0.00
29) Benzene-d6	7.74	84	272326	5.01	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	78947	4.95	ug/L	0.00
37) Toluene-d8	9.87	98	243232	5.01	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	28516	4.88	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	23275	9.39	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	56127	4.89	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	76038	4.93	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	104308	4.88	ug/L	97
3) Chloromethane	1.93	50	127300	4.95	ug/L	99
5) Vinyl chloride	2.09	62	125905	5.10	ug/L	96
6) Bromomethane	2.43	94	65914	5.16	ug/L	97
8) Chloroethane	2.55	64	71977	5.21	ug/L	96
9) Trichlorofluoromethane	2.81	101	156011m	8.44	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.56	101	90389	5.10	ug/L	98
12) 1,1-Dichloroethene	3.50	96	80813	5.03	ug/L	94
13) Acetone	3.56	43	69610	9.27	ug/L	96
14) Carbon disulfide	3.80	76	260514	5.73	ug/L	99
15) Methyl Acetate	4.04	43	42406	4.56	ug/L	98
16) Methylene chloride	4.25	84	77522	4.89	ug/L	93
17) Methyl tert-butyl Ether	4.74	73	127852	4.67	ug/L	95
18) trans-1,2-Dichloroethene	4.73	96	78124	4.94	ug/L	92
19) 1,1-Dichloroethane	5.54	63	174942	4.97	ug/L	97
21) 2-Butanone	6.54	43	64161	9.10	ug/L	99
22) cis-1,2-Dichloroethene	6.54	96	74078	4.94	ug/L	98
23) Bromochloromethane	6.92	128	27985	5.00	ug/L	93
25) Chloroform	7.11	83	153496	5.01	ug/L	99
27) 1,2-Dichloroethane	7.89	62	114038	4.91	ug/L	97
30) Cyclohexane	7.41	56	172379	5.01	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	140778	5.10	ug/L	98
32) Carbon tetrachloride	7.53	117	126830	5.11	ug/L	99
34) Benzene	7.79	78	321243	4.95	ug/L	100
35) Trichloroethene	8.61	95	82707	4.94	ug/L	96
36) Methylcyclohexane	8.87	83	160383	5.01	ug/L	96
40) 1,2-Dichloropropane	8.89	63	82888	5.06	ug/L	99
41) Bromodichloromethane	9.18	83	94492	4.98	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	98192	4.82	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	104240	9.24	ug/L	97

M.D 05/13/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013932.D
Acq On : 6 May 2016 10:05
Operator : FY/SY
Sample : VSTD00583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 11:15:50 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00583

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:45 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	313971	4.98	ug/L		99
45) trans-1,3-Dichloropropene	10.16	75	85044	4.97	ug/L		99
46) 1,1,2-Trichloroethane	10.35	97	44558	5.00	ug/L		91
47) Tetrachloroethene	10.42	164	59693	4.98	ug/L		99
49) 2-Hexanone	10.53	43	86248	8.95	ug/L		96
50) Dibromochloromethane	10.68	129	49217	4.86	ug/L		99
51) 1,2-Dibromoethane	10.79	107	39194	4.69	ug/L		96
52) Chlorobenzene	11.21	112	181037	4.86	ug/L		95
53) Ethylbenzene	11.29	91	367254	4.94	ug/L		98
54) m,p-Xylene	11.40	106	132170	5.03	ug/L		97
55) o-xylene	11.73	106	119917	4.92	ug/L		100
56) Styrene	11.74	104	194570	4.88	ug/L		93
57) Isopropylbenzene	12.03	105	359161	4.98	ug/L		97
58) 1,1,2,2-Tetrachloroethane	12.28	83	55088	4.81	ug/L		98
61) Bromoform	11.91	173	25145	4.57	ug/L		99
62) 1,3-Dichlorobenzene	13.06	146	133622	4.92	ug/L		97
63) 1,4-Dichlorobenzene	13.14	146	142660	4.90	ug/L		97
64) 1,2-Dichlorobenzene	13.42	146	122695	4.93	ug/L		95
65) 1,2-Dibromo-3-chloropropan	14.04	75	8159	4.16	ug/L	#	84
66) 1,2,4-trichlorobenzene	14.69	180	67821	4.76	ug/L		98
67) 1,2,3-Trichlorobenzene	15.07	180	62538	4.87	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

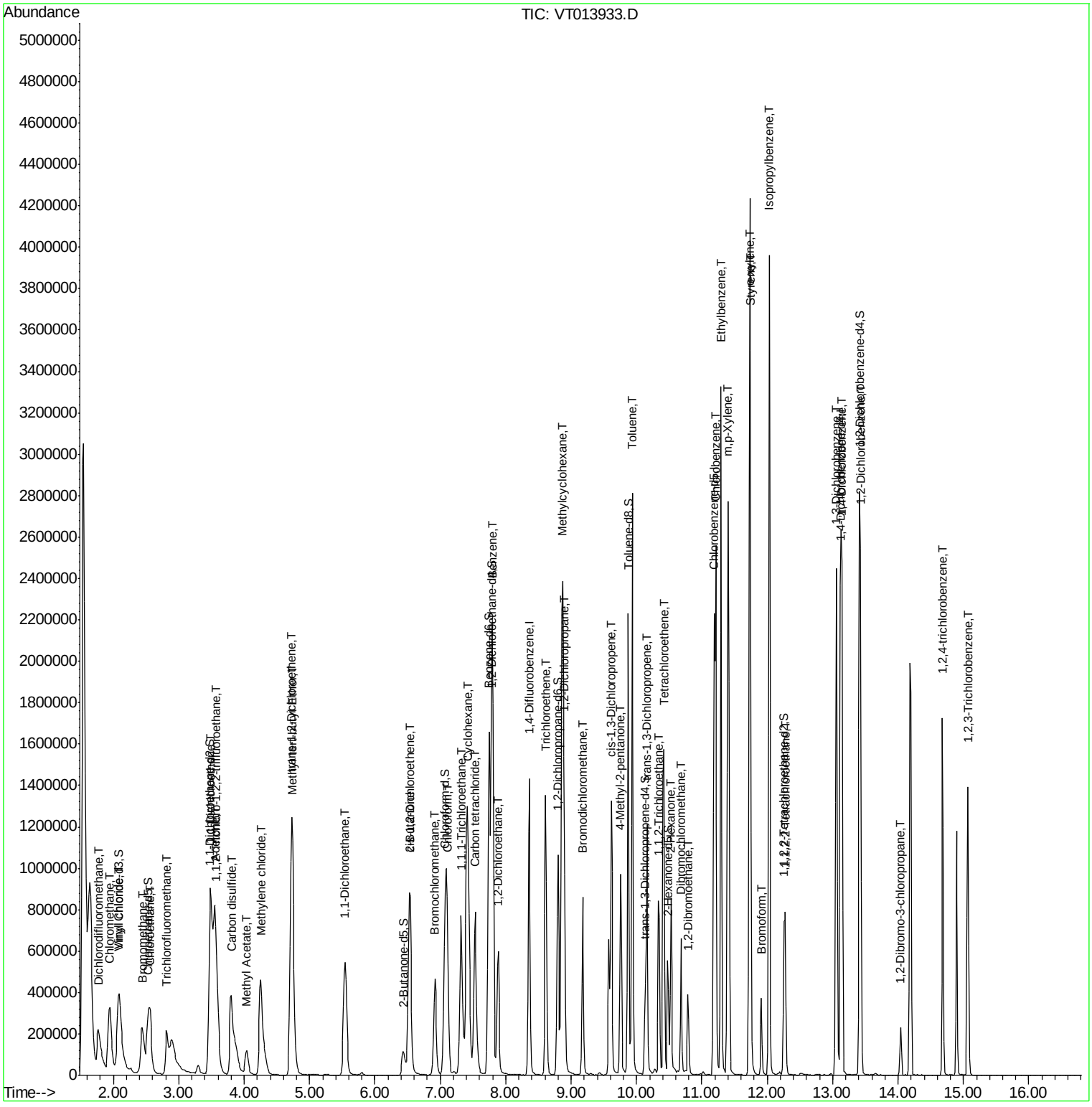
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013933.D
Acq On : 6 May 2016 10:31
Operator : FY/SY
Sample : VSTD02584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 11:17:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02584

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:50 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013933.D
Acq On : 6 May 2016 10:31
Operator : FY/SY
Sample : VSTD02584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 11:17:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02584

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:50 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1067476	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	901702	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	456257	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	537009	32.57	ug/L	0.00
7) Chloroethane-d5	2.53	69	372350	30.12	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	1017018	27.84	ug/L	0.00
20) 2-Butanone-d5	6.43	46	236369	55.71	ug/L	0.00
24) Chloroform-d	7.07	84	795035	25.57	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	464858	25.12	ug/L	0.00
29) Benzene-d6	7.74	84	1487217	26.15	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	438765	26.27	ug/L	0.00
37) Toluene-d8	9.87	98	1343158	26.43	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	176564	28.88	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	157923	60.82	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	305960	25.48	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	410185	25.37	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	567995	26.18	ug/L	100
3) Chloromethane	1.95	50	659551	25.22	ug/L	99
5) Vinyl chloride	2.09	62	636163	25.38	ug/L	99
6) Bromomethane	2.44	94	315891	24.34	ug/L	99
8) Chloroethane	2.56	64	356621	25.41	ug/L	98
9) Trichlorofluoromethane	2.81	101	810588m	43.19	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	448956	24.91	ug/L	98
12) 1,1-Dichloroethene	3.48	96	414156	25.39	ug/L	80
13) Acetone	3.56	43	373593	49.00	ug/L	94
14) Carbon disulfide	3.80	76	1406673	30.46	ug/L	100
15) Methyl Acetate	4.04	43	248633	26.34	ug/L	96
16) Methylene chloride	4.25	84	378583	23.49	ug/L	94
17) Methyl tert-butyl Ether	4.74	73	792569	28.48	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	424686	26.43	ug/L	96
19) 1,1-Dichloroethane	5.54	63	934699	26.11	ug/L	99
21) 2-Butanone	6.54	43	387961	54.18	ug/L	99
22) cis-1,2-Dichloroethene	6.54	96	413366	27.15	ug/L	97
23) Bromochloromethane	6.92	128	149170	26.23	ug/L	94
25) Chloroform	7.11	83	789395	25.35	ug/L	98
27) 1,2-Dichloroethane	7.89	62	596208	25.25	ug/L	97
30) Cyclohexane	7.41	56	988118	27.41	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	739375	25.60	ug/L	99
32) Carbon tetrachloride	7.53	117	676760	26.06	ug/L	99
34) Benzene	7.79	78	1709578	25.18	ug/L	100
35) Trichloroethene	8.61	95	454894	25.96	ug/L	98
36) Methylcyclohexane	8.87	83	893480	26.64	ug/L	98
40) 1,2-Dichloropropane	8.89	63	428918	24.99	ug/L	99
41) Bromodichloromethane	9.18	83	527288	26.53	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	627081	29.39	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	657584	55.66	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013933.D
Acq On : 6 May 2016 10:31
Operator : FY/SY
Sample : VSTD02584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 11:17:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02584

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:50 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	1700862	25.75	ug/L		99
45) trans-1,3-Dichloropropene	10.16	75	535559	29.90	ug/L		100
46) 1,1,2-Trichloroethane	10.34	97	238165	25.50	ug/L		97
47) Tetrachloroethene	10.42	164	327817	26.13	ug/L		98
49) 2-Hexanone	10.53	43	568544	56.35	ug/L		99
50) Dibromochloromethane	10.68	129	299748	28.24	ug/L		95
51) 1,2-Dibromoethane	10.79	107	232991	26.65	ug/L		98
52) Chlorobenzene	11.21	112	1006303	25.79	ug/L		97
53) Ethylbenzene	11.29	91	2025777	26.03	ug/L		100
54) m,p-Xylene	11.40	106	737812	26.81	ug/L		100
55) o-xylene	11.73	106	715637	28.02	ug/L		91
56) Styrene	11.74	104	1094700	26.22	ug/L		96
57) Isopropylbenzene	12.03	105	2069520	27.39	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.28	83	311950	26.00	ug/L		97
61) Bromoform	11.91	173	151481	26.23	ug/L		99
62) 1,3-Dichlorobenzene	13.06	146	765151	26.86	ug/L		97
63) 1,4-Dichlorobenzene	13.14	146	753373	24.69	ug/L		98
64) 1,2-Dichlorobenzene	13.42	146	675723	25.89	ug/L		97
65) 1,2-Dibromo-3-chloropropan	14.04	75	55878	27.19	ug/L	#	82
66) 1,2,4-trichlorobenzene	14.68	180	432227	28.95	ug/L		98
67) 1,2,3-Trichlorobenzene	15.07	180	357304	26.52	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013933.D
Acq On : 6 May 2016 10:31
Operator : FY/SY
Sample : VSTD02584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 11:17:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02584

Manual Integrations APPROVED
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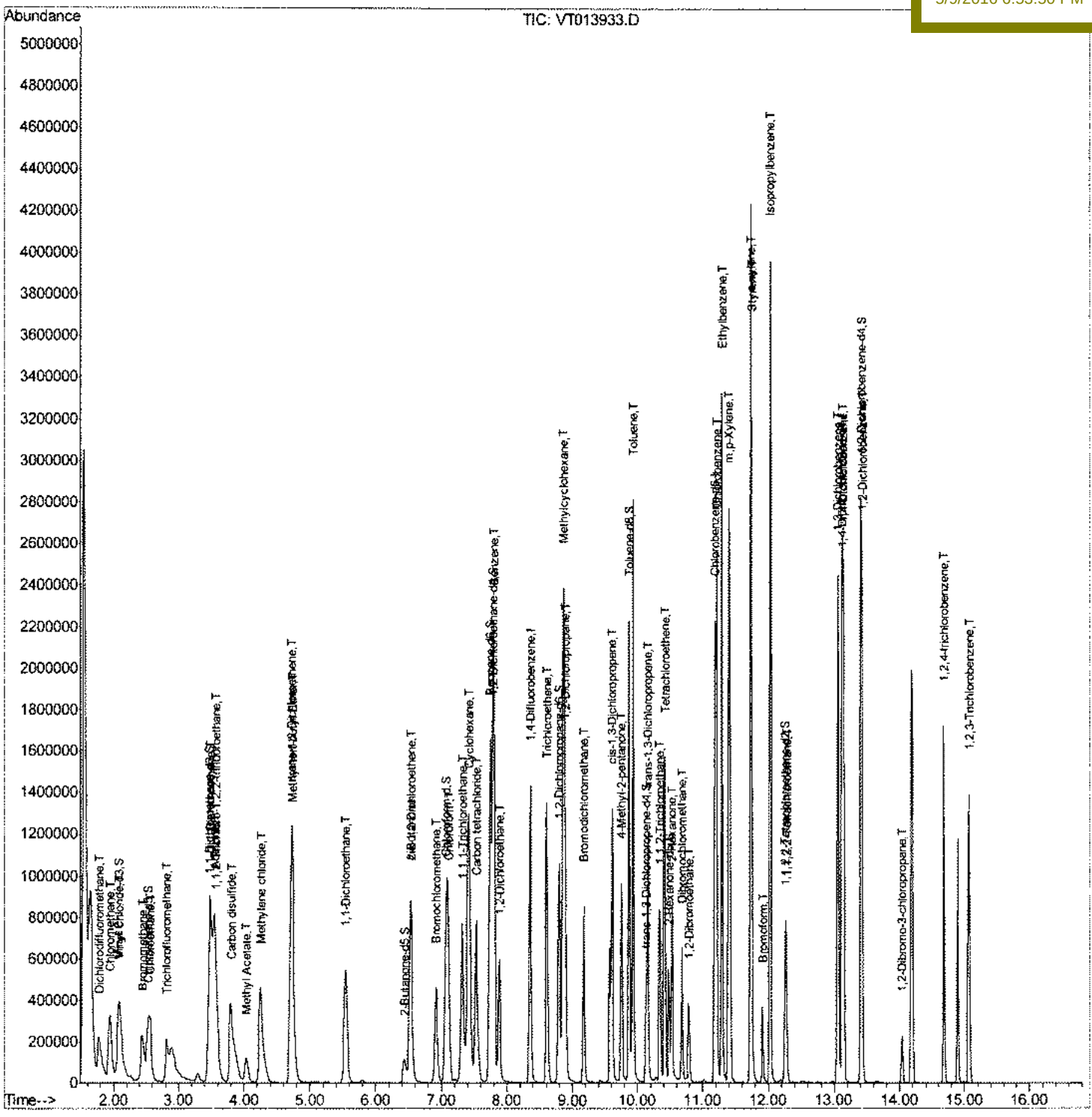


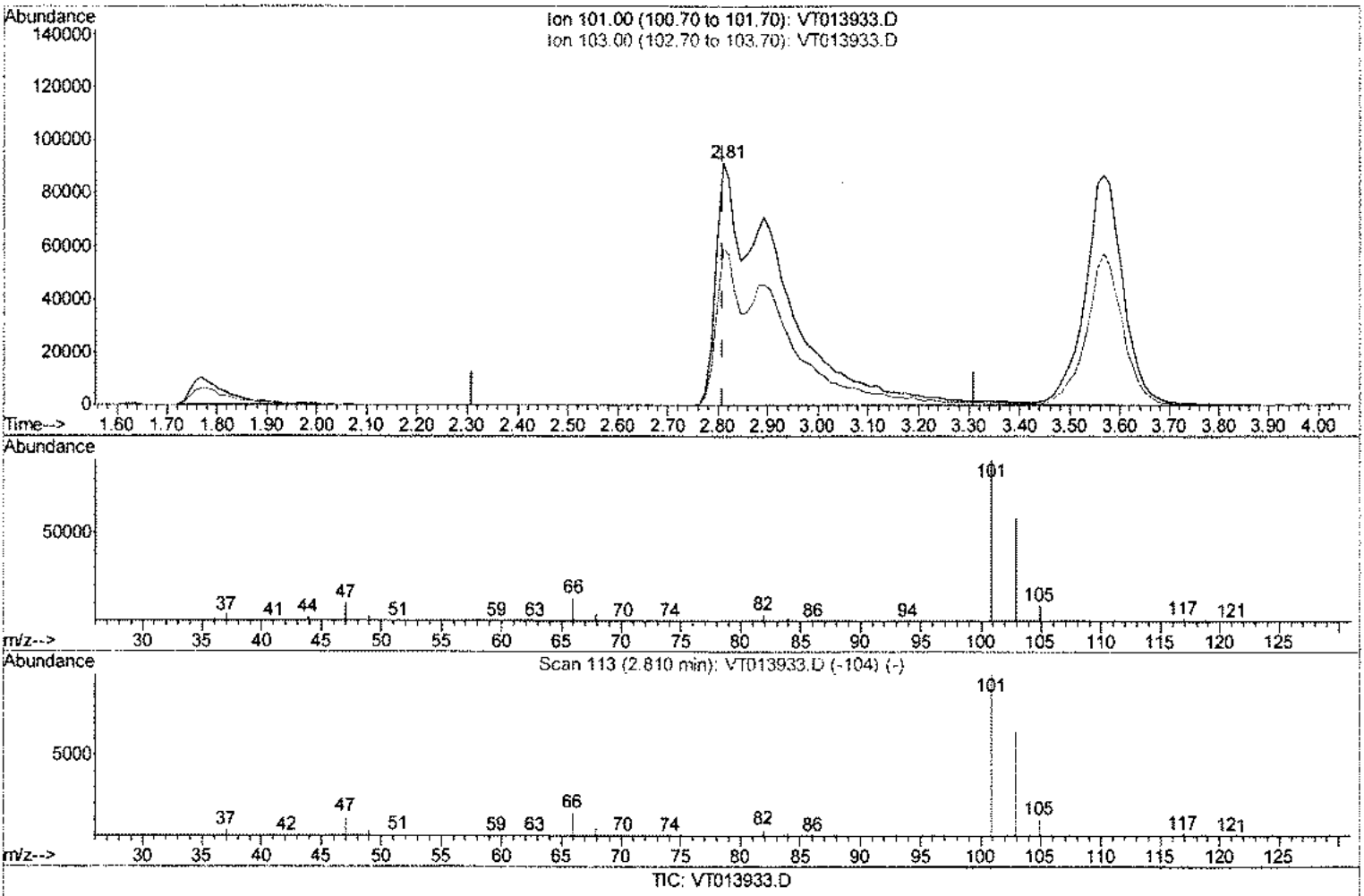
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013933.D
Acq On : 6 May 2016 10:31
Operator : FY/SY
Sample : VSTD02584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 11:10:43 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02584

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:50 PM



TIC: VT013933.D

(9) Trichlorofluoromethane (T)

2.810min (0.000) 43.19ug/L m M.D 05/13/16

response 810588

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	21.77
0.00	0.00	0.00
0.00	0.00	0.00

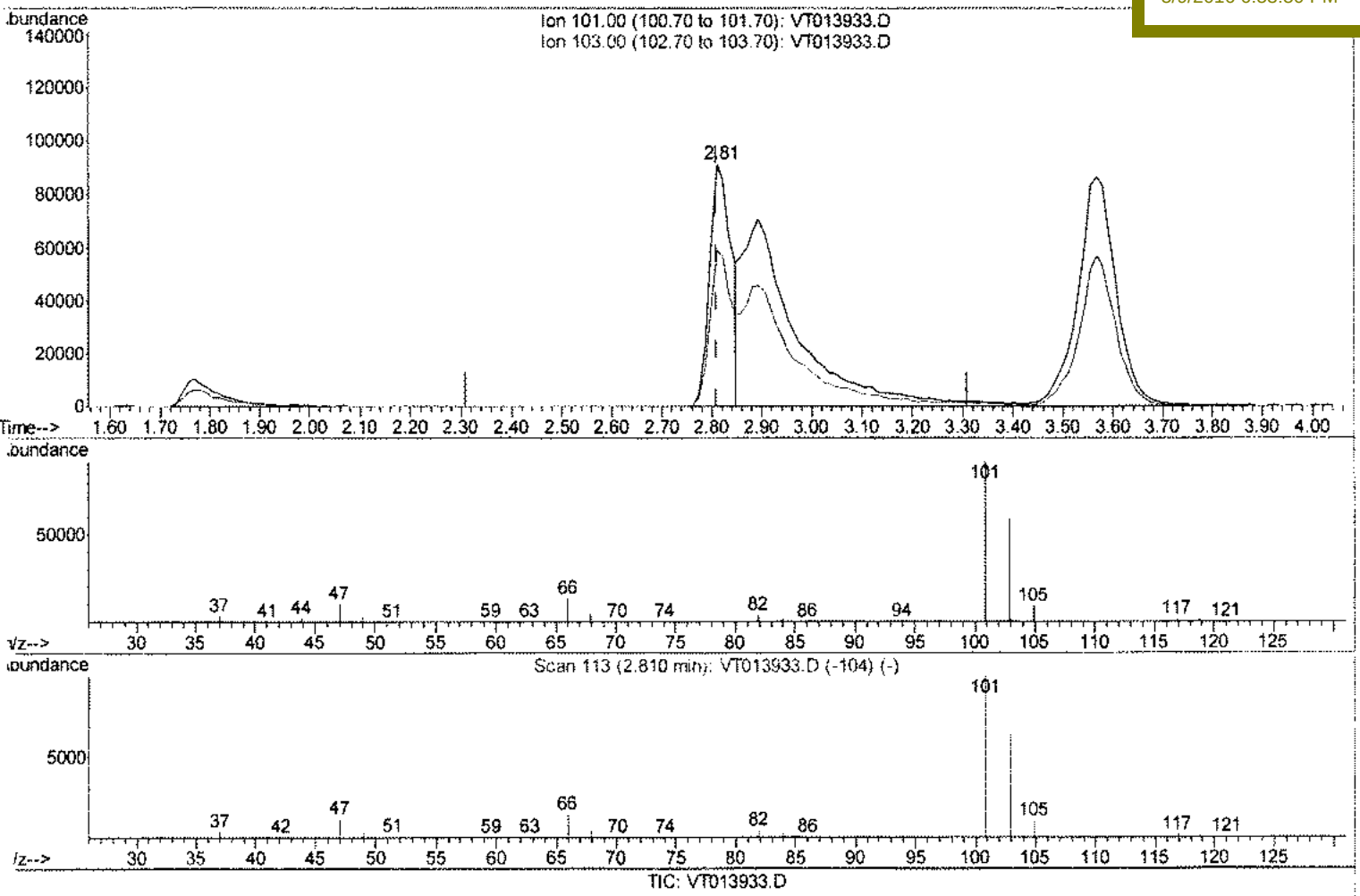
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013933.D
Acq On : 6 May 2016 10:31
Operator : FY/SY
Sample : VSTD02584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 11:10:43 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02584

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:50 PM



(9) Trichlorofluoromethane (T)

2.810min (0.000) 14.57ug/L

response 273381

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	64.55#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013933.D
Acq On : 6 May 2016 10:31
Operator : FY/SY
Sample : VSTD02584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02584

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:50 PM

Quant Time: May 06 11:17:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1067476	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	901702	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	456257	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	537009	32.57	ug/L	0.00
7) Chloroethane-d5	2.53	69	372350	30.12	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	1017018	27.84	ug/L	0.00
20) 2-Butanone-d5	6.43	46	236369	55.71	ug/L	0.00
24) Chloroform-d	7.07	84	795035	25.57	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	464858	25.12	ug/L	0.00
29) Benzene-d6	7.74	84	1487217	26.15	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	438765	26.27	ug/L	0.00
37) Toluene-d8	9.87	98	1343158	26.43	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	176564	28.88	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	157923	60.82	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	305960	25.48	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	410185	25.37	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	567995	26.18	ug/L	100
3) Chloromethane	1.95	50	659551	25.22	ug/L	99
5) Vinyl chloride	2.09	62	636163	25.38	ug/L	99
6) Bromomethane	2.44	94	315891	24.34	ug/L	99
8) Chloroethane	2.56	64	356621	25.41	ug/L	98
9) Trichlorofluoromethane	2.81	101	810588m	43.19	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	448956	24.91	ug/L	98
12) 1,1-Dichloroethene	3.48	96	414156	25.39	ug/L	80
13) Acetone	3.56	43	373593	49.00	ug/L	94
14) Carbon disulfide	3.80	76	1406673	30.46	ug/L	100
15) Methyl Acetate	4.04	43	248633	26.34	ug/L	96
16) Methylene chloride	4.25	84	378583	23.49	ug/L	94
17) Methyl tert-butyl Ether	4.74	73	792569	28.48	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	424686	26.43	ug/L	96
19) 1,1-Dichloroethane	5.54	63	934699	26.11	ug/L	99
21) 2-Butanone	6.54	43	387961	54.18	ug/L	99
22) cis-1,2-Dichloroethene	6.54	96	413366	27.15	ug/L	97
23) Bromochloromethane	6.92	128	149170	26.23	ug/L	94
25) Chloroform	7.11	83	789395	25.35	ug/L	98
27) 1,2-Dichloroethane	7.89	62	596208	25.25	ug/L	97
30) Cyclohexane	7.41	56	988118	27.41	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	739375	25.60	ug/L	99
32) Carbon tetrachloride	7.53	117	676760	26.06	ug/L	99
34) Benzene	7.79	78	1709578	25.18	ug/L	100
35) Trichloroethene	8.61	95	454894	25.96	ug/L	98
36) Methylcyclohexane	8.87	83	893480	26.64	ug/L	98
40) 1,2-Dichloropropane	8.89	63	428918	24.99	ug/L	99
41) Bromodichloromethane	9.18	83	527288	26.53	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	627081	29.39	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	657584	55.66	ug/L	98

M.D 05/13/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013933.D
Acq On : 6 May 2016 10:31
Operator : FY/SY
Sample : VSTD02584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 11:17:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:11:36 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02584

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:50 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	1700862	25.75	ug/L		99
45) trans-1,3-Dichloropropene	10.16	75	535559	29.90	ug/L		100
46) 1,1,2-Trichloroethane	10.34	97	238165	25.50	ug/L		97
47) Tetrachloroethene	10.42	164	327817	26.13	ug/L		98
49) 2-Hexanone	10.53	43	568544	56.35	ug/L		99
50) Dibromochloromethane	10.68	129	299748	28.24	ug/L		95
51) 1,2-Dibromoethane	10.79	107	232991	26.65	ug/L		98
52) Chlorobenzene	11.21	112	1006303	25.79	ug/L		97
53) Ethylbenzene	11.29	91	2025777	26.03	ug/L		100
54) m,p-Xylene	11.40	106	737812	26.81	ug/L		100
55) o-xylene	11.73	106	715637	28.02	ug/L		91
56) Styrene	11.74	104	1094700	26.22	ug/L		96
57) Isopropylbenzene	12.03	105	2069520	27.39	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.28	83	311950	26.00	ug/L		97
61) Bromoform	11.91	173	151481	26.23	ug/L		99
62) 1,3-Dichlorobenzene	13.06	146	765151	26.86	ug/L		97
63) 1,4-Dichlorobenzene	13.14	146	753373	24.69	ug/L		98
64) 1,2-Dichlorobenzene	13.42	146	675723	25.89	ug/L		97
65) 1,2-Dibromo-3-chloropropan	14.04	75	55878	27.19	ug/L	#	82
66) 1,2,4-trichlorobenzene	14.68	180	432227	28.95	ug/L		98
67) 1,2,3-Trichlorobenzene	15.07	180	357304	26.52	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

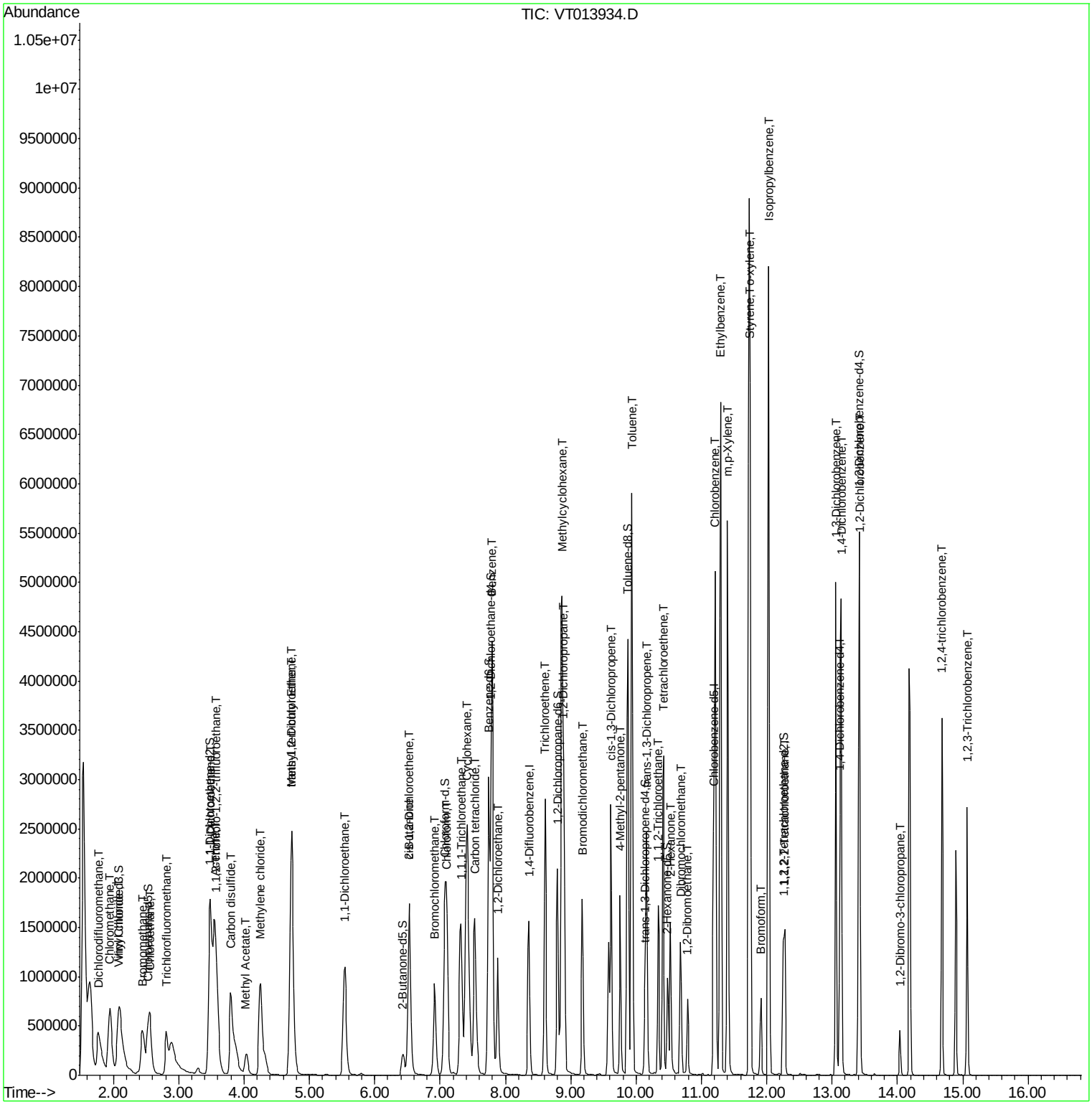
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013934.D
Acq On : 6 May 2016 10:57
Operator : FY/SY
Sample : VSTD05085
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 11:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:22:32 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05085

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:56 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013934.D
Acq On : 6 May 2016 10:57
Operator : FY/SY
Sample : VSTD05085
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 11:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:22:32 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD05085

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:56 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1146446	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	952823	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	473629	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	1083010	61.16	ug/L	0.00
7) Chloroethane-d5	2.53	69	741050	55.82	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	2061200	52.54	ug/L	0.00
20) 2-Butanone-d5	6.43	46	443982	97.44	ug/L	0.00
24) Chloroform-d	7.07	84	1555308	46.57	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	872207	43.89	ug/L	0.00
29) Benzene-d6	7.74	84	2972057	49.45	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	885547	50.18	ug/L	0.00
37) Toluene-d8	9.87	98	2703931	50.35	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	358283	55.45	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	284863	103.82	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	562844	44.35	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	813392	48.47	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	1264813	54.27	ug/L	99
3) Chloromethane	1.95	50	1431076	51.09	ug/L	99
5) Vinyl chloride	2.09	62	1361894	50.57	ug/L	98
6) Bromomethane	2.44	94	652162	46.79	ug/L	100
8) Chloroethane	2.56	64	728077	48.31	ug/L	100
9) Trichlorofluoromethane	2.81	101	1670608m	49.27	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	904160	46.71	ug/L	97
12) 1,1-Dichloroethene	3.48	96	839055	47.90	ug/L	84
13) Acetone	3.56	43	641194	78.30	ug/L	95
14) Carbon disulfide	3.79	76	3004825	54.09	ug/L	100
15) Methyl Acetate	4.03	43	457852	45.16	ug/L	97
16) Methylene chloride	4.25	84	765988	44.25	ug/L	95
17) Methyl tert-butyl Ether	4.73	73	1576929	52.76	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	875943	50.75	ug/L	96
19) 1,1-Dichloroethane	5.54	63	1936920	50.39	ug/L	99
21) 2-Butanone	6.53	43	669252	87.02	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	846175	51.75	ug/L	94
23) Bromochloromethane	6.92	128	301382	49.34	ug/L	95
25) Chloroform	7.11	83	1580025	47.24	ug/L	98
27) 1,2-Dichloroethane	7.89	62	1193620	47.07	ug/L	98
30) Cyclohexane	7.41	56	2070231	54.34	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	1526618	50.03	ug/L	100
32) Carbon tetrachloride	7.53	117	1396340	50.88	ug/L	97
34) Benzene	7.79	78	3565908	49.71	ug/L	100
35) Trichloroethene	8.61	95	942820	50.92	ug/L	98
36) Methylcyclohexane	8.87	83	1897425	53.54	ug/L	99
40) 1,2-Dichloropropane	8.89	63	891984	49.17	ug/L	100
41) Bromodichloromethane	9.18	83	1092257	52.00	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	1235765	54.81	ug/L	97
43) 4-Methyl-2-pentanone	9.76	43	1222392	97.91	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013934.D
Acq On : 6 May 2016 10:57
Operator : FY/SY
Sample : VSTD05085
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 11:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:22:32 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05085

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:56 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	3550790	50.88	ug/L	97
45) trans-1,3-Dichloropropene	10.16	75	1084356	57.29	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	476348	48.27	ug/L	99
47) Tetrachloroethene	10.42	164	701263	52.89	ug/L	98
49) 2-Hexanone	10.53	43	1004746	94.24	ug/L	99
50) Dibromochloromethane	10.68	129	621699	55.43	ug/L	95
51) 1,2-Dibromoethane	10.79	107	465071	50.34	ug/L	98
52) Chlorobenzene	11.21	112	2057046	49.90	ug/L	97
53) Ethylbenzene	11.29	91	4239069	51.56	ug/L	100
54) m,p-Xylene	11.40	106	1560033	53.65	ug/L	95
55) o-xylene	11.73	106	1522933	56.43	ug/L	91
56) Styrene	11.74	104	2323757	52.67	ug/L	98
57) Isopropylbenzene	12.03	105	4375200	54.80	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	592588	46.75	ug/L	98
61) Bromoform	11.91	173	317853	53.03	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	1598086	54.05	ug/L	97
63) 1,4-Dichlorobenzene	13.14	146	1546053	48.80	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	1358114	50.13	ug/L	97
65) 1,2-Dibromo-3-chloropropan	14.04	75	104765	49.11	ug/L	89
66) 1,2,4-trichlorobenzene	14.68	180	901062	58.15	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	707040	50.55	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

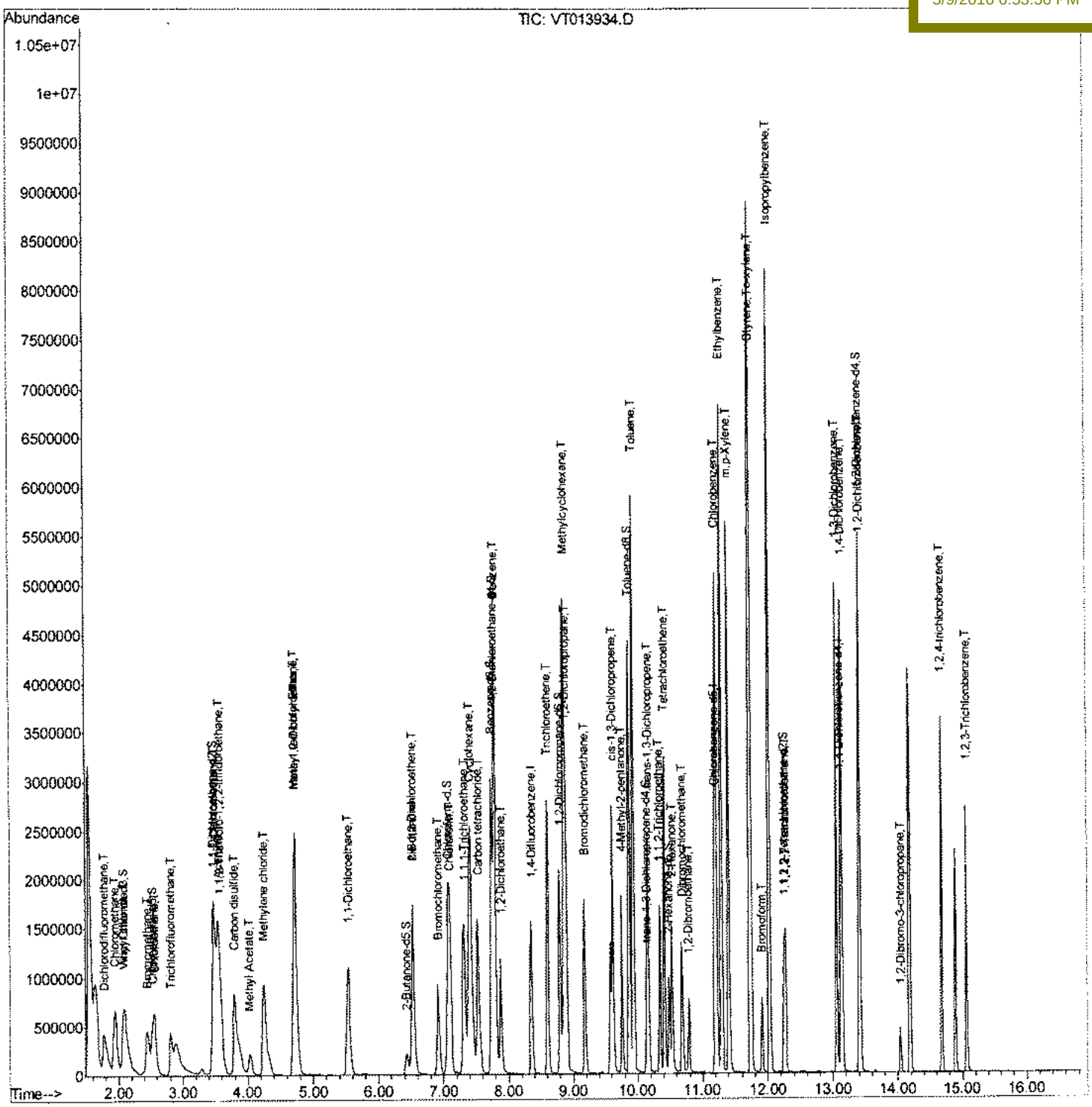
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013934.D
Acq On : 6 May 2016 10:57
Operator : FY/SY
Sample : VSTD05085
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 11:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:22:32 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05085

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:56 PM



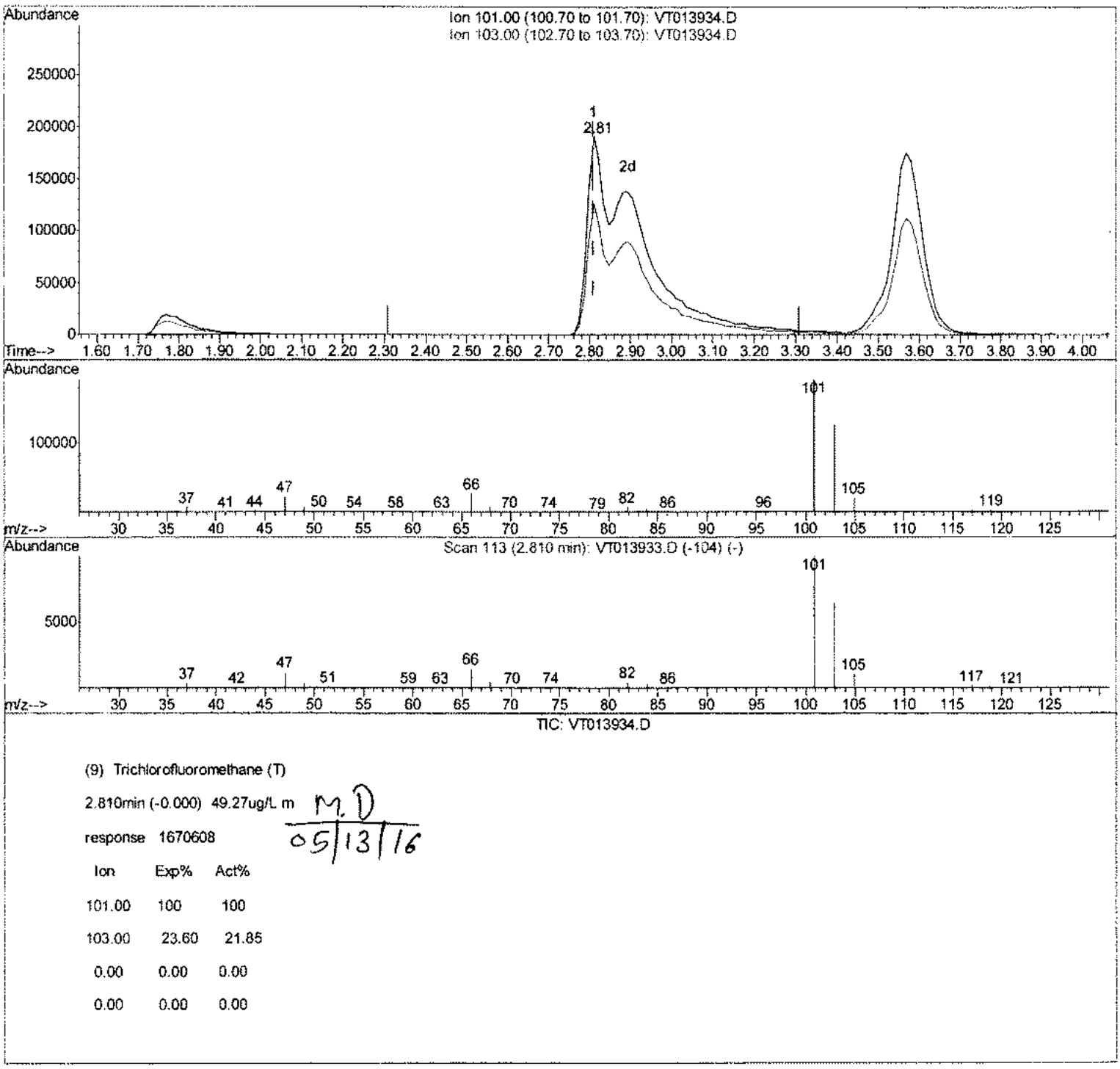
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013934.D
Acq On : 6 May 2016 10:57
Operator : FY/SY
Sample : VSTD05085
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 11:22:25 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:22:32 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD05085

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:56 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 49.27ug/L m M.D 05/13/16

response 1670608

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	21.85
0.00	0.00	0.00
0.00	0.00	0.00

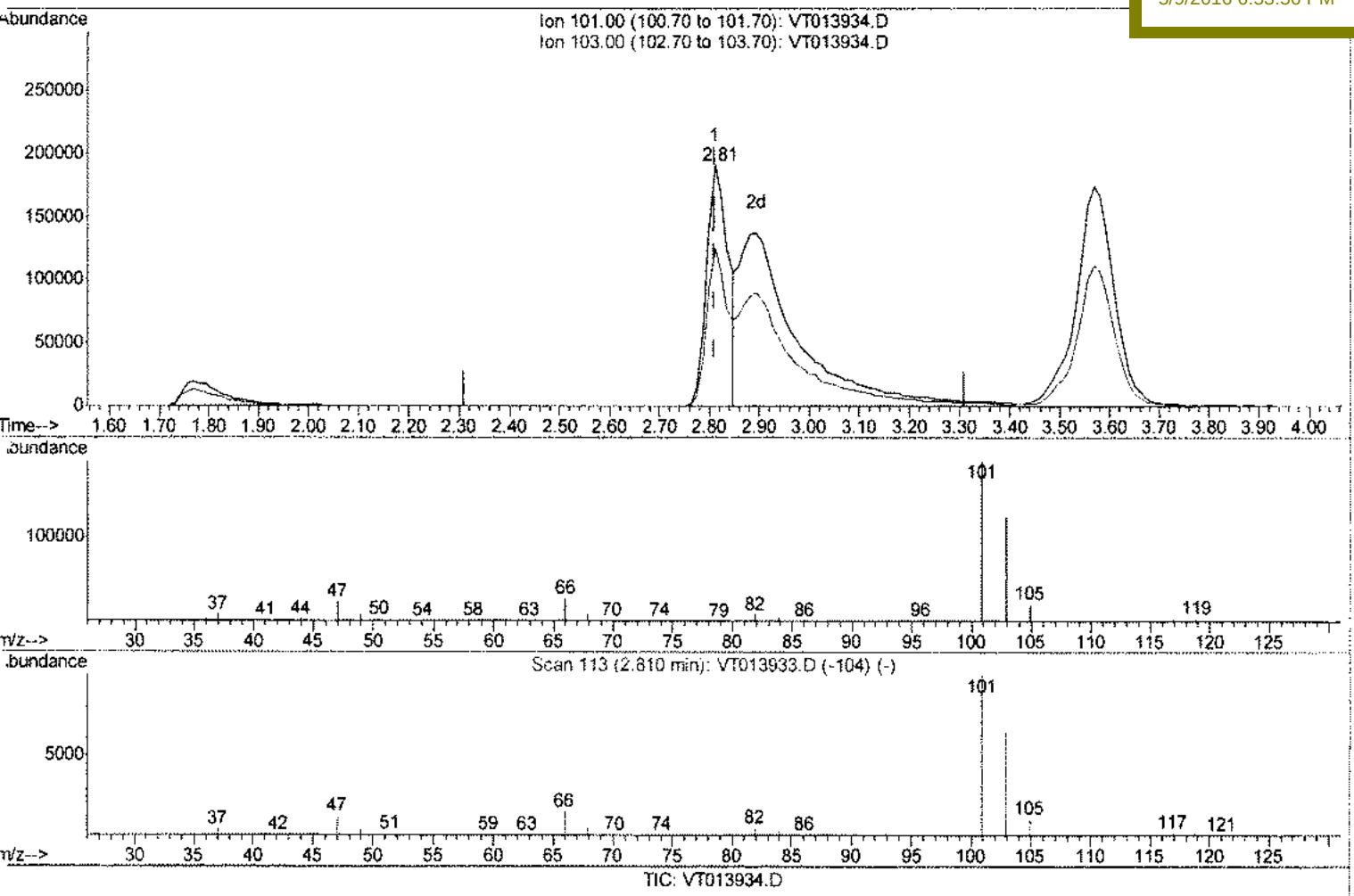
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013934.D
Acq On : 6 May 2016 10:57
Operator : FY/SY
Sample : VSTD05085
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 11:22:25 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:22:32 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD05085

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:56 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 16.85ug/L

response 571238

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	63.91#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013934.D
Acq On : 6 May 2016 10:57
Operator : FY/SY
Sample : VSTD05085
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD05085

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:56 PM

Quant Time: May 06 11:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:22:32 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1146446	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	952823	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	473629	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	1083010	61.16	ug/L	0.00
7) Chloroethane-d5	2.53	69	741050	55.82	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	2061200	52.54	ug/L	0.00
20) 2-Butanone-d5	6.43	46	443982	97.44	ug/L	0.00
24) Chloroform-d	7.07	84	1555308	46.57	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	872207	43.89	ug/L	0.00
29) Benzene-d6	7.74	84	2972057	49.45	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	885547	50.18	ug/L	0.00
37) Toluene-d8	9.87	98	2703931	50.35	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	358283	55.45	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	284863	103.82	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	562844	44.35	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	813392	48.47	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	1264813	54.27	ug/L	99
3) Chloromethane	1.95	50	1431076	51.09	ug/L	99
5) Vinyl chloride	2.09	62	1361894	50.57	ug/L	98
6) Bromomethane	2.44	94	652162	46.79	ug/L	100
8) Chloroethane	2.56	64	728077	48.31	ug/L	100
9) Trichlorofluoromethane	2.81	101	1670608m	49.27	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	904160	46.71	ug/L	97
12) 1,1-Dichloroethene	3.48	96	839055	47.90	ug/L	84
13) Acetone	3.56	43	641194	78.30	ug/L	95
14) Carbon disulfide	3.79	76	3004825	54.09	ug/L	100
15) Methyl Acetate	4.03	43	457852	45.16	ug/L	97
16) Methylene chloride	4.25	84	765988	44.25	ug/L	95
17) Methyl tert-butyl Ether	4.73	73	1576929	52.76	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	875943	50.75	ug/L	96
19) 1,1-Dichloroethane	5.54	63	1936920	50.39	ug/L	99
21) 2-Butanone	6.53	43	669252	87.02	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	846175	51.75	ug/L	94
23) Bromochloromethane	6.92	128	301382	49.34	ug/L	95
25) Chloroform	7.11	83	1580025	47.24	ug/L	98
27) 1,2-Dichloroethane	7.89	62	1193620	47.07	ug/L	98
30) Cyclohexane	7.41	56	2070231	54.34	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	1526618	50.03	ug/L	100
32) Carbon tetrachloride	7.53	117	1396340	50.88	ug/L	97
34) Benzene	7.79	78	3565908	49.71	ug/L	100
35) Trichloroethene	8.61	95	942820	50.92	ug/L	98
36) Methylcyclohexane	8.87	83	1897425	53.54	ug/L	99
40) 1,2-Dichloropropane	8.89	63	891984	49.17	ug/L	100
41) Bromodichloromethane	9.18	83	1092257	52.00	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	1235765	54.81	ug/L	97
43) 4-Methyl-2-pentanone	9.76	43	1222392	97.91	ug/L	100

MD 05/13/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013934.D
Acq On : 6 May 2016 10:57
Operator : FY/SY
Sample : VSTD05085
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD05085

Manual Integrations APPROVED
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5/9/2016 6:53:56 PM

Quant Time: May 06 11:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:22:32 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	3550790	50.88	ug/L	97
45) trans-1,3-Dichloropropene	10.16	75	1084356	57.29	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	476348	48.27	ug/L	99
47) Tetrachloroethene	10.42	164	701263	52.89	ug/L	98
49) 2-Hexanone	10.53	43	1004746	94.24	ug/L	99
50) Dibromochloromethane	10.68	129	621699	55.43	ug/L	95
51) 1,2-Dibromoethane	10.79	107	465071	50.34	ug/L	98
52) Chlorobenzene	11.21	112	2057046	49.90	ug/L	97
53) Ethylbenzene	11.29	91	4239069	51.56	ug/L	100
54) m,p-Xylene	11.40	106	1560033	53.65	ug/L	95
55) o-xylene	11.73	106	1522933	56.43	ug/L	91
56) Styrene	11.74	104	2323757	52.67	ug/L	98
57) Isopropylbenzene	12.03	105	4375200	54.80	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	592588	46.75	ug/L	98
61) Bromoform	11.91	173	317853	53.03	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	1598086	54.05	ug/L	97
63) 1,4-Dichlorobenzene	13.14	146	1546053	48.80	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	1358114	50.13	ug/L	97
65) 1,2-Dibromo-3-chloropropan	14.04	75	104765	49.11	ug/L	89
66) 1,2,4-trichlorobenzene	14.68	180	901062	58.15	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	707040	50.55	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

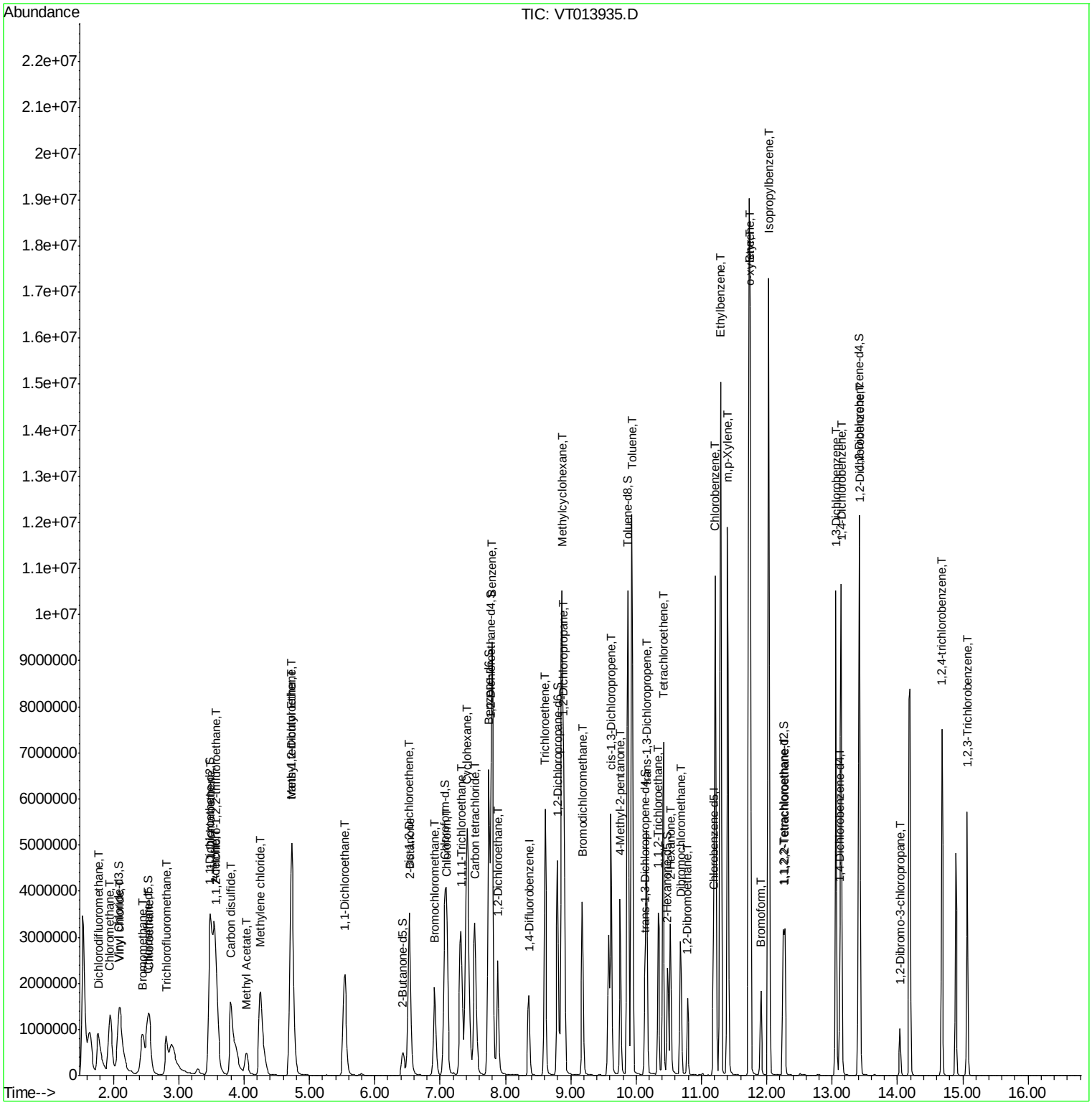
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013935.D
Acq On : 6 May 2016 11:23
Operator : FY/SY
Sample : VSTD10086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 11:47:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:28:10 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10086

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:54:02 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013935.D
Acq On : 6 May 2016 11:23
Operator : FY/SY
Sample : VSTD10086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 11:47:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:28:10 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10086

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:54:02 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1324034	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1102253	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	549584	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	2333607	108.08	ug/L	0.01
7) Chloroethane-d5	2.53	69	1619894	102.67	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	4203104	91.60	ug/L	0.00
20) 2-Butanone-d5	6.43	46	1037066	198.34	ug/L	0.00
24) Chloroform-d	7.07	84	3307216	87.24	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	1929078	86.70	ug/L	0.00
29) Benzene-d6	7.74	84	6741235	97.22	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	1998670	97.81	ug/L	0.00
37) Toluene-d8	9.87	98	6138331	98.64	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	873181	113.72	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	687515	214.55	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	1301500	91.24	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	1916657	99.18	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	2522866	91.77	ug/L	100
3) Chloromethane	1.95	50	2895622	89.02	ug/L	99
5) Vinyl chloride	2.10	62	2734767	87.68	ug/L	99
6) Bromomethane	2.44	94	1399331	88.35	ug/L	100
8) Chloroethane	2.55	64	1496031	86.69	ug/L	99
9) Trichlorofluoromethane	2.81	101	3396460m	87.06	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	1843752	83.86	ug/L	100
12) 1,1-Dichloroethene	3.48	96	1711342	85.49	ug/L	84
13) Acetone	3.56	43	1237464	138.35	ug/L	97
14) Carbon disulfide	3.79	76	6254472	95.53	ug/L	100
15) Methyl Acetate	4.04	43	1000169	87.53	ug/L	97
16) Methylene chloride	4.25	84	1582700	81.51	ug/L	96
17) Methyl tert-butyl Ether	4.73	73	3425673	97.88	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	1788996	89.42	ug/L	96
19) 1,1-Dichloroethane	5.54	63	3918051	88.08	ug/L	98
21) 2-Butanone	6.54	43	1362188	158.50	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	1721856	90.39	ug/L	97
23) Bromochloromethane	6.92	128	623656	88.69	ug/L	96
25) Chloroform	7.11	83	3209642	84.25	ug/L	98
27) 1,2-Dichloroethane	7.89	62	2496043	86.50	ug/L	98
30) Cyclohexane	7.41	56	4265081	94.72	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	3128991	88.63	ug/L	99
32) Carbon tetrachloride	7.53	117	2884830	90.47	ug/L	97
34) Benzene	7.79	78	7571881	91.37	ug/L	100
35) Trichloroethene	8.61	95	1964642	91.31	ug/L	99
36) Methylcyclohexane	8.87	83	3919867	93.95	ug/L	99
40) 1,2-Dichloropropane	8.89	63	1893017	90.59	ug/L	100
41) Bromodichloromethane	9.18	83	2300026	93.72	ug/L	97
42) cis-1,3-Dichloropropene	9.61	75	2637622	98.75	ug/L	98
43) 4-Methyl-2-pentanone	9.76	43	2643701	184.01	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013935.D
Acq On : 6 May 2016 11:23
Operator : FY/SY
Sample : VSTD10086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 11:47:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:28:10 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10086

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:54:02 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	7701297	94.97	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	2354529	103.75	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	1012861	89.50	ug/L	98
47) Tetrachloroethene	10.42	164	1480368	95.14	ug/L	98
49) 2-Hexanone	10.53	43	2130935	175.30	ug/L	100
50) Dibromochloromethane	10.68	129	1354025	101.60	ug/L	97
51) 1,2-Dibromoethane	10.79	107	1005316	93.91	ug/L	99
52) Chlorobenzene	11.21	112	4383571	91.96	ug/L	98
53) Ethylbenzene	11.29	91	9112597	95.06	ug/L	99
54) m,p-Xylene	11.40	106	3334365	97.35	ug/L	99
55) o-xylene	11.73	106	3290691	102.12	ug/L	93
56) Styrene	11.74	104	5089761	98.41	ug/L	98
57) Isopropylbenzene	12.03	105	9384617	99.23	ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	1264703	87.67	ug/L	98
61) Bromoform	11.91	173	742188	105.11	ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	3410564	97.43	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	3351555	91.72	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	2981377	94.77	ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.04	75	244976	99.41	ug/L	90
66) 1,2,4-trichlorobenzene	14.68	180	1938279	103.57	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	1489638	91.53	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013935.D
Acq On : 6 May 2016 11:23
Operator : FY/SY
Sample : VSTD10086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 11:47:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:28:10 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10086

Manual Integrations APPROVED
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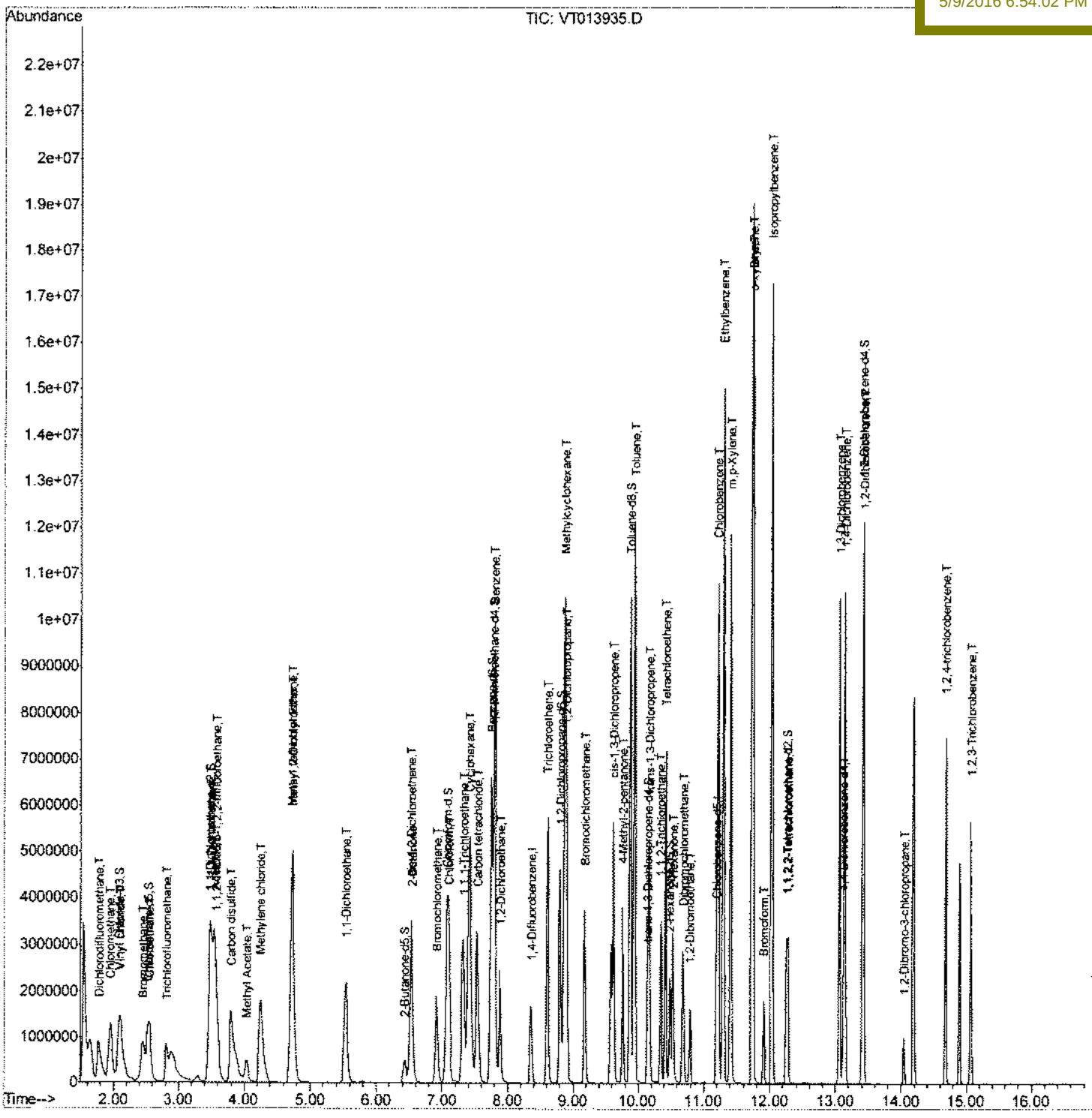
5/9/2016 6:54:02 PM



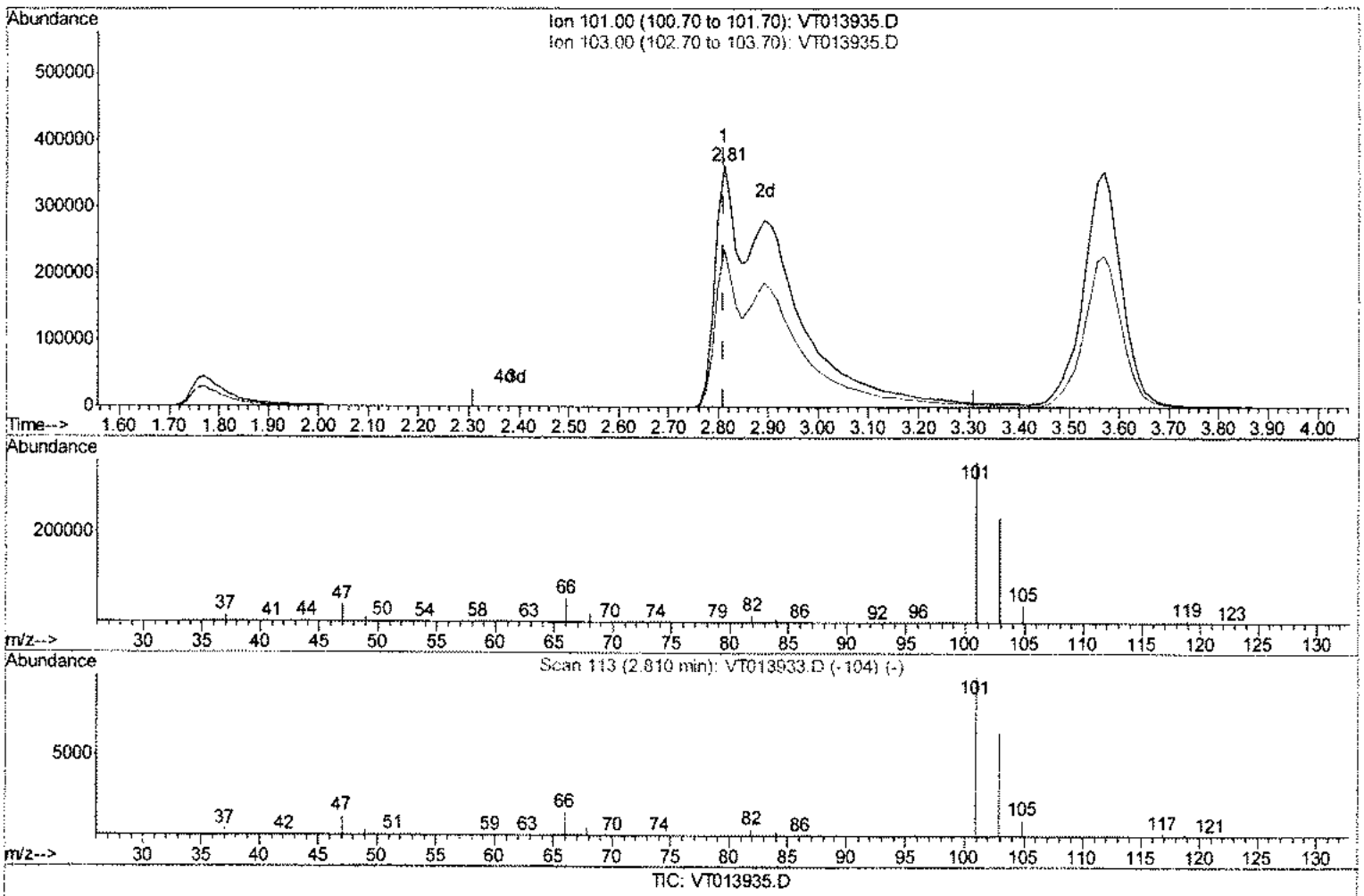
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013935.D
Acq On : 6 May 2016 11:23
Operator : FY/SY
Sample : VSTD10086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 11:45:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:28:10 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10086

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:54:02 PM



TIC: VT013935.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 87.06ug/L m

response 3396460

M.D 05/13/16

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	21.10
0.00	0.00	0.00
0.00	0.00	0.00

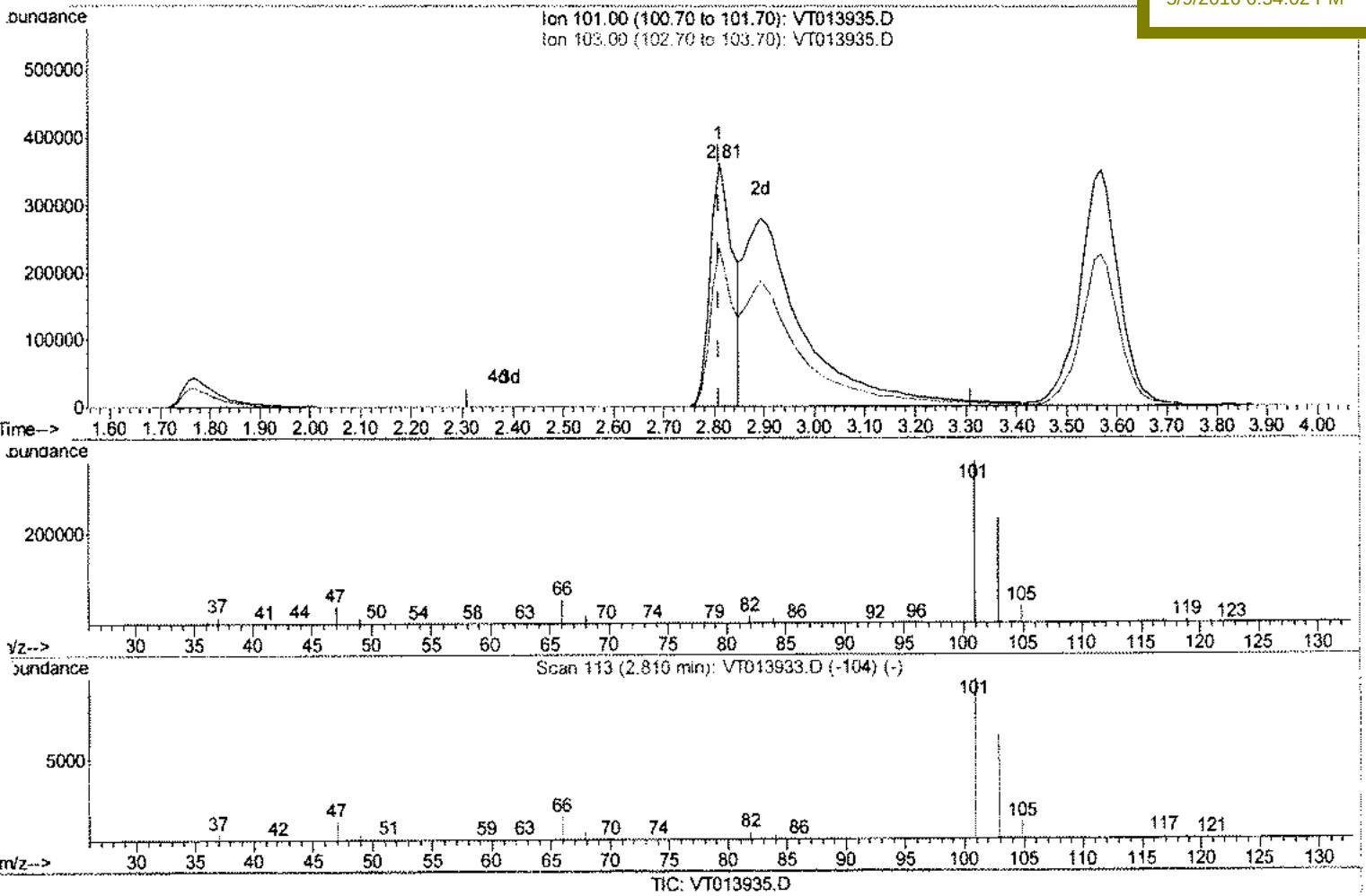
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013935.D
Acq On : 6 May 2016 11:23
Operator : FY/SY
Sample : VSTD10086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 11:45:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:28:10 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10086

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:54:02 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 28.74ug/L

response 1121098

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	63.91#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013935.D
Acq On : 6 May 2016 11:23
Operator : FY/SY
Sample : VSTD10086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 11:47:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:28:10 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10086

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:54:02 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1324034	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1102253	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	549584	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	2333607	108.08	ug/L	0.01
7) Chloroethane-d5	2.53	69	1619894	102.67	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	4203104	91.60	ug/L	0.00
20) 2-Butanone-d5	6.43	46	1037066	198.34	ug/L	0.00
24) Chloroform-d	7.07	84	3307216	87.24	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	1929078	86.70	ug/L	0.00
29) Benzene-d6	7.74	84	6741235	97.22	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	1998670	97.81	ug/L	0.00
37) Toluene-d8	9.87	98	6138331	98.64	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	873181	113.72	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	687515	214.55	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	1301500	91.24	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	1916657	99.18	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	2522866	91.77	ug/L	100
3) Chloromethane	1.95	50	2895622	89.02	ug/L	99
5) Vinyl chloride	2.10	62	2734767	87.68	ug/L	99
6) Bromomethane	2.44	94	1399331	88.35	ug/L	100
8) Chloroethane	2.55	64	1496031	86.69	ug/L	99
9) Trichlorofluoromethane	2.81	101	3396460m	87.06	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	1843752	83.86	ug/L	100
12) 1,1-Dichloroethene	3.48	96	1711342	85.49	ug/L	84
13) Acetone	3.56	43	1237464	138.35	ug/L	97
14) Carbon disulfide	3.79	76	6254472	95.53	ug/L	100
15) Methyl Acetate	4.04	43	1000169	87.53	ug/L	97
16) Methylene chloride	4.25	84	1582700	81.51	ug/L	96
17) Methyl tert-butyl Ether	4.73	73	3425673	97.88	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	1788996	89.42	ug/L	96
19) 1,1-Dichloroethane	5.54	63	3918051	88.08	ug/L	98
21) 2-Butanone	6.54	43	1362188	158.50	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	1721856	90.39	ug/L	97
23) Bromochloromethane	6.92	128	623656	88.69	ug/L	96
25) Chloroform	7.11	83	3209642	84.25	ug/L	98
27) 1,2-Dichloroethane	7.89	62	2496043	86.50	ug/L	98
30) Cyclohexane	7.41	56	4265081	94.72	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	3128991	88.63	ug/L	99
32) Carbon tetrachloride	7.53	117	2884830	90.47	ug/L	97
34) Benzene	7.79	78	7571881	91.37	ug/L	100
35) Trichloroethene	8.61	95	1964642	91.31	ug/L	99
36) Methylcyclohexane	8.87	83	3919867	93.95	ug/L	99
40) 1,2-Dichloropropane	8.89	63	1893017	90.59	ug/L	100
41) Bromodichloromethane	9.18	83	2300026	93.72	ug/L	97
42) cis-1,3-Dichloropropene	9.61	75	2637622	98.75	ug/L	98
43) 4-Methyl-2-pentanone	9.76	43	2643701	184.01	ug/L	99

M.D 05/13/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050616\
Data File : VT013935.D
Acq On : 6 May 2016 11:23
Operator : FY/SY
Sample : VSTD10086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD10086

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:54:02 PM

Quant Time: May 06 11:47:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 11:28:10 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	7701297	94.97	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	2354529	103.75	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	1012861	89.50	ug/L	98
47) Tetrachloroethene	10.42	164	1480368	95.14	ug/L	98
49) 2-Hexanone	10.53	43	2130935	175.30	ug/L	100
50) Dibromochloromethane	10.68	129	1354025	101.60	ug/L	97
51) 1,2-Dibromoethane	10.79	107	1005316	93.91	ug/L	99
52) Chlorobenzene	11.21	112	4383571	91.96	ug/L	98
53) Ethylbenzene	11.29	91	9112597	95.06	ug/L	99
54) m,p-Xylene	11.40	106	3334365	97.35	ug/L	99
55) o-xylene	11.73	106	3290691	102.12	ug/L	93
56) Styrene	11.74	104	5089761	98.41	ug/L	98
57) Isopropylbenzene	12.03	105	9384617	99.23	ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	1264703	87.67	ug/L	98
61) Bromoform	11.91	173	742188	105.11	ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	3410564	97.43	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	3351555	91.72	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	2981377	94.77	ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.04	75	244976	99.41	ug/L	90
66) 1,2,4-trichlorobenzene	14.68	180	1938279	103.57	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	1489638	91.53	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/05/2016 Time: 10:40

Lab File ID: VT013897.D Init. Calib Date(s): 04/12/2016 04/12/2016

EPA Sample No.: VSTD02579 Init. Calib Time(s): 12:45 14:29

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.475	0.537	0.01	12.9	± 40.0
Chloromethane	0.543	0.548	0.01	0.9	± 30.0
Vinyl chloride	0.497	0.537	0.01	8.0	± 25.0
Bromomethane	0.245	0.254	0.01	3.7	± 30.0
Chloroethane	0.277	0.296	0.01	6.9	± 25.0
Trichlorofluoromethane	0.593	0.663	0.01	11.6	± 30.0
1,1-Dichloroethene	0.333	0.330	0.06	-0.8	± 20.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.363	0.374	0.05	3.0	± 25.0
Acetone	0.124	0.139	0.01	11.8	± 40.0
Carbon disulfide	1.189	1.038	0.1	-12.7	± 25.0
Methyl Acetate	0.196	0.201	0.01	2.6	± 40.0
Methylene chloride	0.339	0.325	0.01	-4.1	± 30.0
trans-1,2-Dichloroethene	0.358	0.351	0.1	-1.9	± 20.0
Methyl tert-butyl Ether	0.618	0.667	0.1	7.9	± 25.0
1,1-Dichloroethane	0.762	0.796	0.3	4.5	± 20.0
cis-1,2-Dichloroethene	0.356	0.348	0.2	-2.2	± 20.0
2-Butanone	0.145	0.147	0.01	1.6	± 40.0
Bromochloromethane	0.130	0.125	0.1	-3.2	± 20.0
Chloroform	0.649	0.675	0.3	4.0	± 20.0
1,1,1-Trichloroethane	0.724	0.760	0.05	4.9	± 25.0
Cyclohexane	1.071	0.963	0.01	-10.1	± 25.0
Carbon tetrachloride	0.669	0.672	0.1	0.3	± 25.0
Benzene	1.934	1.751	0.2	-9.5	± 20.0
1,2-Dichloroethane	0.458	0.491	0.07	7.3	± 20.0
Trichloroethene	0.479	0.455	0.2	-5.1	± 20.0
Methylcyclohexane	0.973	0.857	0.05	-11.9	± 25.0
1,2-Dichloropropane	0.482	0.456	0.2	-5.5	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/05/2016 Time: 10:40

Lab File ID: VT013897.D Init. Calib Date(s): 04/12/2016 04/12/2016

EPA Sample No.: VSTD02579 Init. Calib Time(s): 12:45 14:29

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Bromodichloromethane	0.541	0.549	0.3	1.6	± 20.0
cis-1,3-Dichloropropene	0.627	0.642	0.3	2.4	± 20.0
4-Methyl-2-pentanone	0.325	0.330	0.03	1.6	± 30.0
Toluene	1.920	1.728	0.3	-10	± 20.0
trans-1,3-Dichloropropene	0.508	0.541	0.2	6.5	± 20.0
1,1,2-Trichloroethane	0.251	0.242	0.2	-3.8	± 20.0
Tetrachloroethene	0.349	0.322	0.1	-7.8	± 20.0
2-Hexanone	0.264	0.264	0.01	-0.1	± 40.0
Dibromochloromethane	0.309	0.309	0.2	0.0	± 20.0
1,2-Dibromoethane	0.238	0.235	0.2	-1.5	± 20.0
Chlorobenzene	1.082	1.022	0.4	-5.6	± 20.0
Ethylbenzene	2.196	2.092	0.4	-4.7	± 20.0
o-xylene	0.763	0.733	0.2	-3.9	± 20.0
m,p-Xylene	0.801	0.747	0.2	-6.8	± 20.0
Styrene	1.190	1.153	0.2	-3.1	± 20.0
Bromoform	0.318	0.304	0.1	-4.3	± 25.0
Isopropylbenzene	2.163	2.115	0.4	-2.2	± 25.0
1,1,2,2-Tetrachloroethane	0.318	0.314	0.2	-1.3	± 25.0
1,3-Dichlorobenzene	1.627	1.608	0.5	-1.1	± 20.0
1,4-Dichlorobenzene	1.598	1.562	0.6	-2.3	± 20.0
1,2-Dichlorobenzene	1.423	1.368	0.6	-3.9	± 20.0
1,2-Dibromo-3-chloropropane	0.103	0.108	0.01	5.1	± 30.0
1,2,4-trichlorobenzene	0.881	0.912	0.4	3.5	± 30.0
1,2,3-Trichlorobenzene	0.726	0.743	0.4	2.3	± 30.0
Vinyl Chloride-d3	0.491	0.361	0.01	-26.4	± 30.0
Chloroethane-d5	0.329	0.281	0.01	-14.6	± 30.0
1,1-Dichloroethene-d2	0.847	0.778	0.05	-8.1	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/05/2016 Time: 10:40

Lab File ID: VT013897.D Init. Calib Date(s): 04/12/2016 04/12/2016

EPA Sample No.: VSTD02579 Init. Calib Time(s): 12:45 14:29

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF25	MIN RRF	%D	MAX %D
2-Butanone-d5	0.100	0.104	0.01	4.1	± 40.0
Chloroform-d	0.704	0.649	0.3	-7.8	± 20.0
1,2-Dichloroethane-d4	0.381	0.378	0.06	-0.7	± 25.0
Benzene-d6	1.828	1.466	0.3	-19.8	± 20.0
1,2-Dichloropropane-d6	0.528	0.450	0.2	-14.7	± 20.0
Toluene-d8	1.577	1.286	0.3	-18.5	± 20.0
trans-1,3-Dichloropropene-d4	0.187	0.172	0.2	-8.2	± 20.0
2-Hexanone-d5	0.080	0.080	0.01	0.2	± 40.0
1,1,2,2-Tetrachloroethane-d2	0.331	0.304	0.2	-8.1	± 25.0
1,2-Dichlorobenzene-d4	0.951	0.819	0.4	-13.8	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/05/2016 Time: 15:50

Lab File ID: VT013907.D Init. Calib Date(s): 04/12/2016 04/12/2016

EPA Sample No.: VSTD02580 Init. Calib Time(s): 12:45 14:29

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.475	0.517	0.01	8.7	± 40.0
Chloromethane	0.543	0.556	0.01	2.4	± 30.0
Vinyl chloride	0.497	0.529	0.01	6.3	± 25.0
Bromomethane	0.245	0.248	0.01	1.1	± 30.0
Chloroethane	0.277	0.295	0.01	6.6	± 25.0
Trichlorofluoromethane	0.593	0.662	0.01	11.6	± 30.0
1,1-Dichloroethene	0.333	0.338	0.06	1.5	± 20.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.363	0.379	0.05	4.3	± 25.0
Acetone	0.124	0.130	0.01	4.5	± 40.0
Carbon disulfide	1.189	1.002	0.1	-15.7	± 25.0
Methyl Acetate	0.196	0.210	0.01	7.2	± 40.0
Methylene chloride	0.339	0.331	0.01	-2.2	± 30.0
trans-1,2-Dichloroethene	0.358	0.349	0.1	-2.4	± 20.0
Methyl tert-butyl Ether	0.618	0.710	0.1	14.8	± 25.0
1,1-Dichloroethane	0.762	0.810	0.3	6.3	± 20.0
cis-1,2-Dichloroethene	0.356	0.354	0.2	-0.5	± 20.0
2-Butanone	0.145	0.144	0.01	-0.5	± 40.0
Bromochloromethane	0.130	0.128	0.1	-0.9	± 20.0
Chloroform	0.649	0.692	0.3	6.7	± 20.0
1,1,1-Trichloroethane	0.724	0.758	0.05	4.6	± 25.0
Cyclohexane	1.071	0.977	0.01	-8.8	± 25.0
Carbon tetrachloride	0.669	0.684	0.1	2.2	± 25.0
Benzene	1.934	1.822	0.2	-5.8	± 20.0
1,2-Dichloroethane	0.458	0.524	0.07	14.4	± 20.0
Trichloroethene	0.479	0.476	0.2	-0.6	± 20.0
Methylcyclohexane	0.973	0.894	0.05	-8.1	± 25.0
1,2-Dichloropropane	0.482	0.475	0.2	-1.5	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/05/2016 Time: 15:50

Lab File ID: VT013907.D Init. Calib Date(s): 04/12/2016 04/12/2016

EPA Sample No.: VSTD02580 Init. Calib Time(s): 12:45 14:29

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Bromodichloromethane	0.541	0.567	0.3	4.9	± 20.0
cis-1,3-Dichloropropene	0.627	0.671	0.3	7.0	± 20.0
4-Methyl-2-pentanone	0.325	0.358	0.03	10.2	± 30.0
Toluene	1.920	1.796	0.3	-6.5	± 20.0
trans-1,3-Dichloropropene	0.508	0.557	0.2	9.7	± 20.0
1,1,2-Trichloroethane	0.251	0.258	0.2	2.7	± 20.0
Tetrachloroethene	0.349	0.334	0.1	-4.5	± 20.0
2-Hexanone	0.264	0.269	0.01	1.8	± 40.0
Dibromochloromethane	0.309	0.316	0.2	2.3	± 20.0
1,2-Dibromoethane	0.238	0.250	0.2	4.9	± 20.0
Chlorobenzene	1.082	1.057	0.4	-2.3	± 20.0
Ethylbenzene	2.196	2.142	0.4	-2.4	± 20.0
o-xylene	0.763	0.753	0.2	-1.3	± 20.0
m,p-Xylene	0.801	0.766	0.2	-4.3	± 20.0
Styrene	1.190	1.151	0.2	-3.3	± 20.0
Bromoform	0.318	0.323	0.1	1.5	± 25.0
Isopropylbenzene	2.163	2.159	0.4	-0.2	± 25.0
1,1,2,2-Tetrachloroethane	0.318	0.341	0.2	7.4	± 25.0
1,3-Dichlorobenzene	1.627	1.625	0.5	-0.1	± 20.0
1,4-Dichlorobenzene	1.598	1.556	0.6	-2.6	± 20.0
1,2-Dichlorobenzene	1.423	1.410	0.6	-0.9	± 20.0
1,2-Dibromo-3-chloropropane	0.103	0.110	0.01	6.6	± 30.0
1,2,4-trichlorobenzene	0.881	0.875	0.4	-0.7	± 30.0
1,2,3-Trichlorobenzene	0.726	0.723	0.4	-0.4	± 30.0
Vinyl Chloride-d3	0.491	0.349	0.01	-28.8	± 30.0
Chloroethane-d5	0.329	0.270	0.01	-17.8	± 30.0
1,1-Dichloroethene-d2	0.847	0.758	0.05	-10.4	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/05/2016 Time: 15:50

Lab File ID: VT013907.D Init. Calib Date(s): 04/12/2016 04/12/2016

EPA Sample No.: VSTD02580 Init. Calib Time(s): 12:45 14:29

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF25	MIN RRF	%D	MAX %D
2-Butanone-d5	0.100	0.105	0.01	4.9	± 40.0
Chloroform-d	0.704	0.653	0.3	-7.3	± 20.0
1,2-Dichloroethane-d4	0.381	0.384	0.06	0.8	± 25.0
Benzene-d6	1.828	1.489	0.3	-18.5	± 20.0
1,2-Dichloropropane-d6	0.528	0.456	0.2	-13.5	± 20.0
Toluene-d8	1.577	1.310	0.3	-16.9	± 20.0
trans-1,3-Dichloropropene-d4	0.187	0.167	0.2	-10.9	± 20.0
2-Hexanone-d5	0.080	0.086	0.01	7.1	± 40.0
1,1,2,2-Tetrachloroethane-d2	0.331	0.320	0.2	-3.4	± 25.0
1,2-Dichlorobenzene-d4	0.951	0.822	0.4	-13.6	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/06/2016 Time: 02:23

Lab File ID: VT013929.D Init. Calib Date(s): 04/12/2016 04/12/2016

EPA Sample No.: VSTD02581 Init. Calib Time(s): 12:45 14:29

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.475	0.514	0.01	8.2	± 50.0
Chloromethane	0.543	0.518	0.01	-4.6	± 50.0
Vinyl chloride	0.497	0.513	0.01	3.1	± 50.0
Bromomethane	0.245	0.254	0.01	3.3	± 50.0
Chloroethane	0.277	0.292	0.01	5.6	± 50.0
Trichlorofluoromethane	0.593	0.678	0.01	14.3	± 50.0
1,1-Dichloroethene	0.333	0.340	0.06	2.1	± 25.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.363	0.390	0.05	7.5	± 50.0
Acetone	0.124	0.096	0.01	-22.6	± 50.0
Carbon disulfide	1.189	0.978	0.1	-17.8	± 25.0
Methyl Acetate	0.196	0.182	0.01	-6.7	± 50.0
Methylene chloride	0.339	0.322	0.01	-5	± 50.0
trans-1,2-Dichloroethene	0.358	0.339	0.1	-5.3	± 25.0
Methyl tert-butyl Ether	0.618	0.638	0.1	3.2	± 50.0
1,1-Dichloroethane	0.762	0.783	0.3	2.8	± 25.0
cis-1,2-Dichloroethene	0.356	0.345	0.2	-3.1	± 25.0
2-Butanone	0.145	0.121	0.01	-16.4	± 50.0
Bromochloromethane	0.130	0.121	0.1	-6.9	± 25.0
Chloroform	0.649	0.682	0.3	5.1	± 25.0
1,1,1-Trichloroethane	0.724	0.778	0.05	7.4	± 25.0
Cyclohexane	1.071	0.991	0.01	-7.4	± 50.0
Carbon tetrachloride	0.669	0.711	0.1	6.3	± 25.0
Benzene	1.934	1.780	0.2	-8	± 25.0
1,2-Dichloroethane	0.458	0.509	0.07	11.2	± 25.0
Trichloroethene	0.479	0.475	0.2	-0.9	± 25.0
Methylcyclohexane	0.973	0.920	0.05	-5.5	± 50.0
1,2-Dichloropropane	0.482	0.444	0.2	-8	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/06/2016 Time: 02:23

Lab File ID: VT013929.D Init. Calib Date(s): 04/12/2016 04/12/2016

EPA Sample No.: VSTD02581 Init. Calib Time(s): 12:45 14:29

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Bromodichloromethane	0.541	0.550	0.3	1.7	± 25.0
cis-1,3-Dichloropropene	0.627	0.604	0.3	-3.6	± 25.0
4-Methyl-2-pentanone	0.325	0.309	0.03	-5	± 50.0
Toluene	1.920	1.737	0.3	-9.6	± 25.0
trans-1,3-Dichloropropene	0.508	0.491	0.2	-3.2	± 25.0
1,1,2-Trichloroethane	0.251	0.238	0.2	-5.5	± 25.0
Tetrachloroethene	0.349	0.330	0.1	-5.6	± 25.0
2-Hexanone	0.264	0.215	0.01	-18.8	± 50.0
Dibromochloromethane	0.309	0.295	0.2	-4.5	± 25.0
1,2-Dibromoethane	0.238	0.229	0.2	-3.8	± 25.0
Chlorobenzene	1.082	1.012	0.4	-6.5	± 25.0
Ethylbenzene	2.196	2.049	0.4	-6.7	± 25.0
o-xylene	0.763	0.722	0.2	-5.3	± 25.0
m,p-Xylene	0.801	0.733	0.2	-8.4	± 25.0
Styrene	1.190	1.103	0.2	-7.3	± 25.0
Bromoform	0.318	0.292	0.1	-8.2	± 50.0
Isopropylbenzene	2.163	2.132	0.4	-1.4	± 25.0
1,1,2,2-Tetrachloroethane	0.318	0.308	0.2	-3	± 25.0
1,3-Dichlorobenzene	1.627	1.512	0.5	-7.1	± 25.0
1,4-Dichlorobenzene	1.598	1.487	0.6	-6.9	± 25.0
1,2-Dichlorobenzene	1.423	1.363	0.6	-4.2	± 25.0
1,2-Dibromo-3-chloropropane	0.103	0.099	0.01	-3.3	± 50.0
1,2,4-trichlorobenzene	0.881	0.788	0.4	-10.5	± 50.0
1,2,3-Trichlorobenzene	0.726	0.683	0.4	-5.9	± 50.0
Vinyl Chloride-d3	0.491	0.351	0.01	-28.4	± 50.0
Chloroethane-d5	0.329	0.277	0.01	-15.7	± 50.0
1,1-Dichloroethene-d2	0.847	0.767	0.05	-9.4	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/06/2016 Time: 02:23

Lab File ID: VT013929.D Init. Calib Date(s): 04/12/2016 04/12/2016

EPA Sample No.: VSTD02581 Init. Calib Time(s): 12:45 14:29

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF25	MIN RRF	%D	MAX %D
2-Butanone-d5	0.100	0.094	0.01	-5.9	± 50.0
Chloroform-d	0.704	0.663	0.3	-5.8	± 25.0
1,2-Dichloroethane-d4	0.381	0.385	0.06	1.1	± 25.0
Benzene-d6	1.828	1.501	0.3	-17.9	± 25.0
1,2-Dichloropropane-d6	0.528	0.446	0.2	-15.5	± 25.0
Toluene-d8	1.577	1.290	0.3	-18.2	± 25.0
trans-1,3-Dichloropropene-d4	0.187	0.158	0.2	-15.4	± 25.0
2-Hexanone-d5	0.080	0.077	0.01	-4.1	± 50.0
1,1,2,2-Tetrachloroethane-d2	0.331	0.307	0.2	-7.2	± 25.0
1,2-Dichlorobenzene-d4	0.951	0.804	0.4	-15.4	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/09/2016 Time: 10:07

Lab File ID: VT013987.D Init. Calib Date(s): 05/06/2016 05/06/2016

EPA Sample No.: VSTD02590 Init. Calib Time(s): 09:38 11:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.511	0.510	0.01	-0.1	± 40.0
Chloromethane	0.601	0.590	0.01	-1.9	± 30.0
Vinyl chloride	0.574	0.585	0.01	1.9	± 25.0
Bromomethane	0.292	0.288	0.01	-1.3	± 30.0
Chloroethane	0.317	0.321	0.01	1.3	± 25.0
Trichlorofluoromethane	0.718	0.749	0.01	4.4	± 30.0
1,1-Dichloroethene	0.367	0.375	0.06	2.2	± 20.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.402	0.405	0.05	0.8	± 25.0
Acetone	0.158	0.151	0.01	-4.9	± 40.0
Carbon disulfide	1.225	1.263	0.1	3.1	± 25.0
Methyl Acetate	0.210	0.191	0.01	-9.3	± 40.0
Methylene chloride	0.353	0.344	0.01	-2.7	± 30.0
trans-1,2-Dichloroethene	0.370	0.386	0.1	4.5	± 20.0
Methyl tert-butyl Ether	0.658	0.702	0.1	6.7	± 25.0
1,1-Dichloroethane	0.820	0.843	0.3	2.8	± 20.0
cis-1,2-Dichloroethene	0.353	0.376	0.2	6.6	± 20.0
2-Butanone	0.156	0.147	0.01	-5.5	± 40.0
Bromochloromethane	0.130	0.131	0.1	0.8	± 20.0
Chloroform	0.697	0.714	0.3	2.5	± 20.0
1,1,1-Trichloroethane	0.783	0.842	0.05	7.6	± 25.0
Cyclohexane	1.010	1.093	0.01	8.1	± 25.0
Carbon tetrachloride	0.709	0.764	0.1	7.8	± 25.0
Benzene	1.847	1.906	0.2	3.2	± 20.0
1,2-Dichloroethane	0.530	0.526	0.07	-0.8	± 20.0
Trichloroethene	0.480	0.505	0.2	5.2	± 20.0
Methylcyclohexane	0.935	0.985	0.05	5.4	± 25.0
1,2-Dichloropropane	0.465	0.474	0.2	1.9	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/09/2016 Time: 10:07

Lab File ID: VT013987.D Init. Calib Date(s): 05/06/2016 05/06/2016

EPA Sample No.: VSTD02590 Init. Calib Time(s): 09:38 11:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Bromodichloromethane	0.550	0.580	0.3	5.4	± 20.0
cis-1,3-Dichloropropene	0.604	0.644	0.3	6.6	± 20.0
4-Methyl-2-pentanone	0.321	0.316	0.03	-1.4	± 30.0
Toluene	1.821	1.897	0.3	4.2	± 20.0
trans-1,3-Dichloropropene	0.519	0.556	0.2	7.1	± 20.0
1,1,2-Trichloroethane	0.251	0.244	0.2	-2.7	± 20.0
Tetrachloroethene	0.349	0.359	0.1	2.6	± 20.0
2-Hexanone	0.269	0.272	0.01	1.2	± 40.0
Dibromochloromethane	0.303	0.318	0.2	4.8	± 20.0
1,2-Dibromoethane	0.240	0.234	0.2	-2.7	± 20.0
Chlorobenzene	1.064	1.078	0.4	1.4	± 20.0
Ethylbenzene	2.153	2.240	0.4	4.1	± 20.0
o-xylene	0.734	0.769	0.2	4.8	± 20.0
m,p-Xylene	0.773	0.818	0.2	5.9	± 20.0
Styrene	1.169	1.170	0.2	0.1	± 20.0
Bromoform	0.324	0.305	0.1	-6.1	± 25.0
Isopropylbenzene	2.142	2.280	0.4	6.4	± 25.0
1,1,2,2-Tetrachloroethane	0.319	0.305	0.2	-4.5	± 25.0
1,3-Dichlorobenzene	1.584	1.699	0.5	7.3	± 20.0
1,4-Dichlorobenzene	1.635	1.653	0.6	1.1	± 20.0
1,2-Dichlorobenzene	1.416	1.435	0.6	1.4	± 20.0
1,2-Dibromo-3-chloropropane	0.112	0.102	0.01	-9.4	± 30.0
1,2,4-trichlorobenzene	0.857	0.929	0.4	8.3	± 30.0
1,2,3-Trichlorobenzene	0.728	0.762	0.4	4.7	± 30.0
Vinyl Chloride-d3	0.414	0.486	0.01	17.2	± 30.0
Chloroethane-d5	0.299	0.348	0.01	16.2	± 30.0
1,1-Dichloroethene-d2	0.852	0.954	0.05	12	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/09/2016 Time: 10:07

Lab File ID: VT013987.D Init. Calib Date(s): 05/06/2016 05/06/2016

EPA Sample No.: VSTD02590 Init. Calib Time(s): 09:38 11:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF25	MIN RRF	%D	MAX %D
2-Butanone-d5	0.099	0.091	0.01	-7.8	± 40.0
Chloroform-d	0.698	0.747	0.3	7.1	± 20.0
1,2-Dichloroethane-d4	0.409	0.416	0.06	1.7	± 25.0
Benzene-d6	1.564	1.684	0.3	7.7	± 20.0
1,2-Dichloropropane-d6	0.461	0.491	0.2	6.4	± 20.0
Toluene-d8	1.408	1.523	0.3	8.2	± 20.0
trans-1,3-Dichloropropene-d4	0.179	0.189	0.2	5.5	± 20.0
2-Hexanone-d5	0.074	0.074	0.01	0.5	± 40.0
1,1,2,2-Tetrachloroethane-d2	0.318	0.302	0.2	-4.9	± 25.0
1,2-Dichlorobenzene-d4	0.878	0.903	0.4	2.9	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/09/2016 Time: 16:11

Lab File ID: VT013999.D Init. Calib Date(s): 05/06/2016 05/06/2016

EPA Sample No.: VSTD02591 Init. Calib Time(s): 09:38 11:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.511	0.489	0.01	-4.3	± 40.0
Chloromethane	0.601	0.545	0.01	-9.2	± 30.0
Vinyl chloride	0.574	0.542	0.01	-5.6	± 25.0
Bromomethane	0.292	0.267	0.01	-8.7	± 30.0
Chloroethane	0.317	0.306	0.01	-3.5	± 25.0
Trichlorofluoromethane	0.718	0.698	0.01	-2.8	± 30.0
1,1-Dichloroethene	0.367	0.344	0.06	-6.4	± 20.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.402	0.387	0.05	-3.7	± 25.0
Acetone	0.158	0.112	0.01	-29.1	± 40.0
Carbon disulfide	1.225	1.134	0.1	-7.4	± 25.0
Methyl Acetate	0.210	0.185	0.01	-12.1	± 40.0
Methylene chloride	0.353	0.319	0.01	-9.5	± 30.0
trans-1,2-Dichloroethene	0.370	0.358	0.1	-3.3	± 20.0
Methyl tert-butyl Ether	0.658	0.640	0.1	-2.8	± 25.0
1,1-Dichloroethane	0.820	0.786	0.3	-4.2	± 20.0
cis-1,2-Dichloroethene	0.353	0.345	0.2	-2.2	± 20.0
2-Butanone	0.156	0.123	0.01	-20.8	± 40.0
Bromochloromethane	0.130	0.123	0.1	-5.4	± 20.0
Chloroform	0.697	0.681	0.3	-2.3	± 20.0
1,1,1-Trichloroethane	0.783	0.760	0.05	-2.8	± 25.0
Cyclohexane	1.010	0.994	0.01	-1.6	± 25.0
Carbon tetrachloride	0.709	0.706	0.1	-0.5	± 25.0
Benzene	1.847	1.756	0.2	-5	± 20.0
1,2-Dichloroethane	0.530	0.514	0.07	-3.1	± 20.0
Trichloroethene	0.480	0.465	0.2	-3	± 20.0
Methylcyclohexane	0.935	0.899	0.05	-3.9	± 25.0
1,2-Dichloropropane	0.465	0.437	0.2	-6.1	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/09/2016 Time: 16:11

Lab File ID: VT013999.D Init. Calib Date(s): 05/06/2016 05/06/2016

EPA Sample No.: VSTD02591 Init. Calib Time(s): 09:38 11:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Bromodichloromethane	0.550	0.546	0.3	-0.7	± 20.0
cis-1,3-Dichloropropene	0.604	0.597	0.3	-1.3	± 20.0
4-Methyl-2-pentanone	0.321	0.300	0.03	-6.4	± 30.0
Toluene	1.821	1.764	0.3	-3.1	± 20.0
trans-1,3-Dichloropropene	0.519	0.522	0.2	0.6	± 20.0
1,1,2-Trichloroethane	0.251	0.236	0.2	-6.2	± 20.0
Tetrachloroethene	0.349	0.333	0.1	-4.7	± 20.0
2-Hexanone	0.269	0.230	0.01	-14.6	± 40.0
Dibromochloromethane	0.303	0.296	0.2	-2.2	± 20.0
1,2-Dibromoethane	0.240	0.230	0.2	-4	± 20.0
Chlorobenzene	1.064	1.027	0.4	-3.5	± 20.0
Ethylbenzene	2.153	2.094	0.4	-2.7	± 20.0
o-xylene	0.734	0.726	0.2	-1.1	± 20.0
m,p-Xylene	0.773	0.750	0.2	-2.9	± 20.0
Styrene	1.169	1.134	0.2	-3	± 20.0
Bromoform	0.324	0.282	0.1	-13.2	± 25.0
Isopropylbenzene	2.142	2.133	0.4	-0.4	± 25.0
1,1,2,2-Tetrachloroethane	0.319	0.301	0.2	-5.7	± 25.0
1,3-Dichlorobenzene	1.584	1.545	0.5	-2.5	± 20.0
1,4-Dichlorobenzene	1.635	1.501	0.6	-8.2	± 20.0
1,2-Dichlorobenzene	1.416	1.361	0.6	-3.9	± 20.0
1,2-Dibromo-3-chloropropane	0.112	0.101	0.01	-9.7	± 30.0
1,2,4-trichlorobenzene	0.857	0.861	0.4	0.4	± 30.0
1,2,3-Trichlorobenzene	0.728	0.729	0.4	0.1	± 30.0
Vinyl Chloride-d3	0.414	0.467	0.01	12.6	± 30.0
Chloroethane-d5	0.299	0.333	0.01	11.1	± 30.0
1,1-Dichloroethene-d2	0.852	0.901	0.05	5.8	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/09/2016 Time: 16:11

Lab File ID: VT013999.D Init. Calib Date(s): 05/06/2016 05/06/2016

EPA Sample No.: VSTD02591 Init. Calib Time(s): 09:38 11:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF25	MIN RRF	%D	MAX %D
2-Butanone-d5	0.099	0.089	0.01	-10	± 40.0
Chloroform-d	0.698	0.722	0.3	3.5	± 20.0
1,2-Dichloroethane-d4	0.409	0.407	0.06	-0.5	± 25.0
Benzene-d6	1.564	1.588	0.3	1.5	± 20.0
1,2-Dichloropropane-d6	0.461	0.475	0.2	2.9	± 20.0
Toluene-d8	1.408	1.447	0.3	2.8	± 20.0
trans-1,3-Dichloropropene-d4	0.179	0.176	0.2	-1.3	± 20.0
2-Hexanone-d5	0.074	0.074	0.01	0.4	± 40.0
1,1,2,2-Tetrachloroethane-d2	0.318	0.306	0.2	-3.7	± 25.0
1,2-Dichlorobenzene-d4	0.878	0.861	0.4	-1.9	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/10/2016 Time: 02:38

Lab File ID: VT014021.D Init. Calib Date(s): 05/06/2016 05/06/2016

EPA Sample No.: VSTD02592 Init. Calib Time(s): 09:38 11:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.511	0.421	0.01	-17.5	± 50.0
Chloromethane	0.601	0.506	0.01	-15.7	± 50.0
Vinyl chloride	0.574	0.499	0.01	-13.1	± 50.0
Bromomethane	0.292	0.247	0.01	-15.4	± 50.0
Chloroethane	0.317	0.283	0.01	-10.9	± 50.0
Trichlorofluoromethane	0.718	0.566	0.01	-21.1	± 50.0
1,1-Dichloroethene	0.367	0.332	0.06	-9.4	± 25.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.402	0.368	0.05	-8.5	± 50.0
Acetone	0.158	0.084	0.01	-47.1	± 50.0
Carbon disulfide	1.225	1.104	0.1	-9.9	± 25.0
Methyl Acetate	0.210	0.197	0.01	-6.2	± 50.0
Methylene chloride	0.353	0.322	0.01	-8.8	± 50.0
trans-1,2-Dichloroethene	0.370	0.357	0.1	-3.5	± 25.0
Methyl tert-butyl Ether	0.658	0.637	0.1	-3.2	± 50.0
1,1-Dichloroethane	0.820	0.751	0.3	-8.4	± 25.0
cis-1,2-Dichloroethene	0.353	0.345	0.2	-2.2	± 25.0
2-Butanone	0.156	0.115	0.01	-26	± 50.0
Bromochloromethane	0.130	0.122	0.1	-5.8	± 25.0
Chloroform	0.697	0.590	0.3	-15.3	± 25.0
1,1,1-Trichloroethane	0.783	0.683	0.05	-12.8	± 25.0
Cyclohexane	1.010	1.101	0.01	8.9	± 50.0
Carbon tetrachloride	0.709	0.609	0.1	-14.2	± 25.0
Benzene	1.847	1.870	0.2	1.3	± 25.0
1,2-Dichloroethane	0.530	0.407	0.07	-23.3	± 25.0
Trichloroethene	0.480	0.468	0.2	-2.4	± 25.0
Methylcyclohexane	0.935	0.972	0.05	4.0	± 50.0
1,2-Dichloropropane	0.465	0.474	0.2	2.0	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/10/2016 Time: 02:38

Lab File ID: VT014021.D Init. Calib Date(s): 05/06/2016 05/06/2016

EPA Sample No.: VSTD02592 Init. Calib Time(s): 09:38 11:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Bromodichloromethane	0.550	0.486	0.3	-11.6	± 25.0
cis-1,3-Dichloropropene	0.604	0.570	0.3	-5.6	± 25.0
4-Methyl-2-pentanone	0.321	0.313	0.03	-2.3	± 50.0
Toluene	1.821	1.788	0.3	-1.8	± 25.0
trans-1,3-Dichloropropene	0.519	0.470	0.2	-9.3	± 25.0
1,1,2-Trichloroethane	0.251	0.240	0.2	-4.4	± 25.0
Tetrachloroethene	0.349	0.332	0.1	-4.9	± 25.0
2-Hexanone	0.269	0.221	0.01	-17.7	± 50.0
Dibromochloromethane	0.303	0.272	0.2	-10.3	± 25.0
1,2-Dibromoethane	0.240	0.228	0.2	-5	± 25.0
Chlorobenzene	1.064	1.017	0.4	-4.4	± 25.0
Ethylbenzene	2.153	2.033	0.4	-5.6	± 25.0
o-xylene	0.734	0.714	0.2	-2.7	± 25.0
m,p-Xylene	0.773	0.739	0.2	-4.4	± 25.0
Styrene	1.169	1.088	0.2	-7	± 25.0
Bromoform	0.324	0.295	0.1	-9	± 50.0
Isopropylbenzene	2.142	2.036	0.4	-4.9	± 25.0
1,1,2,2-Tetrachloroethane	0.319	0.296	0.2	-7.3	± 25.0
1,3-Dichlorobenzene	1.584	1.548	0.5	-2.3	± 25.0
1,4-Dichlorobenzene	1.635	1.488	0.6	-9	± 25.0
1,2-Dichlorobenzene	1.416	1.352	0.6	-4.5	± 25.0
1,2-Dibromo-3-chloropropane	0.112	0.096	0.01	-14.4	± 50.0
1,2,4-trichlorobenzene	0.857	0.846	0.4	-1.3	± 50.0
1,2,3-Trichlorobenzene	0.728	0.707	0.4	-2.8	± 50.0
Vinyl Chloride-d3	0.414	0.409	0.01	-1.3	± 50.0
Chloroethane-d5	0.299	0.295	0.01	-1.6	± 50.0
1,1-Dichloroethene-d2	0.852	0.716	0.05	-15.9	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/10/2016 Time: 02:38

Lab File ID: VT014021.D Init. Calib Date(s): 05/06/2016 05/06/2016

EPA Sample No.: VSTD02592 Init. Calib Time(s): 09:38 11:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

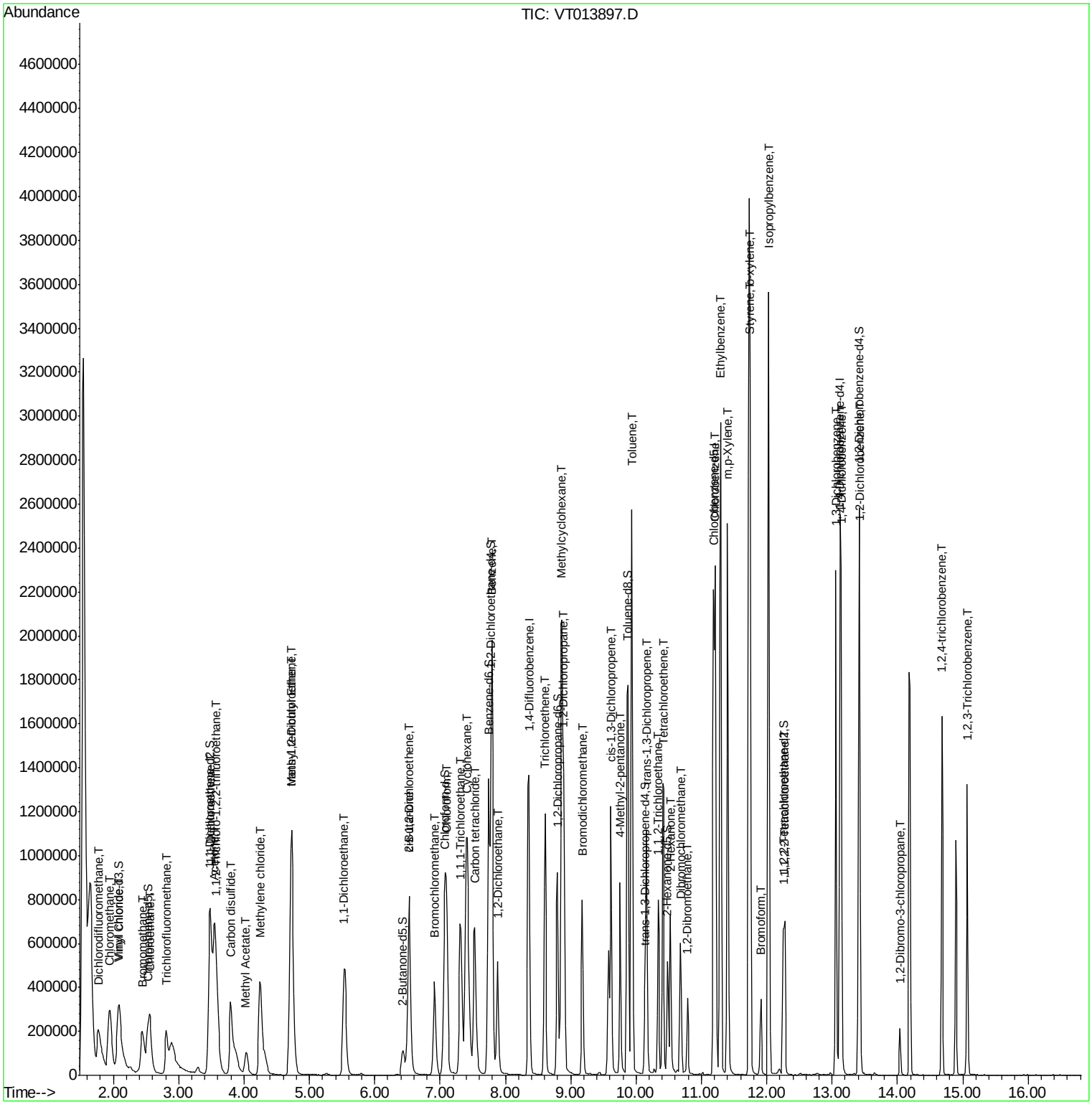
ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
2-Butanone-d5	0.099	0.094	0.01	-4.3	± 50.0
Chloroform-d	0.698	0.588	0.3	-15.7	± 25.0
1,2-Dichloroethane-d4	0.409	0.315	0.06	-22.9	± 25.0
Benzene-d6	1.564	1.596	0.3	2.1	± 25.0
1,2-Dichloropropane-d6	0.461	0.480	0.2	4.0	± 25.0
Toluene-d8	1.408	1.393	0.3	-1	± 25.0
trans-1,3-Dichloropropene-d4	0.179	0.161	0.2	-10	± 25.0
2-Hexanone-d5	0.074	0.084	0.01	13.6	± 50.0
1,1,2,2-Tetrachloroethane-d2	0.318	0.293	0.2	-8	± 25.0
1,2-Dichlorobenzene-d4	0.878	0.843	0.4	-4	± 25.0

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013897.D
Acq On : 5 May 2016 10:40
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 01:07:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Thu May 05 04:11:49 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02579

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:00 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013897.D
Acq On : 5 May 2016 10:40
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 01:07:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Thu May 05 04:11:49 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02579

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:00 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1096176	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	899470	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	455366	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	395833	18.40	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 73.60%			
7) Chloroethane-d5	2.53	69	307905	21.36	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 85.44%			
10) 1,1-Dichloroethene-d2	3.47	63	852677	22.96	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 91.84%			
20) 2-Butanone-d5	6.43	46	228991	52.09	ug/L	0.01
Spiked Amount 50.000	Range 20 - 135		Recovery = 104.18%			
24) Chloroform-d	7.07	84	711420	23.05	ug/L	0.01
Spiked Amount 25.000	Range 40 - 150		Recovery = 92.20%			
26) 1,2-Dichloroethane-d4	7.78	65	414227	24.82	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 99.28%			
29) Benzene-d6	7.74	84	1318480	20.05	ug/L	0.01
Spiked Amount 25.000	Range 20 - 135		Recovery = 80.20%			
33) 1,2-Dichloropropane-d6	8.80	67	404638	21.32	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 85.28%			
37) Toluene-d8	9.87	98	1156558	20.39	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 81.56%			
38) trans-1,3-Dichloropropene-	10.13	79	154746	22.96	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 91.84%			
39) 2-Hexanone-d5	10.48	63	144682	50.17	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 100.34%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	273586	22.98	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 91.92%			
60) 1,2-Dichlorobenzene-d4	13.41	152	373128	21.54	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 86.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	588272	28.23	ug/L	99
3) Chloromethane	1.95	50	600423	25.24	ug/L	99
5) Vinyl chloride	2.09	62	588606	26.99	ug/L	98
6) Bromomethane	2.44	94	278960	25.93	ug/L	98
8) Chloroethane	2.56	64	324026	26.71	ug/L	99
9) Trichlorofluoromethane	2.81	101	726273m	27.91	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	410088	25.76	ug/L	98
12) 1,1-Dichloroethene	3.48	96	361773	24.80	ug/L	90
13) Acetone	3.54	43	304354	55.94	ug/L	96
14) Carbon disulfide	3.79	76	1137685	21.83	ug/L	99
15) Methyl Acetate	4.03	43	219977	25.65	ug/L	97
16) Methylene chloride	4.24	84	356077	23.97	ug/L	93
17) Methyl tert-butyl Ether	4.73	73	730650	26.97	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	384747	24.52	ug/L	98
19) 1,1-Dichloroethane	5.53	63	872939	26.14	ug/L	98
21) 2-Butanone	6.53	43	323204	50.81	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	381224	24.44	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013897.D
Acq On : 5 May 2016 10:40
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 01:07:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Thu May 05 04:11:49 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02579

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:00 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	137428	24.20	ug/L	95
25) Chloroform	7.09	83	739970	26.01	ug/L	100
27) 1,2-Dichloroethane	7.89	62	538419	26.83	ug/L	97
30) Cyclohexane	7.41	56	865813	22.48	ug/L	100
31) 1,1,1-Trichloroethane	7.31	97	683775	26.23	ug/L	99
32) Carbon tetrachloride	7.53	117	604082	25.08	ug/L	98
34) Benzene	7.79	78	1574817	22.63	ug/L	100
35) Trichloroethene	8.61	95	408961	23.72	ug/L	98
36) Methylcyclohexane	8.86	83	771086	22.03	ug/L	95
40) 1,2-Dichloropropane	8.89	63	410156	23.63	ug/L	100
41) Bromodichloromethane	9.18	83	494035	25.39	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	577169	25.60	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	593826	50.79	ug/L	98
44) Toluene	9.93	91	1554706	22.50	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	486229	26.63	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	217429	24.05	ug/L	98
47) Tetrachloroethene	10.42	164	289875	23.05	ug/L	96
49) 2-Hexanone	10.53	43	475491	49.97	ug/L	99
50) Dibromochloromethane	10.68	129	277773	25.00	ug/L	97
51) 1,2-Dibromoethane	10.79	107	210972	24.63	ug/L	99
52) Chlorobenzene	11.21	112	918831	23.60	ug/L	97
53) Ethylbenzene	11.29	91	1881755	23.82	ug/L	98
54) m,p-Xylene	11.40	106	671464	23.31	ug/L	97
55) o-xylene	11.73	106	659397	24.02	ug/L	94
56) Styrene	11.74	104	1037181	24.23	ug/L	97
57) Isopropylbenzene	12.03	105	1902128	24.44	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	282029	24.67	ug/L	98
61) Bromoform	11.91	173	138603	23.93	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	732352	24.71	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	711200	24.43	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	622751	24.03	ug/L	96
65) 1,2-Dibromo-3-chloropropan	14.04	75	49199	26.28	ug/L	88
66) 1,2,4-trichlorobenzene	14.68	180	415412	25.88	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	338348	25.57	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

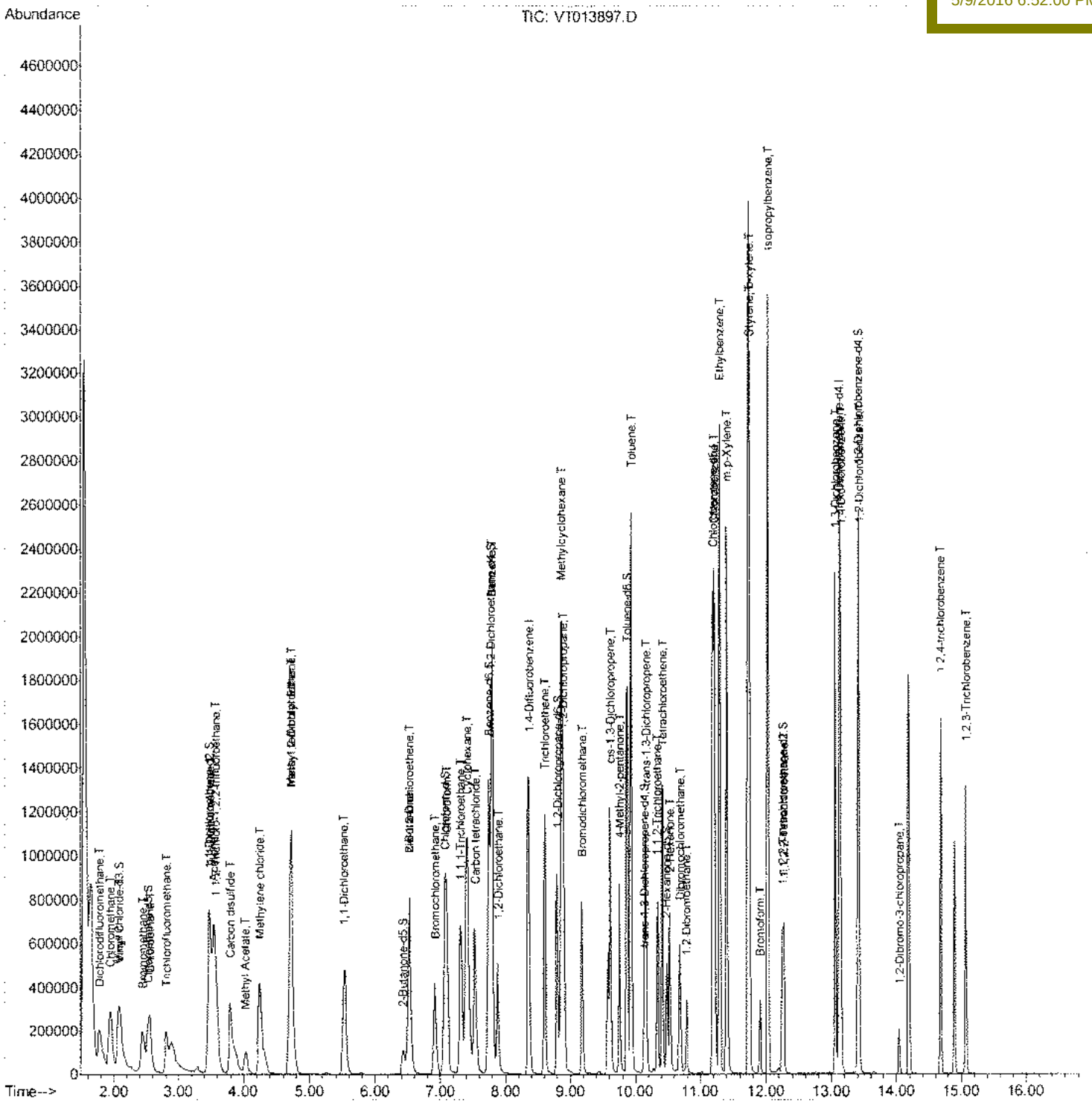
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013897.D
Acq On : 5 May 2016 10:40
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 01:07:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Thu May 05 04:11:49 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02579

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:00 PM



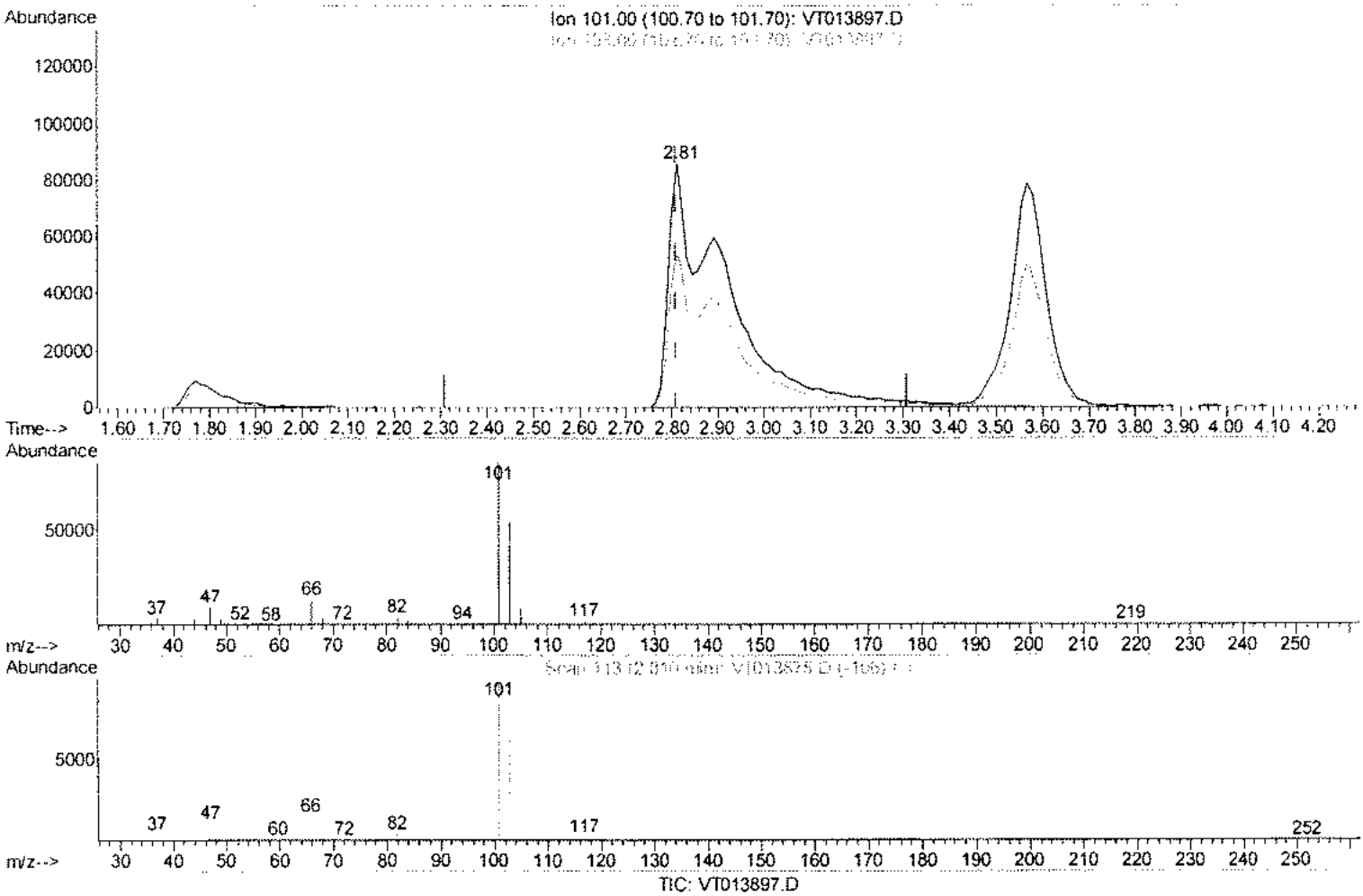
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013897.D
Acq On : 5 May 2016 10:40
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 01:04:50 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Thu May 05 04:11:49 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02579

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:00 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 27.91ug/L m M.D 05/09/16

response 726273

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	22.75
0.00	0.00	0.00
0.00	0.00	0.00

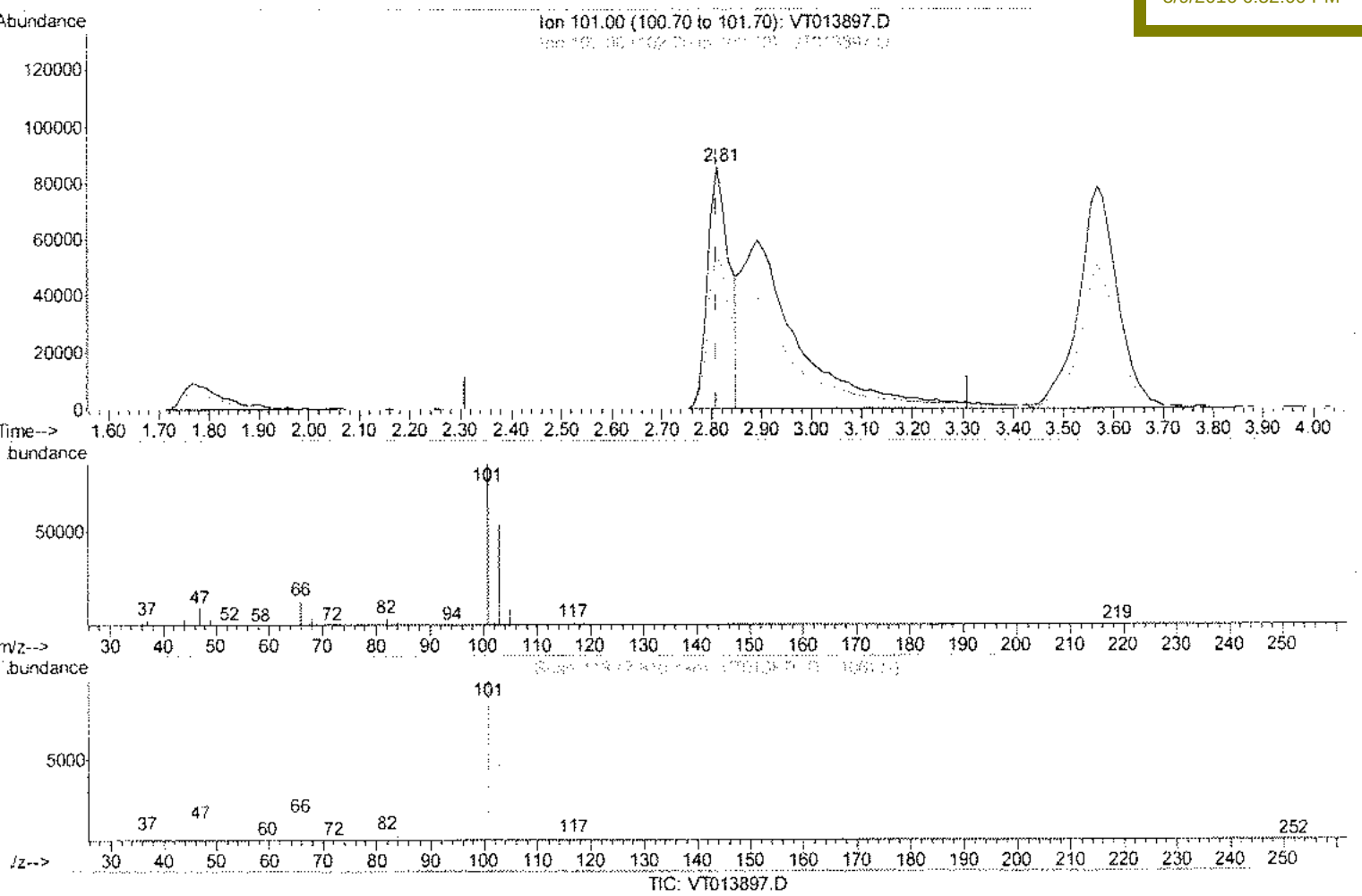
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013897.D
Acq On : 5 May 2016 10:40
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 01:04:50 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Thu May 05 04:11:49 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02579

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:00 PM



TIC: VT013897.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 9.90ug/L

response 257692

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	64.11#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013897.D
Acq On : 5 May 2016 10:40
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 01:07:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Thu May 05 04:11:49 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02579

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:00 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1096176	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	899470	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	455366	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	395833	18.40	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 73.60%			
7) Chloroethane-d5	2.53	69	307905	21.36	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 85.44%			
10) 1,1-Dichloroethene-d2	3.47	63	852677	22.96	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 91.84%			
20) 2-Butanone-d5	6.43	46	228991	52.09	ug/L	0.01
Spiked Amount 50.000	Range 20 - 135		Recovery = 104.18%			
24) Chloroform-d	7.07	84	711420	23.05	ug/L	0.01
Spiked Amount 25.000	Range 40 - 150		Recovery = 92.20%			
26) 1,2-Dichloroethane-d4	7.78	65	414227	24.82	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 99.28%			
29) Benzene-d6	7.74	84	1318480	20.05	ug/L	0.01
Spiked Amount 25.000	Range 20 - 135		Recovery = 80.20%			
33) 1,2-Dichloropropane-d6	8.80	67	404638	21.32	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 85.28%			
37) Toluene-d8	9.87	98	1156558	20.39	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 81.56%			
38) trans-1,3-Dichloropropene-	10.13	79	154746	22.96	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 91.84%			
39) 2-Hexanone-d5	10.48	63	144682	50.17	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 100.34%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	273586	22.98	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 91.92%			
60) 1,2-Dichlorobenzene-d4	13.41	152	373128	21.54	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 86.16%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	588272	28.23	ug/L	99
3) Chloromethane	1.95	50	600423	25.24	ug/L	99
5) Vinyl chloride	2.09	62	588606	26.99	ug/L	98
6) Bromomethane	2.44	94	278960	25.93	ug/L	98
8) Chloroethane	2.56	64	324026	26.71	ug/L	99
9) Trichlorofluoromethane	2.81	101	726273m	27.91	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	410088	25.76	ug/L	98
12) 1,1-Dichloroethene	3.48	96	361773	24.80	ug/L	90
13) Acetone	3.54	43	304354	55.94	ug/L	96
14) Carbon disulfide	3.79	76	1137685	21.83	ug/L	99
15) Methyl Acetate	4.03	43	219977	25.65	ug/L	97
16) Methylene chloride	4.24	84	356077	23.97	ug/L	93
17) Methyl tert-butyl Ether	4.73	73	730650	26.97	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	384747	24.52	ug/L	98
19) 1,1-Dichloroethane	5.53	63	872939	26.14	ug/L	98
21) 2-Butanone	6.53	43	323204	50.81	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	381224	24.44	ug/L	94

M.D 05/09/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013897.D
Acq On : 5 May 2016 10:40
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 01:07:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Thu May 05 04:11:49 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02579

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:00 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	137428	24.20	ug/L	95
25) Chloroform	7.09	83	739970	26.01	ug/L	100
27) 1,2-Dichloroethane	7.89	62	538419	26.83	ug/L	97
30) Cyclohexane	7.41	56	865813	22.48	ug/L	100
31) 1,1,1-Trichloroethane	7.31	97	683775	26.23	ug/L	99
32) Carbon tetrachloride	7.53	117	604082	25.08	ug/L	98
34) Benzene	7.79	78	1574817	22.63	ug/L	100
35) Trichloroethene	8.61	95	408961	23.72	ug/L	98
36) Methylcyclohexane	8.86	83	771086	22.03	ug/L	95
40) 1,2-Dichloropropane	8.89	63	410156	23.63	ug/L	100
41) Bromodichloromethane	9.18	83	494035	25.39	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	577169	25.60	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	593826	50.79	ug/L	98
44) Toluene	9.93	91	1554706	22.50	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	486229	26.63	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	217429	24.05	ug/L	98
47) Tetrachloroethene	10.42	164	289875	23.05	ug/L	96
49) 2-Hexanone	10.53	43	475491	49.97	ug/L	99
50) Dibromochloromethane	10.68	129	277773	25.00	ug/L	97
51) 1,2-Dibromoethane	10.79	107	210972	24.63	ug/L	99
52) Chlorobenzene	11.21	112	918831	23.60	ug/L	97
53) Ethylbenzene	11.29	91	1881755	23.82	ug/L	98
54) m,p-Xylene	11.40	106	671464	23.31	ug/L	97
55) o-xylene	11.73	106	659397	24.02	ug/L	94
56) Styrene	11.74	104	1037181	24.23	ug/L	97
57) Isopropylbenzene	12.03	105	1902128	24.44	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	282029	24.67	ug/L	98
61) Bromoform	11.91	173	138603	23.93	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	732352	24.71	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	711200	24.43	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	622751	24.03	ug/L	96
65) 1,2-Dibromo-3-chloropropan	14.04	75	49199	26.28	ug/L	88
66) 1,2,4-trichlorobenzene	14.68	180	415412	25.88	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	338348	25.57	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

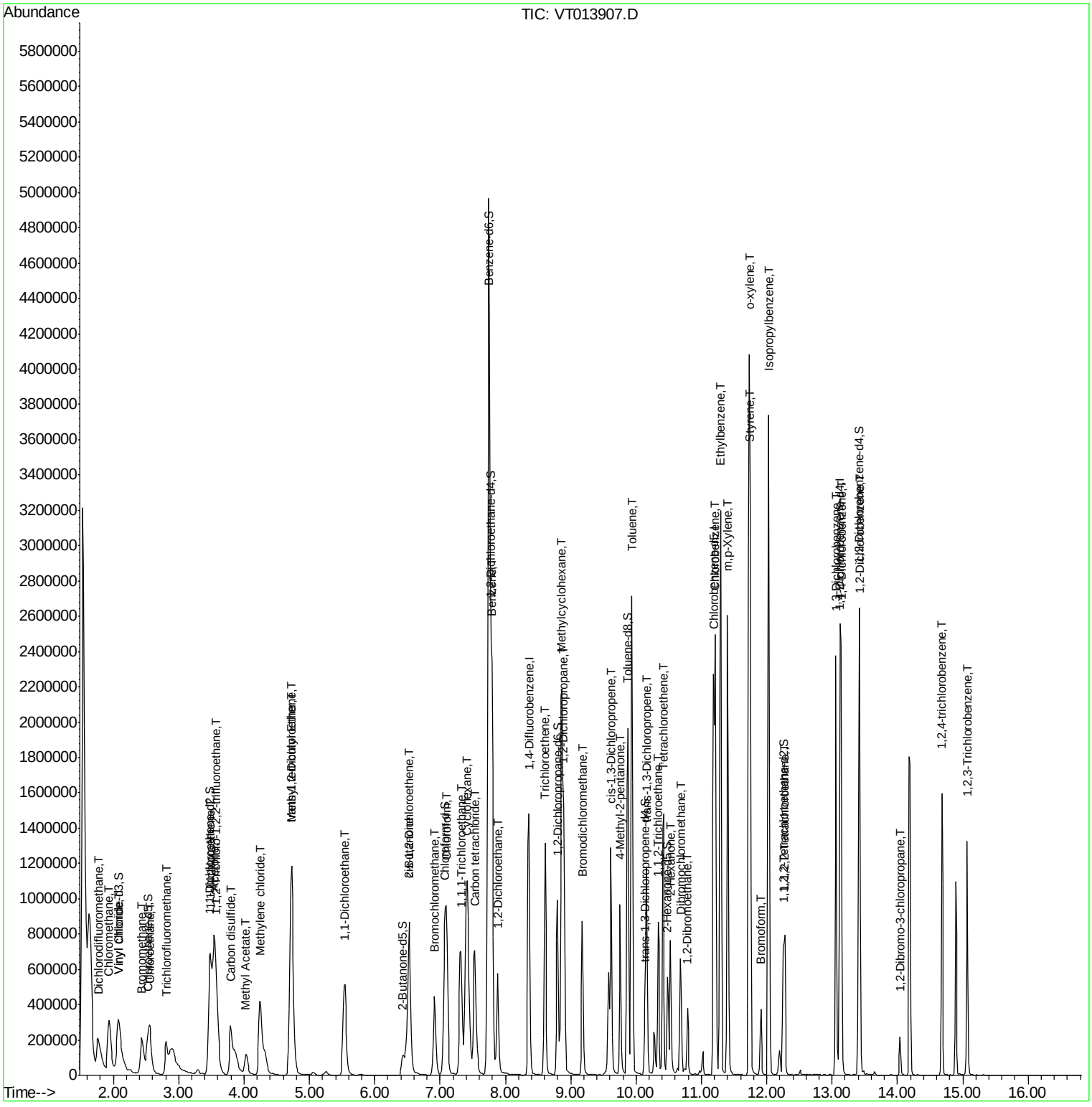
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 02:14:43 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:57 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 02:14:43 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02580

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:57 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1121344	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	920328	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	461203	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	391559	17.79	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 71.16%			
7) Chloroethane-d5	2.53	69	303242	20.56	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 82.24%			
10) 1,1-Dichloroethene-d2	3.47	63	850505	22.39	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 89.56%			
20) 2-Butanone-d5	6.43	46	235901	52.46	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 104.92%			
24) Chloroform-d	7.07	84	731709	23.18	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 92.72%			
26) 1,2-Dichloroethane-d4	7.78	65	430276	25.20	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 100.80%			
29) Benzene-d6	7.74	84	1370269	20.36	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 81.44%			
33) 1,2-Dichloropropane-d6	8.80	67	419826	21.61	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 86.44%			
37) Toluene-d8	9.87	98	1205797	20.77	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 83.08%			
38) trans-1,3-Dichloropropene-	10.13	79	153574	22.27	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 89.08%			
39) 2-Hexanone-d5	10.48	63	158057	53.57	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 107.14%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	294118	24.14	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 96.56%			
60) 1,2-Dichlorobenzene-d4	13.41	152	379123	21.61	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 86.44%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	579350	27.18	ug/L	98
3) Chloromethane	1.93	50	623204	25.61	ug/L	99
5) Vinyl chloride	2.08	62	592798	26.57	ug/L	98
6) Bromomethane	2.43	94	278223	25.28	ug/L	99
8) Chloroethane	2.56	64	330640	26.65	ug/L	99
9) Trichlorofluoromethane	2.81	101	742380m	27.89	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	424527	26.07	ug/L	97
12) 1,1-Dichloroethene	3.48	96	378687m	25.38	ug/L	
13) Acetone	3.54	43	290906	52.27	ug/L	95
14) Carbon disulfide	3.79	76	1123922	21.08	ug/L	100
15) Methyl Acetate	4.03	43	235066	26.80	ug/L	97
16) Methylene chloride	4.24	84	371632m	24.46	ug/L	
17) Methyl tert-butyl Ether	4.73	73	795688	28.71	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	391557	24.39	ug/L	94
19) 1,1-Dichloroethane	5.54	63	908090	26.58	ug/L	99
21) 2-Butanone	6.53	43	323916	49.78	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	396853	24.87	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:57 PM

Quant Time: May 06 02:14:43 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	143847	24.76	ug/L	94
25) Chloroform	7.09	83	775931	26.66	ug/L	99
27) 1,2-Dichloroethane	7.89	62	587382	28.61	ug/L	98
30) Cyclohexane	7.41	56	898905	22.81	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	697512	26.15	ug/L	100
32) Carbon tetrachloride	7.53	117	629760	25.56	ug/L	98
34) Benzene	7.79	78	1677031	23.55	ug/L	100
35) Trichloroethene	8.61	95	438127	24.84	ug/L	98
36) Methylcyclohexane	8.86	83	822675	22.97	ug/L	97
40) 1,2-Dichloropropane	8.89	63	437550	24.64	ug/L	100
41) Bromodichloromethane	9.18	83	522220	26.23	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	617308	26.76	ug/L	98
43) 4-Methyl-2-pentanone	9.76	43	658898	55.07	ug/L	98
44) Toluene	9.93	91	1653040	23.38	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	512457	27.43	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	237427	25.67	ug/L	98
47) Tetrachloroethene	10.42	164	307253	23.88	ug/L	96
49) 2-Hexanone	10.53	43	495450	50.89	ug/L	98
50) Dibromochloromethane	10.68	129	290619	25.57	ug/L	92
51) 1,2-Dibromoethane	10.79	107	229830	26.22	ug/L	95
52) Chlorobenzene	11.21	112	973111	24.43	ug/L	97
53) Ethylbenzene	11.29	91	1971797	24.39	ug/L	100
54) m,p-Xylene	11.40	106	704888	23.92	ug/L	99
55) o-xylene	11.73	106	692959	24.67	ug/L	92
56) Styrene	11.74	104	1058921	24.18	ug/L	95
57) Isopropylbenzene	12.03	105	1986696	24.95	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	314140	26.85	ug/L	98
61) Bromoform	11.91	173	148921	25.39	ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	749362	24.97	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	717755	24.35	ug/L	97
64) 1,2-Dichlorobenzene	13.42	146	650438	24.78	ug/L	96
65) 1,2-Dibromo-3-chloropropan	14.04	75	50555	26.67	ug/L	89
66) 1,2,4-trichlorobenzene	14.68	180	403644	24.83	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	333658	24.90	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

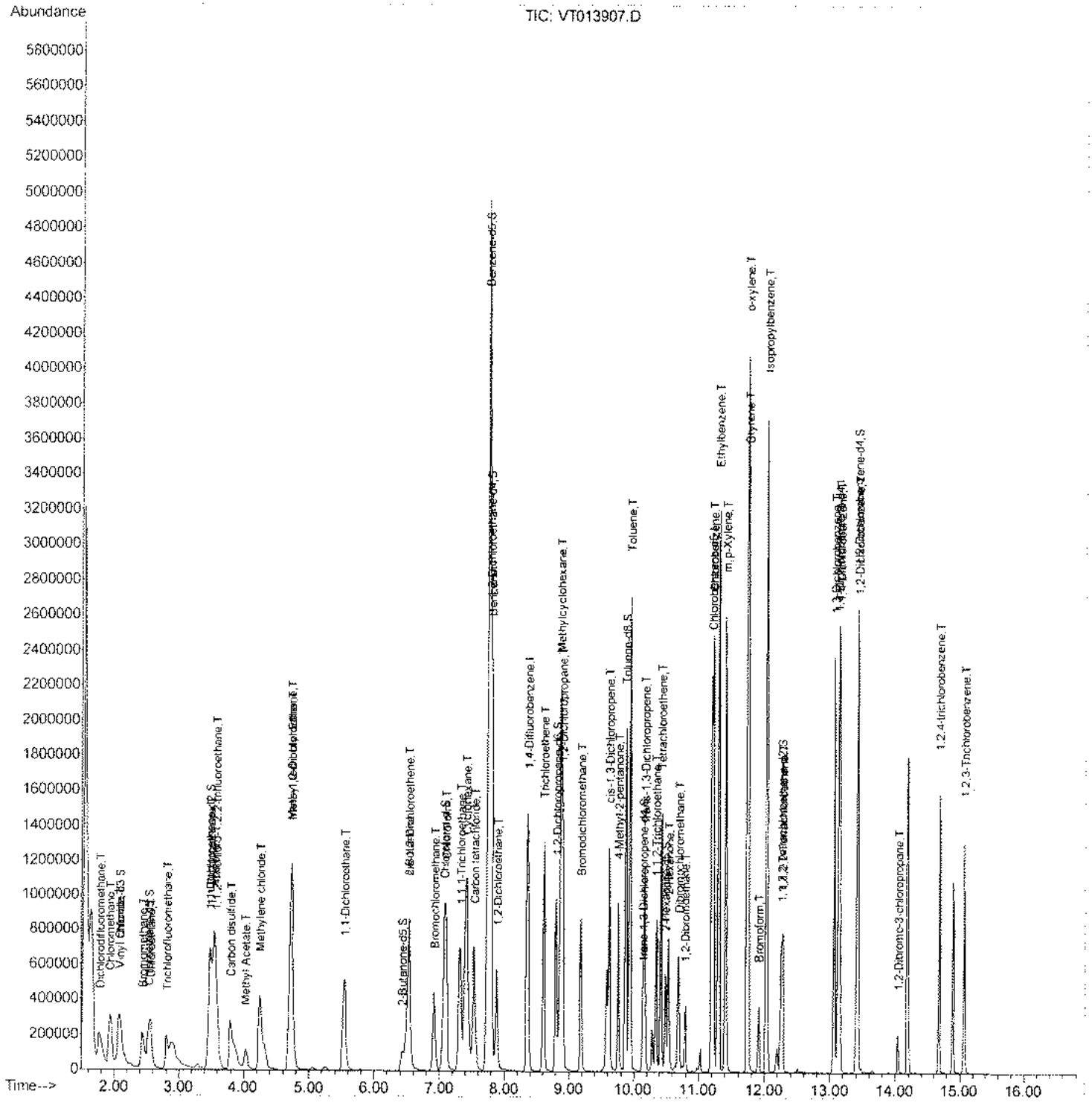
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 02:14:43 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:57 PM



Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 01:16:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
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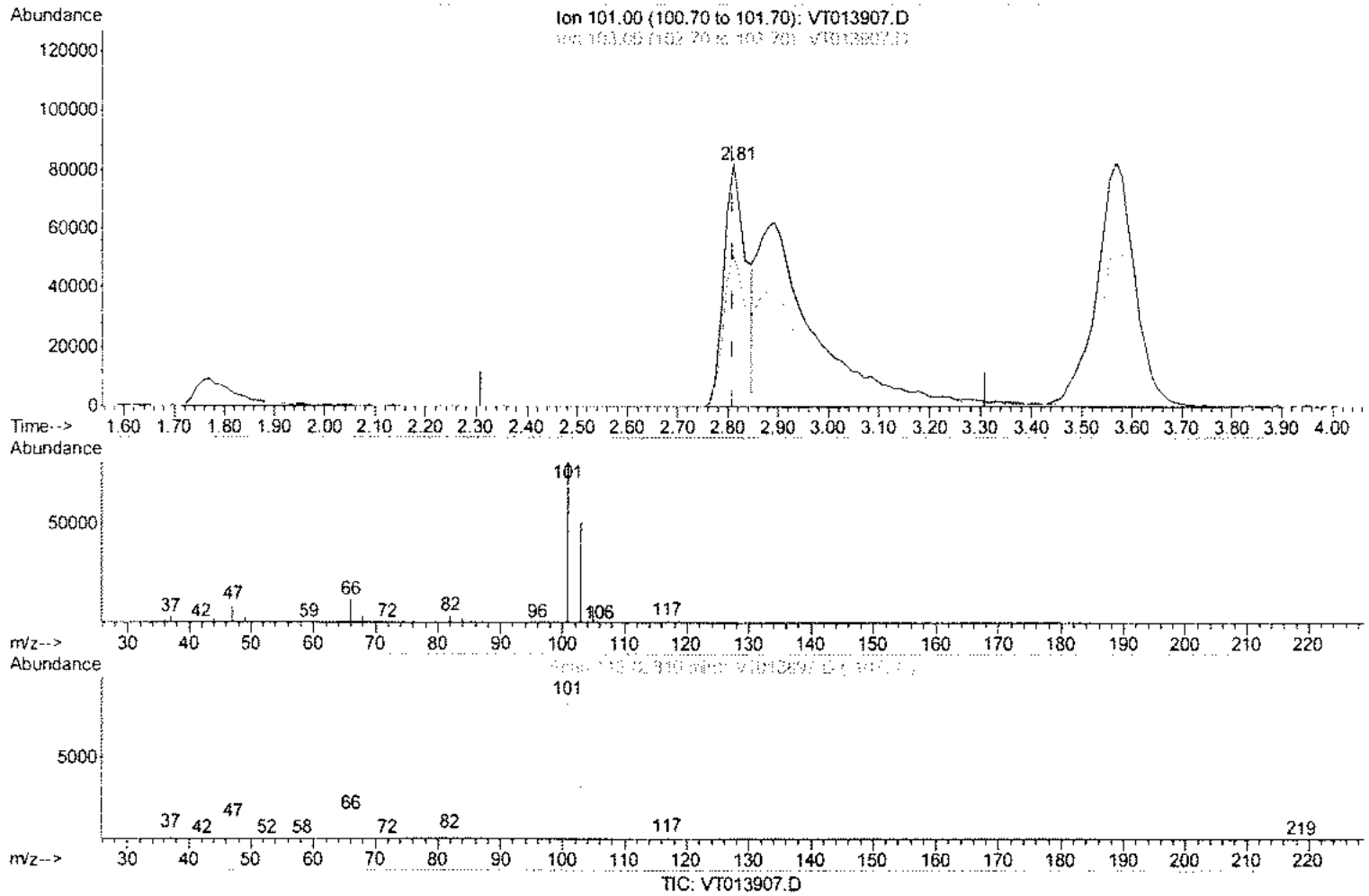


TIC: VT013907.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 9.47ug/L

response 251981

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	64.49#
0.00	0.00	0.00
0.00	0.00	0.00

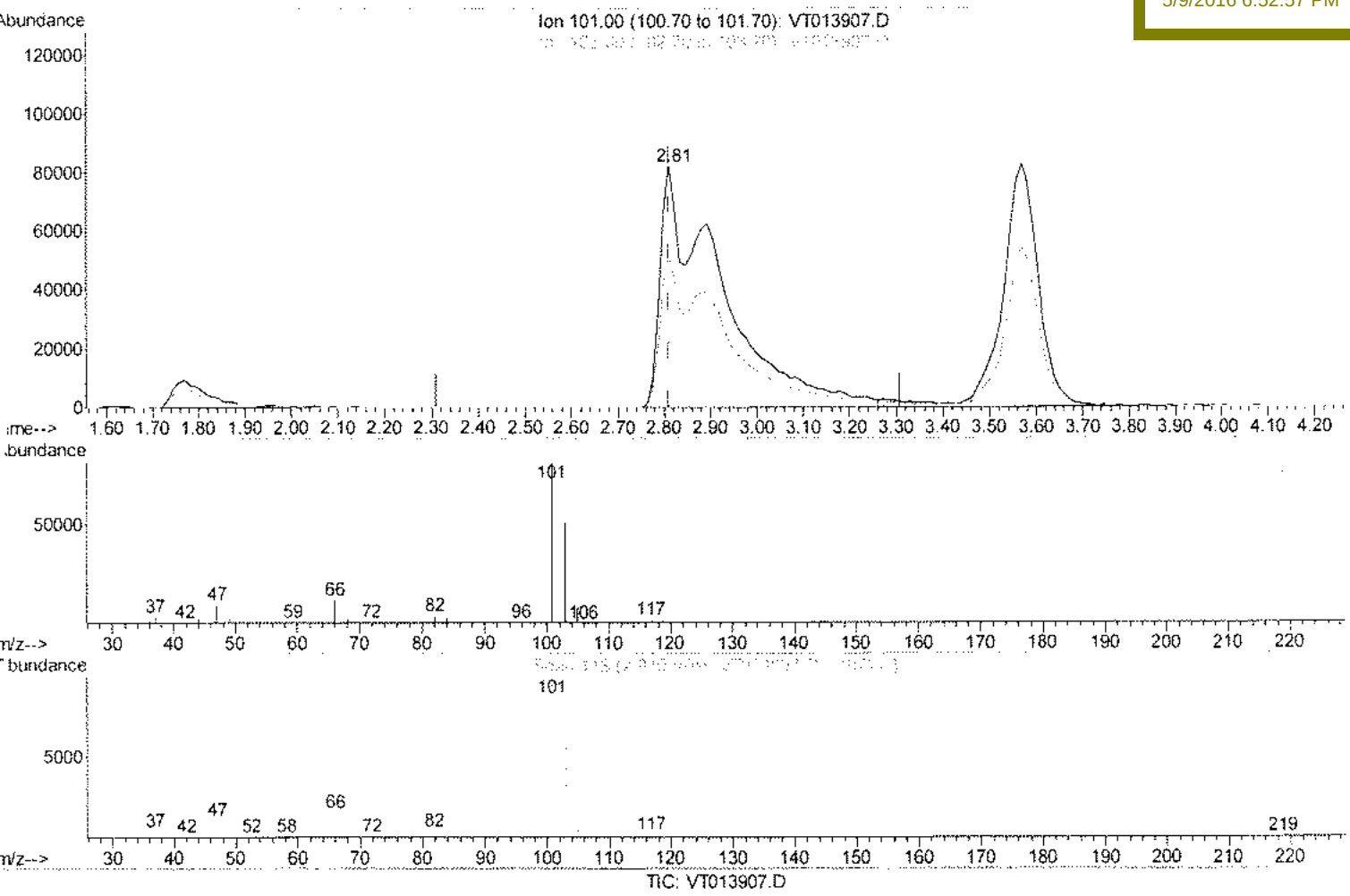
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 01:16:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:57 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 27.89ug/L m M.D 05/09/16

response 742380

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	21.89
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 01:16:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
MMDadoda
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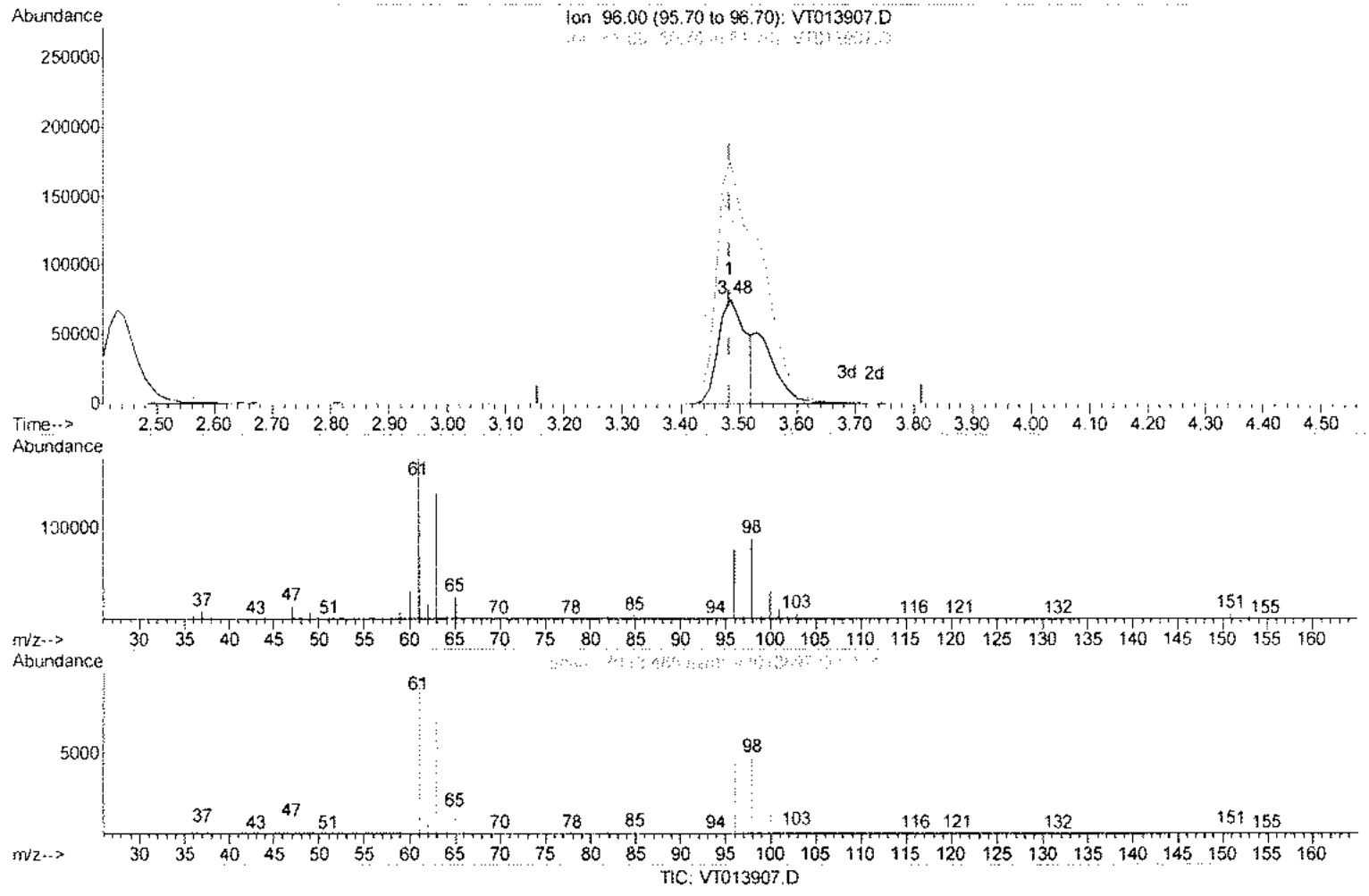

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 16.68ug/L

response 248962

Ion	Exp%	Act%
96.00	100	100
61.00	211.90	231.36
63.00	170.40	180.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 01:16:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
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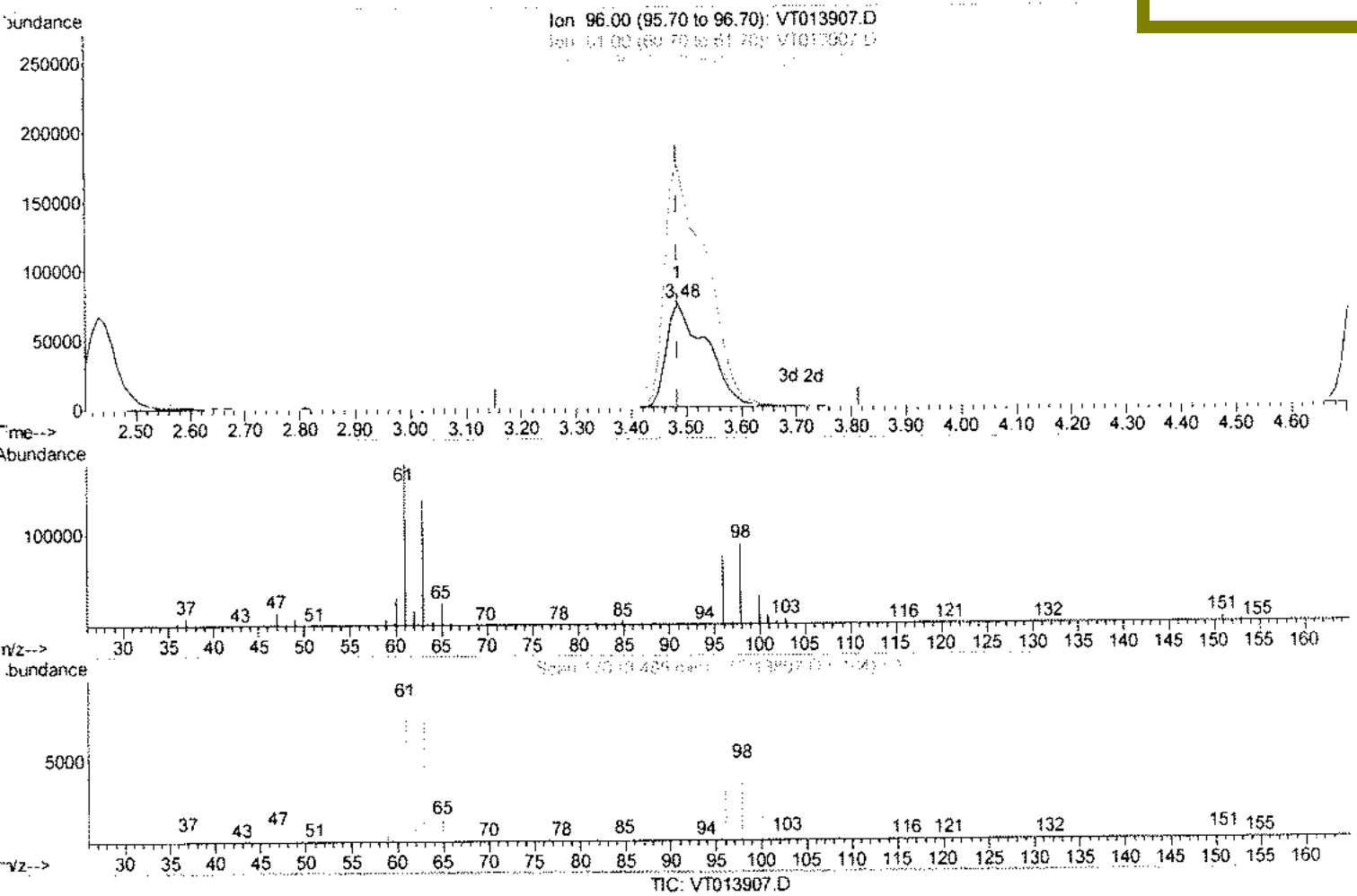

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 25.38ug/L m M.D 05/09/16

response 378687

Ion	Exp%	Act%
96.00	100	100
61.00	211.90	231.36
63.00	170.40	180.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 01:16:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
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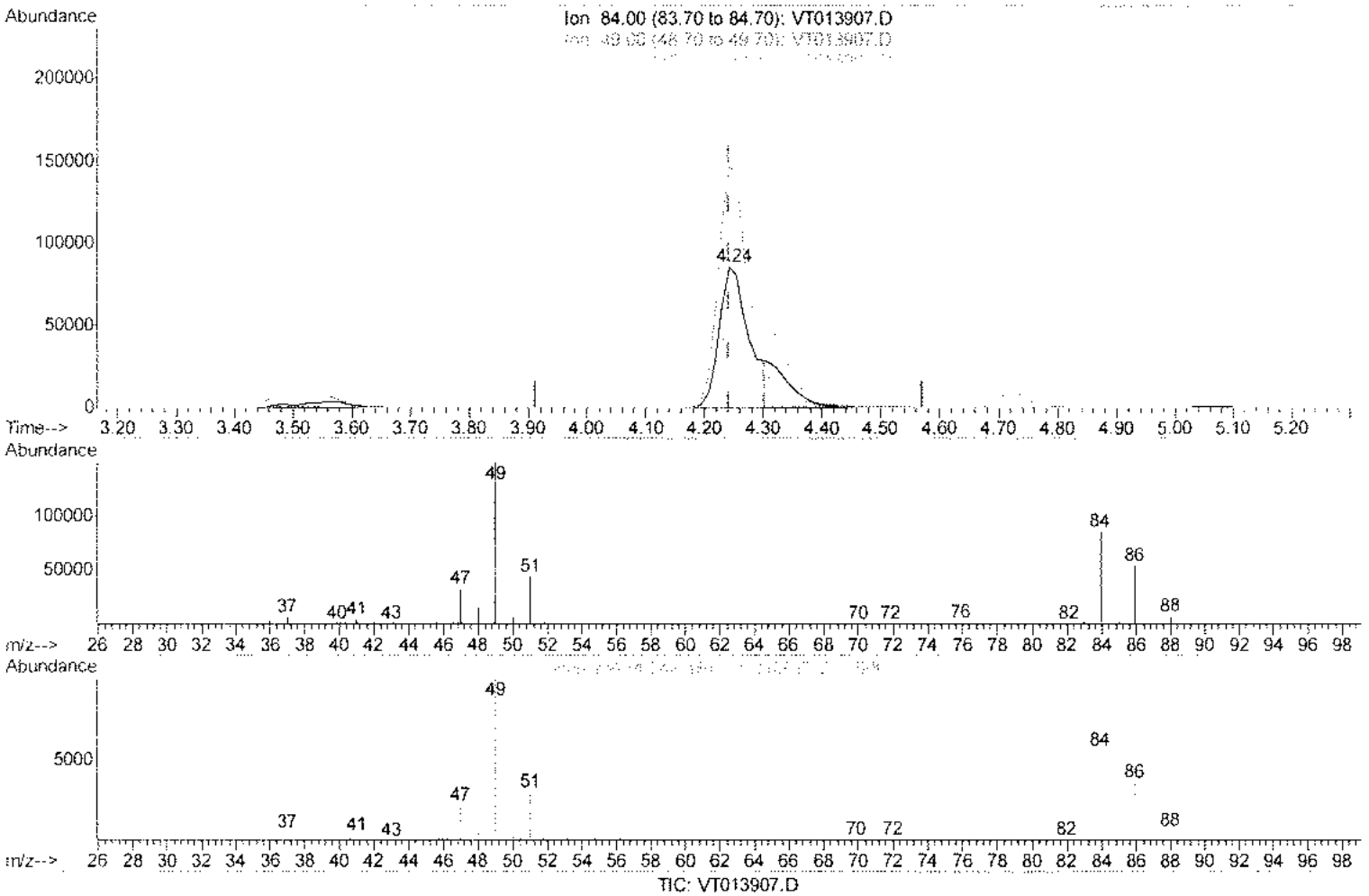

TIC: VT013907.D

(16) Methylene chloride (T)

4.242min (-0.000) 19.61ug/L

response 297994

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	174.60
86.00	64.20	62.97
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 01:16:19 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
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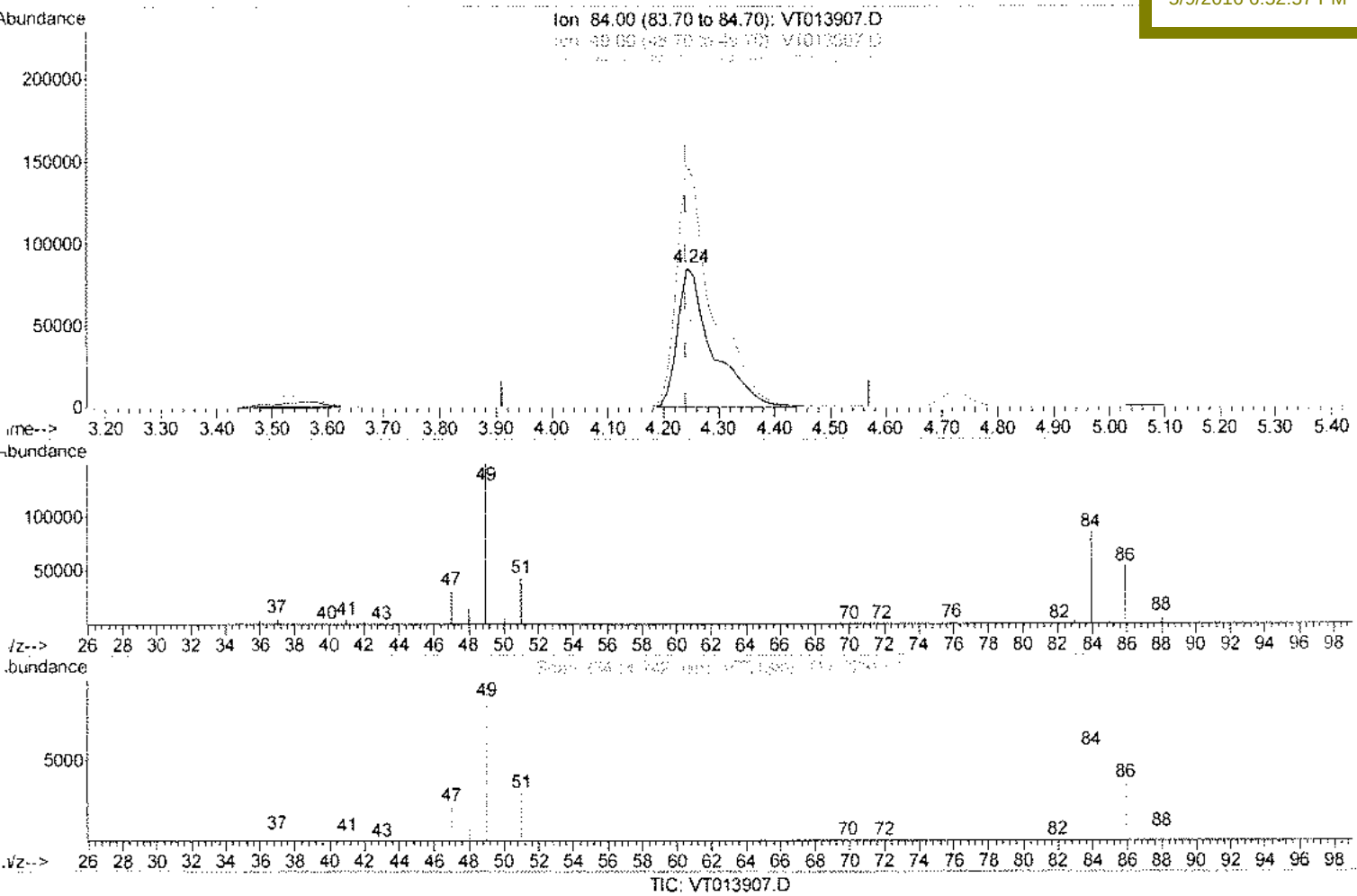

(16) Methylene chloride (T)

4.242min (-0.000) 24.46ug/L m M.D 05/09/16

response 371632

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	174.60
86.00	64.20	62.97
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 02:14:43 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02580

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:57 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1121344	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	920328	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	461203	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	391559	17.79	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 71.16%			
7) Chloroethane-d5	2.53	69	303242	20.56	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 82.24%			
10) 1,1-Dichloroethene-d2	3.47	63	850505	22.39	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 89.56%			
20) 2-Butanone-d5	6.43	46	235901	52.46	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 104.92%			
24) Chloroform-d	7.07	84	731709	23.18	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 92.72%			
26) 1,2-Dichloroethane-d4	7.78	65	430276	25.20	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 100.80%			
29) Benzene-d6	7.74	84	1370269	20.36	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 81.44%			
33) 1,2-Dichloropropane-d6	8.80	67	419826	21.61	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 86.44%			
37) Toluene-d8	9.87	98	1205797	20.77	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 83.08%			
38) trans-1,3-Dichloropropene-	10.13	79	153574	22.27	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 89.08%			
39) 2-Hexanone-d5	10.48	63	158057	53.57	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 107.14%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	294118	24.14	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 96.56%			
60) 1,2-Dichlorobenzene-d4	13.41	152	379123	21.61	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 86.44%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	579350	27.18	ug/L	98
3) Chloromethane	1.93	50	623204	25.61	ug/L	99
5) Vinyl chloride	2.08	62	592798	26.57	ug/L	98
6) Bromomethane	2.43	94	278223	25.28	ug/L	99
8) Chloroethane	2.56	64	330640	26.65	ug/L	99
9) Trichlorofluoromethane	2.81	101	742380m	27.89	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	424527	26.07	ug/L	97
12) 1,1-Dichloroethene	3.48	96	378687m	25.38	ug/L	
13) Acetone	3.54	43	290906	52.27	ug/L	95
14) Carbon disulfide	3.79	76	1123922	21.08	ug/L	100
15) Methyl Acetate	4.03	43	235066	26.80	ug/L	97
16) Methylene chloride	4.24	84	371632m	24.46	ug/L	
17) Methyl tert-butyl Ether	4.73	73	795688	28.71	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	391557	24.39	ug/L	94
19) 1,1-Dichloroethane	5.54	63	908090	26.58	ug/L	99
21) 2-Butanone	6.53	43	323916	49.78	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	396853	24.87	ug/L	95

JM.D 05/09/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013907.D
Acq On : 5 May 2016 15:50
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 06 02:14:43 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 01:14:05 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02580

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:57 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	143847	24.76	ug/L	94
25) Chloroform	7.09	83	775931	26.66	ug/L	99
27) 1,2-Dichloroethane	7.89	62	587382	28.61	ug/L	98
30) Cyclohexane	7.41	56	898905	22.81	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	697512	26.15	ug/L	100
32) Carbon tetrachloride	7.53	117	629760	25.56	ug/L	98
34) Benzene	7.79	78	1677031	23.55	ug/L	100
35) Trichloroethene	8.61	95	438127	24.84	ug/L	98
36) Methylcyclohexane	8.86	83	822675	22.97	ug/L	97
40) 1,2-Dichloropropane	8.89	63	437550	24.64	ug/L	100
41) Bromodichloromethane	9.18	83	522220	26.23	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	617308	26.76	ug/L	98
43) 4-Methyl-2-pentanone	9.76	43	658898	55.07	ug/L	98
44) Toluene	9.93	91	1653040	23.38	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	512457	27.43	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	237427	25.67	ug/L	98
47) Tetrachloroethene	10.42	164	307253	23.88	ug/L	96
49) 2-Hexanone	10.53	43	495450	50.89	ug/L	98
50) Dibromochloromethane	10.68	129	290619	25.57	ug/L	92
51) 1,2-Dibromoethane	10.79	107	229830	26.22	ug/L	95
52) Chlorobenzene	11.21	112	973111	24.43	ug/L	97
53) Ethylbenzene	11.29	91	1971797	24.39	ug/L	100
54) m,p-Xylene	11.40	106	704888	23.92	ug/L	99
55) o-xylene	11.73	106	692959	24.67	ug/L	92
56) Styrene	11.74	104	1058921	24.18	ug/L	95
57) Isopropylbenzene	12.03	105	1986696	24.95	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	314140	26.85	ug/L	98
61) Bromoform	11.91	173	148921	25.39	ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	749362	24.97	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	717755	24.35	ug/L	97
64) 1,2-Dichlorobenzene	13.42	146	650438	24.78	ug/L	96
65) 1,2-Dibromo-3-chloropropan	14.04	75	50555	26.67	ug/L	89
66) 1,2,4-trichlorobenzene	14.68	180	403644	24.83	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	333658	24.90	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013929.D
Acq On : 6 May 2016 2:23
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 06 03:43:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
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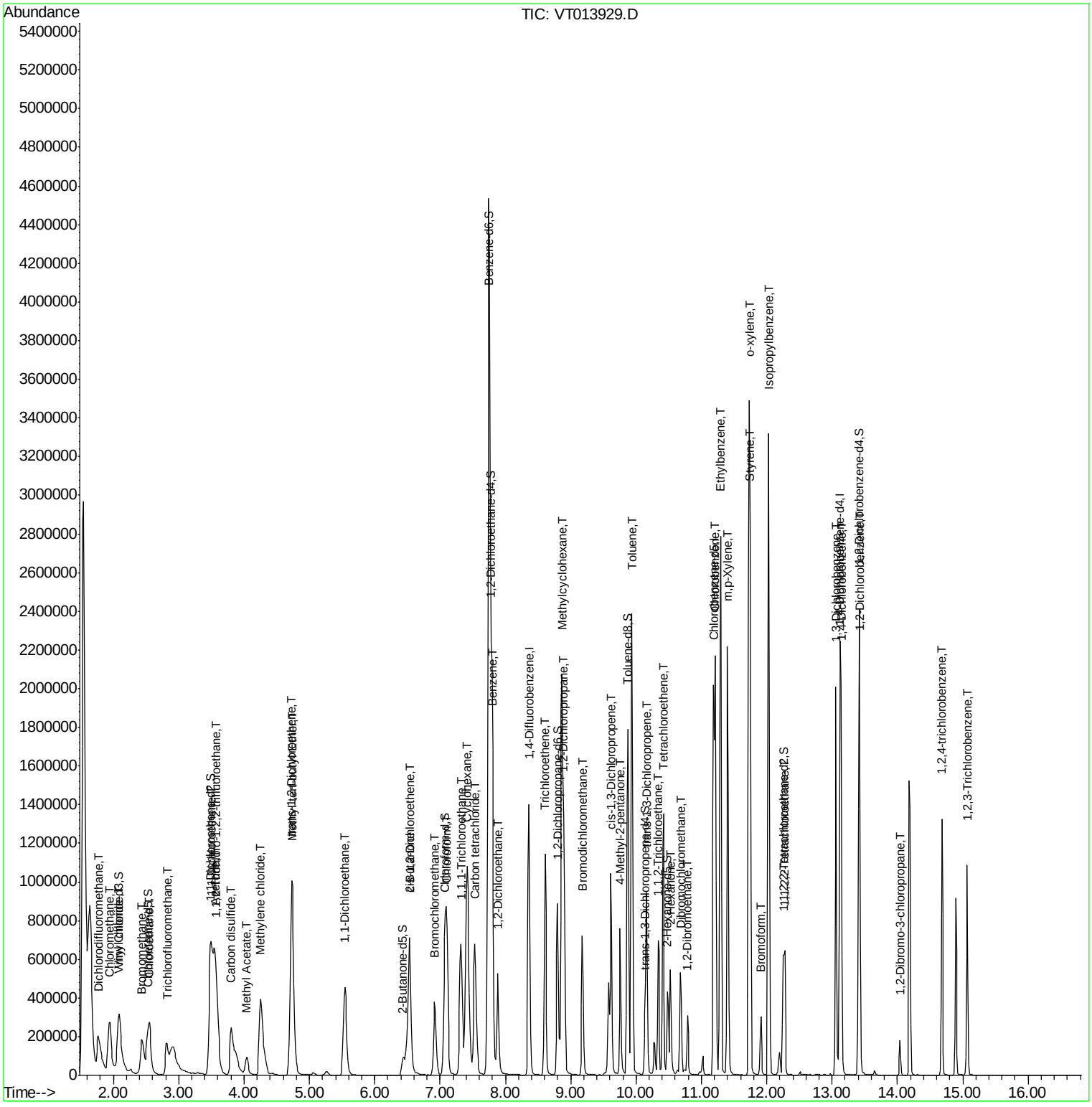

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013929.D
Acq On : 6 May 2016 2:23
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 06 03:43:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02581

Manual Integrations APPROVED
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5/9/2016 6:52:46 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1007956	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	820497	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	410550	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	354189	17.91	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 71.64%			
7) Chloroethane-d5	2.53	69	279422	21.08	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 84.32%			
10) 1,1-Dichloroethene-d2	3.48	63	773399	22.65	ug/L	0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 90.60%			
20) 2-Butanone-d5	6.43	46	190318	47.08	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 94.16%			
24) Chloroform-d	7.07	84	668226	23.55	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 94.20%			
26) 1,2-Dichloroethane-d4	7.78	65	387994	25.28	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 101.12%			
29) Benzene-d6	7.74	84	1231575	20.53	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 82.12%			
33) 1,2-Dichloropropane-d6	8.80	67	365753	21.12	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 84.48%			
37) Toluene-d8	9.87	98	1058555	20.46	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 81.84%			
38) trans-1,3-Dichloropropene-	10.13	79	129936	21.13	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 84.52%			
39) 2-Hexanone-d5	10.48	63	126267	48.00	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 96.00%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	251985	23.20	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 92.80%			
60) 1,2-Dichlorobenzene-d4	13.41	152	330200	21.14	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 84.56%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	518408	27.05	ug/L	98
3) Chloromethane	1.95	50	521960	23.86	ug/L	100
5) Vinyl chloride	2.09	62	516717	25.77	ug/L	98
6) Bromomethane	2.43	94	255538	25.83	ug/L	99
8) Chloroethane	2.55	64	294302	26.39	ug/L	99
9) Trichlorofluoromethane	2.82	101	683570m	28.57	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	393589	26.88	ug/L	98
12) 1,1-Dichloroethene	3.50	96	342270	25.52	ug/L	88
13) Acetone	3.56	43	193679	38.71	ug/L	95
14) Carbon disulfide	3.80	76	985448	20.56	ug/L	99
15) Methyl Acetate	4.04	43	183914	23.32	ug/L	99
16) Methylene chloride	4.25	84	324511	23.76	ug/L	94
17) Methyl tert-butyl Ether	4.74	73	642630	25.79	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	341627	23.67	ug/L	92
19) 1,1-Dichloroethane	5.54	63	788971	25.69	ug/L	99
21) 2-Butanone	6.54	43	244489	41.80	ug/L	99
22) cis-1,2-Dichloroethene	6.54	96	347589	24.24	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013929.D
Acq On : 6 May 2016 2:23
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 34 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:46 PM

Quant Time: May 06 03:43:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	121588	23.28	ug/L	91
25) Chloroform	7.11	83	687273	26.27	ug/L	100
27) 1,2-Dichloroethane	7.89	62	512925	27.80	ug/L	97
30) Cyclohexane	7.41	56	813500	23.15	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	638279	26.84	ug/L	99
32) Carbon tetrachloride	7.53	117	583730	26.57	ug/L	99
34) Benzene	7.80	78	1460318	23.00	ug/L	100
35) Trichloroethene	8.61	95	389768	24.79	ug/L	97
36) Methylcyclohexane	8.87	83	754547	23.63	ug/L	97
40) 1,2-Dichloropropane	8.89	63	364158	23.00	ug/L	100
41) Bromodichloromethane	9.18	83	451190	25.42	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	495559	24.10	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	506619	47.50	ug/L	98
44) Toluene	9.93	91	1424965	22.61	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	402907	24.19	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	194883	23.63	ug/L	98
47) Tetrachloroethene	10.42	164	270836	23.61	ug/L	98
49) 2-Hexanone	10.53	43	352503	40.61	ug/L	98
50) Dibromochloromethane	10.68	129	241964	23.88	ug/L	94
51) 1,2-Dibromoethane	10.79	107	187886	24.05	ug/L	100
52) Chlorobenzene	11.21	112	830610	23.39	ug/L	96
53) Ethylbenzene	11.29	91	1681563	23.33	ug/L	99
54) m,p-Xylene	11.40	106	601763	22.90	ug/L	98
55) o-xylene	11.73	106	592785	23.67	ug/L	91
56) Styrene	11.74	104	904791	23.18	ug/L	95
57) Isopropylbenzene	12.03	105	1749366	24.64	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	252896	24.25	ug/L	99
61) Bromoform	11.91	173	119817	22.94	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	620664	23.23	ug/L	97
63) 1,4-Dichlorobenzene	13.14	146	610562	23.26	ug/L	98
64) 1,2-Dichlorobenzene	13.42	146	559479	23.95	ug/L	97
65) 1,2-Dibromo-3-chloropropan	14.04	75	40802	24.18	ug/L	85
66) 1,2,4-trichlorobenzene	14.68	180	323627	22.36	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	280594	23.52	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

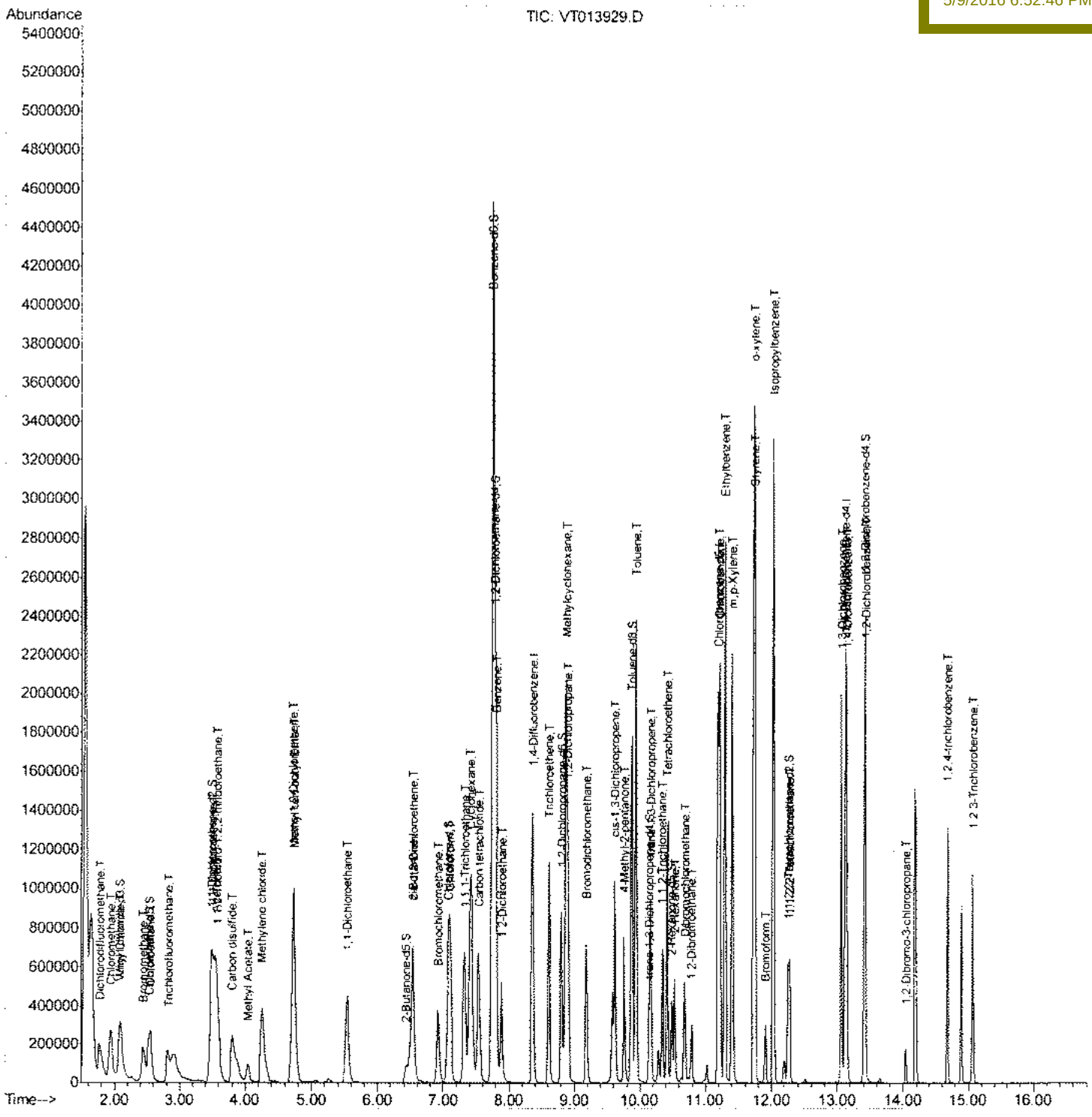
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013929.D
Acq On : 6 May 2016 2:23
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 06 03:43:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:46 PM



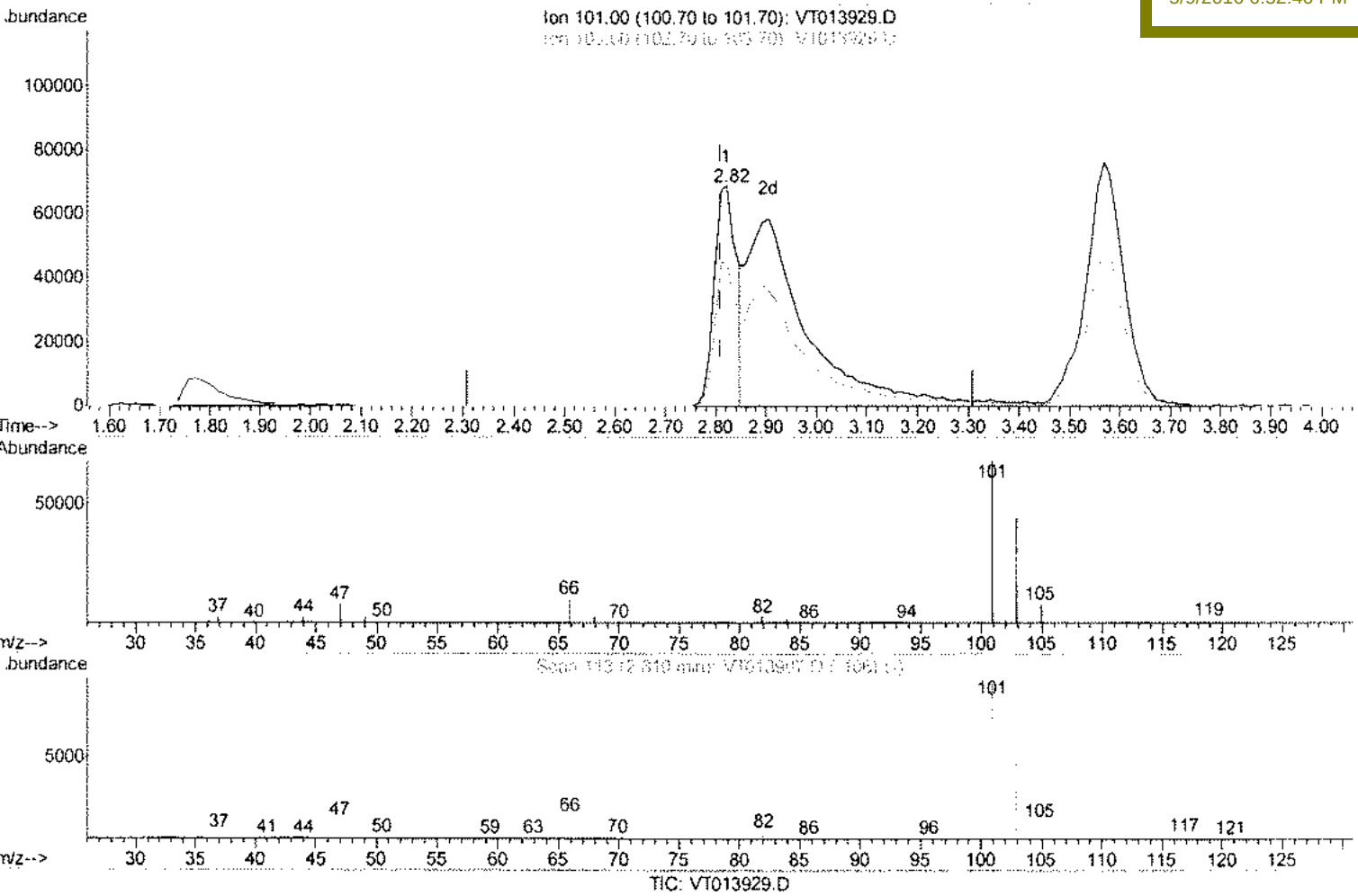
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013929.D
Acq On : 6 May 2016 2:23
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 06 03:43:06 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:46 PM



TIC: VT013929.D

(9) Trichlorofluoromethane (T)

2.822min (+0.012) 8.72ug/L

response 208687

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	73.72#
0.00	0.00	0.00
0.00	0.00	0.00

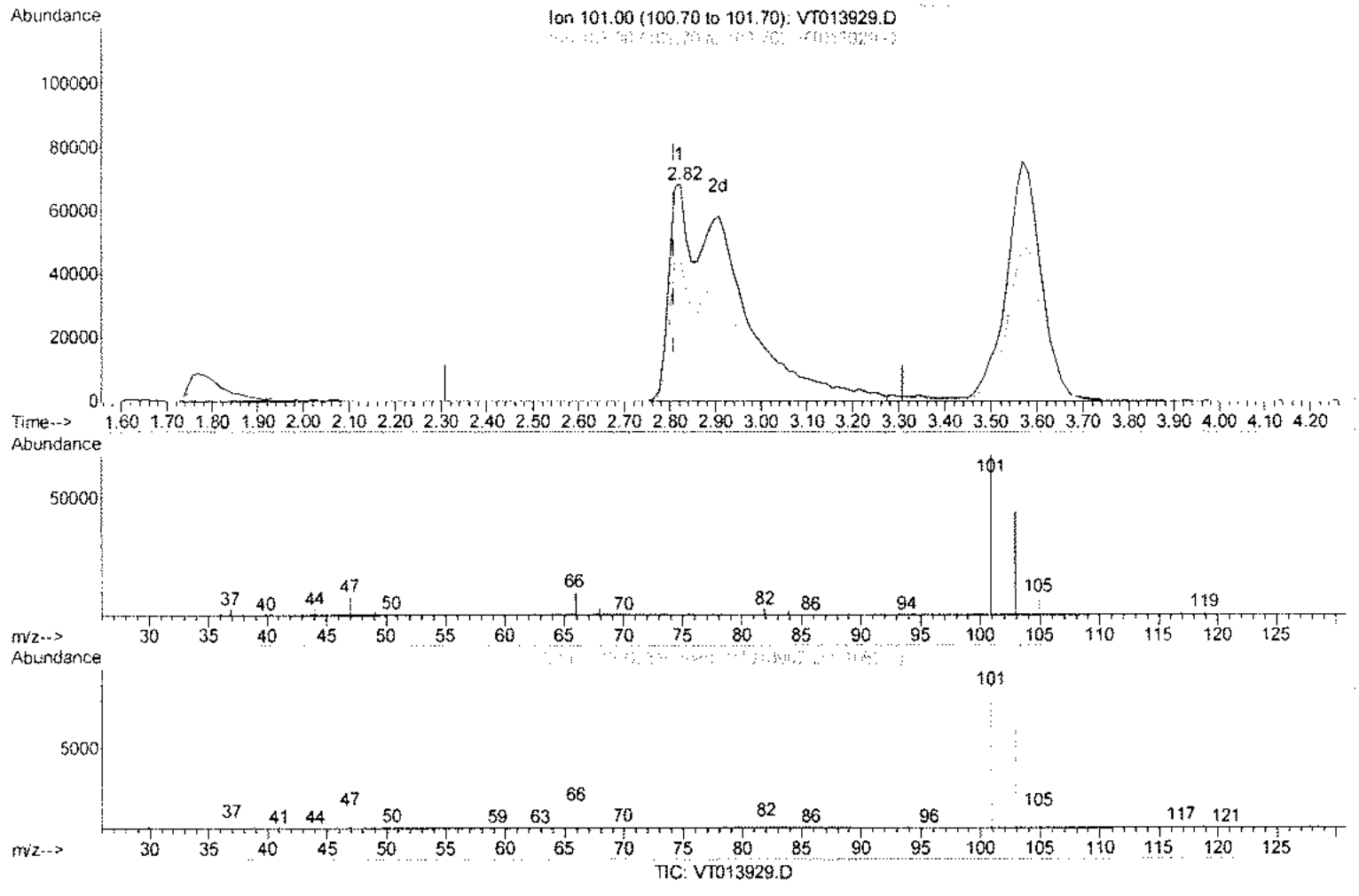
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013929.D
Acq On : 6 May 2016 2:23
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 06 03:43:06 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:46 PM



(9) Trichlorofluoromethane (T)

2.822min (+0.012) 28.57ug/L m M. D 05/09/16

response 683570

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	22.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013929.D
Acq On : 6 May 2016 2:23
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 06 03:43:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02581

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:46 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1007956	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	820497	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	410550	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	354189	17.91	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 71.64%			
7) Chloroethane-d5	2.53	69	279422	21.08	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 84.32%			
10) 1,1-Dichloroethene-d2	3.48	63	773399	22.65	ug/L	0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 90.60%			
20) 2-Butanone-d5	6.43	46	190318	47.08	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 94.16%			
24) Chloroform-d	7.07	84	668226	23.55	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 94.20%			
26) 1,2-Dichloroethane-d4	7.78	65	387994	25.28	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 101.12%			
29) Benzene-d6	7.74	84	1231575	20.53	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 82.12%			
33) 1,2-Dichloropropane-d6	8.80	67	365753	21.12	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 84.48%			
37) Toluene-d8	9.87	98	1058555	20.46	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 81.84%			
38) trans-1,3-Dichloropropene-	10.13	79	129936	21.13	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 84.52%			
39) 2-Hexanone-d5	10.48	63	126267	48.00	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 96.00%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	251985	23.20	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 92.80%			
60) 1,2-Dichlorobenzene-d4	13.41	152	330200	21.14	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 84.56%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	518408	27.05	ug/L	98
3) Chloromethane	1.95	50	521960	23.86	ug/L	100
5) Vinyl chloride	2.09	62	516717	25.77	ug/L	98
6) Bromomethane	2.43	94	255538	25.83	ug/L	99
8) Chloroethane	2.55	64	294302	26.39	ug/L	99
9) Trichlorofluoromethane	2.82	101	683570m	28.57	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	393589	26.88	ug/L	98
12) 1,1-Dichloroethene	3.50	96	342270	25.52	ug/L	88
13) Acetone	3.56	43	193679	38.71	ug/L	95
14) Carbon disulfide	3.80	76	985448	20.56	ug/L	99
15) Methyl Acetate	4.04	43	183914	23.32	ug/L	99
16) Methylene chloride	4.25	84	324511	23.76	ug/L	94
17) Methyl tert-butyl Ether	4.74	73	642630	25.79	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	341627	23.67	ug/L	92
19) 1,1-Dichloroethane	5.54	63	788971	25.69	ug/L	99
21) 2-Butanone	6.54	43	244489	41.80	ug/L	99
22) cis-1,2-Dichloroethene	6.54	96	347589	24.24	ug/L	92

M.D 05/09/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013929.D
Acq On : 6 May 2016 2:23
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 06 03:43:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02581

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:52:46 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	121588	23.28	ug/L	91
25) Chloroform	7.11	83	687273	26.27	ug/L	100
27) 1,2-Dichloroethane	7.89	62	512925	27.80	ug/L	97
30) Cyclohexane	7.41	56	813500	23.15	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	638279	26.84	ug/L	99
32) Carbon tetrachloride	7.53	117	583730	26.57	ug/L	99
34) Benzene	7.80	78	1460318	23.00	ug/L	100
35) Trichloroethene	8.61	95	389768	24.79	ug/L	97
36) Methylcyclohexane	8.87	83	754547	23.63	ug/L	97
40) 1,2-Dichloropropane	8.89	63	364158	23.00	ug/L	100
41) Bromodichloromethane	9.18	83	451190	25.42	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	495559	24.10	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	506619	47.50	ug/L	98
44) Toluene	9.93	91	1424965	22.61	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	402907	24.19	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	194883	23.63	ug/L	98
47) Tetrachloroethene	10.42	164	270836	23.61	ug/L	98
49) 2-Hexanone	10.53	43	352503	40.61	ug/L	98
50) Dibromochloromethane	10.68	129	241964	23.88	ug/L	94
51) 1,2-Dibromoethane	10.79	107	187886	24.05	ug/L	100
52) Chlorobenzene	11.21	112	830610	23.39	ug/L	96
53) Ethylbenzene	11.29	91	1681563	23.33	ug/L	99
54) m,p-Xylene	11.40	106	601763	22.90	ug/L	98
55) o-xylene	11.73	106	592785	23.67	ug/L	91
56) Styrene	11.74	104	904791	23.18	ug/L	95
57) Isopropylbenzene	12.03	105	1749366	24.64	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	252896	24.25	ug/L	99
61) Bromoform	11.91	173	119817	22.94	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	620664	23.23	ug/L	97
63) 1,4-Dichlorobenzene	13.14	146	610562	23.26	ug/L	98
64) 1,2-Dichlorobenzene	13.42	146	559479	23.95	ug/L	97
65) 1,2-Dibromo-3-chloropropan	14.04	75	40802	24.18	ug/L	85
66) 1,2,4-trichlorobenzene	14.68	180	323627	22.36	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	280594	23.52	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

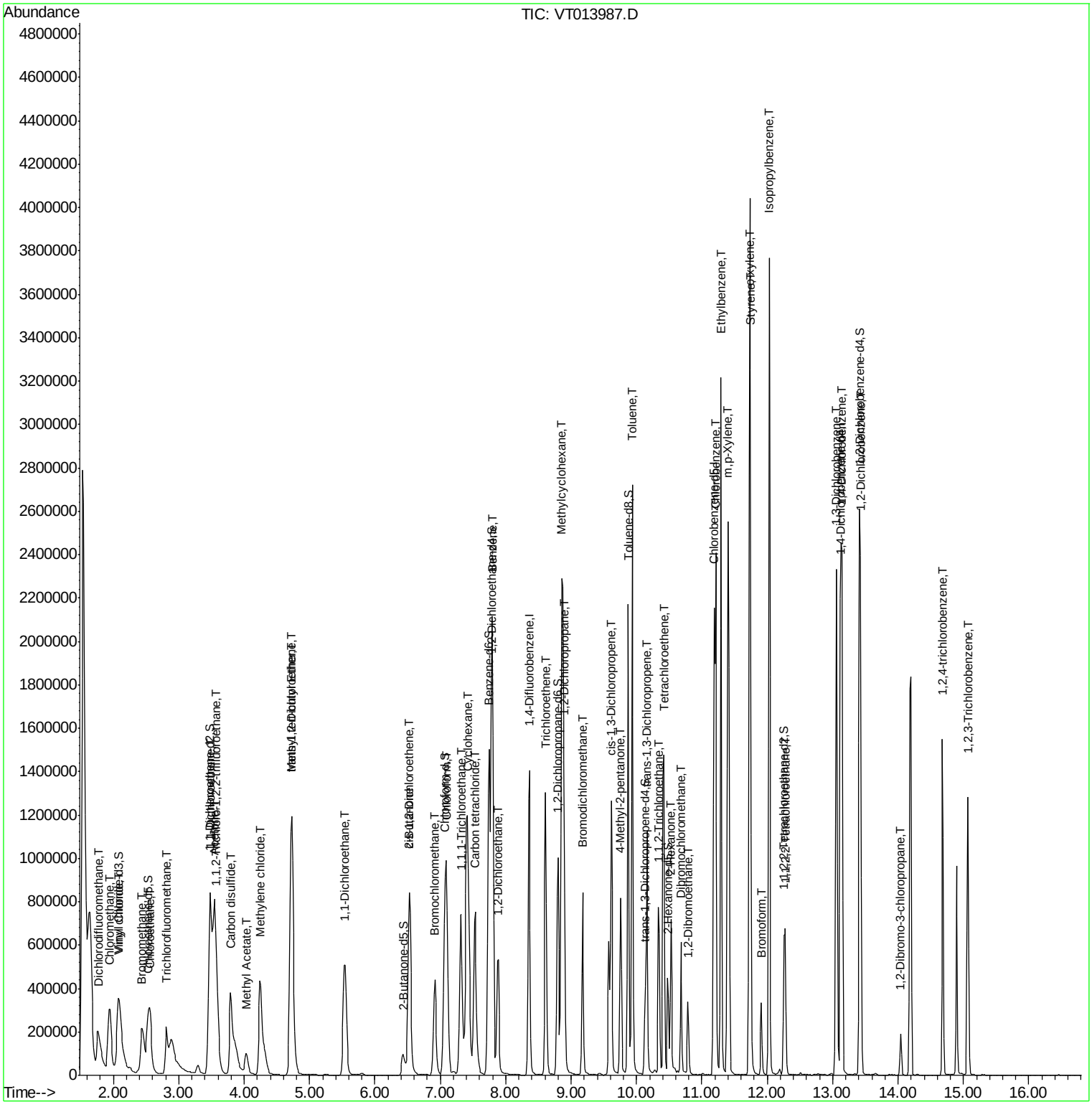
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050916\
Data File : VT013987.D
Acq On : 9 May 2016 10:07
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 01:17:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Sat May 07 06:03:15 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02590

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:43 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050916\
Data File : VT013987.D
Acq On : 9 May 2016 10:07
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VSTD02590

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:43 PM

Quant Time: May 10 01:17:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Sat May 07 06:03:15 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1070370	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	871792	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	428182	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	519800	29.31	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 117.24%			
7) Chloroethane-d5	2.53	69	372432	29.04	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 116.16%			
10) 1,1-Dichloroethene-d2	3.47	63	1020724	27.99	ug/L	-0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 111.96%#			
20) 2-Butanone-d5	6.43	46	194519	46.09	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 92.18%			
24) Chloroform-d	7.07	84	799930	26.78	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 107.12%			
26) 1,2-Dichloroethane-d4	7.78	65	445211	25.43	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 101.72%			
29) Benzene-d6	7.74	84	1468457	26.93	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 107.72%			
33) 1,2-Dichloropropane-d6	8.80	67	428171	26.61	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 106.44%			
37) Toluene-d8	9.87	98	1328000	27.06	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 108.24%			
38) trans-1,3-Dichloropropene-	10.14	79	164612	26.38	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 105.52%			
39) 2-Hexanone-d5	10.48	63	129153	50.23	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 100.46%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	263649	23.78	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 95.12%			
60) 1,2-Dichlorobenzene-d4	13.41	152	386771	25.73	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 102.92%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	545738	24.97	ug/L	99
3) Chloromethane	1.93	50	631028	24.54	ug/L	97
5) Vinyl chloride	2.09	62	626241	25.46	ug/L	100
6) Bromomethane	2.43	94	308559	24.67	ug/L	98
8) Chloroethane	2.56	64	344033	25.33	ug/L	98
9) Trichlorofluoromethane	2.81	101	801700m	26.09	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	433238	25.19	ug/L	98
12) 1,1-Dichloroethene	3.48	96	401284	25.54	ug/L	89
13) Acetone	3.54	43	322831	47.58	ug/L	96
14) Carbon disulfide	3.79	76	1351726	25.77	ug/L	100
15) Methyl Acetate	4.03	43	204208	22.67	ug/L	96
16) Methylene chloride	4.24	84	367700	24.32	ug/L	91
17) Methyl tert-butyl Ether	4.73	73	751461	26.67	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	413455	26.12	ug/L	95
19) 1,1-Dichloroethane	5.53	63	901968	25.70	ug/L	100
21) 2-Butanone	6.53	43	314401	47.21	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	402448	26.65	ug/L	91

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050916\
Data File : VT013987.D
Acq On : 9 May 2016 10:07
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 01:17:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Sat May 07 06:03:15 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02590

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
23) Bromochloromethane	6.92	128	140041	25.21	ug/L		95
25) Chloroform	7.09	83	764449	25.63	ug/L		98
27) 1,2-Dichloroethane	7.89	62	562930	24.80	ug/L		97
30) Cyclohexane	7.41	56	952547	27.03	ug/L		100
31) 1,1,1-Trichloroethane	7.32	97	733743	26.89	ug/L		99
32) Carbon tetrachloride	7.53	117	666381	26.94	ug/L		98
34) Benzene	7.79	78	1661718	25.80	ug/L		100
35) Trichloroethene	8.61	95	439872	26.30	ug/L		98
36) Methylcyclohexane	8.86	83	858807	26.34	ug/L		97
40) 1,2-Dichloropropane	8.89	63	412947	25.46	ug/L		100
41) Bromodichloromethane	9.18	83	505240	26.36	ug/L		98
42) cis-1,3-Dichloropropene	9.61	75	561316	26.64	ug/L		99
43) 4-Methyl-2-pentanone	9.76	43	551084	49.29	ug/L		98
44) Toluene	9.93	91	1653429	26.04	ug/L		98
45) trans-1,3-Dichloropropene	10.16	75	484378	26.78	ug/L		99
46) 1,1,2-Trichloroethane	10.34	97	213037	24.31	ug/L		98
47) Tetrachloroethene	10.42	164	312665	25.66	ug/L		95
49) 2-Hexanone	10.53	43	474646	50.62	ug/L		98
50) Dibromochloromethane	10.68	129	276948	26.19	ug/L		93
51) 1,2-Dibromoethane	10.79	107	203607	24.34	ug/L		98
52) Chlorobenzene	11.21	112	939927	25.34	ug/L		96
53) Ethylbenzene	11.29	91	1952753	26.01	ug/L		99
54) m,p-Xylene	11.40	106	713108	26.46	ug/L		99
55) o-xylene	11.73	106	670812	26.21	ug/L		93
56) Styrene	11.74	104	1020211	25.02	ug/L		93
57) Isopropylbenzene	12.03	105	1987358	26.61	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.28	83	265721	23.88	ug/L		98
61) Bromoform	11.91	173	130516	23.49	ug/L		99
62) 1,3-Dichlorobenzene	13.06	146	727553	26.82	ug/L		97
63) 1,4-Dichlorobenzene	13.14	146	707626	25.28	ug/L		98
64) 1,2-Dichlorobenzene	13.42	146	614598	25.34	ug/L		97
65) 1,2-Dibromo-3-chloropropan	14.04	75	43475	22.67	ug/L	#	83
66) 1,2,4-trichlorobenzene	14.68	180	397605	27.08	ug/L		99
67) 1,2,3-Trichlorobenzene	15.07	180	326134	26.16	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013987.D
Acq On : 9 May 2016 10:07
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 01:17:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Titlc : VOC Analysis
QLast Update : Sat May 07 06:03:15 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02590

Manual Integrations APPROVED
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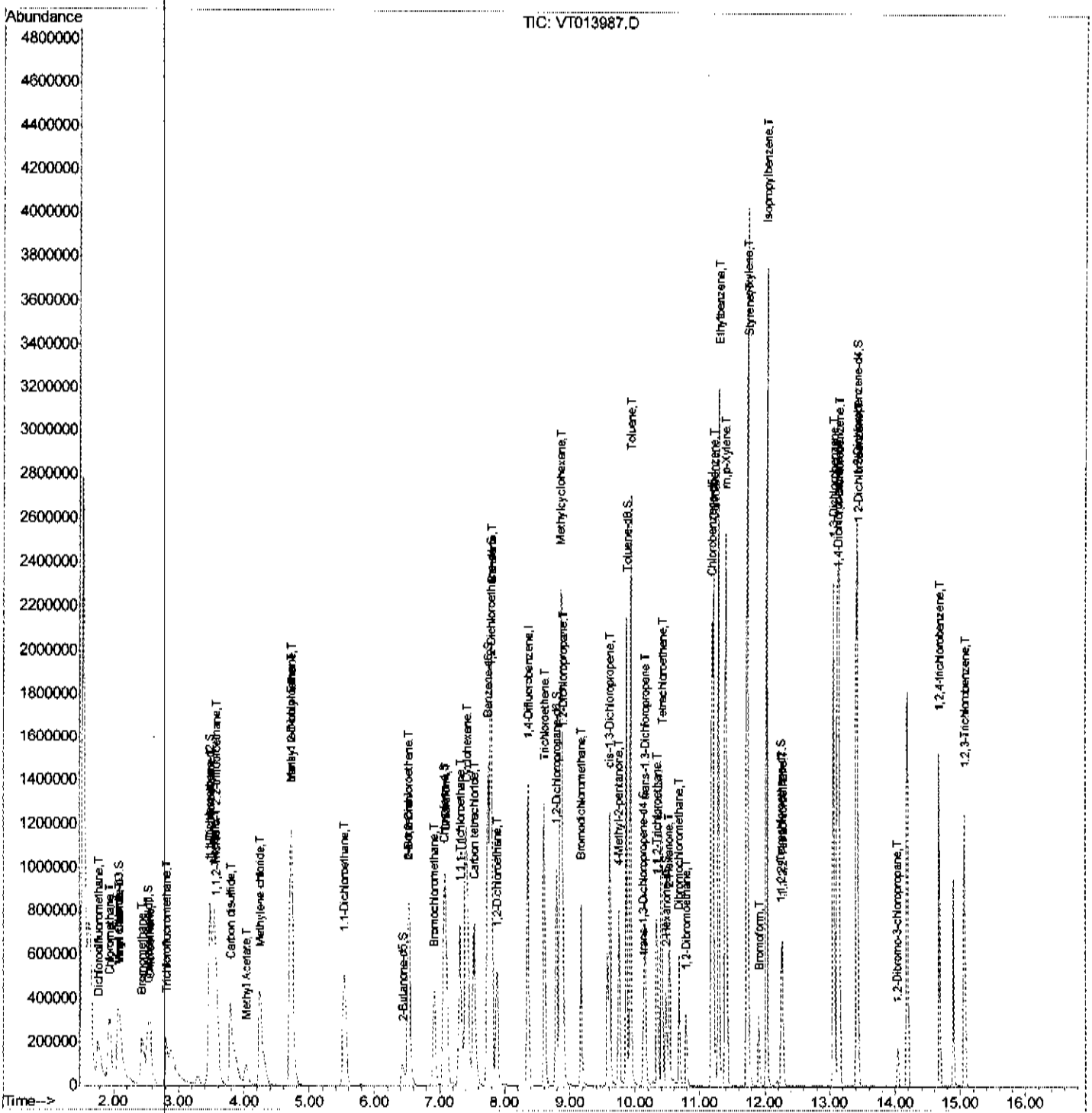
5/10/2016 7:40:43 PM



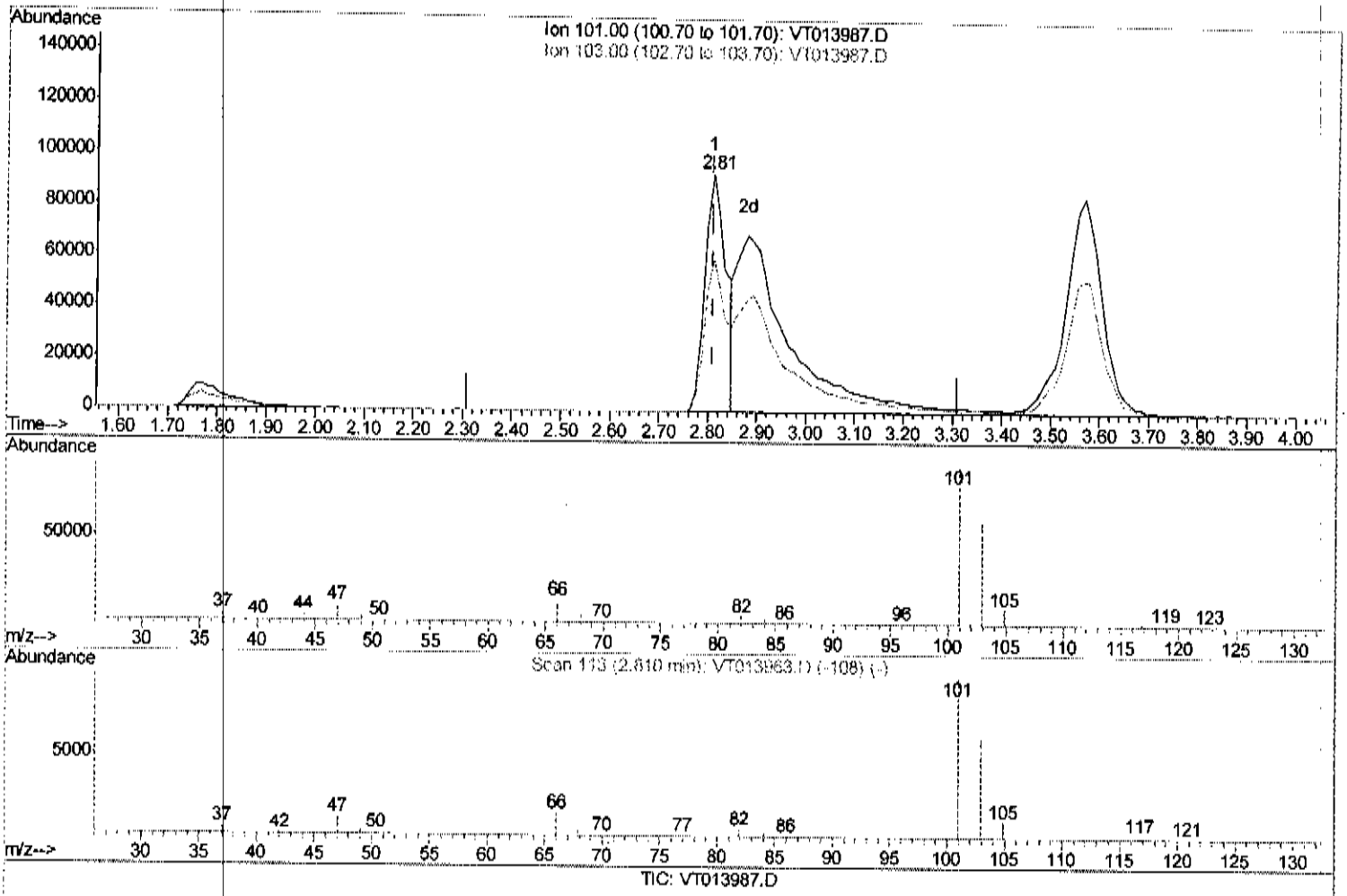
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013987.D
Acq On : 9 May 2016 10:07
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 01:16:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Sat May 07 06:03:15 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02590

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:43 PM



(9) Trichlorofluoromethane (T)

2.811min (+0.000) 9.03ug/L

response 277546

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	64.56#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013987.D
Acq On : 9 May 2016 10:07
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 01:16:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Sat May 07 06:03:15 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02590

Manual Integrations APPROVED
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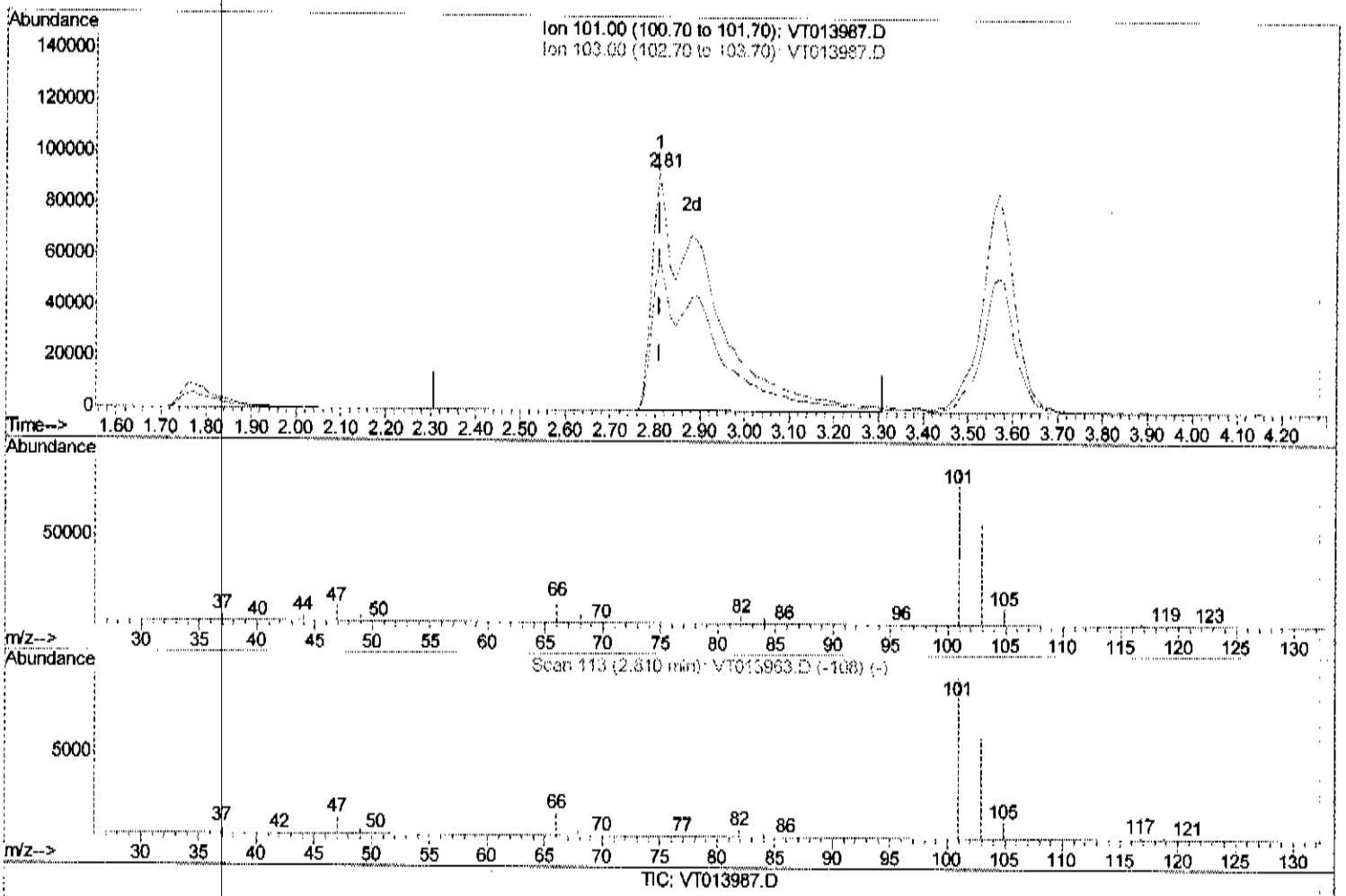
5/10/2016 7:40:43 PM



(9) Trichlorofluoromethane (T)

2.811min (+0.000) 26.09ug/L m

response 801700

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	22.35
0.00	0.00	0.00
0.00	0.00	0.00

FY 5/10/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013987.D
Acq On : 9 May 2016 10:07
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 01:17:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Sat May 07 06:03:15 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02590

Manual Integrations APPROVED
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5/10/2016 7:40:43 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1070370	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	871792	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	428182	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	519800	29.31	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 117.24%			
7) Chloroethane-d5	2.53	69	372432	29.04	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 116.16%			
10) 1,1-Dichloroethene-d2	3.47	63	1020724	27.99	ug/L	-0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 111.96%#			
20) 2-Butanone-d5	6.43	46	194519	46.09	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 92.18%			
24) Chloroform-d	7.07	84	799930	26.78	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 107.12%			
26) 1,2-Dichloroethane-d4	7.78	65	445211	25.43	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 101.72%			
29) Benzene-d6	7.74	84	1468457	26.93	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 107.72%			
33) 1,2-Dichloropropane-d6	8.80	67	428171	26.61	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 106.44%			
37) Toluene-d8	9.87	98	1328000	27.06	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 108.24%			
38) trans-1,3-Dichloropropene-	10.14	79	164612	26.38	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 105.52%			
39) 2-Hexanone-d5	10.48	63	129153	50.23	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 100.46%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	263649	23.78	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 95.12%			
60) 1,2-Dichlorobenzene-d4	13.41	152	386771	25.73	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 102.92%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	545738	24.97	ug/L	99
3) Chloromethane	1.93	50	631028	24.54	ug/L	97
5) Vinyl chloride	2.09	62	626241	25.46	ug/L	100
6) Bromomethane	2.43	94	308559	24.67	ug/L	98
8) Chloroethane	2.56	64	344033	25.33	ug/L	98
9) Trichlorofluoromethane	2.81	101	801700m	26.09	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	433238	25.19	ug/L	98
12) 1,1-Dichloroethene	3.48	96	401284	25.54	ug/L	89
13) Acetone	3.54	43	322831	47.58	ug/L	96
14) Carbon disulfide	3.79	76	1351726	25.77	ug/L	100
15) Methyl Acetate	4.03	43	204208	22.67	ug/L	96
16) Methylene chloride	4.24	84	367700	24.32	ug/L	91
17) Methyl tert-butyl Ether	4.73	73	751461	26.67	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	413455	26.12	ug/L	95
19) 1,1-Dichloroethane	5.53	63	901968	25.70	ug/L	100
21) 2-Butanone	6.53	43	314401	47.21	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	402448	26.65	ug/L	91

FT 5/10/2016

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013987.D
Acq On : 9 May 2016 10:07
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 01:17:10 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Sat May 07 06:03:15 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02590

Manual Integrations APPROVED
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5/10/2016 7:40:43 PM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
23) Bromochloromethane	6.92	128	140041	25.21 ug/L	95
25) Chloroform	7.09	83	764449	25.63 ug/L	98
27) 1,2-Dichloroethane	7.89	62	562930	24.80 ug/L	97
30) Cyclohexane	7.41	56	952547	27.03 ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	733743	26.89 ug/L	99
32) Carbon tetrachloride	7.53	117	666381	26.94 ug/L	98
34) Benzene	7.79	78	1661718	25.80 ug/L	100
35) Trichloroethene	8.61	95	439872	26.30 ug/L	98
36) Methylcyclohexane	8.86	83	858807	26.34 ug/L	97
40) 1,2-Dichloropropane	8.89	63	412947	25.46 ug/L	100
41) Bromodichloromethane	9.18	83	505240	26.36 ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	561316	26.64 ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	551084	49.29 ug/L	98
44) Toluene	9.93	91	1653429	26.04 ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	484378	26.78 ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	213037	24.31 ug/L	98
47) Tetrachloroethene	10.42	164	312665	25.66 ug/L	95
49) 2-Hexanone	10.53	43	474646	50.62 ug/L	98
50) Dibromochloromethane	10.68	129	276948	26.19 ug/L	93
51) 1,2-Dibromoethane	10.79	107	203607	24.34 ug/L	98
52) Chlorobenzene	11.21	112	939927	25.34 ug/L	96
53) Ethylbenzene	11.29	91	1952753	26.01 ug/L	99
54) m,p-Xylene	11.40	106	713108	26.46 ug/L	99
55) o-xylene	11.73	106	670812	26.21 ug/L	93
56) Styrene	11.74	104	1020211	25.02 ug/L	93
57) Isopropylbenzene	12.03	105	1987358	26.61 ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	265721	23.88 ug/L	98
61) Bromoform	11.91	173	130516	23.49 ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	727553	26.82 ug/L	97
63) 1,4-Dichlorobenzene	13.14	146	707626	25.28 ug/L	98
64) 1,2-Dichlorobenzene	13.42	146	614598	25.34 ug/L	97
65) 1,2-Dibromo-3-chloropropan	14.04	75	43475	22.67 ug/L #	83
66) 1,2,4-trichlorobenzene	14.68	180	397605	27.08 ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	326134	26.16 ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:57:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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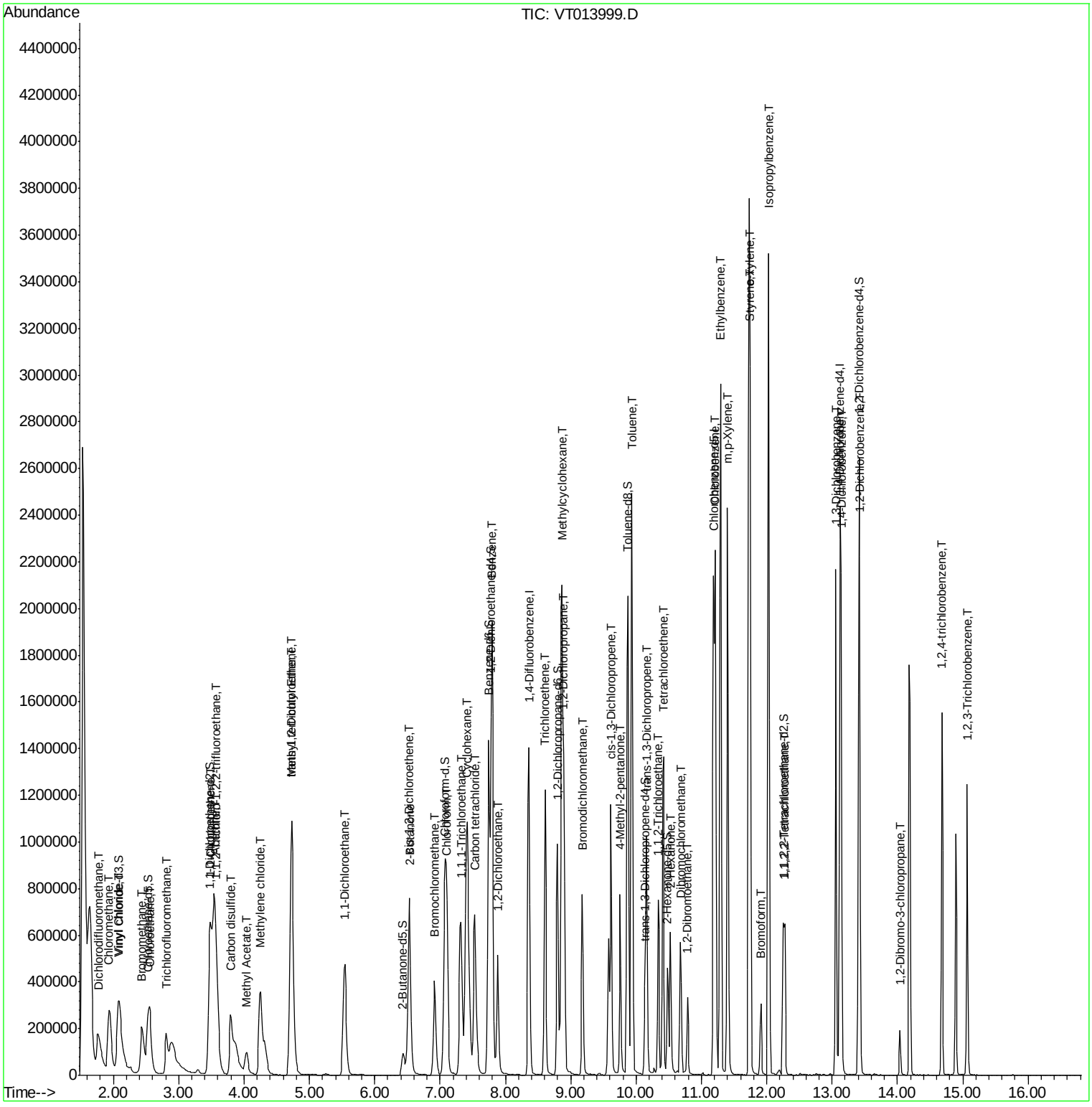
5/10/2016 7:41:13 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:57:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02591

Manual Integrations APPROVED
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5/10/2016 7:41:13 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1035713	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	861159	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	439055	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	483389	28.17	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 112.68%			
7) Chloroethane-d5	2.53	69	344467	27.76	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 111.04%			
10) 1,1-Dichloroethene-d2	3.47	63	933242m	26.44	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 105.76%			
20) 2-Butanone-d5	6.43	46	183825	45.02	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 90.04%			
24) Chloroform-d	7.07	84	747619	25.87	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 103.48%			
26) 1,2-Dichloroethane-d4	7.78	65	421661	24.89	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 99.56%			
29) Benzene-d6	7.74	84	1367430	25.38	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 101.52%			
33) 1,2-Dichloropropane-d6	8.80	67	409013	25.73	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 102.92%			
37) Toluene-d8	9.87	98	1246246	25.70	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 102.80%			
38) trans-1,3-Dichloropropene-	10.13	79	151988	24.66	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 98.64%			
39) 2-Hexanone-d5	10.48	63	127442	50.18	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 100.36%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	263693	24.08	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 96.32%			
60) 1,2-Dichlorobenzene-d4	13.41	152	377961	24.52	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 98.08%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	506002	23.92	ug/L	99
3) Chloromethane	1.93	50	564967	22.70	ug/L	98
5) Vinyl chloride	2.09	62	561452	23.59	ug/L	100
6) Bromomethane	2.43	94	276331	22.84	ug/L	97
8) Chloroethane	2.56	64	316957	24.12	ug/L	97
9) Trichlorofluoromethane	2.81	101	722615m	24.31	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	400842	24.08	ug/L	98
12) 1,1-Dichloroethene	3.48	96	355786m	23.40	ug/L	
13) Acetone	3.56	43	232790	35.46	ug/L	94
14) Carbon disulfide	3.79	76	1174643m	23.14	ug/L	
15) Methyl Acetate	4.04	43	191488	21.97	ug/L	96
16) Methylene chloride	4.25	84	330828m	22.62	ug/L	
17) Methyl tert-butyl Ether	4.73	73	662795	24.31	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	370402	24.18	ug/L	95
19) 1,1-Dichloroethane	5.54	63	813735	23.96	ug/L	98
21) 2-Butanone	6.54	43	255053	39.58	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	357577	24.47	ug/L	89

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
mmdadoda
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Quant Time: May 10 01:57:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
23) Bromochloromethane	6.92	128	127201	23.66	ug/L		95
25) Chloroform	7.11	83	704913	24.42	ug/L		99
27) 1,2-Dichloroethane	7.89	62	531856	24.22	ug/L	#	96
30) Cyclohexane	7.41	56	856135	24.60	ug/L		99
31) 1,1,1-Trichloroethane	7.32	97	654846	24.29	ug/L		98
32) Carbon tetrachloride	7.53	117	607730	24.87	ug/L		99
34) Benzene	7.79	78	1511829	23.76	ug/L		100
35) Trichloroethene	8.61	95	400404	24.24	ug/L		98
36) Methylcyclohexane	8.87	83	773770	24.03	ug/L		97
40) 1,2-Dichloropropane	8.89	63	375940	23.47	ug/L		100
41) Bromodichloromethane	9.18	83	470081	24.83	ug/L		100
42) cis-1,3-Dichloropropene	9.61	75	513738	24.68	ug/L		100
43) 4-Methyl-2-pentanone	9.76	43	517065	46.81	ug/L		98
44) Toluene	9.93	91	1519092	24.22	ug/L		97
45) trans-1,3-Dichloropropene	10.16	75	449322	25.15	ug/L		100
46) 1,1,2-Trichloroethane	10.34	97	202848	23.44	ug/L		99
47) Tetrachloroethene	10.42	164	286913	23.83	ug/L		96
49) 2-Hexanone	10.53	43	395689	42.72	ug/L		98
50) Dibromochloromethane	10.68	129	255309	24.44	ug/L		95
51) 1,2-Dibromoethane	10.79	107	198411	24.01	ug/L		94
52) Chlorobenzene	11.21	112	884291	24.13	ug/L		97
53) Ethylbenzene	11.29	91	1803492	24.32	ug/L		100
54) m,p-Xylene	11.40	106	645993	24.27	ug/L		99
55) o-xylene	11.73	106	625029	24.72	ug/L		94
56) Styrene	11.74	104	976679	24.25	ug/L		96
57) Isopropylbenzene	12.03	105	1837021	24.90	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.28	83	259128	23.57	ug/L		100
61) Bromoform	11.91	173	123680	21.70	ug/L		98
62) 1,3-Dichlorobenzene	13.06	146	678187	24.38	ug/L		98
63) 1,4-Dichlorobenzene	13.14	146	658946	22.95	ug/L		98
64) 1,2-Dichlorobenzene	13.42	146	597655	24.03	ug/L		98
65) 1,2-Dibromo-3-chloropropan	14.04	75	44390	22.57	ug/L		87
66) 1,2,4-trichlorobenzene	14.68	180	378005	25.10	ug/L		99
67) 1,2,3-Trichlorobenzene	15.07	180	319919	25.03	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:57:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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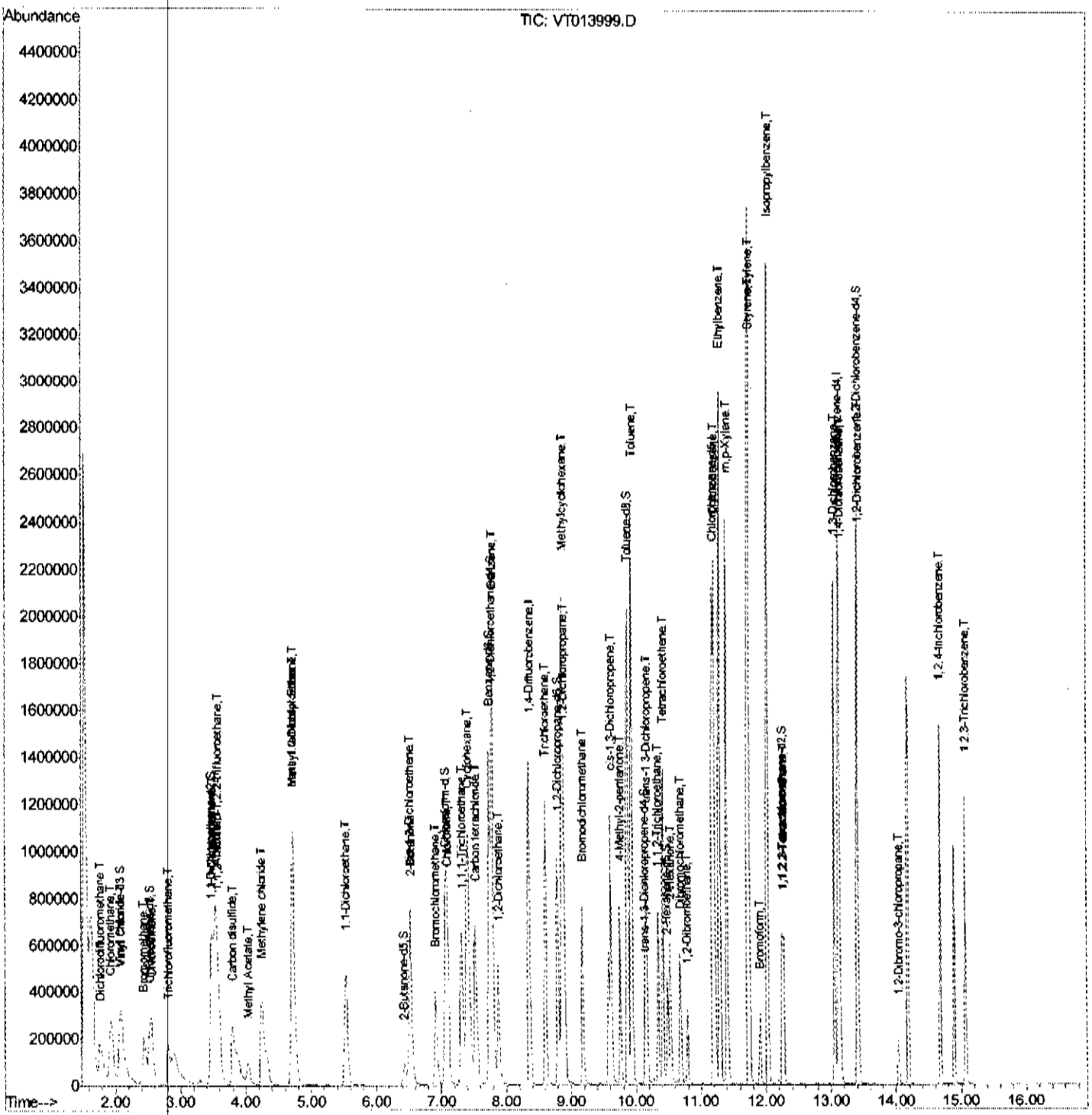

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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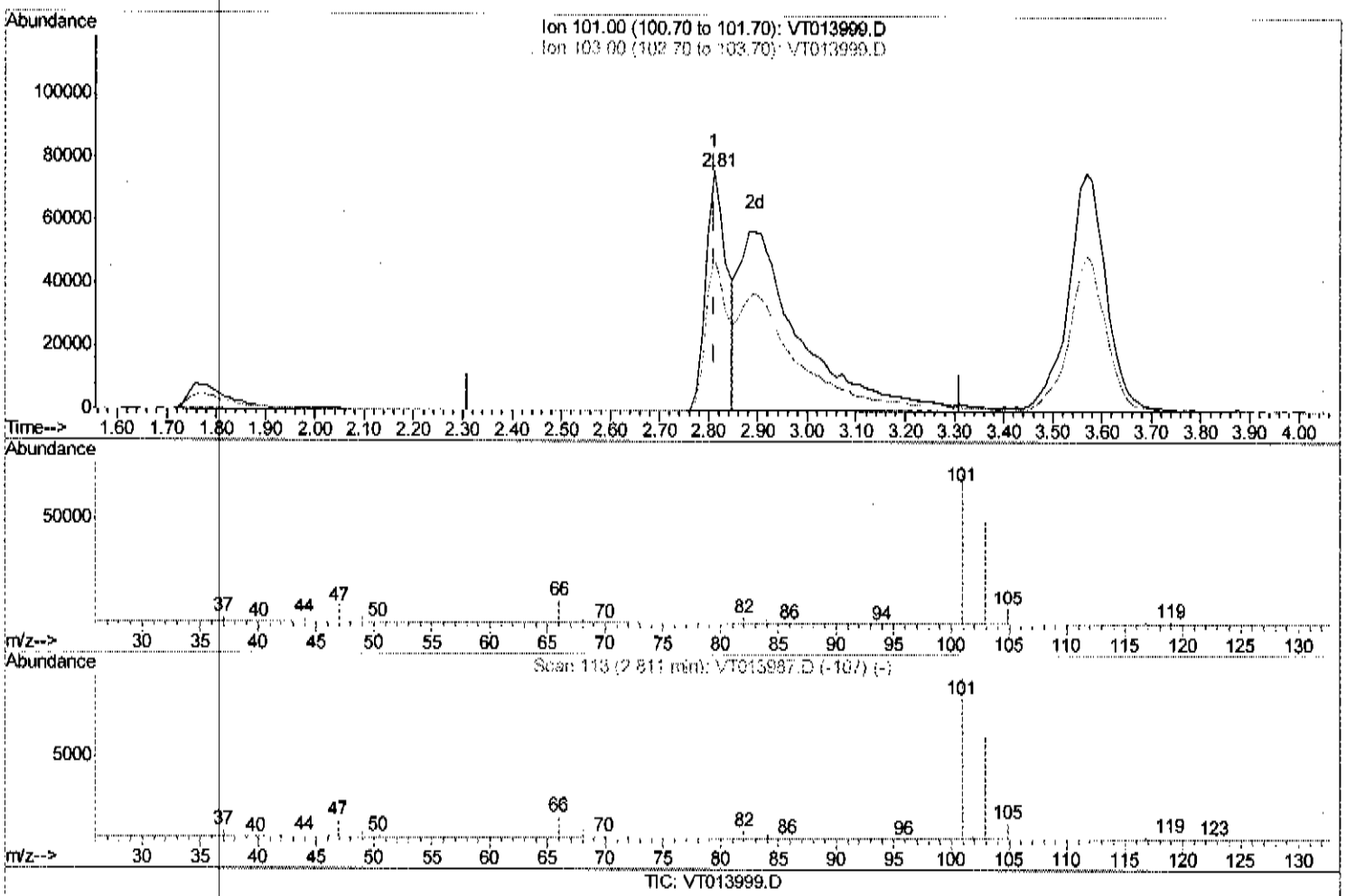

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 7.55ug/L

response 224493

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	65.65#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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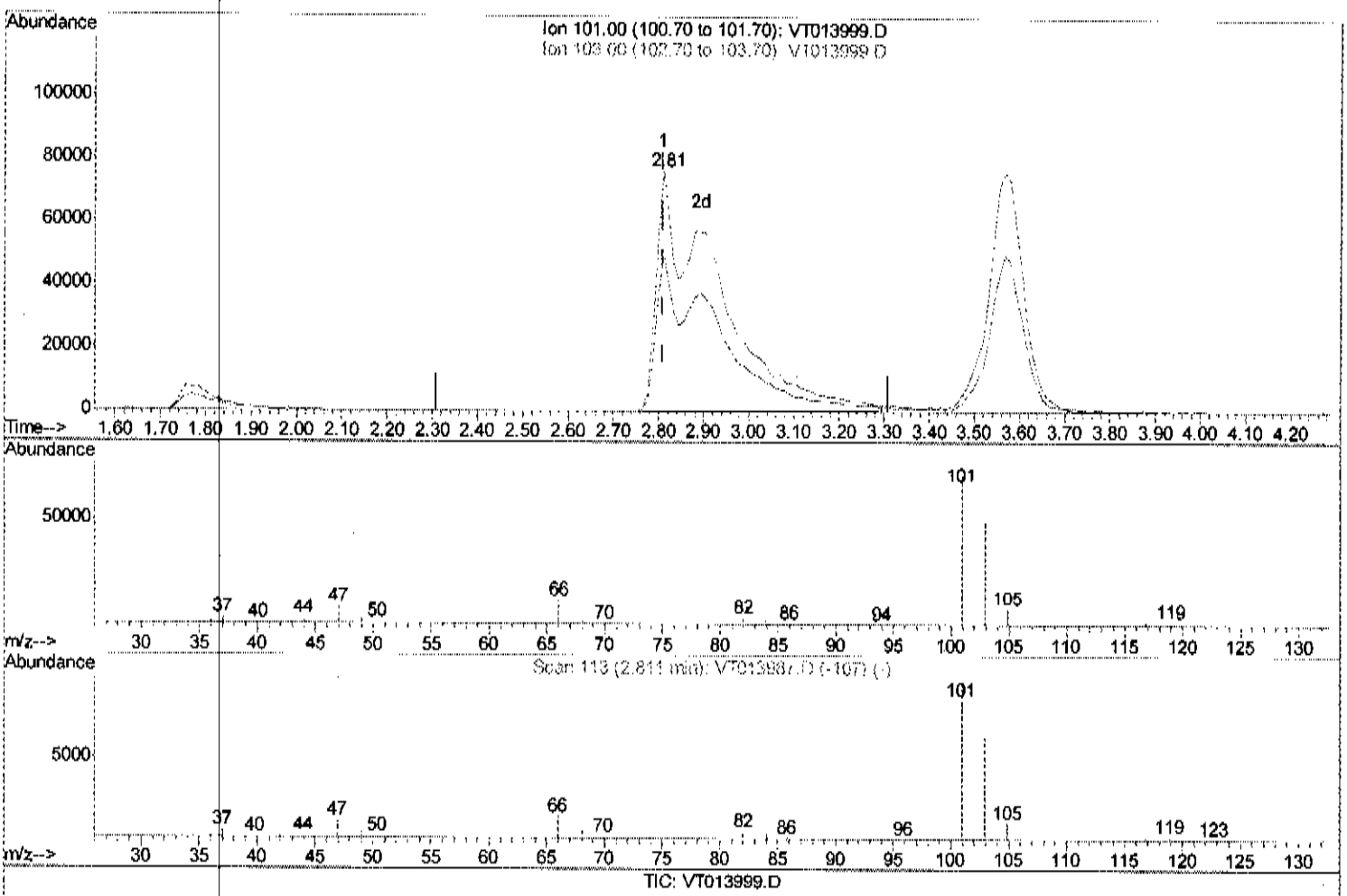

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 24.31ug/L m

response 722615

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	20.40
0.00	0.00	0.00
0.00	0.00	0.00

FY 5/10/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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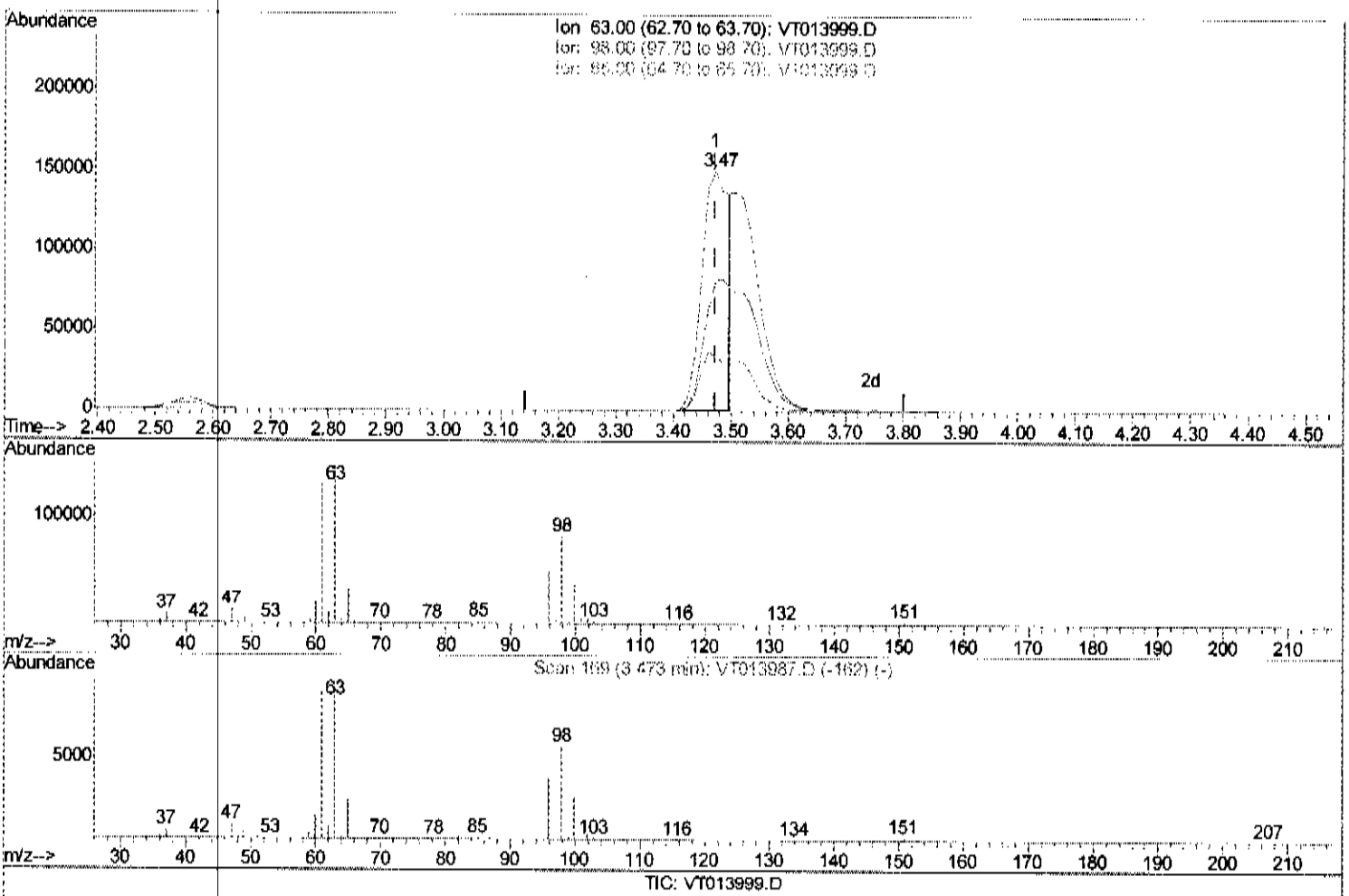

(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.000) 14.09ug/L

response 497335

Ion	Exp%	Act%
63.00	100	100
98.00	62.90	104.00#
65.00	22.10	24.45
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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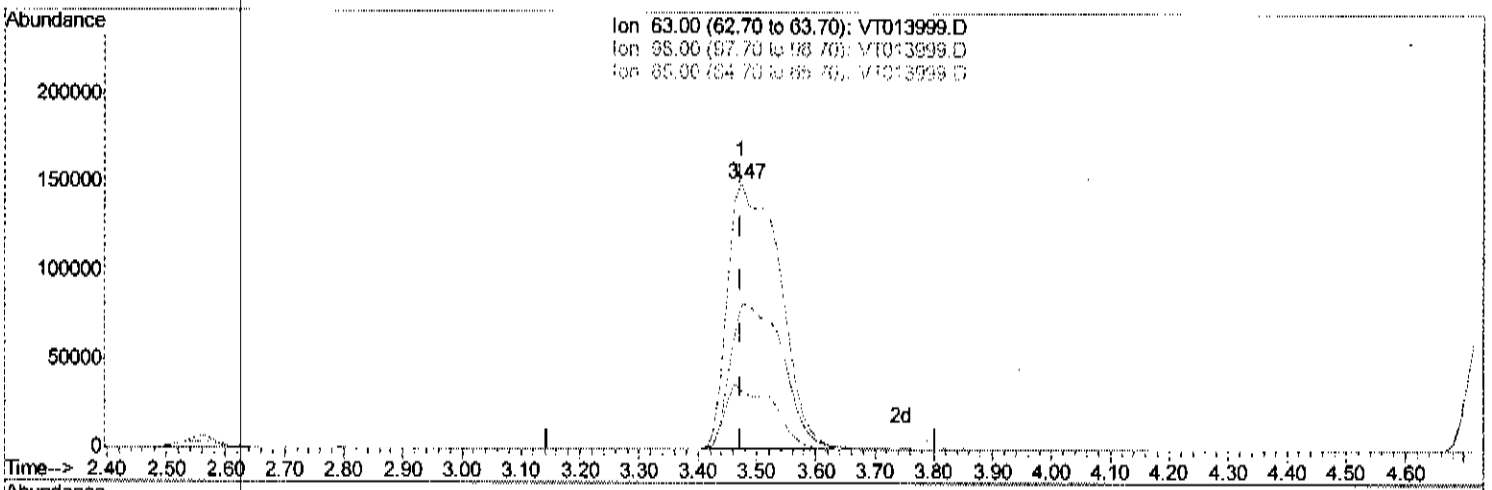

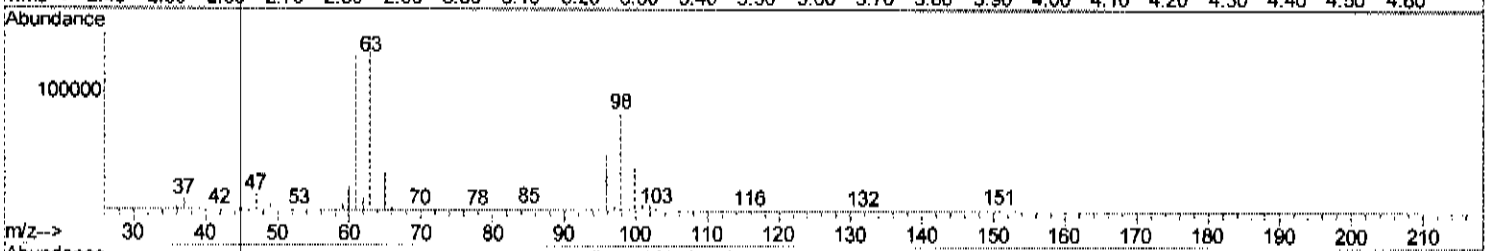

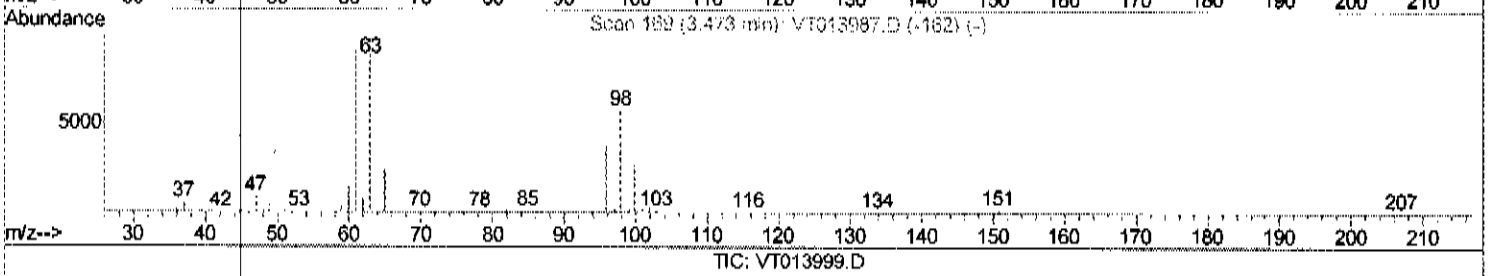

TIC: VT013999.D

(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.000) 26.44ug/L m

response 933242

Ion	Exp%	Act%
63.00	100	100
98.00	62.90	55.42
65.00	22.10	13.03#
0.00	0.00	0.00

FT
5/10/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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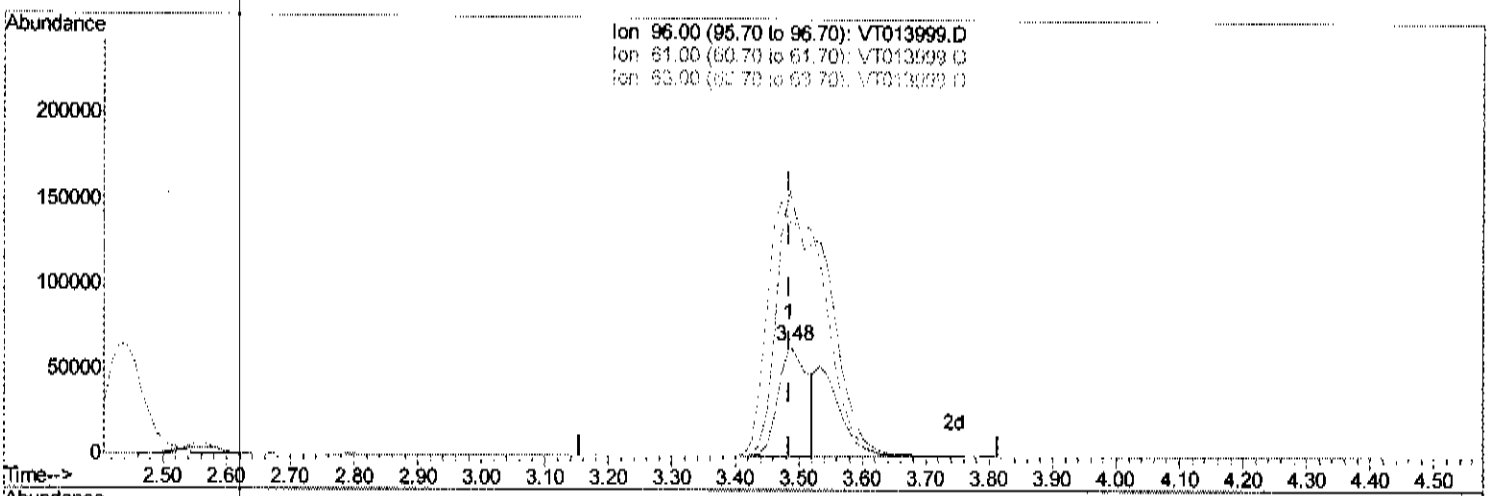

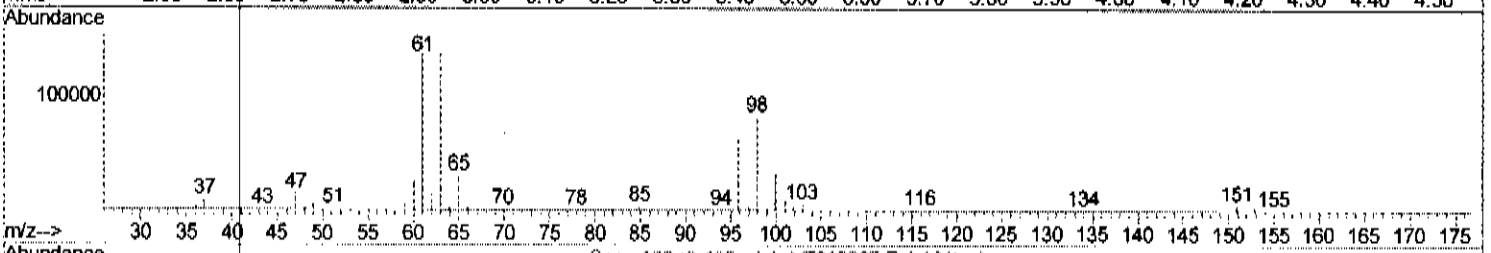

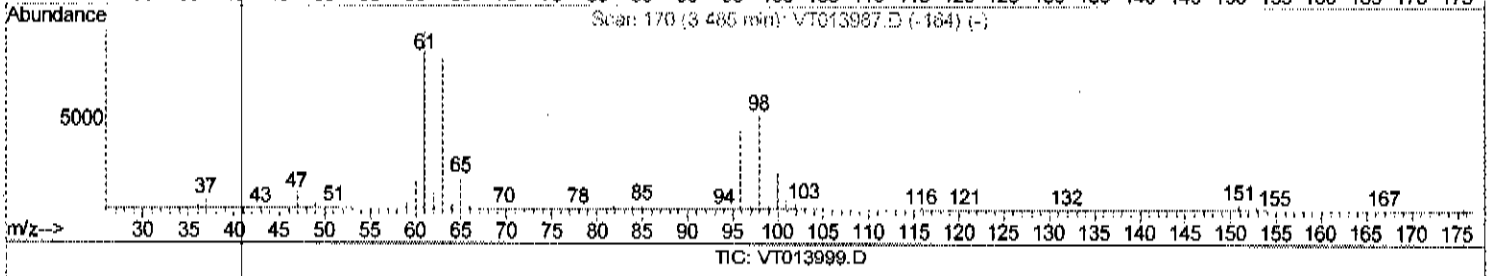

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 14.17ug/L

response 215494

Ion	Exp%	Act%
96.00	100	100
61.00	211.90	239.58
63.00	170.40	210.83
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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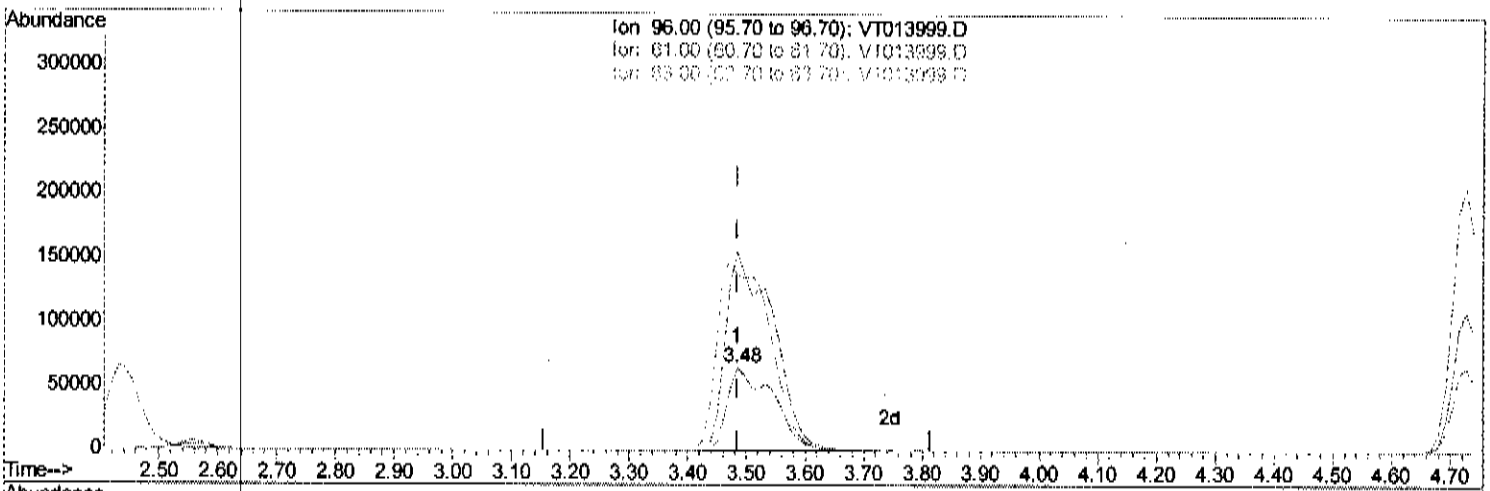

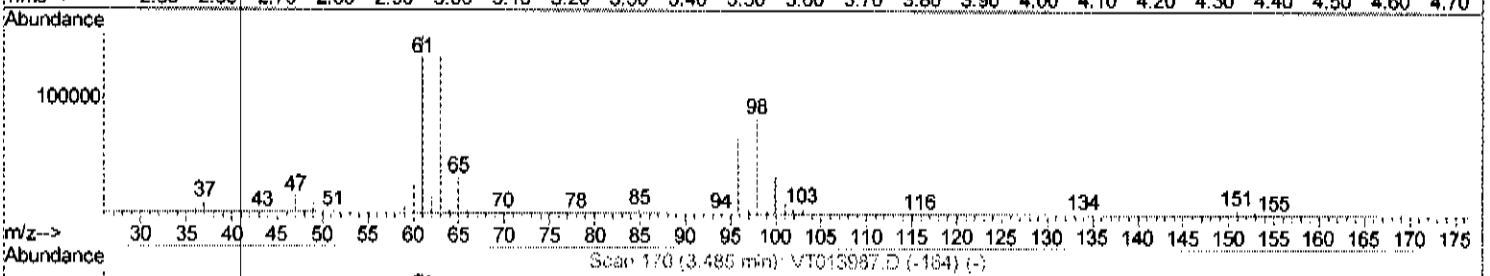

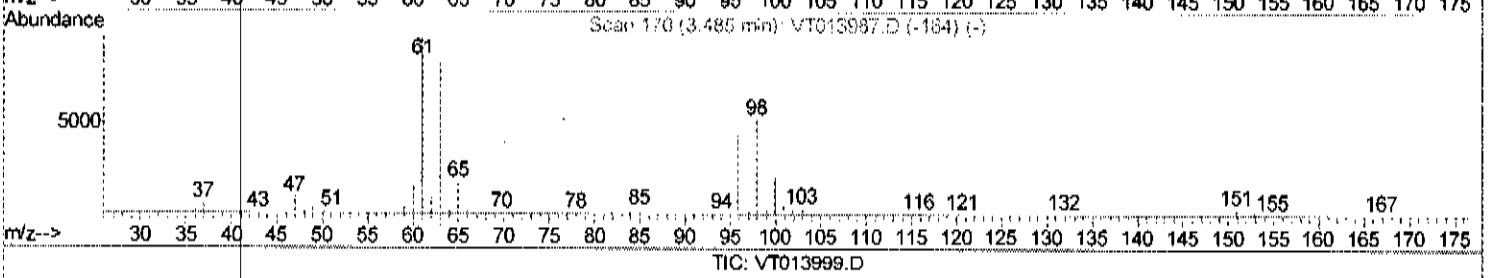

TIC: VT013999.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 23.40ug/L m

response 355786

Ion	Exp%	Act%
96.00	100	100
61.00	211.90	239.58
63.00	170.40	210.83
0.00	0.00	0.00

FY
5/10/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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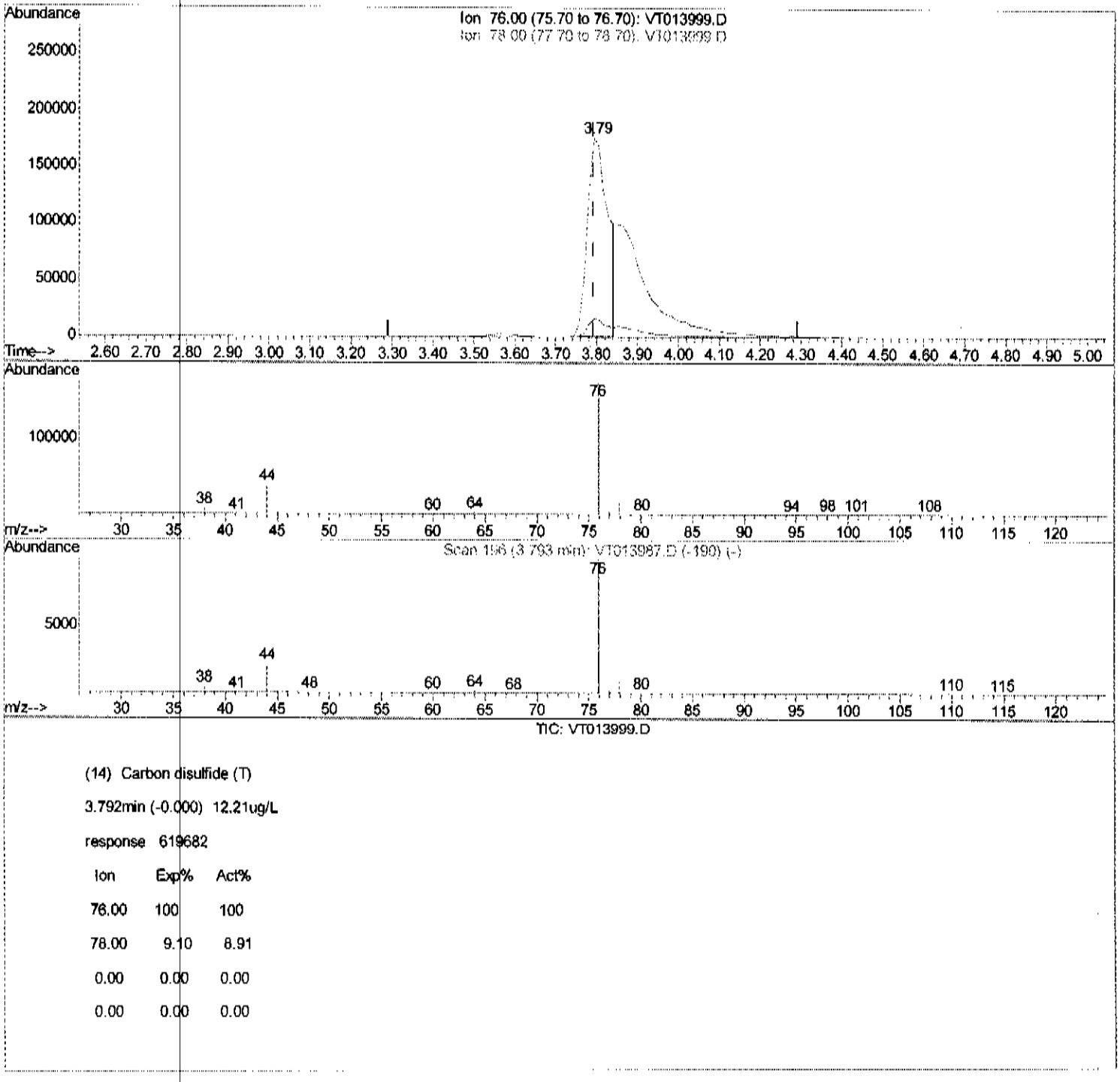

(14) Carbon disulfide (T)

3.792min (-0.000) 12.21ug/L

response 619682

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	8.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : EY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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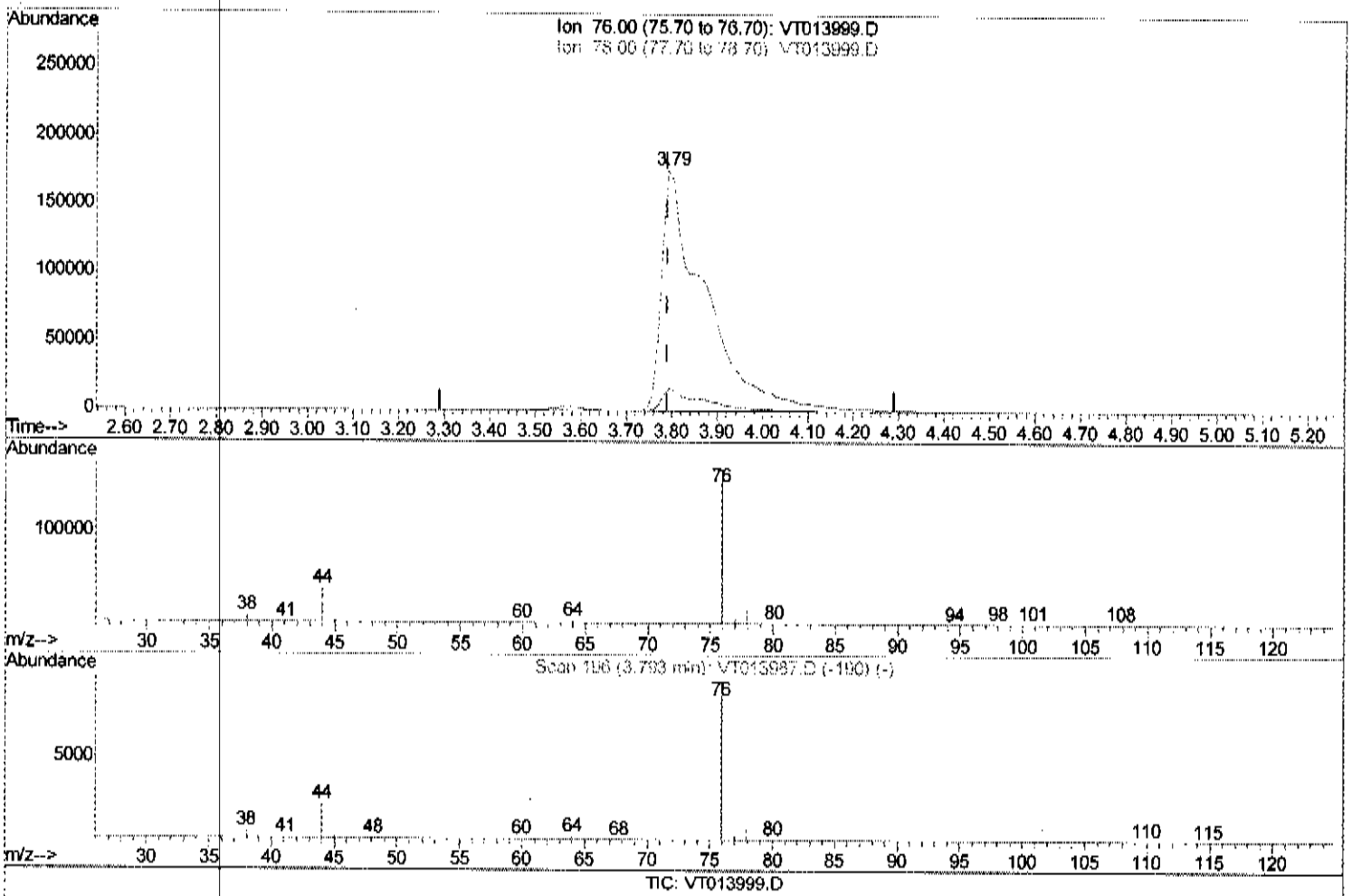

(14) Carbon disulfide (T)

3.792min (-0.000) 23.14ug/L m

response 1174643

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	8.91
0.00	0.00	0.00
0.00	0.00	0.00

EY 5/10/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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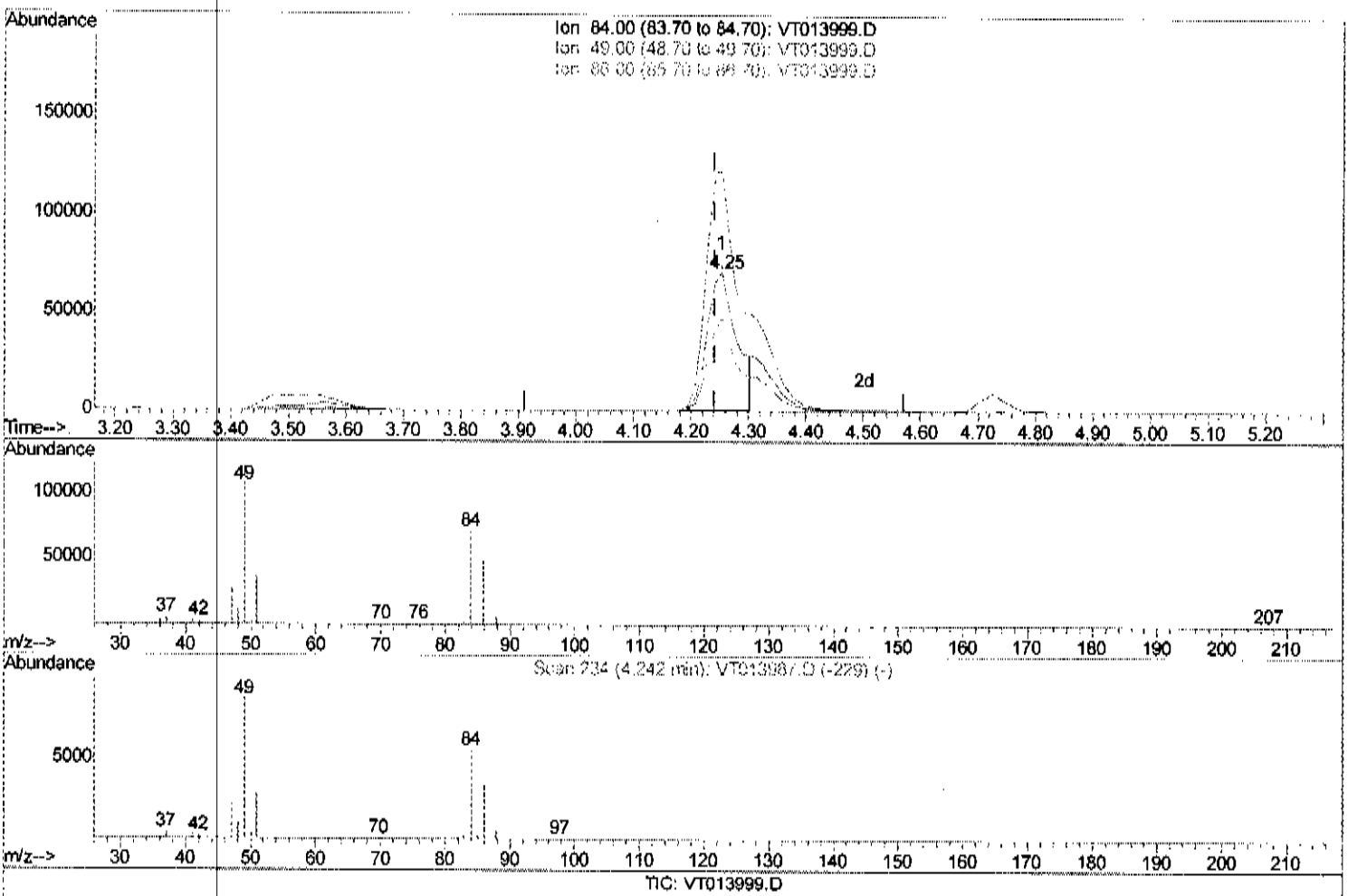
5/10/2016 7:41:13 PM



(16) Methylene chloride (T)

4.254min (+0.012) 17.41ug/L

response 254664

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	172.02
86.00	64.20	66.90
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:21:29 2016
Quant Method : W:\HPCHEM1\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02591

Manual Integrations APPROVED
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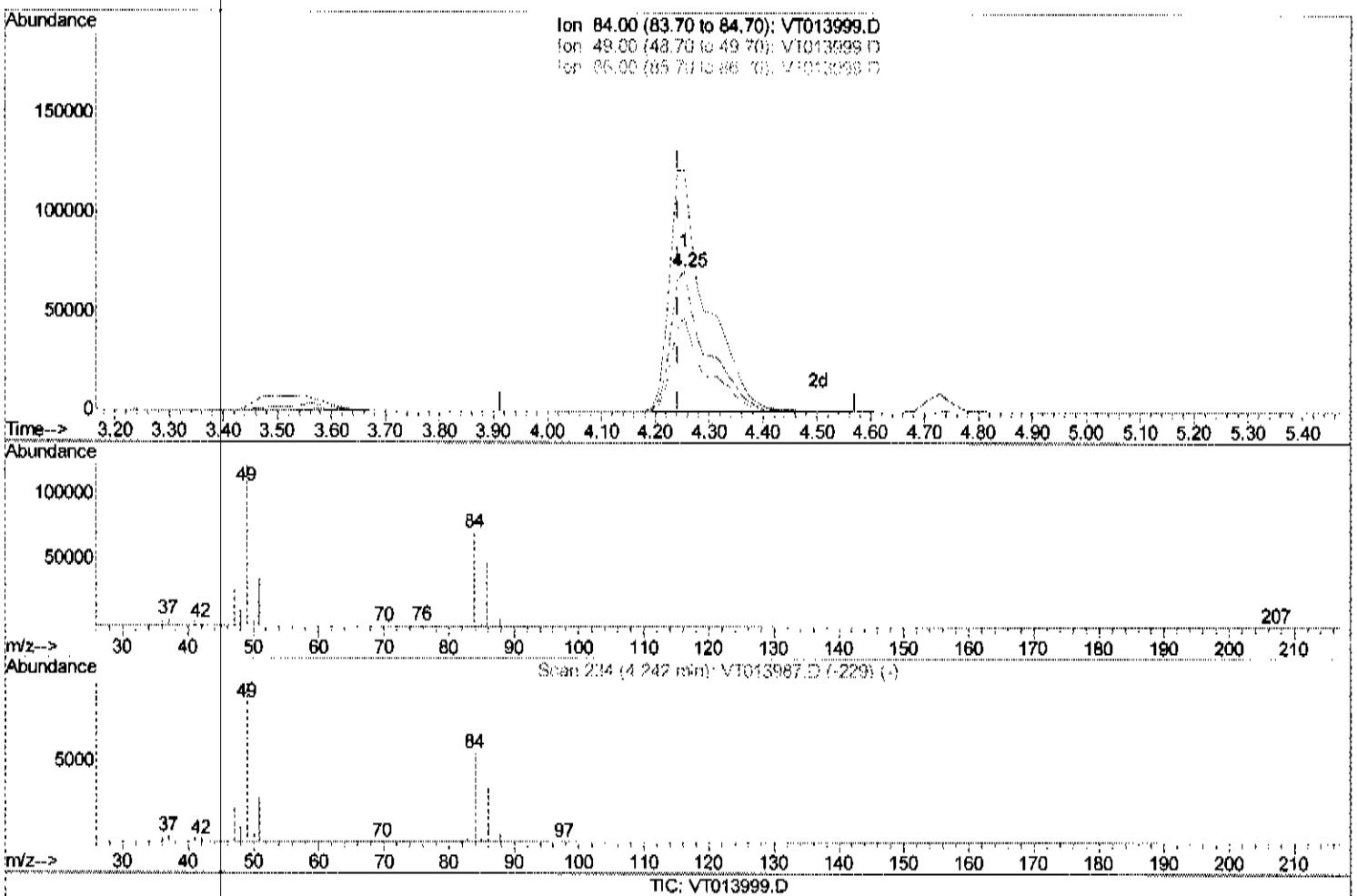

(16) Methylene chloride (T)

4.254min (+0.012) 22.62ug/L m

response 330828

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	172.02
86.00	64.20	66.90
0.00	0.00	0.00

FY
5/10/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:57:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02591

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1035713	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	861159	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	439055	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	483389	28.17	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 112.68%			
7) Chloroethane-d5	2.53	69	344467	27.76	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 111.04%			
10) 1,1-Dichloroethene-d2	3.47	63	933242m	26.44	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 105.76%			
20) 2-Butanone-d5	6.43	46	183825	45.02	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 90.04%			
24) Chloroform-d	7.07	84	747619	25.87	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 103.48%			
26) 1,2-Dichloroethane-d4	7.78	65	421661	24.89	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 99.56%			
29) Benzene-d6	7.74	84	1367430	25.38	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 101.52%			
33) 1,2-Dichloropropane-d6	8.80	67	409013	25.73	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 102.92%			
37) Toluene-d8	9.87	98	1246246	25.70	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 102.80%			
38) trans-1,3-Dichloropropene-	10.13	79	151988	24.66	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 98.64%			
39) 2-Hexanone-d5	10.48	63	127442	50.18	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 100.36%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	263693	24.08	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 96.32%			
60) 1,2-Dichlorobenzene-d4	13.41	152	377961	24.52	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 98.08%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	506002	23.92	ug/L	99
3) Chloromethane	1.93	50	564967	22.70	ug/L	98
5) Vinyl chloride	2.09	62	561452	23.59	ug/L	100
6) Bromomethane	2.43	94	276331	22.84	ug/L	97
8) Chloroethane	2.56	64	316957	24.12	ug/L	97
9) Trichlorofluoromethane	2.81	101	722615m	24.31	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	400842	24.08	ug/L	98
12) 1,1-Dichloroethene	3.48	96	355786m	23.40	ug/L	
13) Acetone	3.56	43	232790	35.46	ug/L	94
14) Carbon disulfide	3.79	76	1174643m	23.14	ug/L	
15) Methyl Acetate	4.04	43	191488	21.97	ug/L	96
16) Methylene chloride	4.25	84	330828m	22.62	ug/L	
17) Methyl tert-butyl Ether	4.73	73	662795	24.31	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	370402	24.18	ug/L	95
19) 1,1-Dichloroethane	5.54	63	813735	23.96	ug/L	98
21) 2-Butanone	6.54	43	255053	39.58	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	357577	24.47	ug/L	89

FY 5/10/2016

FY 5/10/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013999.D
Acq On : 9 May 2016 16:11
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 10 01:57:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02591

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
23) Bromochloromethane	6.92	128	127201	23.66	ug/L		95
25) Chloroform	7.11	83	704913	24.42	ug/L		99
27) 1,2-Dichloroethane	7.89	62	531856	24.22	ug/L	#	96
30) Cyclohexane	7.41	56	856135	24.60	ug/L		99
31) 1,1,1-Trichloroethane	7.32	97	654846	24.29	ug/L		98
32) Carbon tetrachloride	7.53	117	607730	24.87	ug/L		99
34) Benzene	7.79	78	1511829	23.76	ug/L		100
35) Trichloroethene	8.61	95	400404	24.24	ug/L		98
36) Methylcyclohexane	8.87	83	773770	24.03	ug/L		97
40) 1,2-Dichloropropane	8.89	63	375940	23.47	ug/L		100
41) Bromodichloromethane	9.18	83	470081	24.83	ug/L		100
42) cis-1,3-Dichloropropene	9.61	75	513730	24.68	ug/L		100
43) 4-Methyl-2-pentanone	9.76	43	517065	46.81	ug/L		98
44) Toluene	9.93	91	1519092	24.22	ug/L		97
45) trans-1,3-Dichloropropene	10.16	75	449322	25.15	ug/L		100
46) 1,1,2-Trichloroethane	10.34	97	202848	23.44	ug/L		99
47) Tetrachloroethene	10.42	164	286913	23.83	ug/L		96
49) 2-Hexanone	10.53	43	395689	42.72	ug/L		98
50) Dibromochloromethane	10.68	129	255309	24.44	ug/L		95
51) 1,2-Dibromoethane	10.79	107	198411	24.01	ug/L		94
52) Chlorobenzene	11.21	112	884291	24.13	ug/L		97
53) Ethylbenzene	11.29	91	1803492	24.32	ug/L		100
54) m,p-Xylene	11.40	106	645993	24.27	ug/L		99
55) o-xylene	11.73	106	625029	24.72	ug/L		94
56) Styrene	11.74	104	976679	24.25	ug/L		96
57) Isopropylbenzene	12.03	105	1837021	24.90	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.28	83	259128	23.57	ug/L		100
61) Bromoform	11.91	173	123680	21.70	ug/L		98
62) 1,3-Dichlorobenzene	13.06	146	678187	24.38	ug/L		98
63) 1,4-Dichlorobenzene	13.14	146	658946	22.95	ug/L		98
64) 1,2-Dichlorobenzene	13.42	146	597655	24.03	ug/L		98
65) 1,2-Dibromo-3-chloropropan	14.04	75	44390	22.57	ug/L		87
66) 1,2,4-trichlorobenzene	14.68	180	378005	25.10	ug/L		99
67) 1,2,3-Trichlorobenzene	15.07	180	319919	25.03	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:58:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
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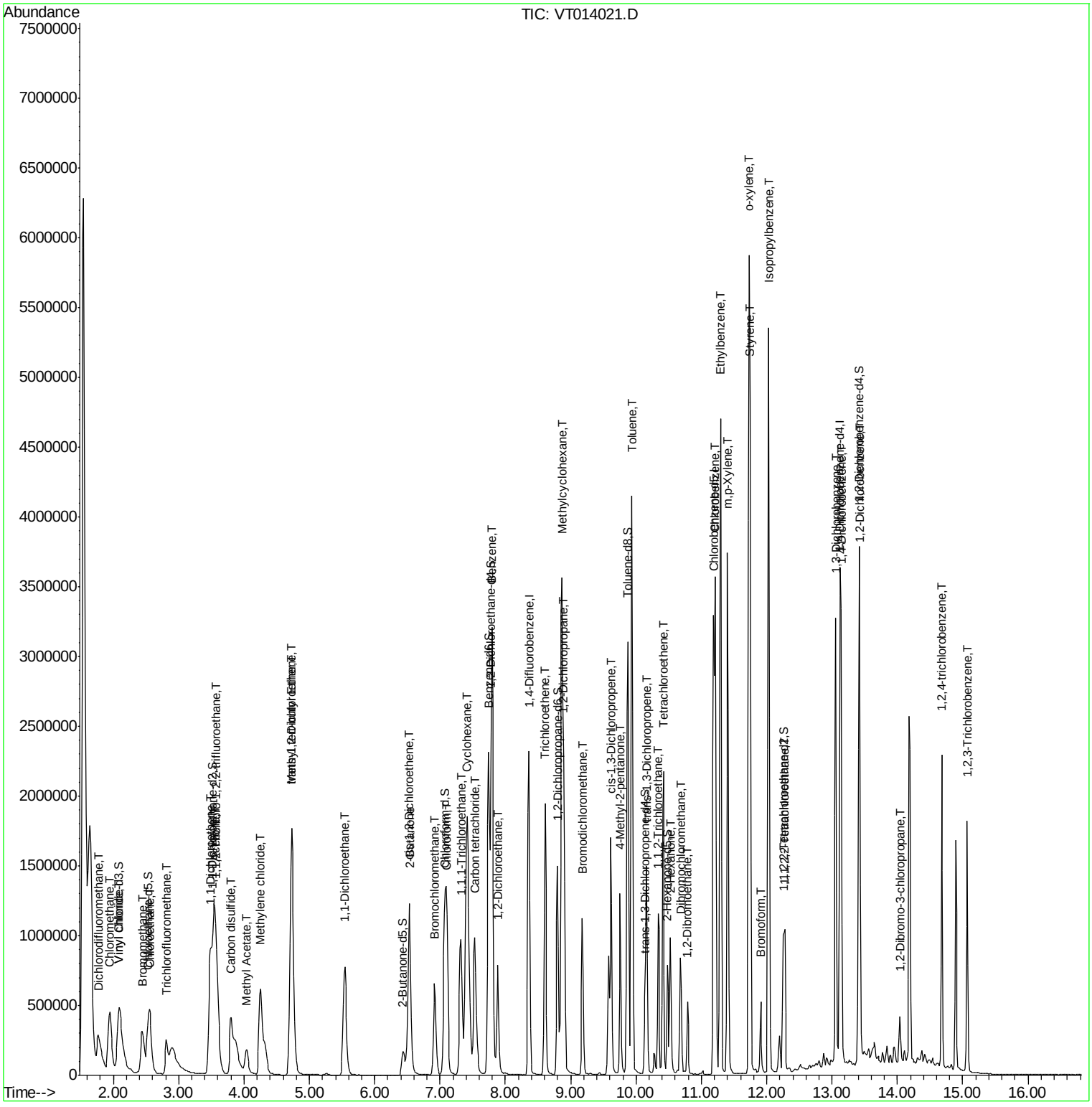
5/10/2016 7:43:44 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:58:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02592

Manual Integrations APPROVED
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5/10/2016 7:43:44 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1856434	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1451862	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	696016	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	759235	24.68	ug/L	0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 98.72%			
7) Chloroethane-d5	2.54	69	546872	24.59	ug/L	0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 98.36%			
10) 1,1-Dichloroethene-d2	3.52	63	1329970m	21.03	ug/L	0.05
Spiked Amount 25.000	Range 45 - 110		Recovery = 84.12%			
20) 2-Butanone-d5	6.43	46	350543	47.89	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 95.78%			
24) Chloroform-d	7.07	84	1091237	21.07	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 84.28%			
26) 1,2-Dichloroethane-d4	7.78	65	585624	19.28	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 77.12%			
29) Benzene-d6	7.74	84	2317490	25.52	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 102.08%			
33) 1,2-Dichloropropane-d6	8.80	67	696613	26.00	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 104.00%			
37) Toluene-d8	9.87	98	2022639	24.74	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 98.96%			
38) trans-1,3-Dichloropropene-	10.13	79	233701	22.49	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 89.96%			
39) 2-Hexanone-d5	10.48	63	243042	56.76	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 113.52%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	424820	23.01	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 92.04%			
60) 1,2-Dichlorobenzene-d4	13.41	152	586604	24.01	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 96.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	782092	20.63	ug/L	99
3) Chloromethane	1.95	50	939494	21.06	ug/L	99
5) Vinyl chloride	2.09	62	926630	21.72	ug/L	99
6) Bromomethane	2.44	94	458823	21.15	ug/L	99
8) Chloroethane	2.56	64	524828	22.28	ug/L	99
9) Trichlorofluoromethane	2.81	101	1050597m	19.72	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	682488	22.88	ug/L	98
12) 1,1-Dichloroethene	3.48	96	617028m	22.64	ug/L	
13) Acetone	3.56	43	311647	26.48	ug/L	97
14) Carbon disulfide	3.80	76	2049455m	22.53	ug/L	
15) Methyl Acetate	4.04	43	366454	23.46	ug/L	99
16) Methylene chloride	4.25	84	597832	22.80	ug/L	99
17) Methyl tert-butyl Ether	4.73	73	1182584	24.20	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	662535	24.13	ug/L	98
19) 1,1-Dichloroethane	5.54	63	1394603	22.91	ug/L	99
21) 2-Butanone	6.54	43	427297	37.00	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	640342	24.45	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM

Quant Time: May 10 04:58:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	226965	23.55	ug/L	97
25) Chloroform	7.11	83	1094932	21.17	ug/L	99
27) 1,2-Dichloroethane	7.89	62	754810	19.17	ug/L	99
30) Cyclohexane	7.41	56	1598230	27.24	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	991221	21.81	ug/L	98
32) Carbon tetrachloride	7.53	117	883594	21.45	ug/L	99
34) Benzene	7.79	78	2715252	25.31	ug/L	100
35) Trichloroethene	8.61	95	679231	24.39	ug/L	99
36) Methylcyclohexane	8.87	83	1411389	26.00	ug/L	99
40) 1,2-Dichloropropane	8.89	63	688298	25.49	ug/L	100
41) Bromodichloromethane	9.18	83	705211	22.09	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	828038	23.60	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	909593	48.85	ug/L	98
44) Toluene	9.93	91	2596425	24.56	ug/L	97
45) trans-1,3-Dichloropropene	10.16	75	682670	22.67	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	348915	23.91	ug/L	99
47) Tetrachloroethene	10.42	164	482742	23.79	ug/L	97
49) 2-Hexanone	10.53	43	642503	41.14	ug/L	99
50) Dibromochloromethane	10.68	129	394893	22.42	ug/L	96
51) 1,2-Dibromoethane	10.79	107	330692	23.74	ug/L	95
52) Chlorobenzene	11.21	112	1477155	23.91	ug/L	99
53) Ethylbenzene	11.29	91	2951007	23.61	ug/L	99
54) m,p-Xylene	11.40	106	1072802	23.91	ug/L	98
55) o-xylene	11.73	106	1036893	24.33	ug/L	90
56) Styrene	11.74	104	1579142	23.25	ug/L	99
57) Isopropylbenzene	12.03	105	2955872	23.76	ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	429255	23.16	ug/L	99
61) Bromoform	11.91	173	205476	22.75	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	1077533	24.43	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	1035431	22.75	ug/L	97
64) 1,2-Dichlorobenzene	13.42	146	941184	23.87	ug/L	97
65) 1,2-Dibromo-3-chloropropan	14.04	75	66758	21.42	ug/L	99
66) 1,2,4-trichlorobenzene	14.68	180	588894	24.67	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	492323	24.30	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:58:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
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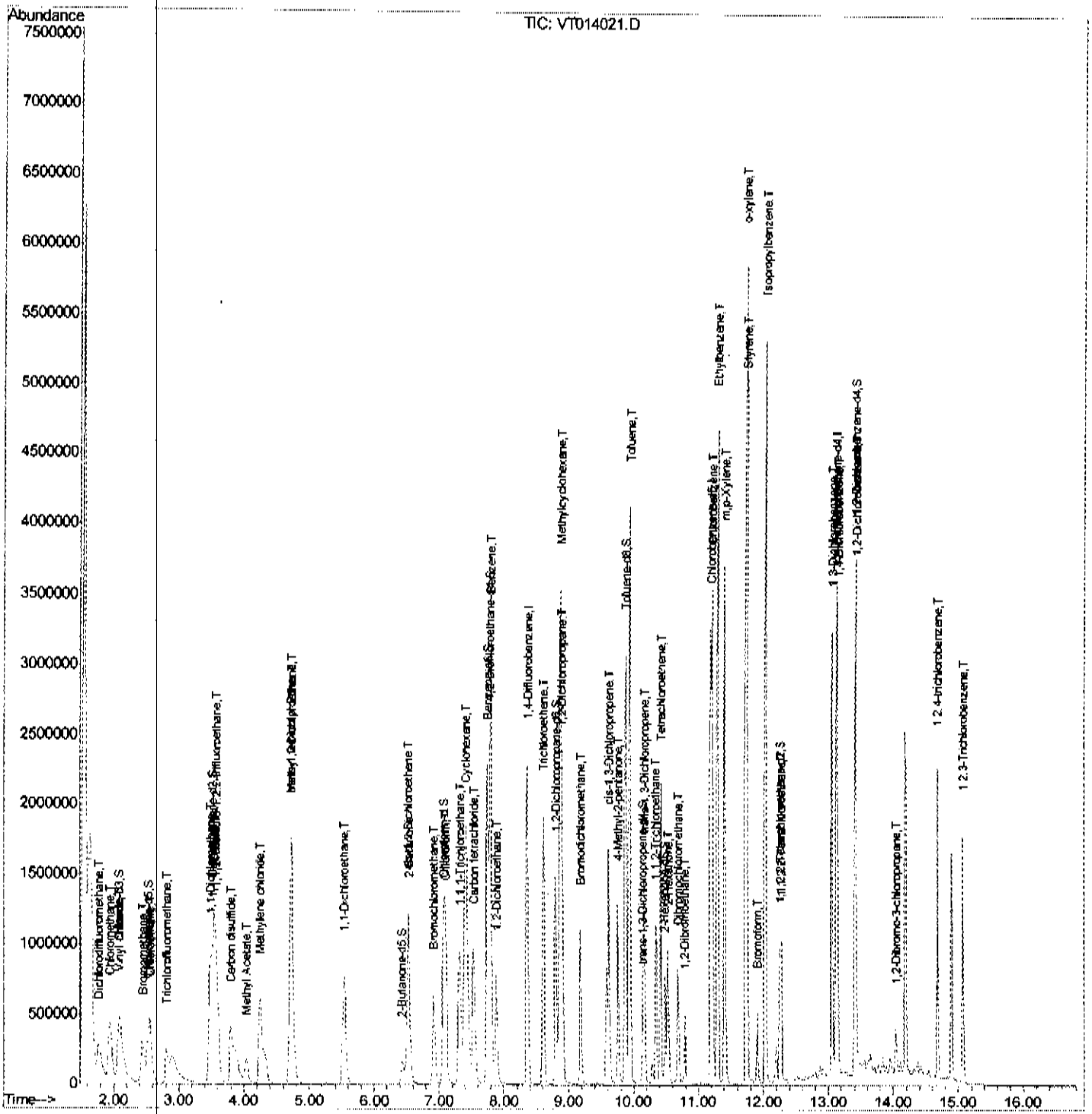
5/10/2016 7:43:44 PM



Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:29:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
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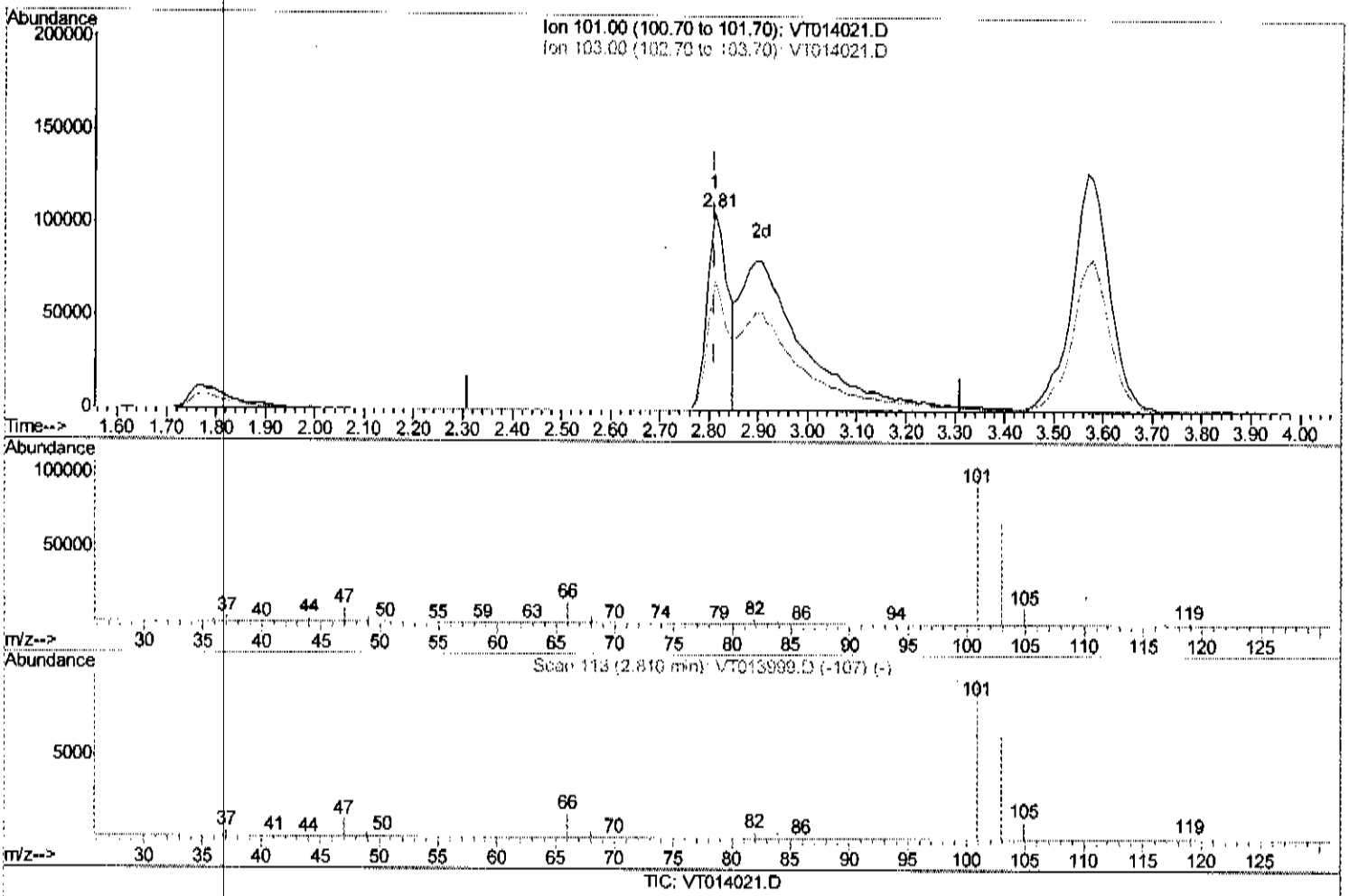
5/10/2016 7:43:44 PM



TIC: VT014021.D

(9) Trichlorofluoromethane (T)

2.810min (+0.000) 5.88ug/L

response 313562

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	64.17#
0.00	0.00	0.00
0.00	0.00	0.00

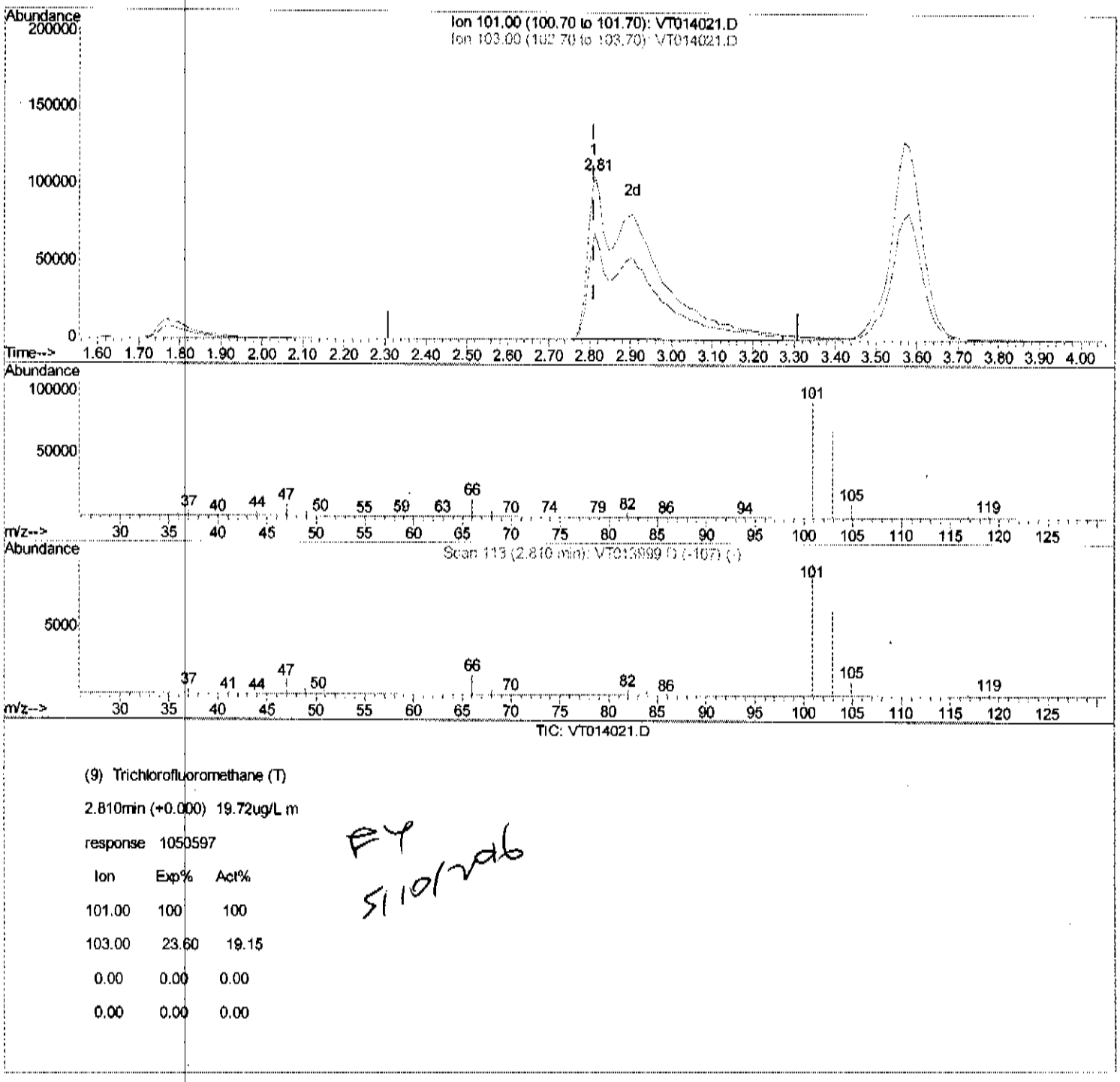
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:29:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM



(9) Trichlorofluoromethane (T)

2.810min (+0.000) 19.72ug/L m

response 1050597

Ion	Exp%	Act%
101.00	100	100
103.00	23.60	19.15
0.00	0.00	0.00
0.00	0.00	0.00

FY
5/10/16

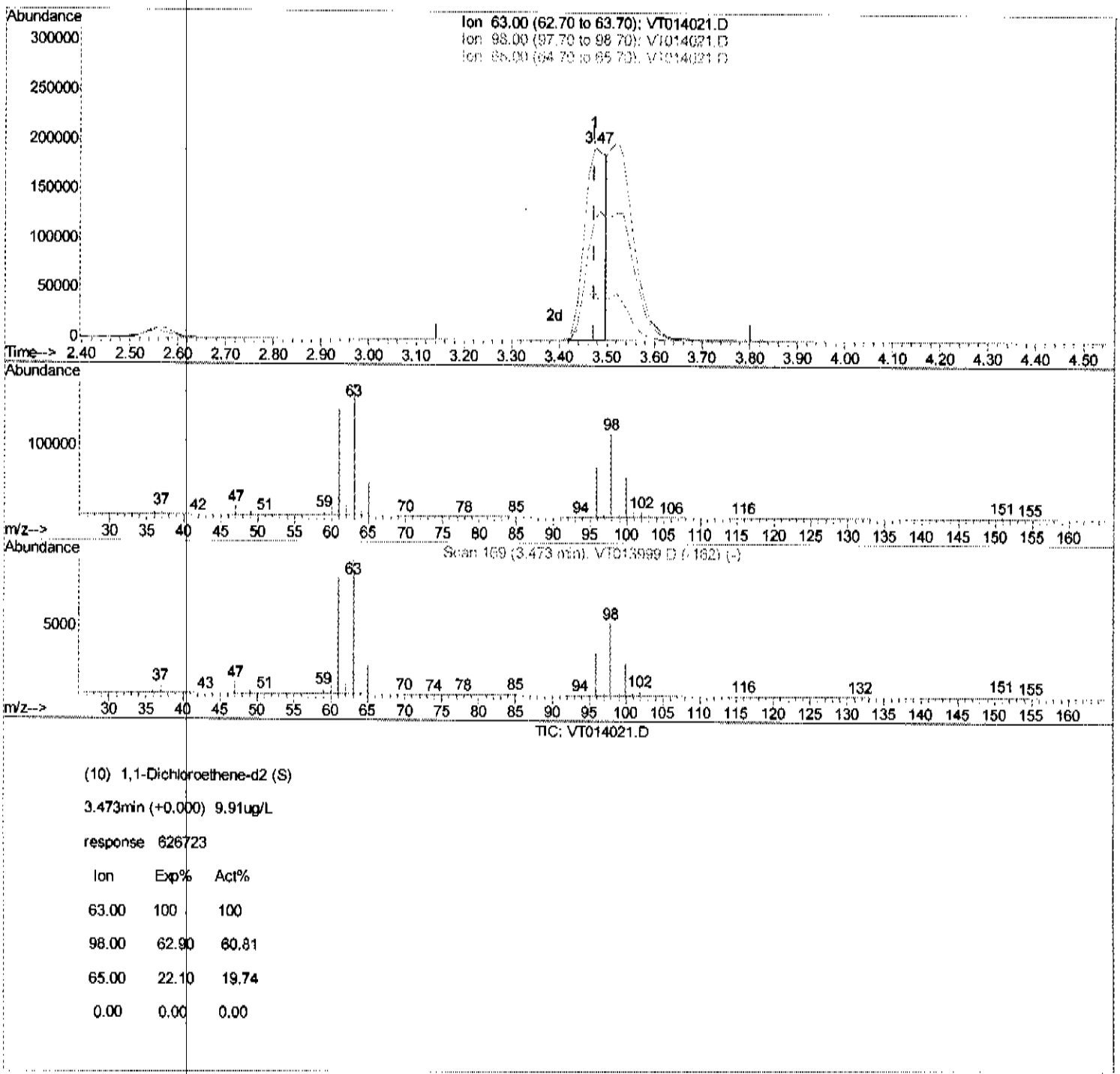
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:29:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM



(10) 1,1-Dichloroethene-d2 (S)

3.473min (+0.000) 9.91ug/L

response 626723

Ion	Exp%	Act%
63.00	100	100
98.00	62.90	60.81
65.00	22.10	19.74
0.00	0.00	0.00

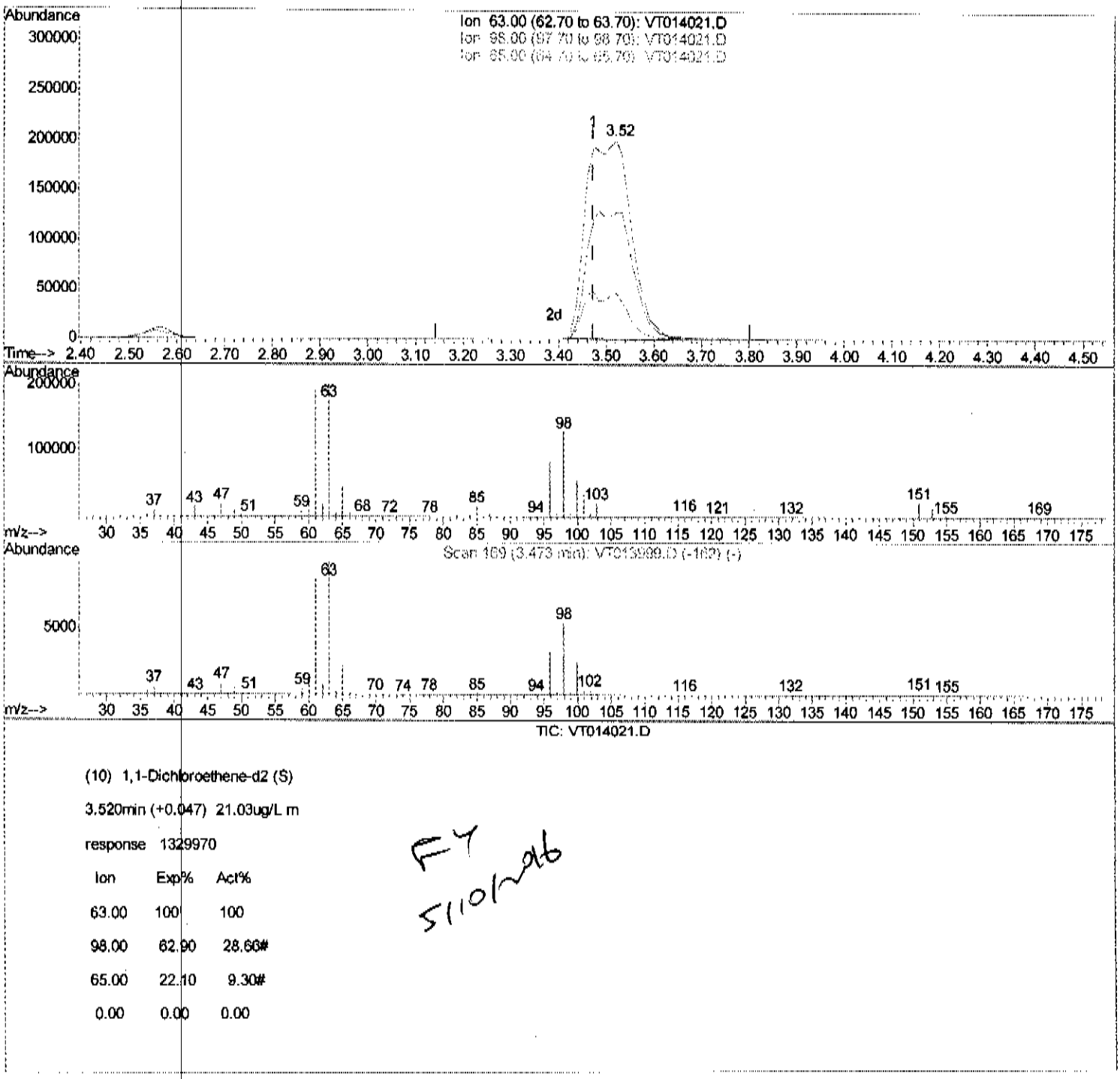
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:29:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM



(10) 1,1-Dichloroethene-d2 (S)

3.520min (+0.047) 21.03ug/L m

response 1329970

Ion	Exp%	Act%
63.00	100	100
98.00	62.90	28.66#
65.00	22.10	9.30#
0.00	0.00	0.00

FY 5/10/16

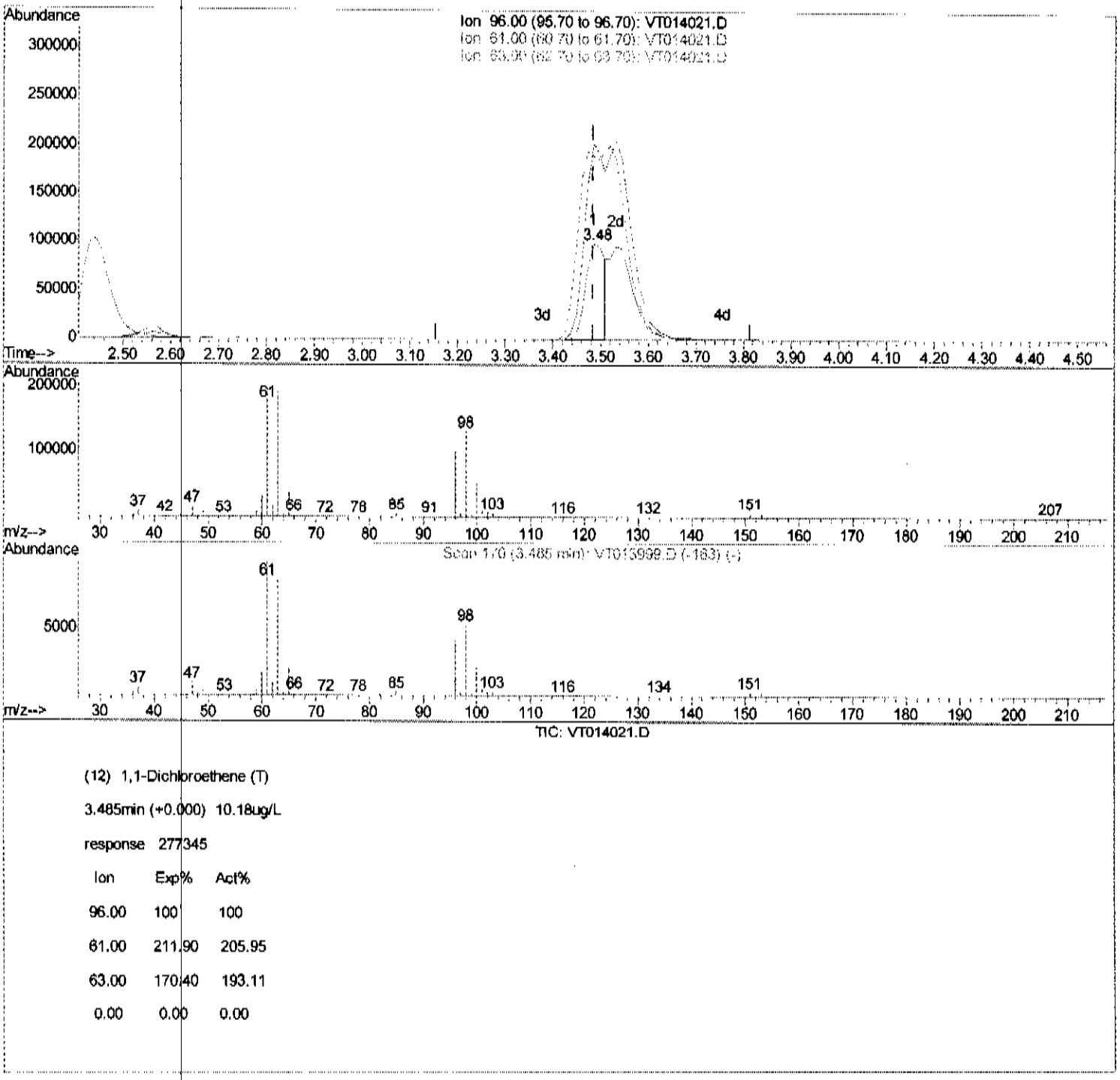
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:29:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM



Scan 170 (3.485 min): VT013999.D (-183) (-)

TIC: VT014021.D

(12) 1,1-Dichloroethene (T)

3.485min (+0.000) 10.18ug/L

response 277345

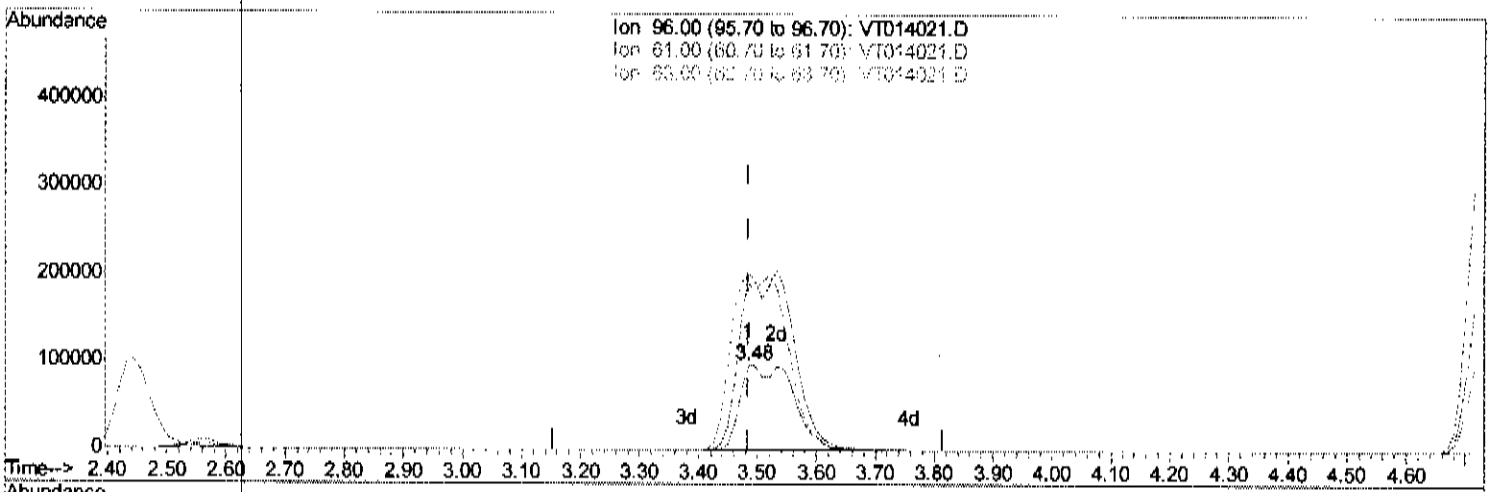
Ion	Exp%	Act%
96.00	100	100
61.00	211.90	205.95
63.00	170.40	193.11
0.00	0.00	0.00

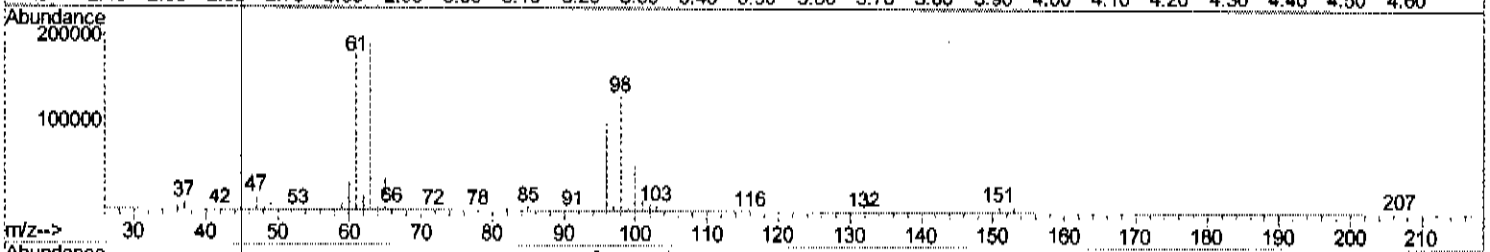
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

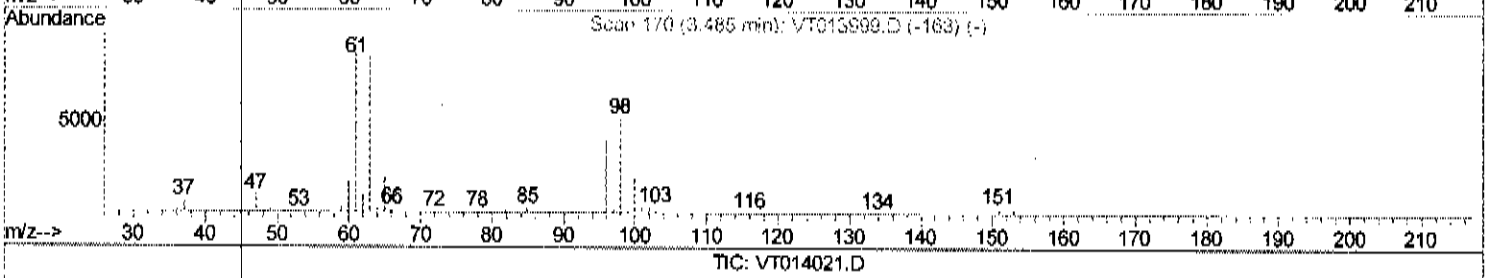
Quant Time: May 10 04:29:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM







(12) 1,1-Dichloroethene (T)

3.485min (+0.000) 22.64ug/L m

response 617028

Ion	Exp%	Act%
96.00	100	100
61.00	211.90	205.95
63.00	170.40	193.11
0.00	0.00	0.00

ET
5/10/2016

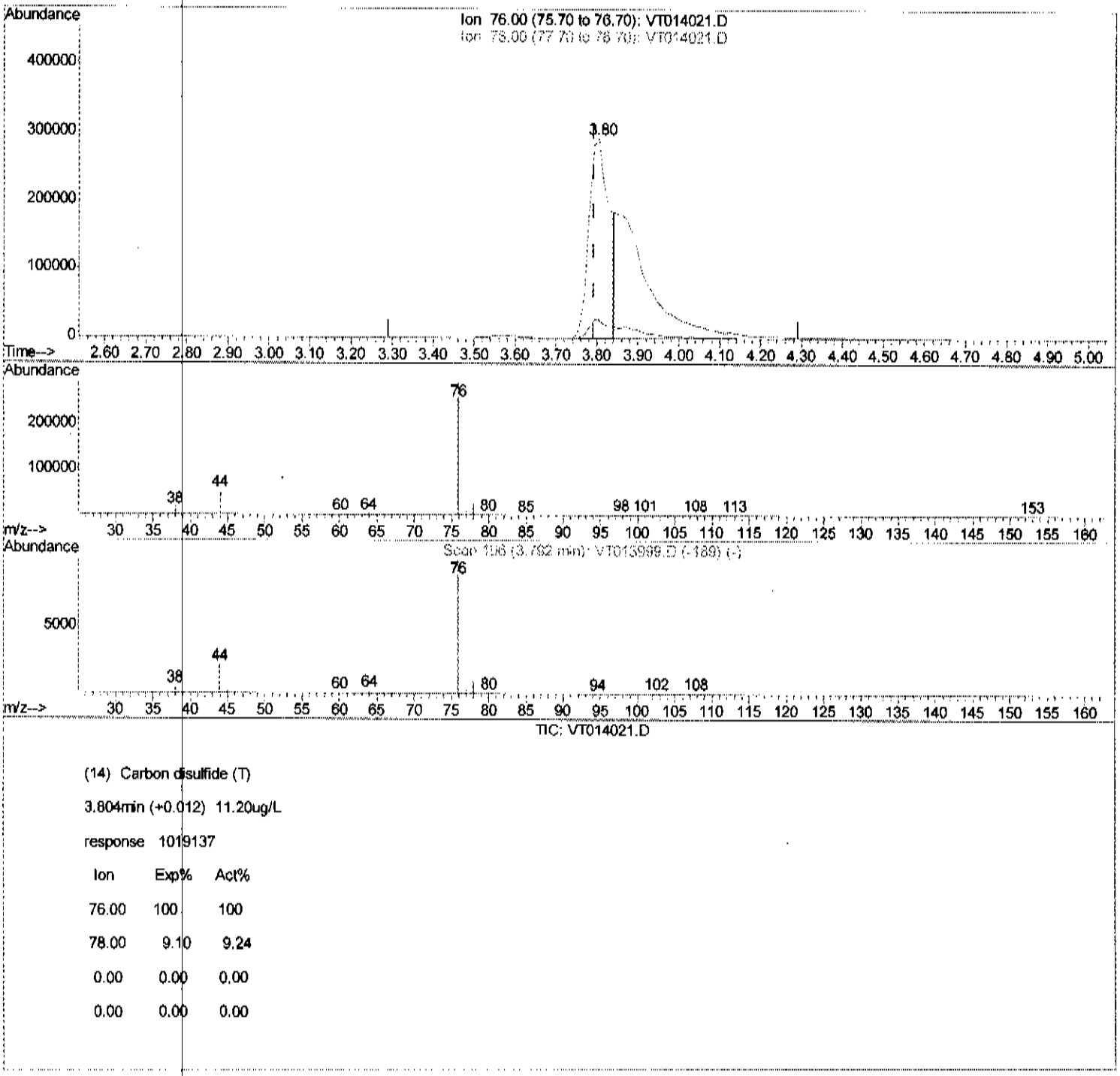
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:29:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM



(14) Carbon disulfide (T)

3.804min (+0.012) 11.20ug/L

response 1019137

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.24
0.00	0.00	0.00
0.00	0.00	0.00

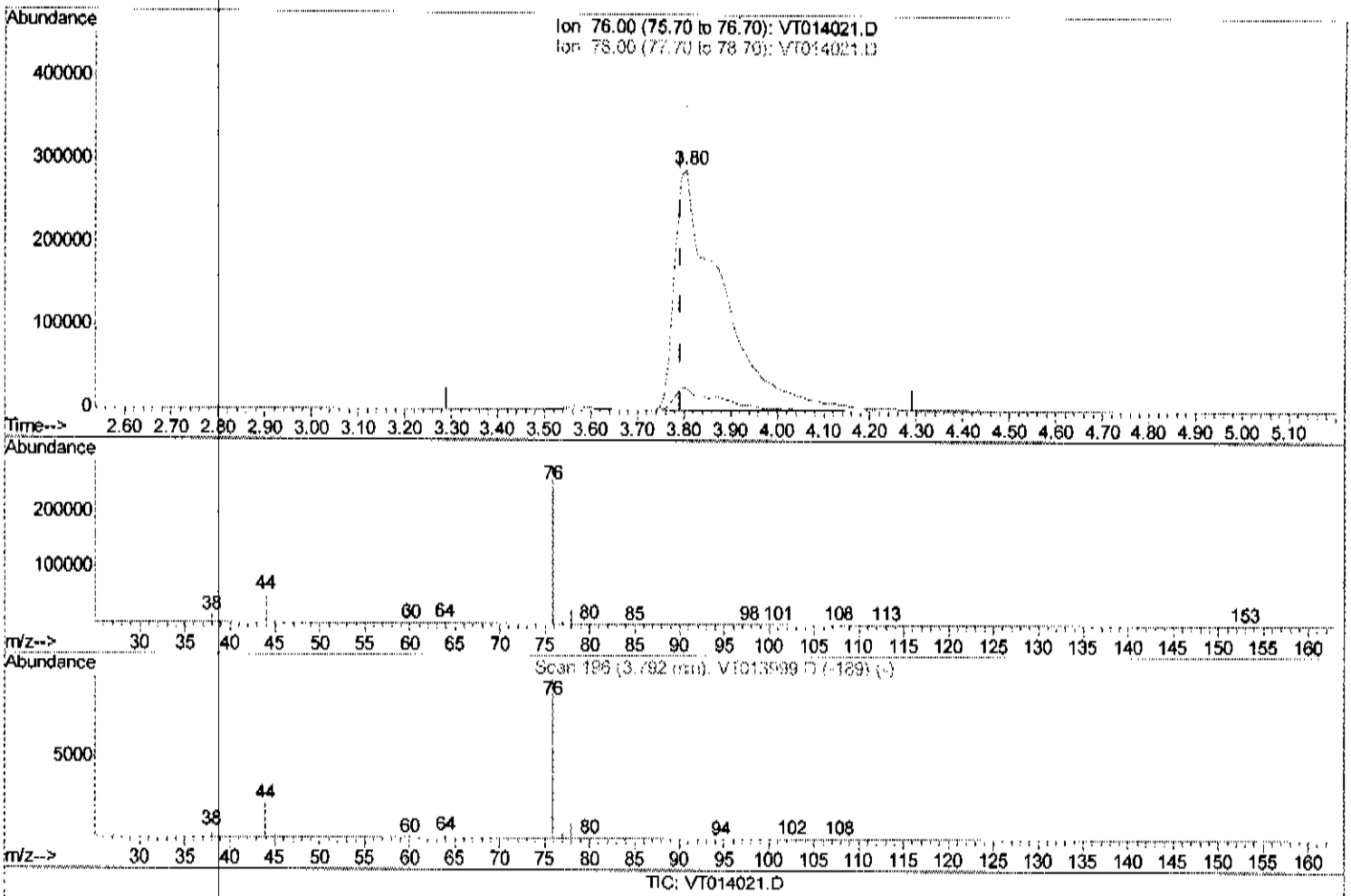
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:29:42 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM



(14) Carbon disulfide (T)

3.804min (+0.012) 22.53ug/L m

response 2049455

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.24
0.00	0.00	0.00
0.00	0.00	0.00

FY 5/10/16

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:38
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:58:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1856434	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1451862	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	696016	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	759235	24.68	ug/L	0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 98.72%			
7) Chloroethane-d5	2.54	69	546872	24.59	ug/L	0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 98.36%			
10) 1,1-Dichloroethene-d2	3.52	63	1329970m	21.03	ug/L	0.05
Spiked Amount 25.000	Range 45 - 110		Recovery = 84.12%			
20) 2-Butanone-d5	6.43	46	350543	47.89	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 95.78%			
24) Chloroform-d	7.07	84	1091237	21.07	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 84.28%			
26) 1,2-Dichloroethane-d4	7.78	65	585624	19.28	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 77.12%			
29) Benzene-d6	7.74	84	2317490	25.52	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 102.08%			
33) 1,2-Dichloropropane-d6	8.80	67	696613	26.00	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 104.00%			
37) Toluene-d8	9.87	98	2022639	24.74	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 98.96%			
38) trans-1,3-Dichloropropene-	10.13	79	233701	22.49	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 89.96%			
39) 2-Hexanone-d5	10.48	63	243042	56.76	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 113.52%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	424820	23.01	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 92.04%			
60) 1,2-Dichlorobenzene-d4	13.41	152	586604	24.01	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 96.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	782092	20.63	ug/L	99
3) Chloromethane	1.95	50	939494	21.06	ug/L	99
5) Vinyl chloride	2.09	62	926630	21.72	ug/L	99
6) Bromomethane	2.44	94	458823	21.15	ug/L	99
8) Chloroethane	2.56	64	524828	22.28	ug/L	99
9) Trichlorofluoromethane	2.81	101	1050597m	19.72	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	682488	22.88	ug/L	98
12) 1,1-Dichloroethene	3.48	96	617028m	22.64	ug/L	
13) Acetone	3.56	43	311647	26.48	ug/L	97
14) Carbon disulfide	3.80	76	2049455m	22.53	ug/L	
15) Methyl Acetate	4.04	43	366454	23.46	ug/L	99
16) Methylene chloride	4.25	84	597832	22.80	ug/L	99
17) Methyl tert-butyl Ether	4.73	73	1182584	24.20	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	662535	24.13	ug/L	98
19) 1,1-Dichloroethane	5.54	63	1394603	22.91	ug/L	99
21) 2-Butanone	6.54	43	427297	37.00	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	640342	24.45	ug/L	99

FY 5/10/2016

FY 5/10/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014021.D
Acq On : 10 May 2016 2:30
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 10 04:58:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02592

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:43:44 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	226965	23.55	ug/L	97
25) Chloroform	7.11	83	1094932	21.17	ug/L	99
27) 1,2-Dichloroethane	7.89	62	754810	19.17	ug/L	99
30) Cyclohexane	7.41	56	1598230	27.24	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	991221	21.81	ug/L	98
32) Carbon tetrachloride	7.53	117	883594	21.45	ug/L	99
34) Benzene	7.79	78	2715252	25.31	ug/L	100
35) Trichloroethene	8.61	95	679231	24.39	ug/L	99
36) Methylcyclohexane	8.87	83	1411389	26.00	ug/L	99
40) 1,2-Dichloropropane	8.89	63	688298	25.49	ug/L	100
41) Bromodichloromethane	9.18	83	705211	22.09	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	828038	23.60	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	909593	48.85	ug/L	98
44) Toluene	9.93	91	2596425	24.56	ug/L	97
45) trans-1,3-Dichloropropene	10.16	75	682670	22.67	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	348915	23.91	ug/L	99
47) Tetrachloroethene	10.42	164	482742	23.79	ug/L	97
49) 2-Hexanone	10.53	43	642503	41.14	ug/L	99
50) Dibromochloromethane	10.68	129	394893	22.42	ug/L	96
51) 1,2-Dibromoethane	10.79	107	330692	23.74	ug/L	95
52) Chlorobenzene	11.21	112	1477155	23.91	ug/L	99
53) Ethylbenzene	11.29	91	2951007	23.61	ug/L	99
54) m,p-Xylene	11.40	106	1072802	23.91	ug/L	98
55) o-xylene	11.73	106	1036893	24.33	ug/L	90
56) Styrene	11.74	104	1579142	23.25	ug/L	99
57) Isopropylbenzene	12.03	105	2955872	23.76	ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	429255	23.16	ug/L	99
61) Bromoform	11.91	173	205476	22.75	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	1077533	24.43	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	1035431	22.75	ug/L	97
64) 1,2-Dichlorobenzene	13.42	146	941184	23.87	ug/L	97
65) 1,2-Dibromo-3-chloropropan	14.04	75	66758	21.42	ug/L	99
66) 1,2,4-trichlorobenzene	14.68	180	588894	24.67	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	492323	24.30	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

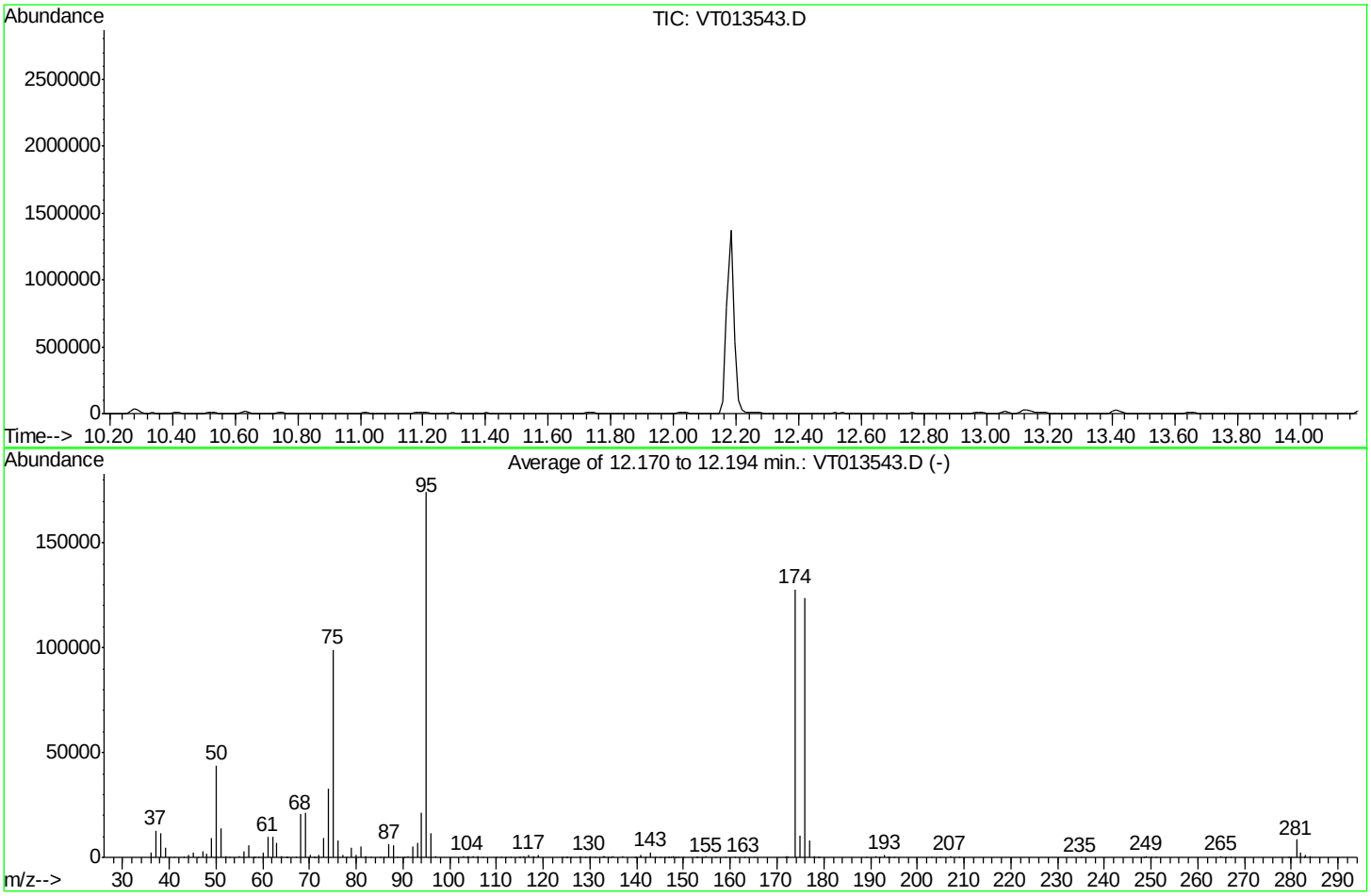
BFB

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT041216\
Data File : VT013543.D
Acq On : 12 Apr 2016 12:19
Operator : FY/SY
Sample : BFB96
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : BFB96

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Title : VOC Analysis
Last Update : Fri Apr 22 01:01:54 2016



AutoFind: Scans 904, 905, 906; Background Corrected with Scan 901

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.1	43739	PASS
75	95	30	80	56.9	99154	PASS
95	95	100	100	100.0	174258	PASS
96	95	5	9	6.8	11774	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	73.4	127880	PASS
175	174	5	9	8.1	10388	PASS
176	174	95	101	96.6	123586	PASS
177	176	5	9	6.6	8215	PASS

Scan 901 (12.135 min): VT013543.D
BFB96

m/z	Abundance
39.90	376.0
44.10	401.0
191.10	170.0
193.20	156.0
281.10	528.0
282.00	166.0

Instrument :
MSVOA_T
ClientSampleId :
BFB96

Scan 904 (12.170 min): VT013543.D
BFB96

Instrument :
MSVOA_T
ClientSampleId :
BFB96

m/z	Abundance
36.00	3040.0
37.10	16472.0
38.10	13747.0
39.10	5638.0
40.00	412.0
41.10	378.0
43.10	444.0
44.00	2099.0
45.10	2315.0
46.20	302.0
47.10	2930.0
48.00	1578.0
49.10	11283.0
50.00	50976.0
51.10	15808.0
52.00	683.0
53.00	172.0
55.10	642.0
56.00	3605.0
57.10	7252.0
58.00	431.0
59.00	166.0
60.10	2195.0
61.10	10752.0
62.10	11057.0
63.00	7788.0
64.00	949.0
65.00	570.0
68.00	22392.0
69.00	22800.0
70.10	1509.0
70.90	265.0
72.10	1003.0
73.00	9338.0
74.00	35440.0
75.00	104040.0
76.10	8247.0
77.00	1142.0
78.00	689.0
78.90	4957.0
80.00	1178.0
81.00	5190.0
81.90	1029.0
87.00	6210.0
88.00	5392.0
90.30	193.0
91.00	487.0
92.00	5323.0
93.00	6690.0
94.00	21248.0
95.00	168576.0
96.00	11837.0
97.00	468.0
103.00	185.0
103.80	627.0
104.00	631.0
104.90	349.0
105.90	757.0
107.00	220.0
110.00	156.0
110.90	184.0
111.90	152.0
113.00	226.0
114.90	312.0
115.80	645.0
117.00	917.0
117.90	455.0
119.00	1025.0
124.80	167.0
127.80	337.0
129.00	236.0
130.00	559.0
130.90	260.0
132.90	307.0
134.40	212.0
134.90	358.0
136.80	170.0
140.80	1482.0
142.90	1479.0
144.10	169.0
145.00	169.0
145.90	184.0
147.80	218.0
148.20	241.0
148.90	174.0
150.00	262.0
153.10	234.0
154.80	173.0
156.90	161.0
159.00	231.0
172.00	898.0
174.00	73936.0

174.90	6049.0
175.90	69456.0
177.00	4975.0
178.00	267.0
191.00	221.0
192.90	344.0
207.10	191.0
249.20	160.0
265.00	156.0
281.00	1534.0
282.10	377.0
282.80	226.0

Instrument :
MSVOA_T
ClientSampleId :
BFB96

Scan 905 (12.182 min): VT013543.D
BFB96

Instrument :
MSVOA_T
ClientSampleId :
BFB96

m/z	Abundance
36.10	3022.0
37.10	17984.0
38.10	16367.0
39.10	6043.0
40.00	370.0
41.00	166.0
41.20	167.0
43.10	221.0
44.10	1940.0
45.10	3107.0
47.10	4345.0
48.00	2083.0
49.00	12868.0
50.10	63984.0
51.10	19272.0
52.00	682.0
55.00	886.0
56.10	4647.0
57.10	8199.0
57.90	311.0
59.10	295.0
60.10	3082.0
61.00	14726.0
62.10	14077.0
63.10	10133.0
64.10	872.0
65.20	376.0
67.00	759.0
68.00	30480.0
69.00	31648.0
70.00	2136.0
71.20	190.0
72.00	1815.0
73.00	13626.0
74.00	48232.0
75.00	148032.0
76.10	12699.0
77.00	1517.0
78.90	6441.0
79.90	2056.0
80.90	7455.0
82.00	1139.0
83.00	206.0
85.00	193.0
86.00	342.0
87.00	9878.0
88.00	8776.0
90.90	1008.0
92.00	7563.0
93.00	9988.0
94.00	31888.0
95.00	268352.0
96.00	18072.0
96.90	465.0
102.90	422.0
103.90	1227.0
105.00	506.0
105.90	917.0
106.90	271.0
109.90	420.0
111.00	239.0
111.90	288.0
113.00	203.0
115.10	292.0
115.90	884.0
116.90	1954.0
118.00	927.0
119.00	1601.0
124.10	158.0
124.80	317.0
125.00	294.0
126.00	259.0
127.90	898.0
128.90	403.0
130.00	928.0
131.00	461.0
132.90	1185.0
133.90	294.0
135.00	629.0
136.90	561.0
139.90	276.0
141.00	2880.0
141.90	421.0
143.00	3117.0
143.90	184.0
145.00	221.0
146.00	313.0
146.70	279.0
147.90	593.0
148.90	245.0
149.90	296.0
152.80	204.0

153.00	192.0
153.90	151.0
154.90	894.0
156.90	521.0
158.80	283.0
160.90	482.0
163.00	366.0
165.00	158.0
172.20	917.0
174.00	206400.0
175.00	17640.0
176.00	202304.0
176.90	13490.0
178.00	553.0
178.90	272.0
191.10	1129.0
191.90	212.0
193.00	1880.0
193.80	563.0
195.00	231.0
205.00	153.0
207.10	835.0
235.00	189.0
248.30	171.0
249.00	581.0
250.10	219.0
250.90	326.0
265.00	803.0
266.00	267.0
267.00	260.0
279.40	169.0
281.10	8078.0
282.10	2396.0
283.10	1586.0
284.10	478.0

Instrument :
MSVOA_T
ClientSampleId :
BFB96

Scan 906 (12.194 min): VT013543.D
BFB96

m/z	Abundance
36.10	864.0
37.10	3880.0
38.10	4448.0
39.10	1928.0
40.00	350.0
42.90	235.0
44.00	888.0
45.00	1013.0
47.00	1187.0
48.00	737.0
49.10	3368.0
50.00	16257.0
51.10	5897.0
52.10	309.0
55.00	349.0
56.10	1099.0
57.00	2510.0
58.20	179.0
59.10	219.0
60.00	882.0
61.00	4008.0
62.10	3801.0
63.10	2889.0
64.10	371.0
64.90	230.0
65.10	210.0
68.10	8804.0
69.00	9118.0
70.00	627.0
72.10	516.0
73.00	5499.0
74.10	14959.0
75.10	45392.0
76.00	3768.0
76.90	659.0
77.80	216.0
79.00	2344.0
79.90	755.0
81.00	2429.0
81.80	460.0
87.00	2959.0
88.00	2984.0
88.70	151.0
91.00	368.0
92.00	2650.0
93.00	4126.0
94.10	10747.0
95.00	85848.0
96.10	5414.0
97.00	342.0
102.90	590.0
103.90	639.0
104.90	218.0
105.90	396.0
111.80	176.0
115.00	338.0
116.00	400.0
116.80	683.0
118.00	654.0
118.80	831.0
125.00	535.0
128.00	368.0
130.00	370.0
133.10	1132.0
133.80	295.0
135.00	338.0
136.90	230.0
139.50	155.0
140.90	1351.0
142.00	191.0
142.80	1212.0
143.00	1184.0
146.00	295.0
146.90	237.0
147.20	254.0
147.80	237.0
155.00	218.0
157.00	173.0
159.00	186.0
161.00	382.0
162.90	287.0
171.70	331.0
171.90	371.0
173.90	103304.0
175.00	7475.0
175.90	99000.0
177.00	6182.0
178.00	284.0
179.10	327.0
189.20	246.0
191.00	1245.0
192.00	350.0

Instrument :
MSVOA_T
ClientSampleId :
BFB96

193.00	2405.0
194.00	587.0
195.00	279.0
203.10	266.0
204.80	275.0
207.00	1263.0
209.00	238.0
235.00	189.0
249.00	1072.0
249.90	292.0
250.10	294.0
250.90	482.0
265.10	1002.0
266.10	364.0
267.10	279.0
279.40	314.0
280.00	372.0
281.10	17200.0
282.10	4877.0
283.10	2725.0
284.10	673.0

Instrument :
MSVOA_T
ClientSampleId :
BFB96

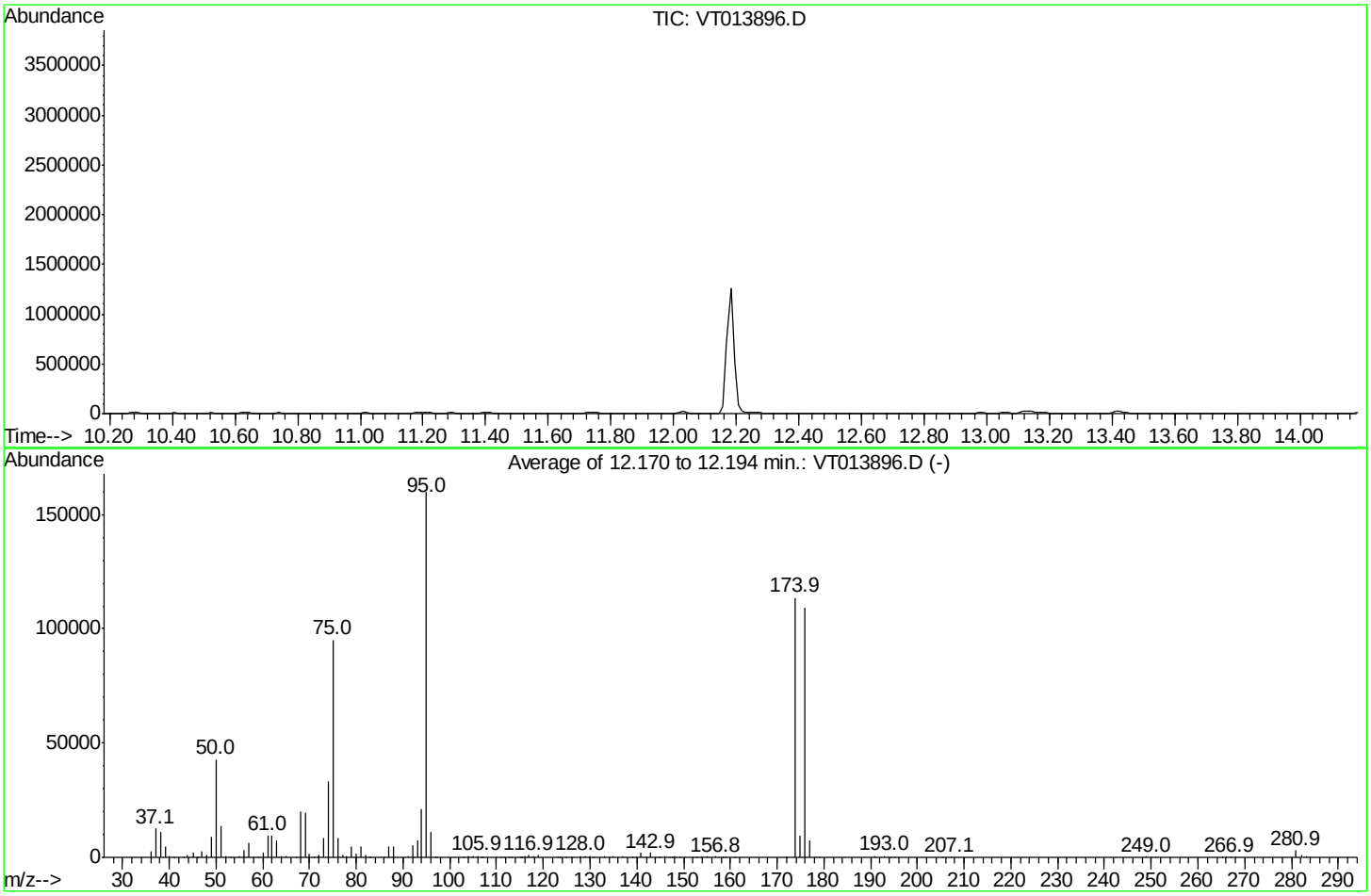
BFB

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050516\
Data File : VT013896.D
Acq On : 5 May 2016 9:36
Operator : FY/SY
Sample : BFB87
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : BFB87

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Title : VOC Analysis
Last Update : Fri May 06 02:17:21 2016



AutoFind: Scans 904, 905, 906; Background Corrected with Scan 901

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.7	42736	PASS
75	95	30	80	59.6	95234	PASS
95	95	100	100	100.0	159792	PASS
96	95	5	9	6.9	11071	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	71.1	113632	PASS
175	174	5	9	8.5	9663	PASS
176	174	95	101	96.3	109482	PASS
177	176	5	9	7.0	7645	PASS

Scan 901 (12.135 min): VT013896.D
BFB87

m/z	Abundance
40.00	220.0
43.90	287.0
73.00	267.0
207.10	184.0
265.10	170.0
280.90	510.0

Instrument :
MSVOA_T
ClientSampleId :
BFB87

Scan 904 (12.170 min): VT013896.D
BFB87

Instrument :
MSVOA_T
ClientSampleId :
BFB87

m/z	Abundance
36.00	3216.0
37.10	14937.0
38.10	12540.0
39.10	6024.0
40.10	735.0
41.10	331.0
43.00	491.0
44.00	1918.0
45.10	2236.0
46.00	246.0
46.20	222.0
47.00	2881.0
48.10	1447.0
49.00	10353.0
50.00	47104.0
51.00	15792.0
52.00	654.0
55.00	635.0
56.00	3547.0
57.00	7960.0
58.10	341.0
59.00	197.0
60.00	2064.0
61.00	10285.0
62.00	9929.0
63.10	8430.0
64.00	1028.0
65.10	929.0
67.00	670.0
68.00	21424.0
69.00	20032.0
70.00	1622.0
70.90	280.0
72.00	1161.0
73.10	8313.0
74.00	33256.0
75.00	97296.0
76.00	8846.0
77.00	1130.0
78.00	525.0
78.90	5238.0
80.00	1633.0
81.00	4618.0
81.90	1260.0
82.80	150.0
87.00	4565.0
87.90	4165.0
91.00	525.0
92.00	4390.0
93.00	6755.0
94.00	18632.0
95.00	143616.0
96.00	10899.0
97.00	331.0
102.80	167.0
104.00	563.0
105.10	439.0
105.90	535.0
106.80	223.0
112.80	164.0
115.00	157.0
115.30	176.0
115.60	208.0
116.10	400.0
116.90	754.0
117.90	624.0
119.00	828.0
125.90	203.0
127.90	441.0
129.00	269.0
129.80	415.0
130.80	301.0
134.90	291.0
136.90	190.0
141.00	1465.0
142.90	1374.0
145.00	303.0
145.90	306.0
147.60	182.0
148.00	211.0
154.90	241.0
156.90	216.0
172.00	838.0
173.90	62888.0
175.00	5702.0
175.90	56216.0
176.90	4017.0
178.00	206.0
191.10	157.0
192.90	172.0
265.20	172.0
281.10	999.0

Scan 905 (12.182 min): VT013896.D
BFB87

Instrument :
MSVOA_T
ClientSampleId :
BFB87

m/z	Abundance
36.10	3259.0
37.10	17224.0
38.00	16175.0
39.10	5900.0
40.10	586.0
40.90	178.0
43.00	246.0
44.00	1878.0
45.00	2935.0
46.00	324.0
47.10	3560.0
48.00	1672.0
49.00	12948.0
50.00	62760.0
51.10	19888.0
52.00	818.0
53.20	164.0
55.00	871.0
56.00	4934.0
57.00	8887.0
57.90	348.0
59.10	250.0
60.00	2877.0
61.00	14498.0
62.00	13675.0
63.00	10561.0
64.10	1011.0
65.00	518.0
68.00	30448.0
69.00	28816.0
70.00	2105.0
72.00	1510.0
73.00	12687.0
74.00	49880.0
75.00	142080.0
76.00	12275.0
77.00	1434.0
77.80	999.0
78.90	7022.0
79.90	2250.0
80.90	7692.0
82.00	1370.0
83.10	158.0
87.00	7675.0
88.00	7897.0
91.00	782.0
92.00	7946.0
93.00	11210.0
94.00	32008.0
95.00	249664.0
96.00	16656.0
97.00	451.0
102.90	217.0
103.90	1276.0
104.90	281.0
105.90	1138.0
107.00	322.0
109.90	232.0
110.90	172.0
113.10	195.0
115.00	270.0
115.90	903.0
116.90	1518.0
117.90	903.0
118.90	1283.0
122.90	151.0
123.60	150.0
125.90	172.0
128.00	897.0
128.90	521.0
130.00	890.0
130.80	339.0
133.00	583.0
134.00	168.0
134.90	585.0
136.90	487.0
139.10	155.0
140.90	3183.0
141.80	313.0
142.00	323.0
142.90	3159.0
144.00	188.0
144.70	327.0
145.00	307.0
146.00	293.0
147.00	277.0
147.90	591.0
149.00	224.0
150.00	186.0
151.90	179.0
152.80	208.0
153.80	266.0

154.90	501.0
156.90	645.0
158.40	182.0
159.00	583.0
161.00	331.0
173.90	180096.0
175.00	15650.0
175.90	174016.0
176.90	12822.0
177.90	330.0
179.00	162.0
191.00	642.0
193.00	738.0
194.10	153.0
194.90	181.0
205.40	196.0
207.20	420.0
249.00	344.0
250.00	154.0
251.00	154.0
265.00	351.0
265.80	180.0
267.00	283.0
281.00	3479.0
282.00	1247.0
283.10	484.0
284.00	197.0

Instrument :
MSVOA_T
ClientSampleId :
BFB87

Scan 906 (12.194 min): VT013896.D
BFB87

Instrument :
MSVOA_T
ClientSampleId :
BFB87

m/z	Abundance
36.10	1091.0
37.00	5478.0
38.00	4545.0
39.00	1796.0
39.90	504.0
44.10	822.0
45.10	958.0
46.90	628.0
47.10	674.0
48.00	602.0
49.00	3792.0
50.00	18344.0
51.00	5428.0
52.00	289.0
55.00	446.0
56.00	1346.0
57.00	2624.0
60.10	831.0
61.10	4297.0
62.00	4697.0
63.00	3416.0
64.10	339.0
65.00	164.0
67.00	152.0
68.00	8939.0
69.00	9393.0
70.00	582.0
71.70	299.0
72.00	392.0
73.00	4562.0
74.00	16592.0
75.00	46328.0
76.00	3686.0
77.10	603.0
77.90	425.0
79.00	2591.0
80.00	821.0
80.90	2744.0
82.00	466.0
85.90	202.0
87.00	2753.0
87.90	2371.0
90.80	201.0
91.10	311.0
92.00	2794.0
93.00	3644.0
94.00	12194.0
95.00	86096.0
96.00	5659.0
97.20	209.0
102.90	220.0
103.90	518.0
105.00	263.0
106.00	387.0
111.00	175.0
111.70	163.0
116.00	433.0
116.90	554.0
117.70	191.0
118.00	268.0
118.90	551.0
124.90	378.0
128.00	333.0
129.00	216.0
129.90	456.0
130.80	164.0
133.00	434.0
134.90	411.0
136.70	199.0
139.90	185.0
141.00	1115.0
141.80	230.0
143.00	1409.0
144.90	243.0
146.00	276.0
146.90	157.0
147.90	311.0
149.10	195.0
150.00	160.0
154.90	181.0
156.70	166.0
161.10	179.0
171.70	292.0
173.90	97912.0
175.00	7639.0
175.90	98216.0
177.00	6097.0
178.00	200.0
190.90	729.0
193.00	1034.0
193.70	208.0
194.90	220.0

207.00	572.0
249.00	527.0
250.80	251.0
265.10	442.0
266.80	301.0
267.90	184.0
281.00	6534.0
282.10	1734.0
283.10	1518.0
284.10	240.0

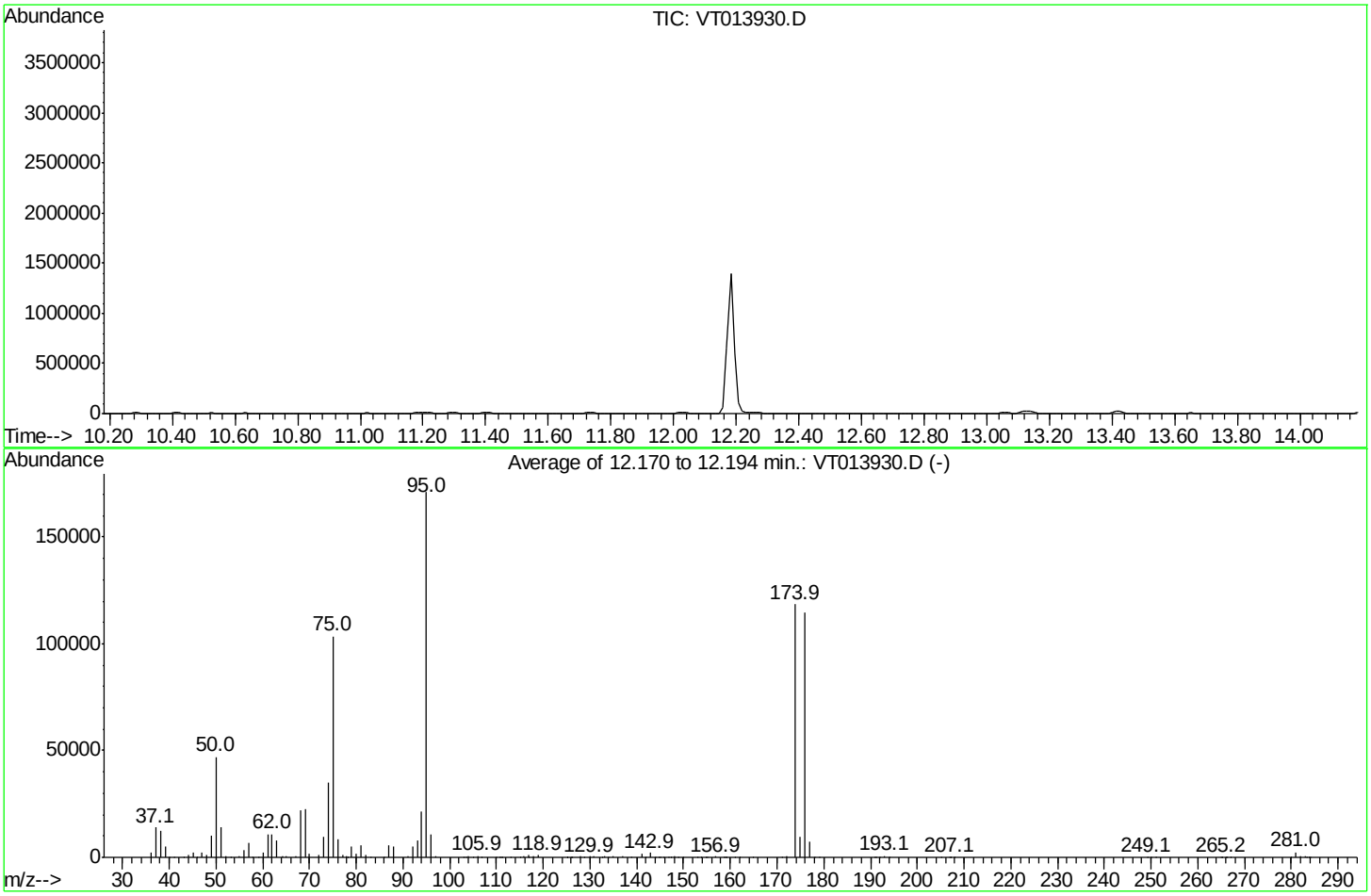
Instrument :
MSVOA_T
ClientSampleId :
BFB87

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050616\
Data File : VT013930.D
Acq On : 6 May 2016 9:01
Operator : FY/SY
Sample : BFB88
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : BFB88

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis
Last Update : Sat May 07 06:03:15 2016



AutoFind: Scans 904, 905, 906; Background Corrected with Scan 901

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	27.4	46933	PASS
75	95	30	80	60.6	103634	PASS
95	95	100	100	100.0	171040	PASS
96	95	5	9	6.4	11000	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	69.2	118405	PASS
175	174	5	9	8.4	9895	PASS
176	174	95	101	96.7	114490	PASS
177	176	5	9	6.6	7580	PASS

Scan 901 (12.135 min): VT013930.D
BFB88

m/z	Abundance
40.10	229.0
44.10	321.0
208.30	162.0
281.10	638.0
282.00	247.0
282.90	227.0

Instrument :
MSVOA_T
ClientSampleId :
BFB88

Scan 904 (12.170 min): VT013930.D
BFB88

m/z	Abundance
36.00	2455.0
37.10	14889.0
38.10	13997.0
39.10	5774.0
40.00	486.0
41.10	253.0
43.00	319.0
44.10	1410.0
45.10	2718.0
46.00	223.0
47.00	2521.0
48.00	1241.0
49.00	10394.0
50.00	45376.0
51.00	13985.0
52.00	700.0
53.10	177.0
55.10	668.0
56.00	3626.0
57.00	7023.0
57.90	249.0
60.00	1945.0
61.00	9628.0
62.00	10418.0
63.00	7048.0
64.10	852.0
65.00	835.0
67.00	557.0
68.00	20672.0
69.00	20392.0
70.00	1261.0
72.00	1294.0
73.10	8337.0
74.00	31752.0
75.00	91232.0
76.00	7462.0
77.10	960.0
78.10	526.0
79.00	4452.0
80.00	1265.0
80.90	5114.0
81.90	1109.0
85.80	197.0
87.00	5460.0
87.90	4204.0
91.00	480.0
92.00	3842.0
93.00	6460.0
94.00	15897.0
95.00	130344.0
96.00	8997.0
97.10	332.0
104.00	542.0
105.00	218.0
105.90	570.0
110.80	193.0
114.90	239.0
115.90	529.0
116.80	507.0
117.10	524.0
117.90	470.0
118.90	715.0
126.10	151.0
128.00	418.0
129.00	169.0
130.00	279.0
130.80	241.0
134.90	253.0
137.00	228.0
141.00	1042.0
142.00	188.0
143.00	1011.0
144.10	224.0
144.90	401.0
145.80	163.0
154.80	267.0
156.90	242.0
172.00	790.0
174.00	51656.0
175.00	4834.0
175.90	51248.0
177.00	3683.0
193.10	263.0
281.00	810.0
281.90	305.0
283.00	246.0

Instrument :
MSVOA_T
ClientSampleId :
BFB88

Scan 905 (12.182 min): VT013930.D
BFB88

Instrument :
MSVOA_T
ClientSampleId :
BFB88

m/z	Abundance
36.10	3655.0
37.10	21352.0
38.00	18376.0
39.10	7447.0
40.00	611.0
43.10	315.0
44.00	1678.0
45.00	3315.0
46.00	372.0
47.10	3813.0
47.90	2101.0
49.00	15397.0
50.00	73568.0
51.10	21992.0
52.00	957.0
55.00	811.0
56.00	4943.0
57.00	9456.0
57.80	346.0
59.10	181.0
60.00	3234.0
61.00	16960.0
62.00	16608.0
63.10	12257.0
64.10	1212.0
65.10	545.0
67.00	1007.0
68.00	33456.0
69.00	35360.0
70.00	2245.0
72.00	1731.0
73.00	14415.0
74.00	54520.0
75.00	165568.0
76.00	13618.0
76.90	1503.0
77.80	1319.0
78.90	8533.0
79.90	2433.0
80.90	8503.0
81.90	1733.0
83.10	198.0
85.90	366.0
87.00	8992.0
88.00	7977.0
90.90	1137.0
92.00	8277.0
93.00	12407.0
94.00	34512.0
95.00	277056.0
96.00	17360.0
97.00	711.0
103.00	225.0
103.80	1183.0
105.00	452.0
105.90	1215.0
106.80	386.0
109.90	222.0
110.70	376.0
111.00	394.0
113.00	266.0
115.00	340.0
115.90	1233.0
117.00	1741.0
117.90	1582.0
118.90	1798.0
125.00	160.0
125.80	236.0
128.00	1037.0
128.80	546.0
129.90	970.0
130.90	600.0
132.70	368.0
133.10	571.0
133.90	222.0
134.90	522.0
136.80	487.0
138.90	189.0
141.00	3094.0
141.90	447.0
142.90	3676.0
143.90	461.0
145.00	416.0
145.90	463.0
148.00	701.0
148.80	191.0
149.90	270.0
152.90	158.0
153.80	170.0
155.00	599.0
156.90	549.0
158.80	429.0

160.90	471.0
164.80	178.0
171.00	195.0
171.90	871.0
173.90	191552.0
174.90	15886.0
175.90	184064.0
176.90	11809.0
178.00	332.0
179.00	184.0
191.20	297.0
193.00	615.0
206.80	283.0
207.10	238.0
249.10	276.0
250.00	155.0
251.00	174.0
264.90	377.0
281.10	2417.0
282.00	1009.0
282.80	407.0
283.20	338.0

Instrument :
MSVOA_T
ClientSampleId :
BFB88

Scan 906 (12.194 min): VT013930.D
BFB88

Instrument :
MSVOA_T
ClientSampleId :
BFB88

m/z	Abundance
35.90	1051.0
37.10	6101.0
38.00	5268.0
39.10	1965.0
40.00	398.0
43.00	258.0
44.00	609.0
45.00	960.0
47.00	1237.0
48.00	807.0
49.00	4669.0
50.00	21856.0
51.00	6460.0
52.10	253.0
55.00	342.0
56.00	1728.0
57.00	3094.0
58.90	223.0
60.10	1018.0
61.00	5334.0
62.00	5515.0
63.10	4310.0
64.10	471.0
65.10	275.0
66.90	270.0
68.00	11712.0
69.00	11908.0
70.10	1042.0
71.90	705.0
73.00	5537.0
74.00	19432.0
75.00	54104.0
76.00	4820.0
77.00	583.0
77.90	396.0
78.90	3165.0
80.00	653.0
80.80	3055.0
82.00	573.0
87.00	3261.0
88.00	3228.0
91.00	512.0
92.00	3825.0
93.00	4311.0
94.00	13625.0
95.00	105720.0
96.00	6644.0
97.00	231.0
102.90	273.0
103.40	173.0
104.00	479.0
105.90	514.0
106.90	176.0
110.70	214.0
111.20	154.0
112.80	163.0
114.90	152.0
115.90	473.0
116.90	763.0
118.00	364.0
118.90	864.0
125.20	215.0
128.00	519.0
128.90	195.0
130.00	412.0
131.00	209.0
132.90	442.0
134.90	264.0
136.80	384.0
141.00	1717.0
141.80	163.0
142.90	1620.0
143.80	184.0
144.70	185.0
146.70	198.0
147.20	184.0
147.90	470.0
150.00	230.0
154.80	320.0
156.80	196.0
158.70	192.0
159.00	165.0
159.20	161.0
160.80	356.0
162.10	177.0
172.10	608.0
173.90	112008.0
175.00	8965.0
175.90	108160.0
176.90	7248.0
177.80	211.0
178.90	256.0

190.90	627.0
191.80	262.0
193.10	849.0
193.90	280.0
205.00	158.0
207.00	637.0
207.90	206.0
249.10	407.0
250.90	207.0
265.20	660.0
265.90	193.0
266.20	185.0
267.10	186.0
279.90	156.0
281.00	6193.0
282.00	1515.0
282.90	1237.0
283.90	219.0
284.10	202.0

Instrument :
MSVOA_T
ClientSampleId :
BFB88

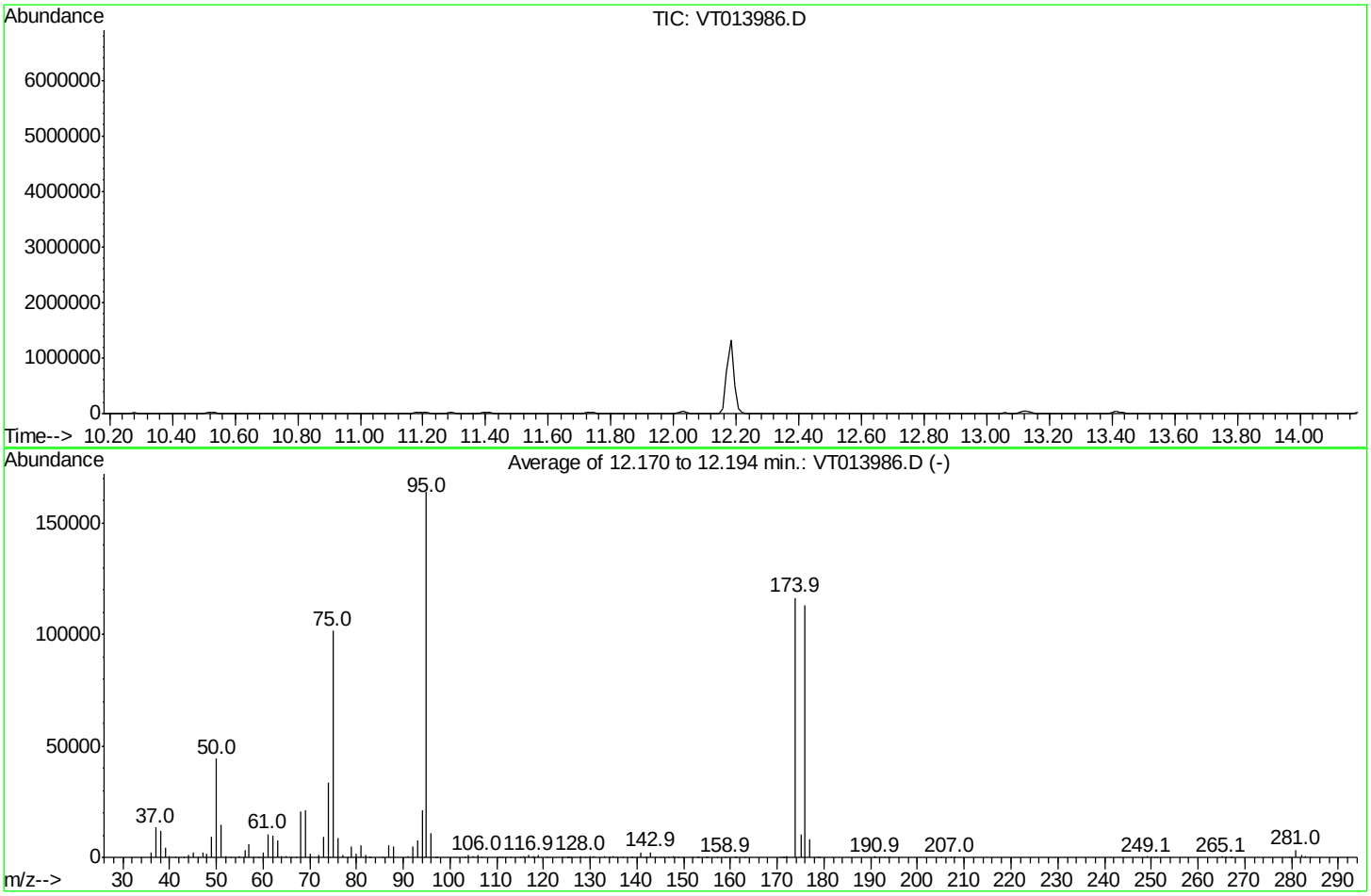
BFB

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT050916\
Data File : VT013986.D
Acq On : 9 May 2016 9:40
Operator : FY/SY
Sample : BFB89
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : BFB89

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis
Last Update : Tue May 10 02:00:56 2016



AutoFind: Scans 904, 905, 906; Background Corrected with Scan 901

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	27.1	44328	PASS
75	95	30	80	62.0	101458	PASS
95	95	100	100	100.0	163738	PASS
96	95	5	9	6.5	10704	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	71.1	116394	PASS
175	174	5	9	8.6	10027	PASS
176	174	95	101	97.0	112880	PASS
177	176	5	9	7.1	7989	PASS

Scan 901 (12.135 min): VT013986.D
BFB89

m/z	Abundance
39.80	240.0
44.10	347.0
73.00	469.0
192.70	197.0
192.90	209.0
206.90	204.0
281.10	611.0

Instrument :
MSVOA_T
ClientSampleId :
BFB89

Scan 904 (12.170 min): VT013986.D
BFB89

m/z	Abundance
36.00	3011.0
37.00	16816.0
38.10	14576.0
39.10	5745.0
40.10	448.0
41.10	424.0
42.90	253.0
43.90	1761.0
45.00	2616.0
47.10	2564.0
48.00	1680.0
49.00	11348.0
50.00	52248.0
51.00	16904.0
52.00	820.0
53.00	242.0
55.00	801.0
56.00	4356.0
57.00	7034.0
58.00	323.0
60.00	2199.0
61.00	11670.0
62.00	11118.0
63.00	8547.0
64.00	872.0
65.00	830.0
66.10	196.0
68.00	22424.0
69.00	22664.0
70.00	1882.0
71.90	941.0
73.00	10387.0
74.00	34592.0
75.00	103224.0
76.00	8717.0
77.10	909.0
78.00	654.0
78.90	5394.0
80.00	1522.0
80.90	5522.0
82.00	1128.0
85.70	172.0
87.00	4873.0
88.00	4486.0
90.90	656.0
92.00	5040.0
93.10	7171.0
94.00	19624.0
95.00	147968.0
96.00	10167.0
96.90	334.0
104.00	715.0
104.90	238.0
106.00	837.0
106.90	189.0
112.90	168.0
115.90	471.0
116.90	818.0
117.80	572.0
118.80	969.0
125.30	222.0
127.80	431.0
128.00	458.0
128.90	280.0
129.80	450.0
130.80	152.0
132.90	235.0
134.80	298.0
136.90	192.0
139.10	218.0
140.90	1500.0
142.00	172.0
142.90	1797.0
145.00	359.0
145.90	199.0
146.90	150.0
147.70	252.0
148.00	257.0
154.70	280.0
158.90	209.0
161.10	245.0
171.20	173.0
171.90	749.0
173.90	65880.0
175.00	6135.0
175.90	62040.0
176.90	4478.0
177.80	179.0
192.90	231.0
207.10	285.0
267.20	163.0
281.10	822.0

Instrument :
MSVOA_T
ClientSampleId :
BFB89

282.10	268.0
283.20	170.0

Instrument :
MSVOA_T
ClientSampleId :
BFB89

Scan 905 (12.182 min): VT013986.D
BFB89

Instrument :
MSVOA_T
ClientSampleId :
BFB89

m/z	Abundance
36.00	3230.0
37.10	18936.0
38.10	16656.0
39.10	6328.0
40.00	524.0
42.90	182.0
44.00	1982.0
45.00	3426.0
46.00	338.0
47.10	2943.0
47.90	1913.0
49.00	12986.0
50.00	62624.0
51.00	21224.0
51.90	760.0
54.90	946.0
56.10	4215.0
57.00	8483.0
58.10	279.0
58.90	258.0
60.00	2959.0
61.00	15114.0
62.00	13908.0
63.10	11039.0
64.00	1100.0
65.10	586.0
66.90	549.0
68.00	30232.0
69.00	30624.0
70.00	2532.0
72.00	1666.0
73.00	14306.0
74.00	49984.0
75.00	156032.0
76.00	12457.0
77.00	1208.0
79.00	7316.0
80.00	2311.0
80.90	7688.0
81.80	1344.0
82.80	282.0
87.00	8401.0
88.00	7919.0
90.90	987.0
92.00	7923.0
93.00	11672.0
94.00	32528.0
95.00	257280.0
96.00	16848.0
97.10	532.0
103.10	347.0
103.80	1406.0
104.90	525.0
105.90	1136.0
106.80	203.0
110.00	169.0
110.70	265.0
112.00	258.0
112.90	334.0
115.00	403.0
115.90	928.0
117.00	1740.0
118.00	1032.0
118.90	1445.0
120.70	157.0
123.90	290.0
125.00	194.0
125.20	179.0
125.60	159.0
125.90	164.0
127.90	949.0
129.00	472.0
129.90	875.0
130.80	514.0
132.90	406.0
134.90	579.0
136.90	484.0
138.80	212.0
139.90	359.0
140.90	3311.0
141.70	559.0
142.90	3460.0
143.80	211.0
145.00	326.0
145.70	355.0
146.80	246.0
147.80	709.0
148.80	280.0
149.90	377.0
151.90	195.0
152.90	194.0
153.10	191.0

155.00	574.0
157.00	396.0
159.00	334.0
161.00	406.0
163.00	225.0
170.80	282.0
172.10	930.0
173.90	188672.0
175.00	16616.0
175.90	184576.0
176.90	13316.0
177.90	399.0
178.80	224.0
190.80	368.0
191.00	347.0
191.90	191.0
192.90	776.0
194.10	187.0
207.10	409.0
249.10	442.0
249.90	168.0
251.10	204.0
265.20	375.0
266.90	307.0
281.00	4222.0
282.10	1325.0
283.10	882.0
284.10	263.0

Instrument :
MSVOA_T
ClientSampleId :
BFB89

Scan 906 (12.194 min): VT013986.D
BFB89

m/z	Abundance
36.00	976.0
37.00	4775.0
38.10	4562.0
39.10	1631.0
40.00	415.0
43.90	963.0
45.00	1025.0
46.90	712.0
47.20	671.0
47.90	776.0
49.00	3488.0
50.00	18112.0
51.10	5447.0
51.90	190.0
52.10	195.0
55.00	292.0
56.00	1465.0
57.10	2784.0
60.10	1007.0
61.10	4398.0
62.00	4187.0
63.00	3008.0
64.00	369.0
65.10	398.0
68.00	8419.0
69.00	9455.0
70.10	758.0
72.00	675.0
73.00	4947.0
74.00	16277.0
75.00	45120.0
76.00	4026.0
77.10	492.0
77.90	205.0
79.00	2655.0
79.90	846.0
81.00	2404.0
82.00	527.0
83.00	172.0
87.00	2236.0
88.00	2169.0
90.90	268.0
92.00	2138.0
93.00	4044.0
94.00	10541.0
95.00	85968.0
96.00	5099.0
102.90	173.0
103.90	591.0
105.00	159.0
106.00	624.0
111.00	191.0
112.80	184.0
115.10	187.0
115.90	311.0
116.80	588.0
117.90	456.0
119.00	707.0
125.30	270.0
127.90	620.0
129.90	452.0
130.80	217.0
133.00	508.0
134.10	159.0
135.00	435.0
135.60	224.0
141.00	1361.0
142.90	1826.0
148.00	389.0
149.80	190.0
154.80	152.0
156.80	234.0
158.90	238.0
160.80	179.0
162.90	189.0
171.60	358.0
173.90	94632.0
175.00	7332.0
175.90	92024.0
176.90	6175.0
178.00	222.0
179.00	171.0
190.90	736.0
191.90	248.0
192.90	1058.0
193.80	212.0
194.00	253.0
205.10	247.0
207.00	622.0
207.90	162.0
249.00	719.0
250.80	231.0

Instrument :
MSVOA_T
ClientSampleId :
BFB89

265.00	537.0
265.90	223.0
266.80	361.0
279.70	322.0
281.00	7158.0
282.00	2034.0
283.00	1184.0
284.00	316.0

Instrument :
MSVOA_T
ClientSampleId :
BFB89

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK98

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0505SBL02
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT013908.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl Acetate	5.0	U
75-09-2	Methylene chloride	1.6	J
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl Ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK98

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0505SBL02
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT013908.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-trichlorobenzene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK98

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0505SBL02
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT013908.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/05/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK98

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0505SBL02
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT013908.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/05/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

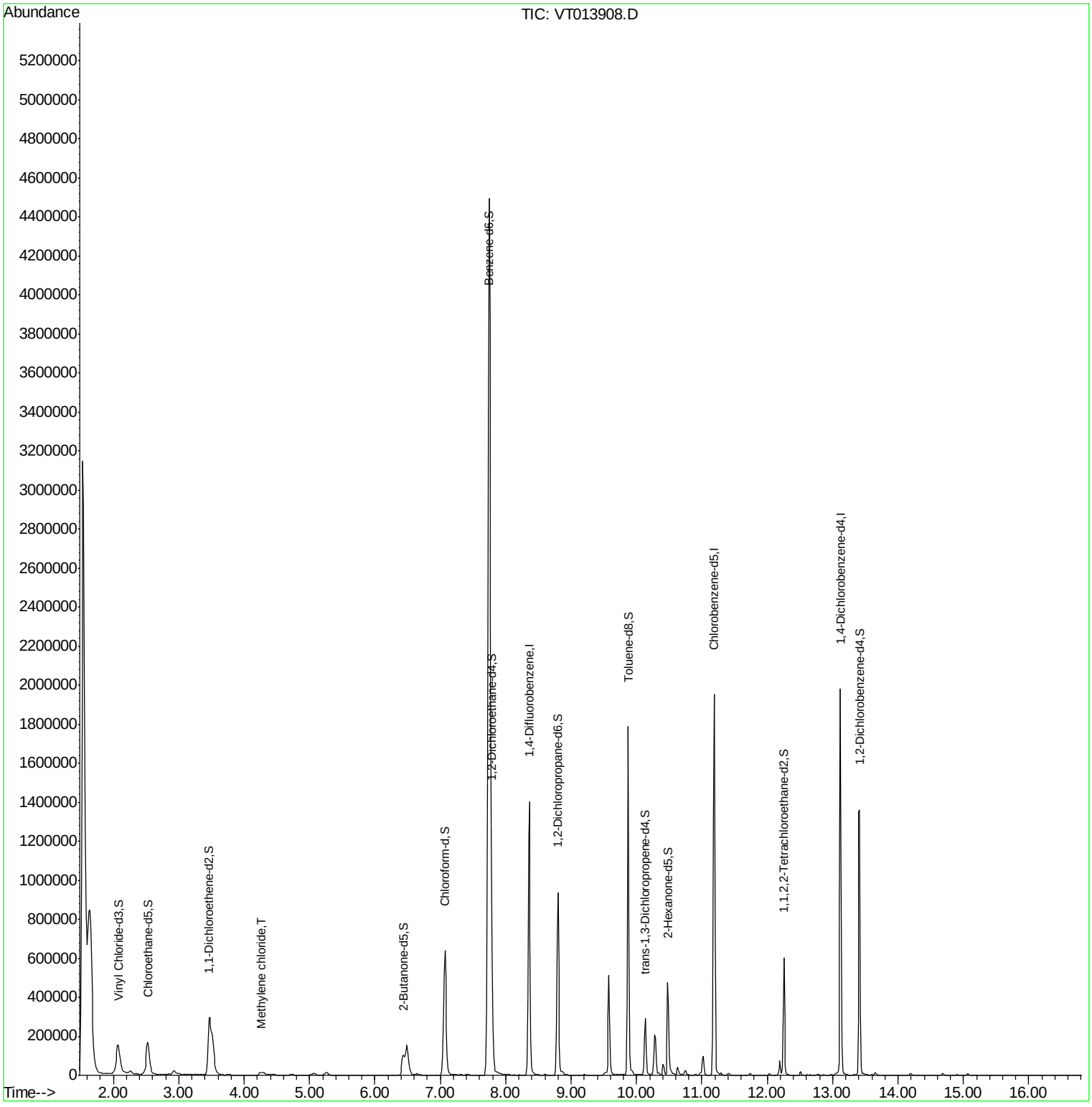
Quantitation Report (LSC Reviewed)

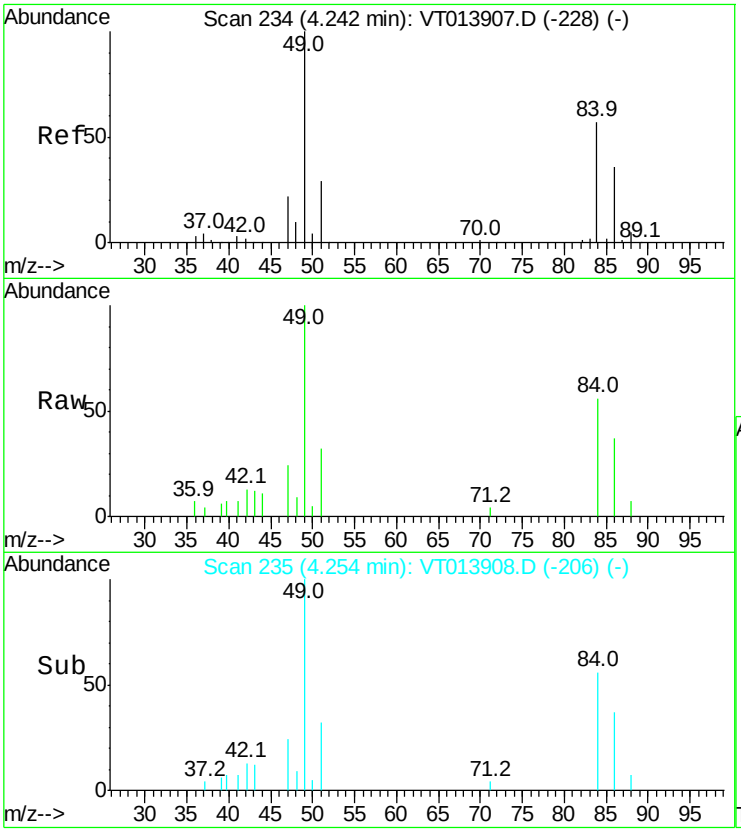
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 06 02:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK98

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:03 PM

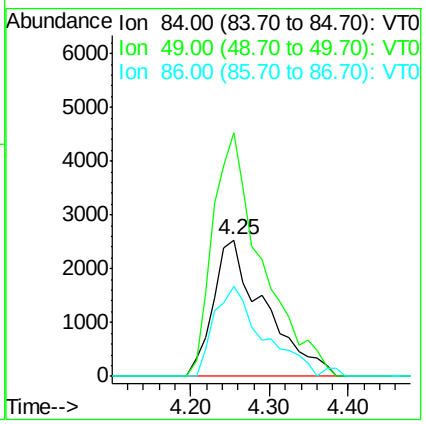




#16
Methylene chloride
Concen: 0.80 ug/L
RT: 4.25 min Scan# 235
Delta R.T. 0.01 min
Lab File: VT013908.D
Acq: 5 May 2016 16:51

Tgt Ion: 84 Resp: 11496

Ion	Ratio	Lower	Upper
84	100		
49	178.9	116.8	216.8
86	66.0	44.9	83.5



Instrument :
MSVOA_T
ClientSampleId :
VBLK98

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:03 PM

Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK98

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:03 PM

Quant Time: May 06 02:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1057725	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	864060	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	402304	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	382928	18.45	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 73.80%			
7) Chloroethane-d5	2.53	69	299328	21.52	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 86.08%			
10) 1,1-Dichloroethene-d2	3.46	63	566629	15.81	ug/L	-0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 63.24%			
20) 2-Butanone-d5	6.43	46	209721	49.44	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 98.88%			
24) Chloroform-d	7.07	84	686872m	23.06	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 92.24%			
26) 1,2-Dichloroethane-d4	7.78	65	411911	25.58	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 102.32%			
29) Benzene-d6	7.74	84	1320445	20.90	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 83.60%			
33) 1,2-Dichloropropane-d6	8.80	67	395652	21.70	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 86.80%			
37) Toluene-d8	9.87	98	1125914	20.66	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 82.64%			
38) trans-1,3-Dichloropropene-	10.14	79	130291	20.12	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 80.48%			
39) 2-Hexanone-d5	10.48	63	135792	49.02	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 98.04%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	256823	22.45	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 89.80%			
60) 1,2-Dichlorobenzene-d4	13.41	152	340168	22.23	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 88.92%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	11496	0.80	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK98

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.533	3	5	11	rVB	2480482	5860888	44.81%	12.023%
2	1.639	11	14	35	rVB	840947	3380118	25.84%	6.934%
3	1.899	35	36	42	rBV3	1665	5690	0.04%	0.012%
4	2.065	43	50	62	rBV	145765	625530	4.78%	1.283%
5	2.254	63	66	72	rVB3	16735	51875	0.40%	0.106%
6	2.349	72	74	75	rVB	2133	2229	0.02%	0.005%
7	2.527	80	89	100	rBV	165097	573156	4.38%	1.176%
8	2.810	111	113	114	rBV2	1571	2166	0.02%	0.004%
9	2.846	114	116	118	rVV	3273	5686	0.04%	0.012%
10	2.929	119	123	132	rVB	21540	80414	0.61%	0.165%
11	3.213	146	147	151	rVB4	1699	3610	0.03%	0.007%
12	3.307	151	155	156	rVV2	2041	3025	0.02%	0.006%
13	3.367	158	160	161	rVV2	2095	3877	0.03%	0.008%
14	3.473	163	169	187	rVB	294316	1481588	11.33%	3.039%
15	3.733	190	191	193	rBV2	804	1435	0.01%	0.003%
16	4.041	213	217	221	rVB3	1199	4052	0.03%	0.008%
17	4.124	221	224	226	rVB3	708	1424	0.01%	0.003%
18	4.254	228	235	236	rBV	14411	38775	0.30%	0.080%
19	4.443	246	251	259	rVB3	6280	23410	0.18%	0.048%
20	4.716	271	274	275	rBV	3092	5913	0.05%	0.012%
21	5.059	297	303	309	rBV2	10279	37295	0.29%	0.077%
22	5.153	309	311	314	rVB2	565	1274	0.01%	0.003%
23	5.260	314	320	327	rBV	14823	53820	0.41%	0.110%
24	5.556	339	345	347	rBV3	1334	4370	0.03%	0.009%
25	6.278	405	406	410	rVB2	804	1240	0.01%	0.003%
26	6.431	412	419	421	rBV	103528	312796	2.39%	0.642%
27	6.491	421	424	434	rVV	154038	506930	3.88%	1.040%
28	6.644	434	437	446	rVB2	7654	24352	0.19%	0.050%
29	6.928	455	461	467	rBV5	1265	5312	0.04%	0.011%
30	7.070	467	473	483	rBV	637650	1746579	13.35%	3.583%
31	7.319	490	494	497	rVB3	2465	6157	0.05%	0.013%
32	7.413	497	502	506	rVB4	2083	7182	0.05%	0.015%
33	7.532	509	512	517	rBV3	1786	5658	0.04%	0.012%
34	7.638	517	521	523	rVB2	672	1951	0.01%	0.004%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK98

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Title : VOC Analysis

35	7.745	523	530	549	rBV	4493780	13080380	100.00%	26.833%
36	7.993	549	551	556	rVB4	3891	9069	0.07%	0.019%
37	8.123	561	562	565	rVB	1777	2569	0.02%	0.005%
38	8.206	567	569	573	rVB2	2399	3854	0.03%	0.008%
39	8.360	577	582	597	rBV	1402924	2887078	22.07%	5.923%
40	8.609	599	603	607	rVB3	4985	13668	0.10%	0.028%
41	8.798	615	619	624	rBV	936187	1896616	14.50%	3.891%
42	9.058	639	641	643	rVB3	1042	1299	0.01%	0.003%
43	9.200	649	653	655	rVB3	2203	6364	0.05%	0.013%
44	9.259	655	658	661	rBV3	421	1456	0.01%	0.003%
45	9.319	661	663	668	rVB3	810	1553	0.01%	0.003%
46	9.390	668	669	672	rBV2	628	1228	0.01%	0.003%
47	9.437	672	673	677	rBV2	1180	2002	0.02%	0.004%
48	9.520	677	680	681	rBV	13275	24180	0.18%	0.050%
49	9.579	681	685	698	rVV	511115	877908	6.71%	1.801%
50	9.756	698	700	702	rVV2	4921	10256	0.08%	0.021%
51	9.804	702	704	706	rVV	4717	8289	0.06%	0.017%
52	9.875	706	710	714	rVV	1785920	3216166	24.59%	6.598%
53	9.934	714	715	725	rVV	23512	50898	0.39%	0.104%
54	10.135	728	732	741	rVV	289366	495567	3.79%	1.017%
55	10.277	741	744	748	rVV	206094	410973	3.14%	0.843%
56	10.336	748	749	752	rVV2	14823	19022	0.15%	0.039%
57	10.407	752	755	758	rVV	53680	94289	0.72%	0.193%
58	10.478	758	761	771	rVV	474363	834976	6.38%	1.713%
59	10.632	771	774	781	rVV	39778	81770	0.63%	0.168%
60	10.739	781	783	790	rVV	23364	45755	0.35%	0.094%
61	10.904	793	797	800	rBV2	3922	7238	0.06%	0.015%
62	11.023	800	807	811	rBV2	99631	203170	1.55%	0.417%
63	11.117	813	815	817	rVB2	1228	2148	0.02%	0.004%
64	11.188	817	821	828	rBV	1950513	3107550	23.76%	6.375%
65	11.295	828	830	834	rVV	12732	22371	0.17%	0.046%
66	11.401	836	839	842	rBV	9666	18623	0.14%	0.038%
67	11.733	864	867	873	rVB3	7859	17974	0.14%	0.037%
68	11.910	880	882	883	rBV2	946	1244	0.01%	0.003%
69	12.028	889	892	894	rBV	8526	12585	0.10%	0.026%
70	12.194	900	906	908	rVV	73520	128636	0.98%	0.264%
71	12.253	908	911	926	rVB	603548	917653	7.02%	1.882%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK98

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Title : VOC Analysis

72	12.513	930	933	936	rVB	15987	24080	0.18%	0.049%
73	12.608	939	941	943	rBV	2632	3297	0.03%	0.007%
74	12.655	943	945	947	rVB2	2258	3303	0.03%	0.007%
75	12.774	950	955	958	rVV	2560	6472	0.05%	0.013%
76	12.868	961	963	967	rVB3	1891	4665	0.04%	0.010%
77	12.975	970	972	975	rVB2	3549	5365	0.04%	0.011%
78	13.117	981	984	988	rVB	1969878	2781595	21.27%	5.706%
79	13.294	997	999	1000	rBV	928	1801	0.01%	0.004%
80	13.330	1000	1002	1005	rVV3	3907	7963	0.06%	0.016%
81	13.413	1005	1009	1012	rVV	1360623	2396115	18.32%	4.915%
82	13.484	1012	1015	1017	rVV2	10896	25641	0.20%	0.053%
83	13.531	1017	1019	1020	rVV2	4560	6402	0.05%	0.013%
84	13.555	1020	1021	1023	rVV	1404	2408	0.02%	0.005%
85	13.602	1023	1025	1026	rVV2	2227	2906	0.02%	0.006%
86	13.649	1026	1029	1033	rVB	12463	20968	0.16%	0.043%
87	13.839	1043	1045	1047	rBV2	670	1285	0.01%	0.003%
88	13.910	1050	1051	1052	rBV	1206	1220	0.01%	0.003%
89	13.945	1052	1054	1057	rVB2	542	1217	0.01%	0.002%
90	14.194	1071	1075	1079	rVB	9272	15759	0.12%	0.032%
91	14.300	1082	1084	1086	rVB	1479	2036	0.02%	0.004%
92	14.359	1086	1089	1092	rBV3	586	1645	0.01%	0.003%
93	14.561	1103	1106	1109	rVB2	754	1689	0.01%	0.003%
94	14.679	1113	1116	1121	rVB	9161	15665	0.12%	0.032%
95	14.892	1131	1134	1136	rBV2	4510	8191	0.06%	0.017%
96	14.951	1136	1139	1141	rVB3	741	1312	0.01%	0.003%
97	15.034	1143	1146	1147	rBV2	1248	2380	0.02%	0.005%
98	15.069	1147	1149	1152	rVV	7579	11477	0.09%	0.024%
99	16.205	1243	1245	1248	rVB2	611	1249	0.01%	0.003%
100	16.477	1264	1268	1272	rBB3	776	2361	0.02%	0.005%

Sum of corrected areas: 48746621

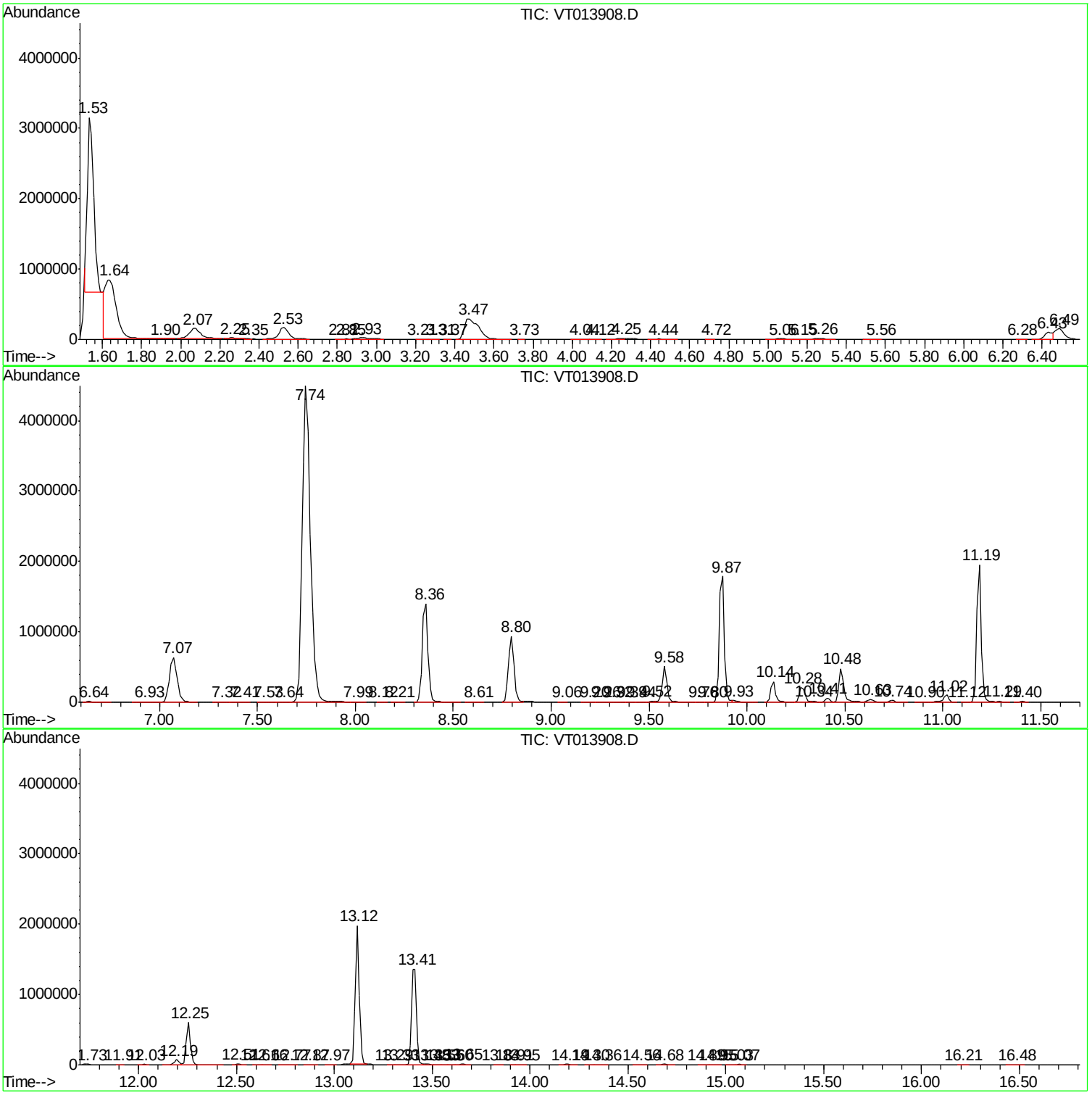
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK98

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK98

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK98

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

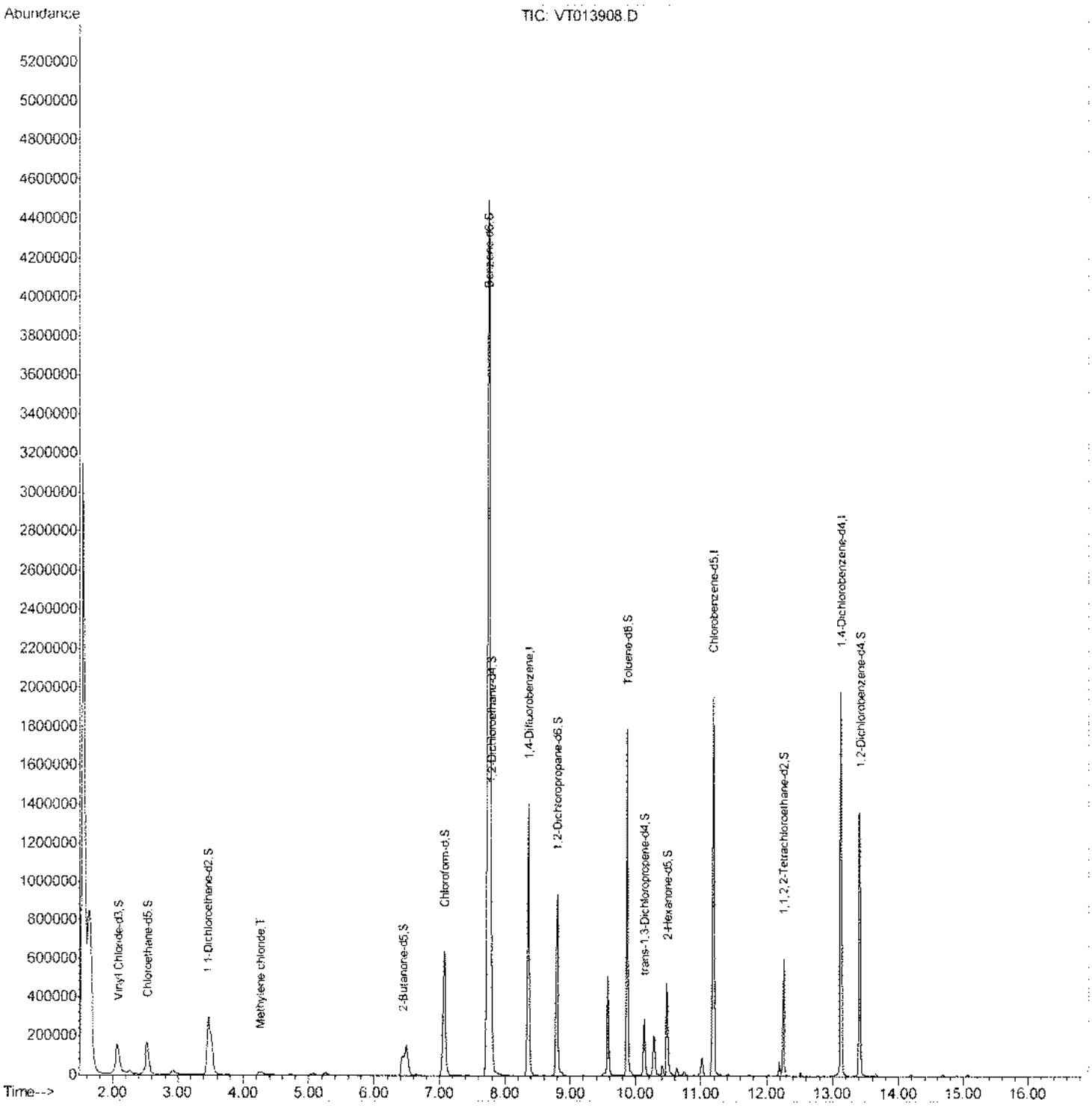
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 06 02:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK98

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:03 PM



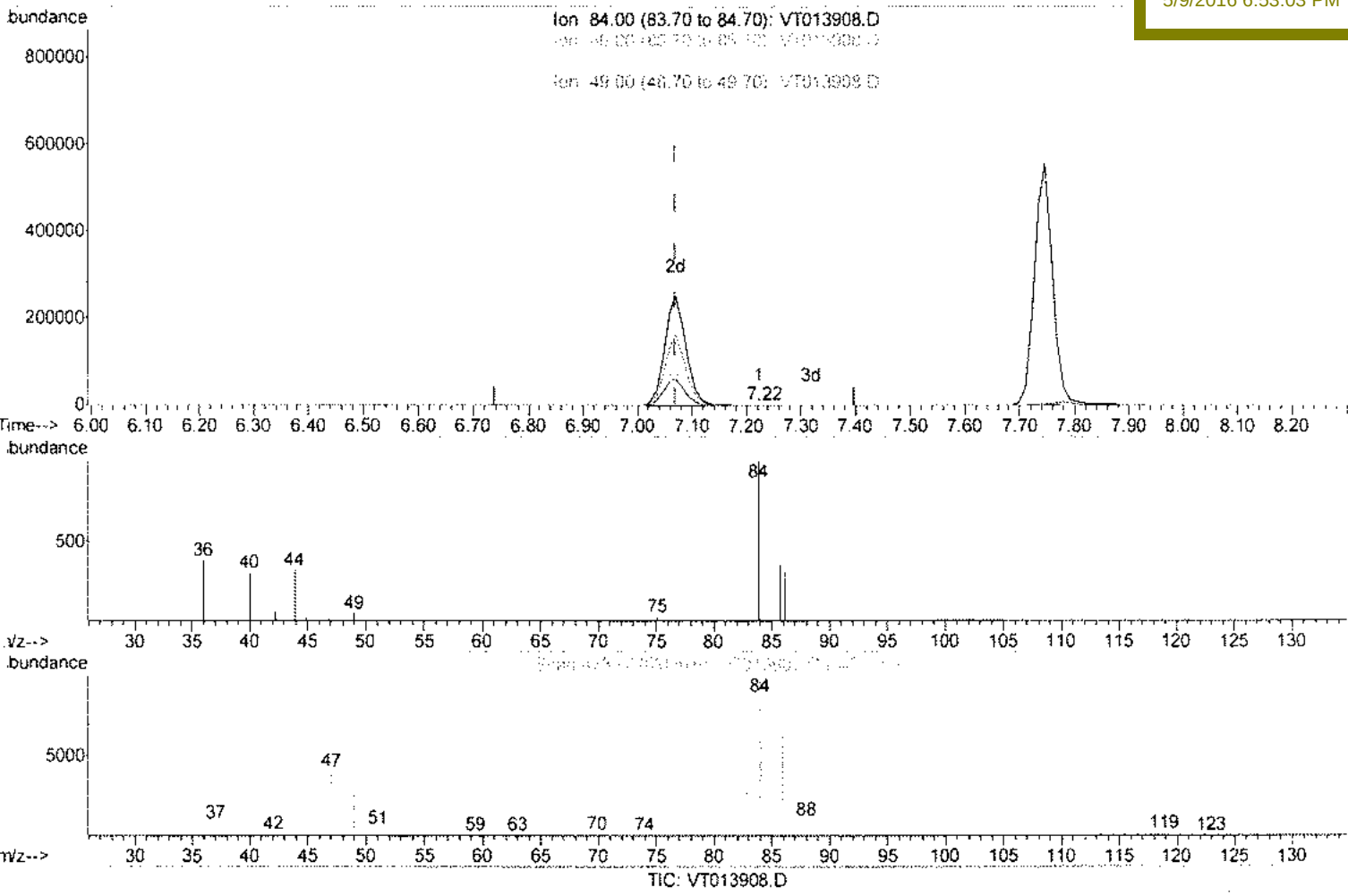
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 06 02:19:13 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK98

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:03 PM



TIC: VT013908.D

(24) Chloroform-d (S)

7.224min (+0.154) 0.06ug/L

response 1680

Ion	Exp%	Act%
84.00	100	100
86.00	62.40	62.14
47.00	58.40	42.20
49.00	32.10	33.10

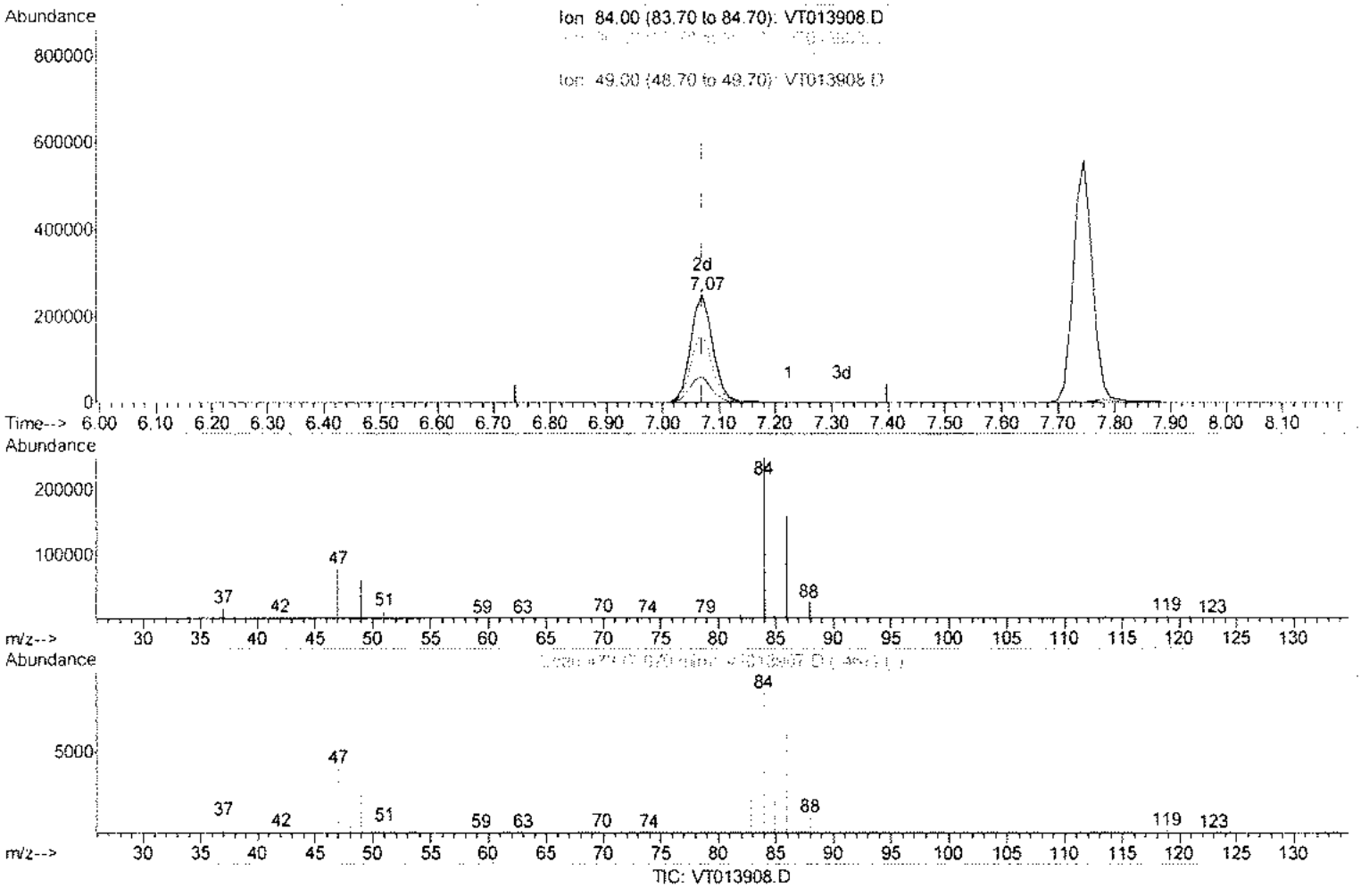
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 06 02:19:13 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK98

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:03 PM



TIC: VT013908.D

(24) Chloroform-d (S)

7.070min (+0.000) 23.06ug/L m

response 686872

M.D 05/09/16

Ion	Exp%	Act%
84.00	100	100
86.00	62.40	0.15#
47.00	58.40	0.10#
49.00	32.10	0.08#

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050516\
Data File : VT013908.D
Acq On : 5 May 2016 16:51
Operator : FY/SY
Sample : VT0505SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 06 02:23:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM041216S.M
Quant Title : VOC Analysis
QLast Update : Fri May 06 02:17:21 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VBLK98

Manual Integrations APPROVED
MMDadoda
5/9/2016 6:53:03 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1057725	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	864060	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	402304	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	382928	18.45	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 73.80%			
7) Chloroethane-d5	2.53	69	299328	21.52	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 86.08%			
10) 1,1-Dichloroethene-d2	3.46	63	566629	15.81	ug/L	-0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 63.24%			
20) 2-Butanone-d5	6.43	46	209721	49.44	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 98.88%			
24) Chloroform-d	7.07	84	686872m	23.06	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 92.24%			
26) 1,2-Dichloroethane-d4	7.78	65	411911	25.58	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 102.32%			
29) Benzene-d6	7.74	84	1320445	20.90	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 83.60%			
33) 1,2-Dichloropropane-d6	8.80	67	395652	21.70	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 86.80%			
37) Toluene-d8	9.87	98	1125914	20.66	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 82.64%			
38) trans-1,3-Dichloropropene-	10.14	79	130291	20.12	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 80.48%			
39) 2-Hexanone-d5	10.48	63	135792	49.02	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 98.04%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	256823	22.45	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 89.80%			
60) 1,2-Dichlorobenzene-d4	13.41	152	340168	22.23	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 88.92%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	11496	0.80	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

M.D 05/09/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK78

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0509SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT013988.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl Acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl Ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK78

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0509SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT013988.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-trichlorobenzene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK78

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0509SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT013988.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK78

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0509SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT013988.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/09/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

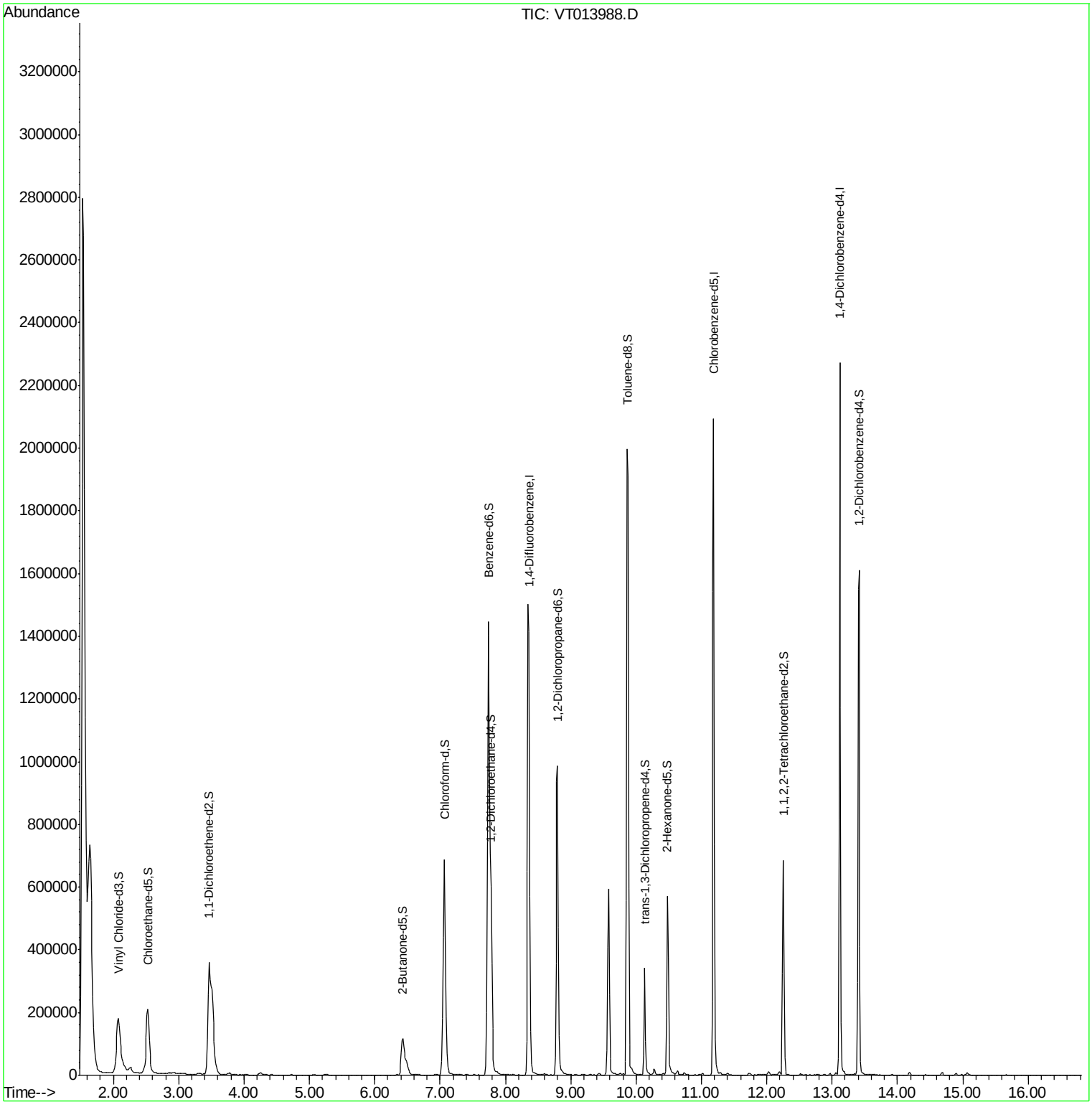
EPA-designated Registry Number.

Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013988.D
Acq On : 9 May 2016 11:22
Operator : FY/SY
Sample : VT0509SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK78

Quant Time: May 10 01:23:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration



Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013988.D
Acq On : 9 May 2016 11:22
Operator : FY/SY
Sample : VT0509SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK78

Quant Time: May 10 01:23:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1167681	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	942590	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	460685	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	509965	26.36	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 105.44%			
7) Chloroethane-d5	2.53	69	372347	26.62	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 106.48%			
10) 1,1-Dichloroethene-d2	3.46	63	722492	18.16	ug/L	-0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 72.64%			
20) 2-Butanone-d5	6.43	46	241820	52.53	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 105.06%			
24) Chloroform-d	7.07	84	772911	23.72	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 94.88%			
26) 1,2-Dichloroethane-d4	7.78	65	484302	25.35	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 101.40%			
29) Benzene-d6	7.74	84	1472269	24.97	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 99.88%			
33) 1,2-Dichloropropane-d6	8.80	67	437491	25.15	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 100.60%			
37) Toluene-d8	9.86	98	1279460	24.11	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 130		Recovery = 96.44%			
38) trans-1,3-Dichloropropene-	10.13	79	166298	24.65	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 98.60%			
39) 2-Hexanone-d5	10.48	63	155631	55.98	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 111.96%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	285294	23.80	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 95.20%			
60) 1,2-Dichlorobenzene-d4	13.41	152	392543	24.27	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 97.08%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013988.D
Acq On : 9 May 2016 11:22
Operator : FY/SY
Sample : VT0509SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK78

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.532	3	5	11	rVB	2241875	5548779	100.00%	13.285%
2	1.639	11	14	33	rVB	728584	3014619	54.33%	7.218%
3	2.077	43	51	63	rBV	173678	811539	14.63%	1.943%
4	2.266	63	67	74	rVB3	17263	60750	1.09%	0.145%
5	2.526	81	89	97	rBV	202042	695273	12.53%	1.665%
6	2.775	108	110	111	rBV2	1000	1228	0.02%	0.003%
7	2.846	114	116	118	rVV2	1564	2586	0.05%	0.006%
8	3.201	144	146	151	rVB3	1294	2958	0.05%	0.007%
9	3.284	151	153	154	rVV	1809	3145	0.06%	0.008%
10	3.343	157	158	159	rVV	2868	3125	0.06%	0.007%
11	3.378	159	161	163	rVV4	3072	5724	0.10%	0.014%
12	3.461	163	168	188	rVV	356737	1856259	33.45%	4.444%
13	3.781	190	195	201	rVB3	6214	21847	0.39%	0.052%
14	4.017	212	215	220	rVB2	1568	5018	0.09%	0.012%
15	4.254	230	235	237	rBV3	6754	21188	0.38%	0.051%
16	4.431	246	250	252	rBV3	1475	3749	0.07%	0.009%
17	4.574	259	262	264	rBV2	813	1604	0.03%	0.004%
18	4.727	270	275	280	rBV5	1417	4210	0.08%	0.010%
19	4.964	293	295	298	rVB	786	1358	0.02%	0.003%
20	5.059	298	303	304	rBV3	1102	3731	0.07%	0.009%
21	5.236	315	318	323	rBV5	3275	12294	0.22%	0.029%
22	5.532	339	343	346	rVB3	787	1989	0.04%	0.005%
23	5.875	369	372	376	rBV2	726	1274	0.02%	0.003%
24	6.337	408	411	413	rBV	1116	2134	0.04%	0.005%
25	6.431	413	419	432	rVV2	114883	504770	9.10%	1.209%
26	6.644	433	437	442	rVB3	2301	7295	0.13%	0.017%
27	6.940	457	462	467	rBV3	3431	8953	0.16%	0.021%
28	7.058	467	472	489	rBV	688398	1976034	35.61%	4.731%
29	7.307	492	493	497	rVB3	1667	2504	0.05%	0.006%
30	7.402	498	501	506	rVB3	1540	4856	0.09%	0.012%
31	7.520	509	511	514	rBV3	1708	3941	0.07%	0.009%
32	7.591	514	517	519	rVB	865	1348	0.02%	0.003%
33	7.745	524	530	539	rBV2	1446070	4765650	85.89%	11.410%
34	8.005	547	552	554	rVB4	2285	5909	0.11%	0.014%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013988.D
Acq On : 9 May 2016 11:22
Operator : FY/SY
Sample : VT0509SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK78

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

35	8.348	577	581	592	rBV	1500651	3186311	57.42%	7.629%
36	8.597	598	602	607	rVB3	3253	8433	0.15%	0.020%
37	8.798	614	619	635	rBV	985456	2163777	39.00%	5.181%
38	9.011	635	637	640	rVB	1294	2280	0.04%	0.005%
39	9.082	642	643	646	rBV	863	1390	0.03%	0.003%
40	9.188	649	652	658	rVB3	1595	5608	0.10%	0.013%
41	9.295	658	661	665	rBV3	2623	6898	0.12%	0.017%
42	9.437	669	673	678	rVB2	6472	15184	0.27%	0.036%
43	9.579	681	685	697	rVB	593324	1017496	18.34%	2.436%
44	9.756	697	700	702	rBV3	4213	8617	0.16%	0.021%
45	9.804	702	704	706	rVB2	1921	2541	0.05%	0.006%
46	9.863	706	709	714	rBV	1994569	3715287	66.96%	8.895%
47	10.040	722	724	728	rVB3	1239	1664	0.03%	0.004%
48	10.135	728	732	741	rVV	340509	593499	10.70%	1.421%
49	10.277	741	744	748	rVV2	18421	35408	0.64%	0.085%
50	10.336	748	749	753	rVB3	2702	3791	0.07%	0.009%
51	10.407	753	755	758	rVB3	5531	9581	0.17%	0.023%
52	10.478	758	761	771	rBV	569411	941357	16.97%	2.254%
53	10.632	771	774	777	rVV	12285	23916	0.43%	0.057%
54	10.738	781	783	786	rBV3	6382	10335	0.19%	0.025%
55	10.786	786	787	791	rVB4	1364	2410	0.04%	0.006%
56	10.963	800	802	805	rBV2	1980	4223	0.08%	0.010%
57	11.011	805	806	809	rVB2	4548	7213	0.13%	0.017%
58	11.188	817	821	828	rBV	2094175	3414954	61.54%	8.176%
59	11.295	828	830	834	rVB	7979	13328	0.24%	0.032%
60	11.401	835	839	846	rVB3	6227	15534	0.28%	0.037%
61	11.732	864	867	871	rVB3	6020	13619	0.25%	0.033%
62	11.886	877	880	883	rBV2	674	2166	0.04%	0.005%
63	11.945	883	885	889	rBV3	930	1823	0.03%	0.004%
64	12.028	889	892	895	rVB2	9397	15425	0.28%	0.037%
65	12.111	895	899	900	rBV3	795	1334	0.02%	0.003%
66	12.194	900	906	908	rBV2	9116	18856	0.34%	0.045%
67	12.253	908	911	917	rVB	684434	1010200	18.21%	2.419%
68	12.336	917	918	922	rVB3	1884	2145	0.04%	0.005%
69	12.513	930	933	937	rVB2	4426	10544	0.19%	0.025%
70	12.726	948	951	953	rBV2	1333	2238	0.04%	0.005%
71	12.774	953	955	959	rBV3	3364	7128	0.13%	0.017%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013988.D
Acq On : 9 May 2016 11:22
Operator : FY/SY
Sample : VT0509SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK78

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

72	12.880	962	964	967	rBV2	1462	3223	0.06%	0.008%
73	12.975	967	972	976	rBV2	5874	9865	0.18%	0.024%
74	13.058	976	979	981	rBV3	6974	14167	0.26%	0.034%
75	13.117	981	984	988	rBV	2270549	3196370	57.60%	7.653%
76	13.247	994	995	997	rVB2	1919	1821	0.03%	0.004%
77	13.342	1000	1003	1005	rBV2	2813	3586	0.06%	0.009%
78	13.413	1005	1009	1012	rBV	1608274	2781454	50.13%	6.660%
79	13.590	1021	1024	1027	rBV3	1538	4233	0.08%	0.010%
80	13.649	1027	1029	1033	rVB2	2873	6241	0.11%	0.015%
81	13.732	1033	1036	1038	rBV2	1051	1222	0.02%	0.003%
82	13.945	1053	1054	1058	rVB2	589	1348	0.02%	0.003%
83	14.123	1067	1069	1072	rBV	610	1441	0.03%	0.003%
84	14.194	1072	1075	1079	rBV2	8608	14142	0.25%	0.034%
85	14.430	1093	1095	1098	rVB2	1043	1306	0.02%	0.003%
86	14.679	1113	1116	1119	rVB2	8928	16503	0.30%	0.040%
87	14.726	1119	1120	1123	rVB2	755	1178	0.02%	0.003%
88	14.773	1123	1124	1127	rBV2	611	1250	0.02%	0.003%
89	14.821	1127	1128	1132	rBV2	703	1585	0.03%	0.004%
90	14.892	1132	1134	1138	rVB	4851	9010	0.16%	0.022%
91	14.975	1138	1141	1143	rBV	1239	2289	0.04%	0.005%
92	15.069	1143	1149	1154	rVB5	7548	17483	0.32%	0.042%
93	15.164	1154	1157	1159	rBV2	812	1339	0.02%	0.003%
94	15.353	1169	1173	1176	rBV3	556	1302	0.02%	0.003%
95	15.661	1198	1199	1202	rVB	1084	1422	0.03%	0.003%
96	15.732	1202	1205	1207	rBV	873	1910	0.03%	0.005%
97	16.241	1245	1248	1250	rVB2	621	1535	0.03%	0.004%
98	16.359	1254	1258	1260	rVB3	826	2256	0.04%	0.005%
99	16.442	1262	1265	1268	rBV2	544	1146	0.02%	0.003%
100	16.596	1276	1278	1281	rVB2	815	1656	0.03%	0.004%

Sum of corrected areas: 41766437

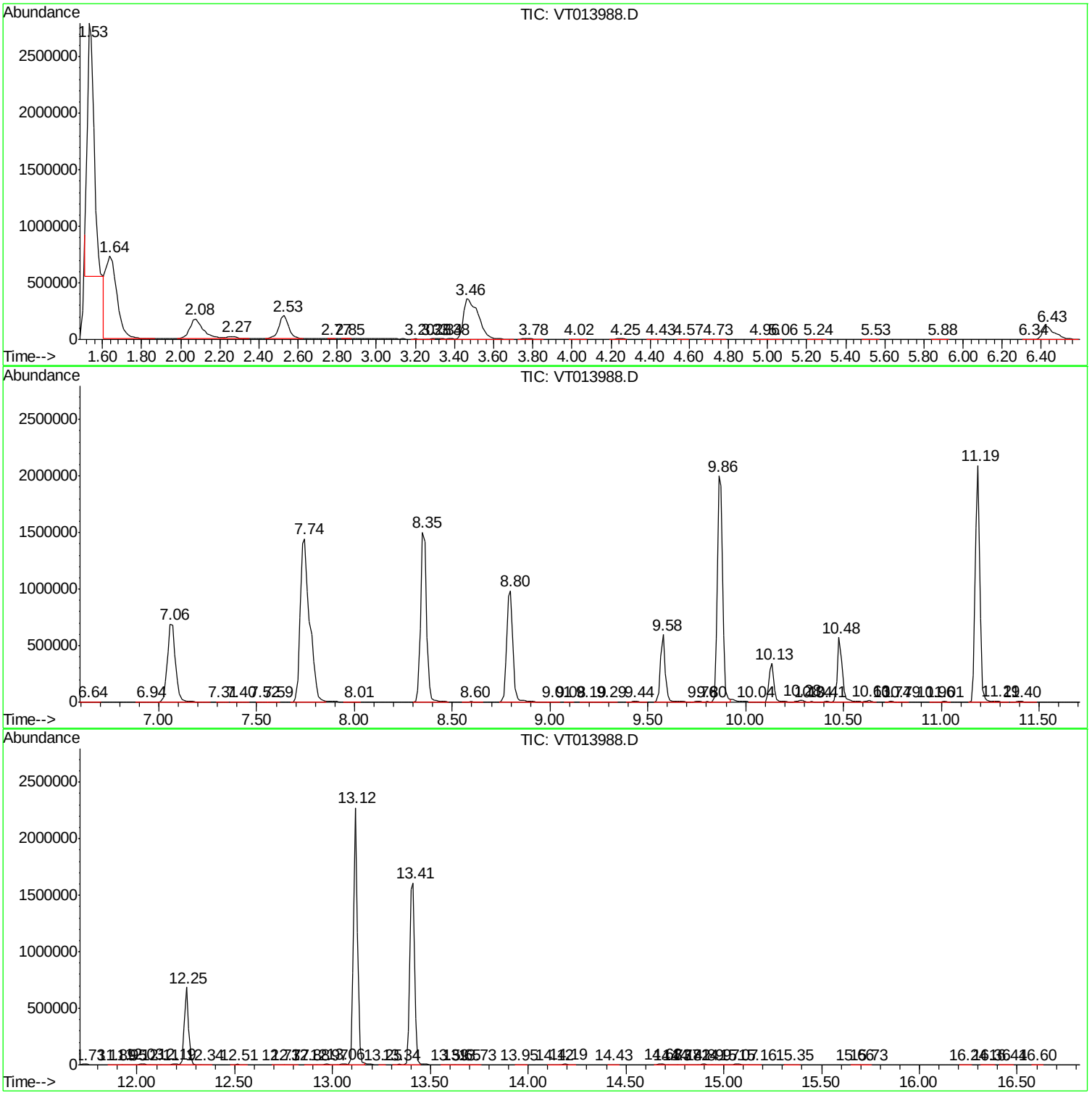
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013988.D
Acq On : 9 May 2016 11:22
Operator : FY/SY
Sample : VT0509SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK78

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013988.D
Acq On : 9 May 2016 11:22
Operator : FY/SY
Sample : VT0509SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK78

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013988.D
Acq On : 9 May 2016 11:22
Operator : FY/SY
Sample : VT0509SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK78

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK79

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0509SBL02
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014000.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl Acetate	5.0	U
75-09-2	Methylene chloride	1.1	J
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl Ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK79

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0509SBL02
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014000.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-trichlorobenzene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK79

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0509SBL02
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014000.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK79

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0509SBL02
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014000.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/09/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

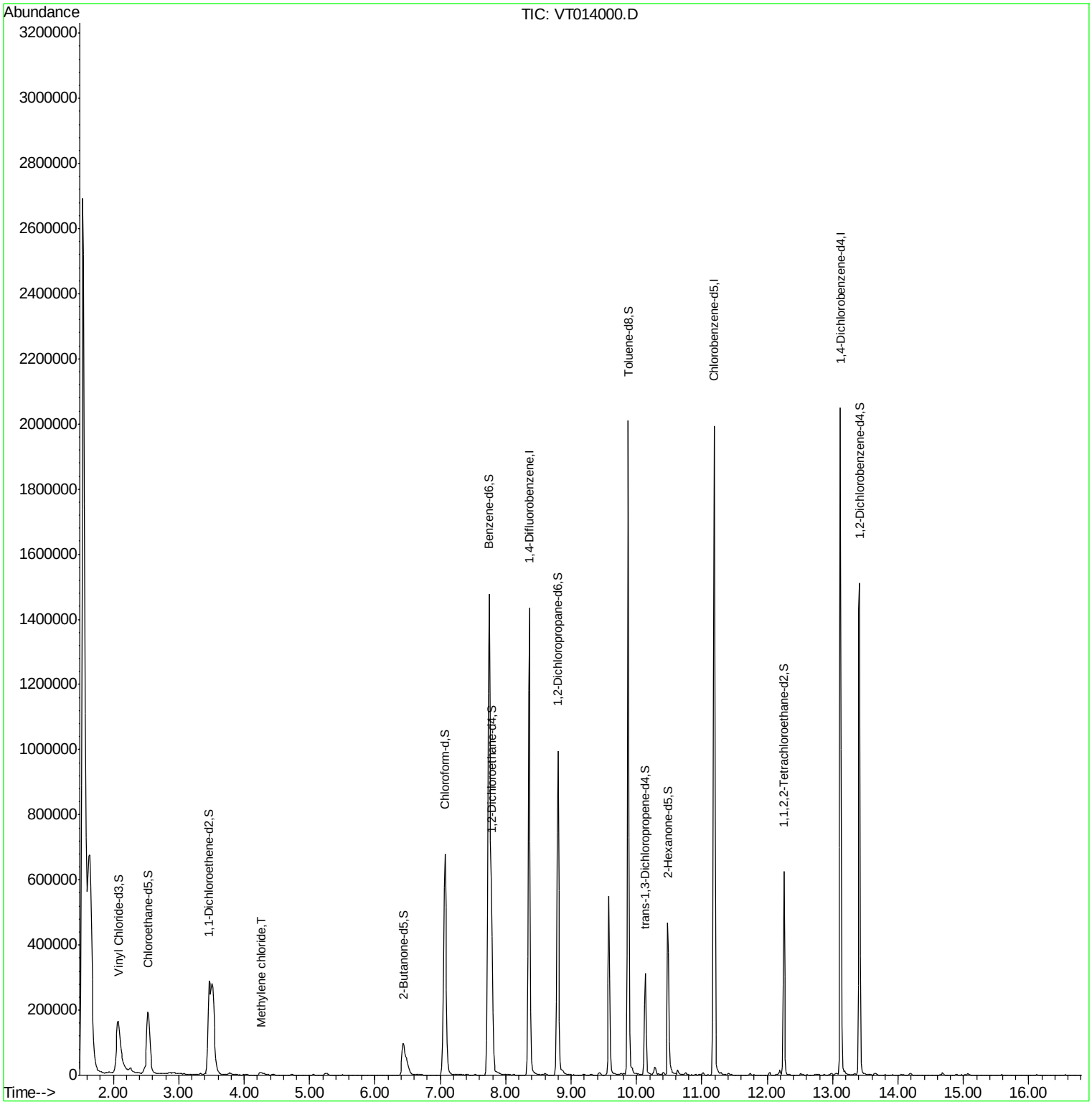
Quantitation Report (LSC Reviewed)

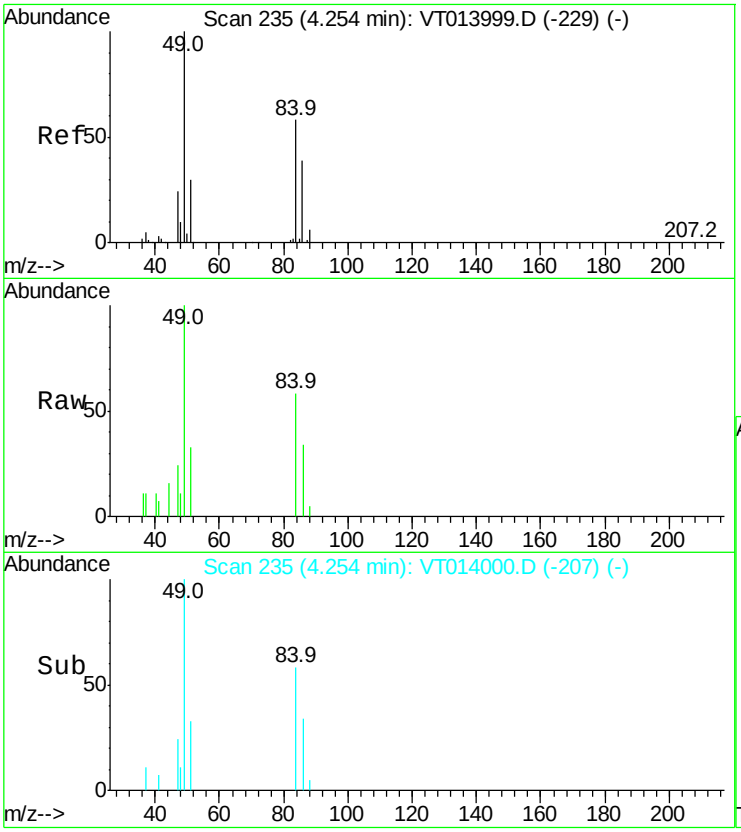
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 10 02:06:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK79

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:41:18 PM

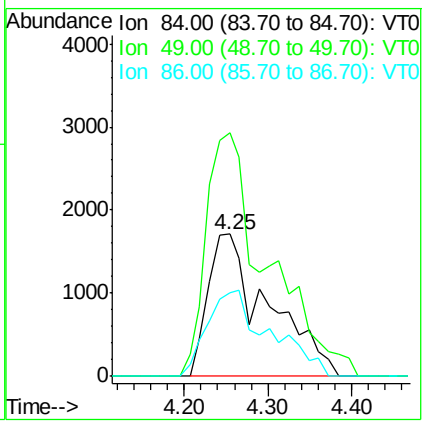




#16
Methylene chloride
Concen: 0.57 ug/L m
RT: 4.25 min Scan# 235
Delta R.T. 0.00 min
Lab File: VT014000.D
Acq: 9 May 2016 17:05

Tgt Ion: 84 Resp: 8531

Ion	Ratio	Lower	Upper
84	100		
49	171.5	116.8	216.8
86	58.8	44.9	83.5



Instrument :
MSVOA_T
ClientSampleId :
VBLK79

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:41:18 PM

Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK79

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:41:18 PM

Quant Time: May 10 02:06:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1052009	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	856289	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	404277	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	482441	27.67	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 110.68%			
7) Chloroethane-d5	2.53	69	350835	27.84	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 111.36%			
10) 1,1-Dichloroethene-d2	3.46	63	696853m	19.44	ug/L	-0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 77.76%			
20) 2-Butanone-d5	6.43	46	200228	48.28	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 96.56%			
24) Chloroform-d	7.07	84	727147	24.77	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 99.08%			
26) 1,2-Dichloroethane-d4	7.78	65	450514	26.18	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 104.72%			
29) Benzene-d6	7.74	84	1385504	25.87	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 103.48%			
33) 1,2-Dichloropropane-d6	8.80	67	404356	25.59	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 102.36%			
37) Toluene-d8	9.87	98	1235738	25.63	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 102.52%			
38) trans-1,3-Dichloropropene-	10.14	79	144849	23.64	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 94.56%			
39) 2-Hexanone-d5	10.48	63	133766	52.96	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 105.92%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	258547	23.75	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 95.00%			
60) 1,2-Dichlorobenzene-d4	13.41	152	364731	25.70	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 102.80%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	8531m	0.57	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK79

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.533	3	5	11	rVB	2130218	5099640	100.00%	13.596%
2	1.639	11	14	33	rVB	669157	2626149	51.50%	7.002%
3	1.899	33	36	37	rBV	2056	3679	0.07%	0.010%
4	1.935	37	39	40	rBV	2160	1939	0.04%	0.005%
5	2.077	44	51	64	rBV	159103	774142	15.18%	2.064%
6	2.254	64	66	75	rVB4	14624	45861	0.90%	0.122%
7	2.526	81	89	101	rVV	188773	684940	13.43%	1.826%
8	2.680	101	102	106	rVB2	2361	4918	0.10%	0.013%
9	2.917	120	122	126	rVB3	2489	6287	0.12%	0.017%
10	3.083	134	136	138	rVB2	629	1061	0.02%	0.003%
11	3.331	154	157	160	rBV4	1670	3549	0.07%	0.009%
12	3.390	160	162	163	rBV	1163	1492	0.03%	0.004%
13	3.461	163	168	170	rBV	286214	781508	15.32%	2.084%
14	3.781	189	195	201	rVB2	6205	20055	0.39%	0.053%
15	4.053	214	218	219	rVB3	823	1874	0.04%	0.005%
16	4.254	228	235	237	rBV2	8458	26192	0.51%	0.070%
17	4.432	246	250	251	rBV2	918	2107	0.04%	0.006%
18	4.633	262	267	269	rBV	595	2134	0.04%	0.006%
19	4.680	269	271	272	rVV2	661	1002	0.02%	0.003%
20	4.727	272	275	278	rVB3	1407	3186	0.06%	0.008%
21	4.798	278	281	284	rVB	695	1349	0.03%	0.004%
22	5.059	300	303	308	rVB4	1695	4356	0.09%	0.012%
23	5.260	314	320	330	rBV5	4716	18403	0.36%	0.049%
24	5.508	338	341	343	rBV2	1018	1591	0.03%	0.004%
25	5.556	343	345	349	rVB3	564	1429	0.03%	0.004%
26	5.958	374	379	381	rVB2	380	1201	0.02%	0.003%
27	6.337	409	411	414	rBV2	874	2106	0.04%	0.006%
28	6.431	414	419	432	rBV2	98095	447078	8.77%	1.192%
29	6.632	435	436	442	rVB3	1676	5067	0.10%	0.014%
30	6.727	442	444	445	rVB2	878	1012	0.02%	0.003%
31	6.822	451	452	455	rVB	687	1085	0.02%	0.003%
32	7.070	467	473	491	rBV	679855	1876149	36.79%	5.002%
33	7.295	491	492	494	rBV2	784	1398	0.03%	0.004%
34	7.413	498	502	505	rBV3	1636	4371	0.09%	0.012%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK79

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

35	7.532	509	512	515	rVB3	1049	3128	0.06%	0.008%
36	7.579	515	516	519	rVB2	652	1030	0.02%	0.003%
37	7.745	525	530	546	rBV2	1477935	4570245	89.62%	12.185%
38	8.005	550	552	556	rVB3	2349	4724	0.09%	0.013%
39	8.112	559	561	566	rVB4	1090	2622	0.05%	0.007%
40	8.360	578	582	592	rBV	1434186	2846841	55.82%	7.590%
41	8.490	592	593	597	rVB3	2691	5036	0.10%	0.013%
42	8.597	597	602	606	rVB3	4757	11112	0.22%	0.030%
43	8.798	615	619	632	rVB	994216	1998709	39.19%	5.329%
44	8.987	634	635	638	rVB3	1296	1864	0.04%	0.005%
45	9.200	648	653	656	rVB3	1560	4623	0.09%	0.012%
46	9.248	656	657	659	rBV2	691	1007	0.02%	0.003%
47	9.307	659	662	665	rVB2	3009	5391	0.11%	0.014%
48	9.437	669	673	677	rBV	9303	17263	0.34%	0.046%
49	9.579	681	685	692	rBV	548174	902099	17.69%	2.405%
50	9.756	698	700	703	rBV2	3449	5653	0.11%	0.015%
51	9.804	703	704	706	rVV	4031	5199	0.10%	0.014%
52	9.875	706	710	714	rVV	2008951	3562269	69.85%	9.498%
53	9.934	714	715	722	rVV	21467	40923	0.80%	0.109%
54	10.076	726	727	728	rVV	1118	1162	0.02%	0.003%
55	10.135	728	732	741	rVV	310501	523512	10.27%	1.396%
56	10.277	741	744	748	rVV	24496	48193	0.95%	0.128%
57	10.336	748	749	752	rVB2	2856	3925	0.08%	0.010%
58	10.419	752	756	758	rBV	5898	11655	0.23%	0.031%
59	10.478	758	761	772	rVV	467139	820223	16.08%	2.187%
60	10.632	772	774	777	rVV2	13751	21901	0.43%	0.058%
61	10.679	777	778	780	rVB2	1115	1473	0.03%	0.004%
62	10.750	780	784	786	rVB3	5633	10334	0.20%	0.028%
63	10.786	786	787	790	rVB2	873	1364	0.03%	0.004%
64	10.916	795	798	799	rBV3	909	1522	0.03%	0.004%
65	10.975	799	803	804	rBV2	2278	3463	0.07%	0.009%
66	11.023	804	807	810	rVB2	6459	11235	0.22%	0.030%
67	11.093	812	813	817	rVB2	922	1010	0.02%	0.003%
68	11.188	817	821	828	rBV	1993658	3095934	60.71%	8.254%
69	11.295	828	830	834	rVV2	7312	12397	0.24%	0.033%
70	11.401	837	839	842	rVB2	5828	9746	0.19%	0.026%
71	11.448	842	843	846	rVB2	1168	1519	0.03%	0.004%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK79

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

72	11.590	853	855	858	rBV3	796	1362	0.03%	0.004%
73	11.732	862	867	870	rBV2	4879	10386	0.20%	0.028%
74	12.028	890	892	896	rBV2	8345	14699	0.29%	0.039%
75	12.194	900	906	908	rBV	15509	32174	0.63%	0.086%
76	12.253	908	911	917	rVV	623671	915164	17.95%	2.440%
77	12.336	917	918	921	rVB2	1437	2166	0.04%	0.006%
78	12.513	931	933	938	rBV4	5042	11313	0.22%	0.030%
79	12.774	947	955	959	rVB3	3516	11839	0.23%	0.032%
80	12.880	959	964	967	rVB2	1492	3988	0.08%	0.011%
81	12.939	967	969	970	rBV2	977	1060	0.02%	0.003%
82	12.975	970	972	976	rBV3	5930	9183	0.18%	0.024%
83	13.058	976	979	981	rBV3	5612	12828	0.25%	0.034%
84	13.117	981	984	988	rBV	2045625	2811017	55.12%	7.495%
85	13.342	999	1003	1005	rBV5	4097	7324	0.14%	0.020%
86	13.413	1005	1009	1012	rBV	1509154	2572817	50.45%	6.860%
87	13.649	1026	1029	1034	rVB	5452	10346	0.20%	0.028%
88	13.922	1050	1052	1056	rVB3	781	1635	0.03%	0.004%
89	13.993	1056	1058	1061	rBV2	534	1311	0.03%	0.003%
90	14.040	1061	1062	1065	rBV2	725	1219	0.02%	0.003%
91	14.182	1071	1074	1078	rBV2	5374	10027	0.20%	0.027%
92	14.371	1088	1090	1093	rVB	621	1542	0.03%	0.004%
93	14.679	1114	1116	1120	rVB3	7266	12467	0.24%	0.033%
94	14.738	1120	1121	1123	rBV	831	1069	0.02%	0.003%
95	14.892	1129	1134	1137	rBV3	3409	6505	0.13%	0.017%
96	15.069	1146	1149	1154	rVB2	4832	9035	0.18%	0.024%
97	15.448	1180	1181	1184	rVB	635	1096	0.02%	0.003%
98	15.590	1191	1193	1198	rVB2	1018	2778	0.05%	0.007%
99	15.685	1198	1201	1202	rBV2	639	1025	0.02%	0.003%
100	16.122	1237	1238	1241	rVB2	762	1043	0.02%	0.003%

Sum of corrected areas: 37507034

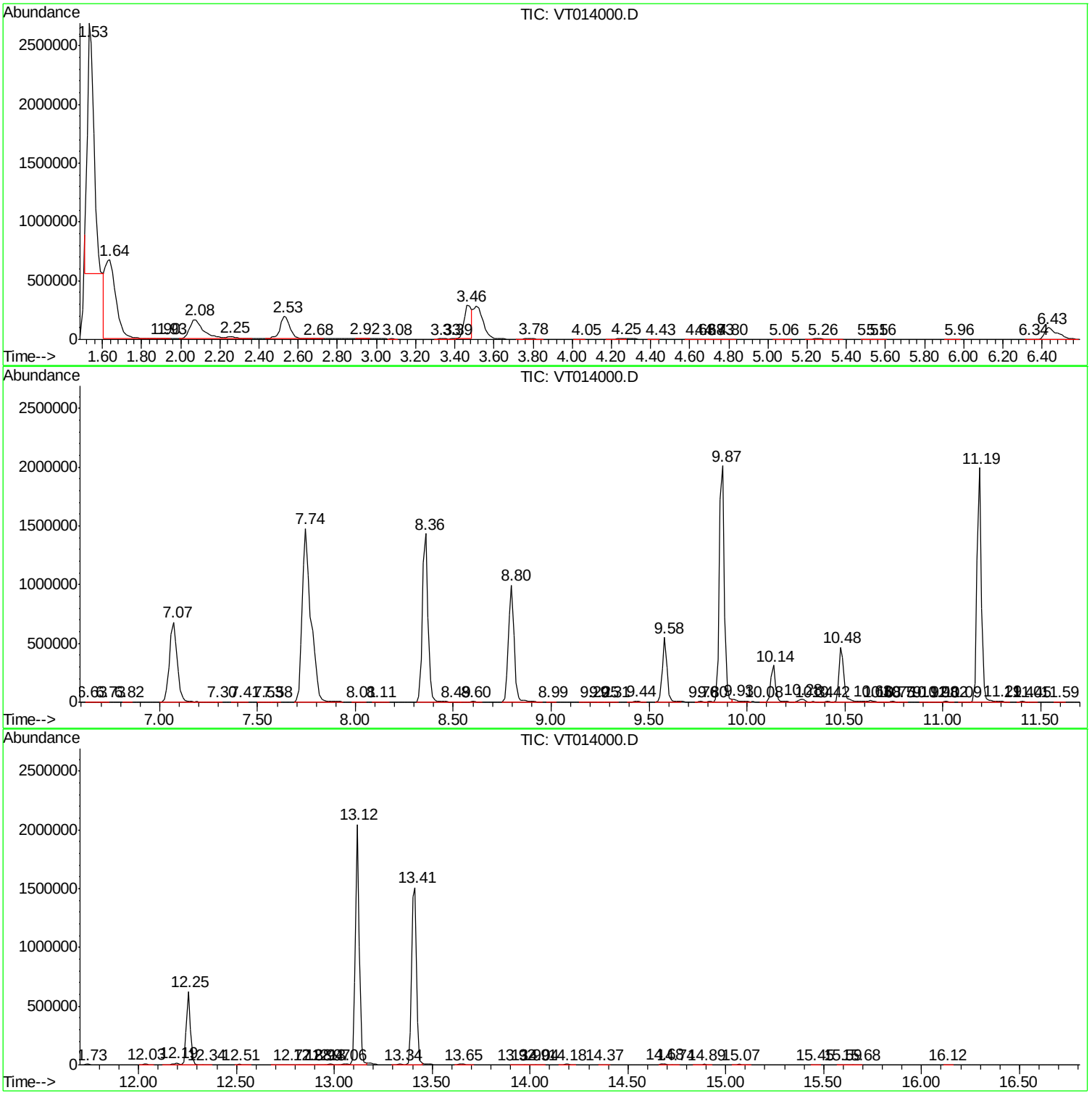
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK79

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK79

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK79

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

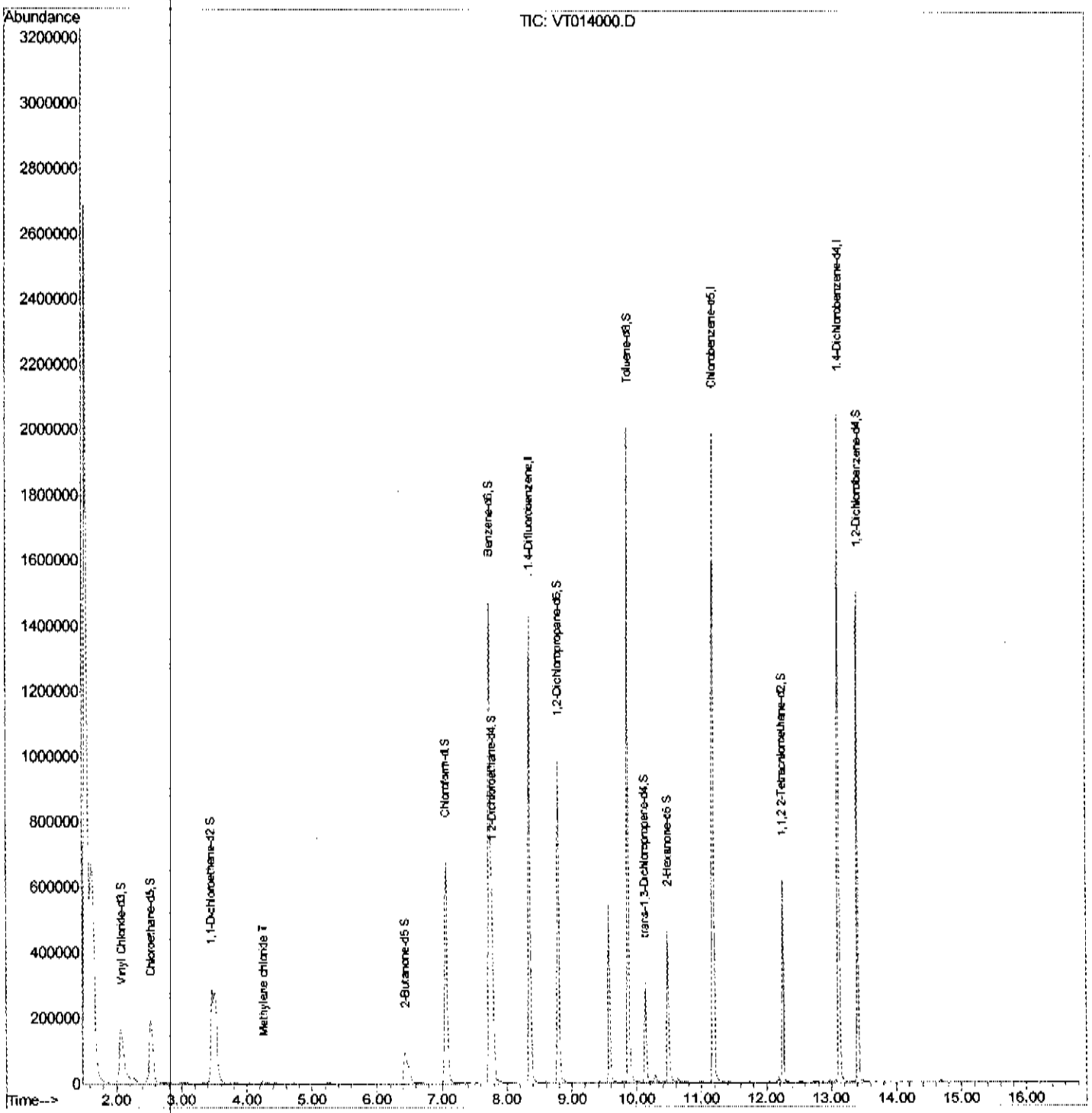
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 10 02:06:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK79

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:41:18 PM

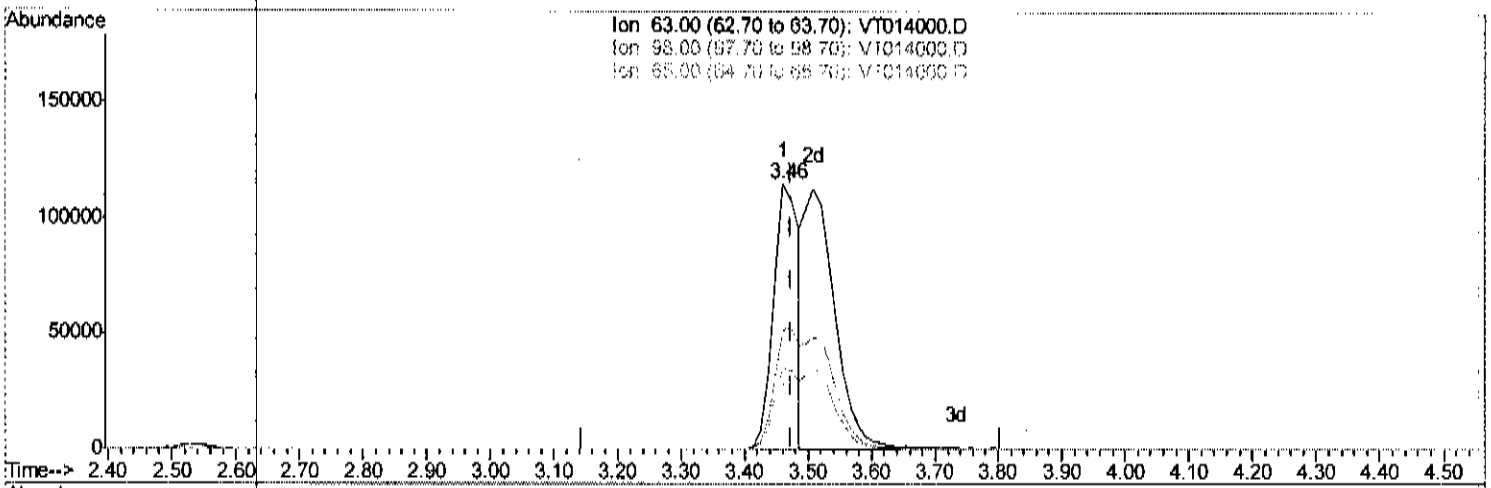


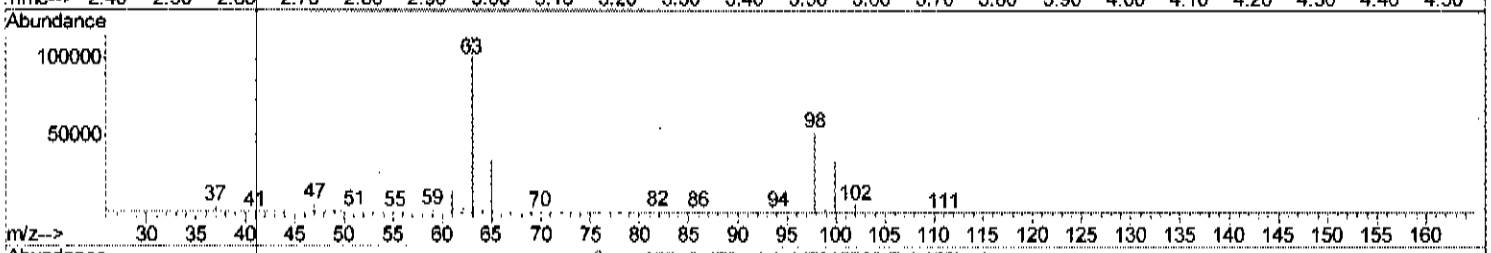
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

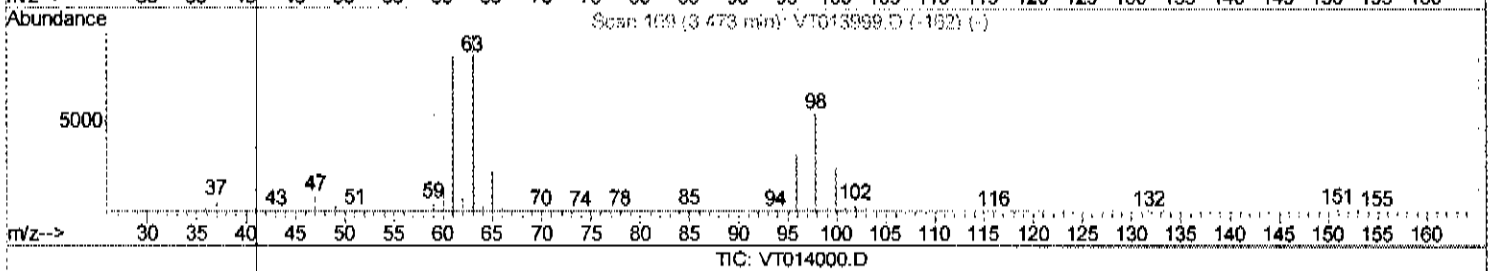
Quant Time: May 10 02:02:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK79

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:41:18 PM







TIC: VT014000.D

(10) 1,1-Dichloroethene-d2 (S)

3.461min (-0.012) 8.74ug/L

response 313167

Ion	Exp%	Act%
63.00	100	100
98.00	62.90	45.41
65.00	22.10	30.77#
0.00	0.00	0.00

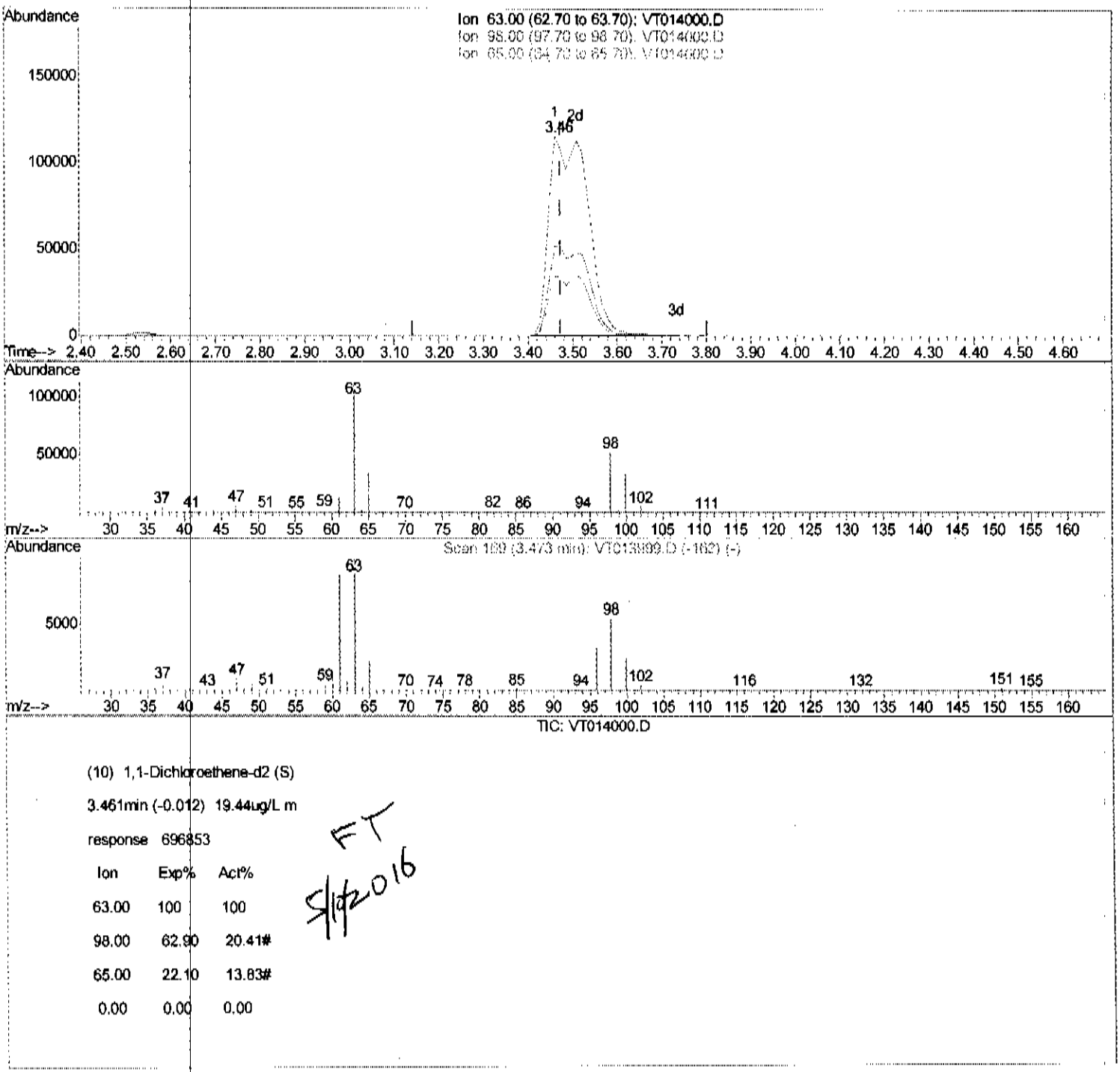
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 10 02:02:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK79

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:41:18 PM



(10) 1,1-Dichloroethene-d2 (S)

3.461min (-0.012) 19.44ug/L m

response 696853

Ion	Exp%	Act%
63.00	100	100
98.00	62.90	20.41#
65.00	22.10	13.83#
0.00	0.00	0.00

FT
5/10/2016

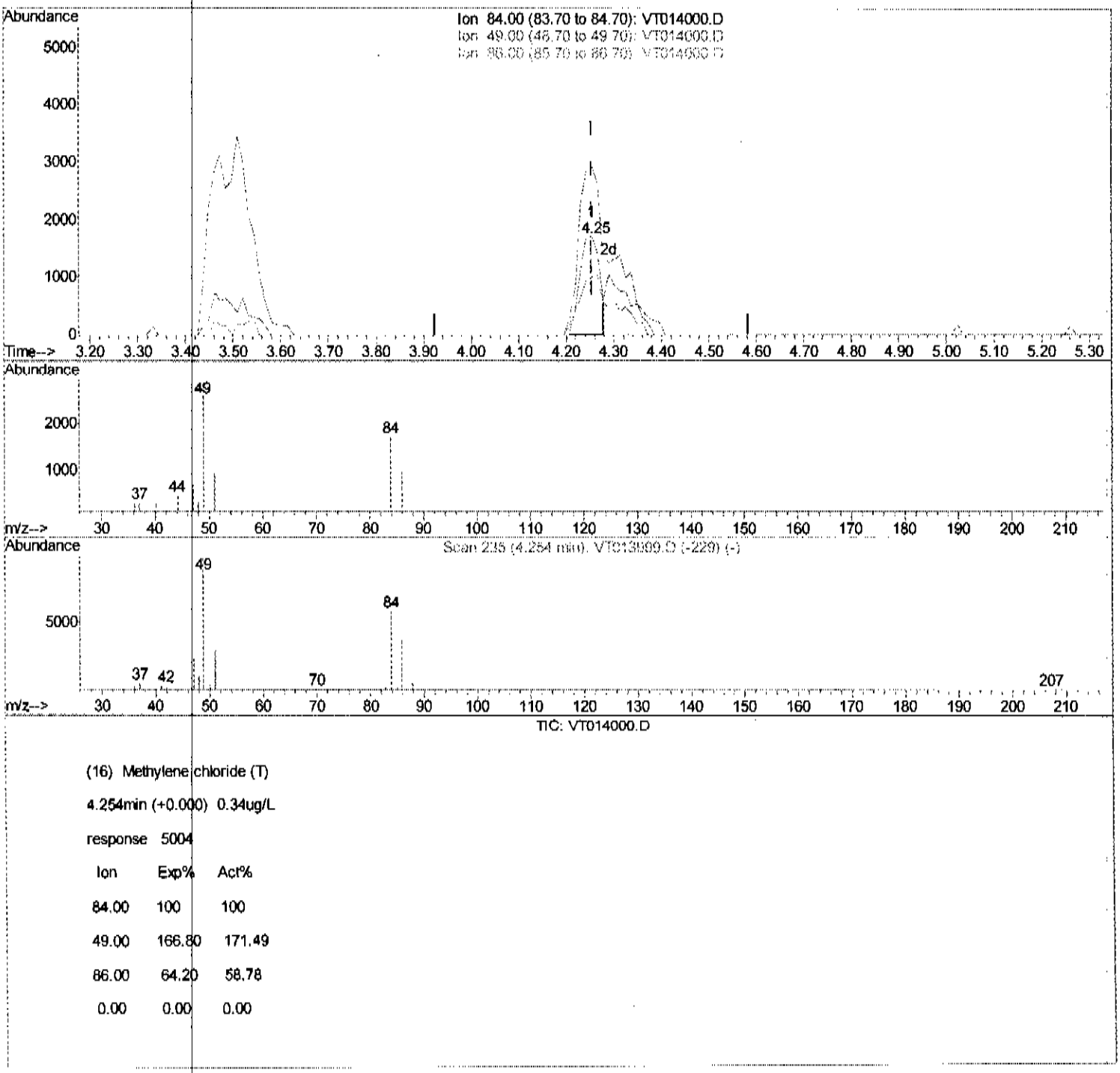
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 10 02:02:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK79

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:41:18 PM



TIC: VT014000.D

(16) Methylene chloride (T)

4.254min (+0.000) 0.34ug/L

response 5004

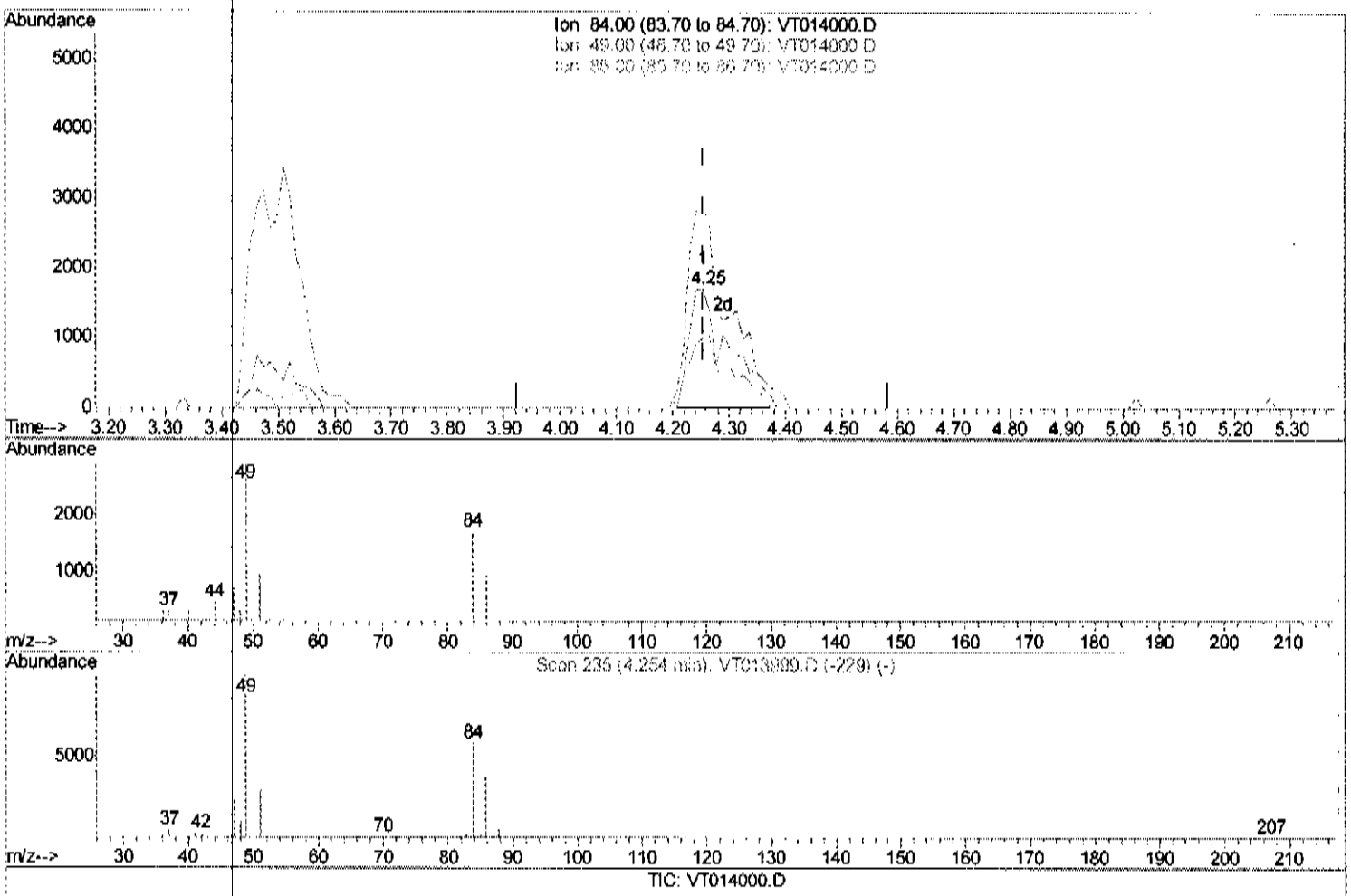
Ion	Exp%	Act%
84.00	100	100
49.00	166.80	171.49
86.00	64.20	58.78
0.00	0.00	0.00

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 10 02:02:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK79

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:41:18 PM



TIC: VT014000.D

(16) Methylene chloride (T)

4.254min (+0.000) 0.57ug/L m

response 8531

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	171.49
86.00	64.20	58.78
0.00	0.00	0.00

FT
5/10/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014000.D
Acq On : 9 May 2016 17:05
Operator : FY/SY
Sample : VT0509SBL02
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 10 02:06:46 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VBLK79

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:41:18 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1052009	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	856289	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	404277	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	182441	27.67	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 110.68%			
7) Chloroethane-d5	2.53	69	350835	27.84	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 111.36%			
10) 1,1-Dichloroethene-d2	3.46	63	696853m	19.44	ug/L	-0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 77.76%			
20) 2-Butanone-d5	6.43	46	200228	48.28	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 96.56%			
24) Chloroform-d	7.07	84	727147	24.77	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 99.08%			
26) 1,2-Dichloroethane-d4	7.78	65	450514	26.18	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 104.72%			
29) Benzene-d6	7.74	84	1385504	25.87	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 103.48%			
33) 1,2-Dichloropropane-d6	8.80	67	404356	25.59	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 102.36%			
37) Toluene-d8	9.87	98	1235738	25.63	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 102.52%			
38) trans-1,3-Dichloropropene-	10.14	79	144849	23.64	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 94.56%			
39) 2-Hexanone-d5	10.48	63	133766	52.96	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 105.92%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	258547	23.75	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 95.00%			
60) 1,2-Dichlorobenzene-d4	13.41	152	364731	25.70	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 102.80%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	8531m	0.57	ug/L	

FY 5/10/2016

FY 5/10/2016

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLK02

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-17
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014001.D
% Solids : 100
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl Acetate	5.0	U
75-09-2	Methylene chloride	1.4	JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl Ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLK02

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-17
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014001.D
% Solids : 100
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-trichlorobenzene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLK02

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-17
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014001.D
% Solids : 100
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VHBLK02

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-17
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014001.D
% Solids : 100
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/09/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

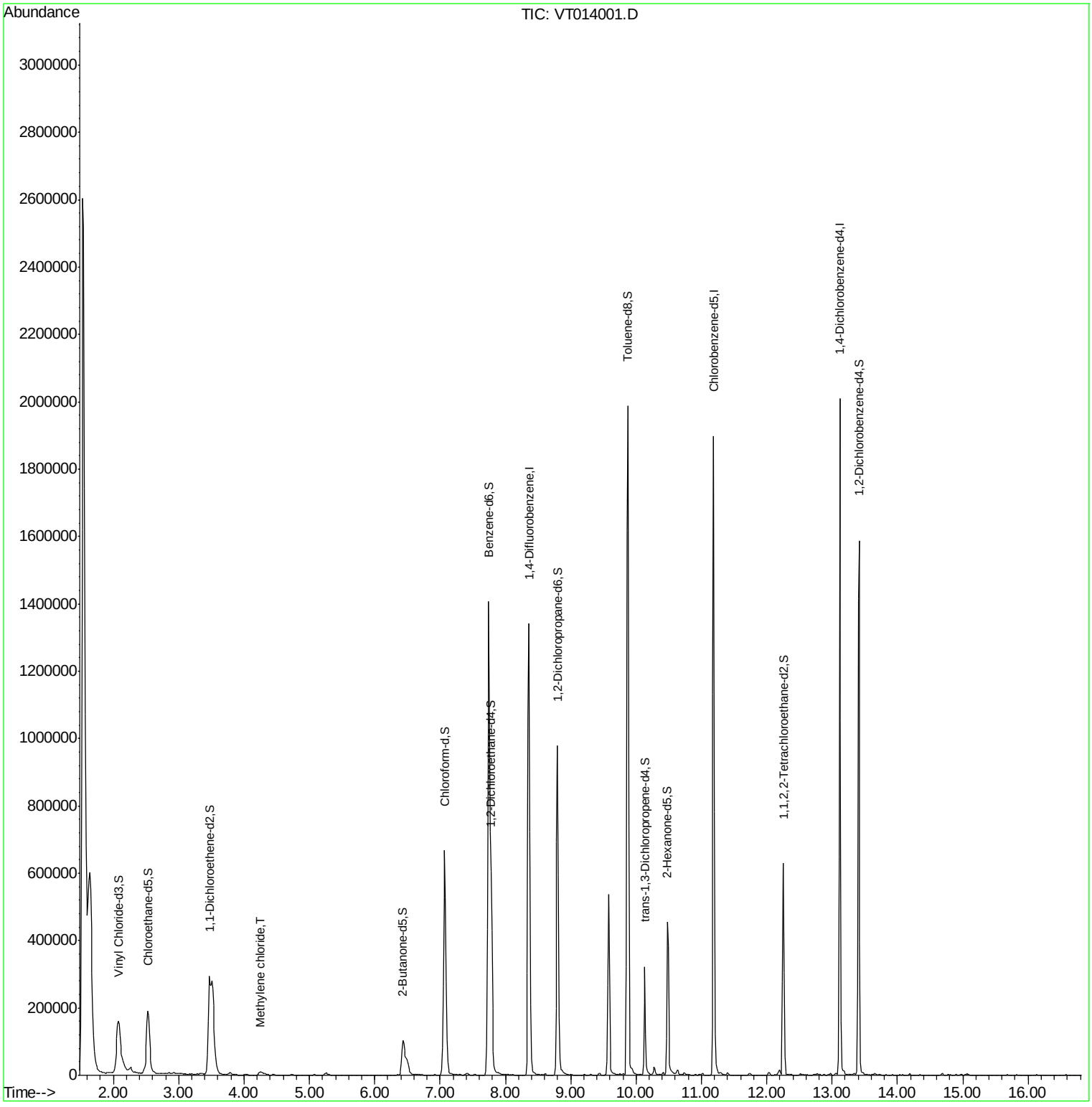
Quantitation Report (QT/LSC Reviewed)

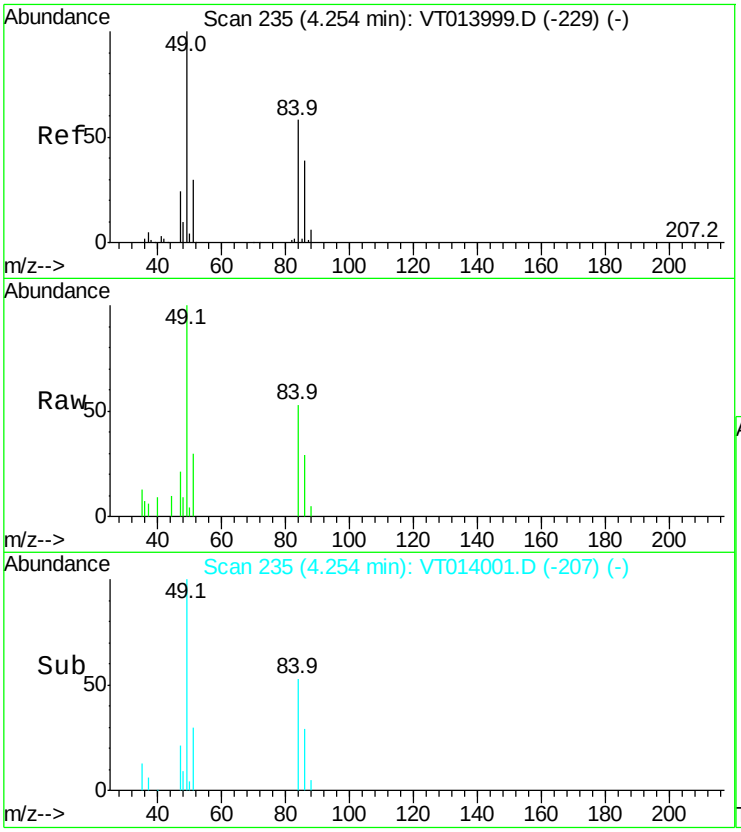
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 10 02:09:32 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VHBLK02

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:42:39 PM

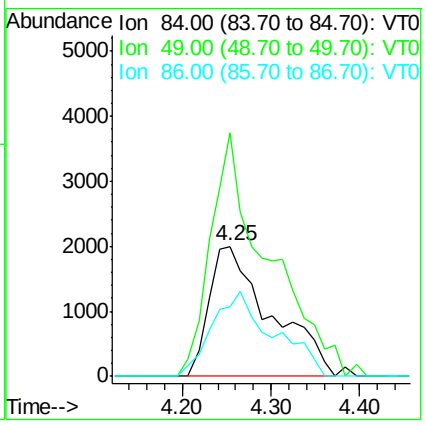




#16
Methylene chloride
Concen: 0.69 ug/L m
RT: 4.25 min Scan# 235
Delta R.T. 0.00 min
Lab File: VT014001.D
Acq: 9 May 2016 17:32

Tgt Ion: 84 Resp: 9609

Ion	Ratio	Lower	Upper
84	100		
49	187.3	116.8	216.8
86	53.8	44.9	83.5



Instrument :
MSVOA_T
ClientSampleId :
VHBLK02

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:42:39 PM

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VHBLK02

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:42:39 PM

Quant Time: May 10 02:09:32 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	990013	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	807452	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	399212	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	469047	28.59	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 114.36%			
7) Chloroethane-d5	2.53	69	345864	29.16	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 116.64%			
10) 1,1-Dichloroethene-d2	3.47	63	665924m	19.74	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 78.96%			
20) 2-Butanone-d5	6.43	46	206795	52.98	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 105.96%			
24) Chloroform-d	7.07	84	710478	25.72	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 102.88%			
26) 1,2-Dichloroethane-d4	7.78	65	445556	27.51	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 110.04%			
29) Benzene-d6	7.74	84	1334891	26.43	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 105.72%			
33) 1,2-Dichloropropane-d6	8.80	67	398491	26.74	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 106.96%			
37) Toluene-d8	9.87	98	1181882	26.00	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 104.00%			
38) trans-1,3-Dichloropropene-	10.13	79	146180	25.30	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 101.20%			
39) 2-Hexanone-d5	10.48	63	134172	56.34	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 112.68%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	258155	25.14	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 100.56%			
60) 1,2-Dichlorobenzene-d4	13.41	152	369426	26.36	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 105.44%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	9609m	0.69	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK02

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.532	3	5	11	rVB	2129342	5276742	100.00%	14.377%
2	1.639	11	14	35	rVB	595863	2441292	46.27%	6.651%
3	2.077	44	51	63	rBV	152531	744124	14.10%	2.027%
4	2.266	63	67	71	rVB2	16003	49336	0.93%	0.134%
5	2.432	79	81	82	rBV	1274	1284	0.02%	0.003%
6	2.526	82	89	100	rVB	186641	655355	12.42%	1.786%
7	2.810	111	113	114	rBV	1451	2584	0.05%	0.007%
8	2.858	114	117	121	rVV4	1834	6976	0.13%	0.019%
9	2.917	121	122	125	rVB2	1695	3208	0.06%	0.009%
10	3.201	144	146	147	rVB2	1473	1896	0.04%	0.005%
11	3.284	151	153	154	rVB2	2281	2487	0.05%	0.007%
12	3.319	154	156	158	rBV3	2512	6061	0.11%	0.017%
13	3.473	163	169	170	rBV	289772	744941	14.12%	2.030%
14	3.781	188	195	201	rVB3	5756	18979	0.36%	0.052%
15	4.005	212	214	215	rBV2	1039	1527	0.03%	0.004%
16	4.053	216	218	222	rVV2	1036	2271	0.04%	0.006%
17	4.254	230	235	238	rVV2	10261	34477	0.65%	0.094%
18	4.313	238	240	248	rVV4	5574	16774	0.32%	0.046%
19	4.431	248	250	255	rVV3	1244	3780	0.07%	0.010%
20	4.727	270	275	280	rVB2	1537	4853	0.09%	0.013%
21	5.070	301	304	308	rVB3	1231	3042	0.06%	0.008%
22	5.260	314	320	325	rBV4	6511	22096	0.42%	0.060%
23	5.556	342	345	349	rVB2	756	1960	0.04%	0.005%
24	6.171	394	397	400	rVB2	544	1154	0.02%	0.003%
25	6.348	408	412	413	rBV2	1392	2854	0.05%	0.008%
26	6.431	414	419	434	rVV2	103240	470062	8.91%	1.281%
27	6.632	434	436	438	rVV3	1778	4466	0.08%	0.012%
28	6.916	458	460	462	rBV2	1245	1951	0.04%	0.005%
29	7.070	467	473	485	rBV	665929	1808113	34.27%	4.926%
30	7.236	485	487	490	rVB4	1517	3899	0.07%	0.011%
31	7.283	490	491	497	rVB2	912	2152	0.04%	0.006%
32	7.413	497	502	507	rVB3	4693	13656	0.26%	0.037%
33	7.520	510	511	515	rVB3	1804	3762	0.07%	0.010%
34	7.745	525	530	550	rBV2	1405416	4425154	83.86%	12.057%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK02

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

35	8.005	550	552	555	rVB4	1646	2506	0.05%	0.007%
36	8.218	567	570	571	rBV2	759	1137	0.02%	0.003%
37	8.360	578	582	597	rVB	1339645	2681040	50.81%	7.305%
38	8.608	600	603	608	rVB4	3809	8321	0.16%	0.023%
39	8.798	615	619	624	rBV	976638	1935342	36.68%	5.273%
40	8.952	631	632	634	rVB2	1264	1552	0.03%	0.004%
41	9.200	650	653	657	rVB2	1247	3040	0.06%	0.008%
42	9.307	659	662	666	rVB3	2726	5339	0.10%	0.015%
43	9.437	670	673	678	rVB	5636	10813	0.20%	0.029%
44	9.579	681	685	692	rBV	534158	886119	16.79%	2.414%
45	9.756	697	700	702	rBV2	2402	3769	0.07%	0.010%
46	9.804	702	704	706	rVB2	3083	3779	0.07%	0.010%
47	9.875	706	710	714	rBV	1984689	3437004	65.13%	9.364%
48	10.135	728	732	741	rBV	320722	527499	10.00%	1.437%
49	10.277	741	744	748	rVB	22393	44127	0.84%	0.120%
50	10.336	748	749	753	rVB3	1710	2108	0.04%	0.006%
51	10.419	753	756	758	rVB2	7521	11296	0.21%	0.031%
52	10.478	758	761	771	rBV	454028	819117	15.52%	2.232%
53	10.632	771	774	777	rVB2	13209	23801	0.45%	0.065%
54	10.738	781	783	786	rBV	5275	7988	0.15%	0.022%
55	10.798	786	788	789	rVB2	1040	1331	0.03%	0.004%
56	10.975	800	803	804	rBV	1563	2206	0.04%	0.006%
57	11.022	804	807	809	rVB	5900	10226	0.19%	0.028%
58	11.070	809	811	813	rBV3	540	1174	0.02%	0.003%
59	11.188	817	821	828	rBV	1896326	2946357	55.84%	8.027%
60	11.295	828	830	832	rVB	5968	9321	0.18%	0.025%
61	11.401	836	839	843	rVB4	5961	11911	0.23%	0.032%
62	11.484	844	846	852	rVB3	576	1558	0.03%	0.004%
63	11.732	864	867	871	rVB3	4606	9500	0.18%	0.026%
64	12.028	888	892	895	rBV	8309	14362	0.27%	0.039%
65	12.194	901	906	908	rBV2	15363	29373	0.56%	0.080%
66	12.253	908	911	916	rVB	626820	920474	17.44%	2.508%
67	12.324	916	917	919	rVB	1115	1536	0.03%	0.004%
68	12.359	919	920	925	rVB3	1310	2339	0.04%	0.006%
69	12.513	931	933	934	rBV	4589	6888	0.13%	0.019%
70	12.584	938	939	941	rBV	1124	1350	0.03%	0.004%
71	12.667	943	946	948	rVB	898	1668	0.03%	0.005%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK02

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Title : VOC Analysis

72	12.774	948	955	961	rBV5	4322	13772	0.26%	0.038%
73	12.868	961	963	967	rBV2	2328	4001	0.08%	0.011%
74	12.975	967	972	974	rBV3	5174	9698	0.18%	0.026%
75	13.058	974	979	981	rBV2	5617	12230	0.23%	0.033%
76	13.117	981	984	988	rBV	2005697	2792290	52.92%	7.608%
77	13.330	1000	1002	1005	rBV3	3450	6130	0.12%	0.017%
78	13.413	1005	1009	1012	rBV	1585370	2622455	49.70%	7.145%
79	13.602	1024	1025	1026	rVV	1023	1184	0.02%	0.003%
80	13.649	1026	1029	1033	rVB5	5069	10489	0.20%	0.029%
81	13.708	1033	1034	1036	rBV2	871	1240	0.02%	0.003%
82	13.886	1045	1049	1051	rBV2	565	1720	0.03%	0.005%
83	14.194	1073	1075	1078	rVB	3609	5277	0.10%	0.014%
84	14.276	1081	1082	1086	rVB2	691	1371	0.03%	0.004%
85	14.466	1096	1098	1101	rBV2	770	1519	0.03%	0.004%
86	14.572	1105	1107	1110	rBV2	632	1458	0.03%	0.004%
87	14.679	1110	1116	1119	rBV4	5867	9853	0.19%	0.027%
88	14.785	1121	1125	1129	rVB4	2154	5027	0.10%	0.014%
89	14.904	1131	1135	1138	rVB2	2836	5346	0.10%	0.015%
90	14.975	1138	1141	1144	rBV4	2118	4069	0.08%	0.011%
91	15.069	1144	1149	1154	rVB3	3640	8532	0.16%	0.023%
92	15.152	1154	1156	1159	rVB3	692	1465	0.03%	0.004%
93	15.223	1159	1162	1163	rBV2	891	1546	0.03%	0.004%
94	15.685	1198	1201	1205	rBV2	828	2511	0.05%	0.007%
95	15.827	1210	1213	1216	rVB3	835	1742	0.03%	0.005%
96	16.016	1226	1229	1231	rVB	807	1681	0.03%	0.005%
97	16.075	1231	1234	1238	rBV2	706	2230	0.04%	0.006%
98	16.134	1238	1239	1242	rVB	934	1353	0.03%	0.004%
99	16.205	1242	1245	1247	rBV2	729	1272	0.02%	0.003%
100	16.300	1247	1253	1254	rVB3	594	1419	0.03%	0.004%

Sum of corrected areas: 36703419

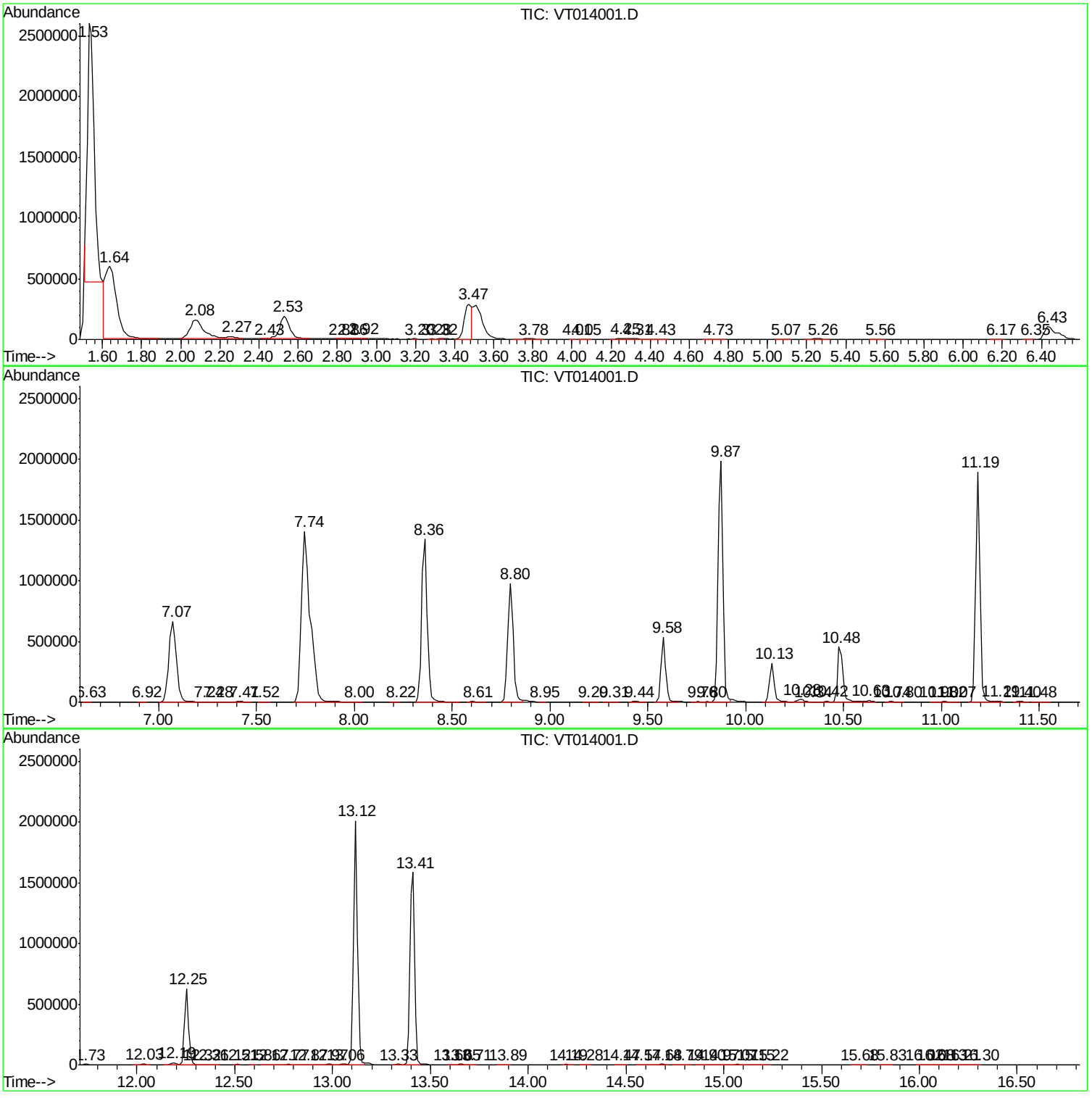
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK02

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VHBLK02

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK02

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

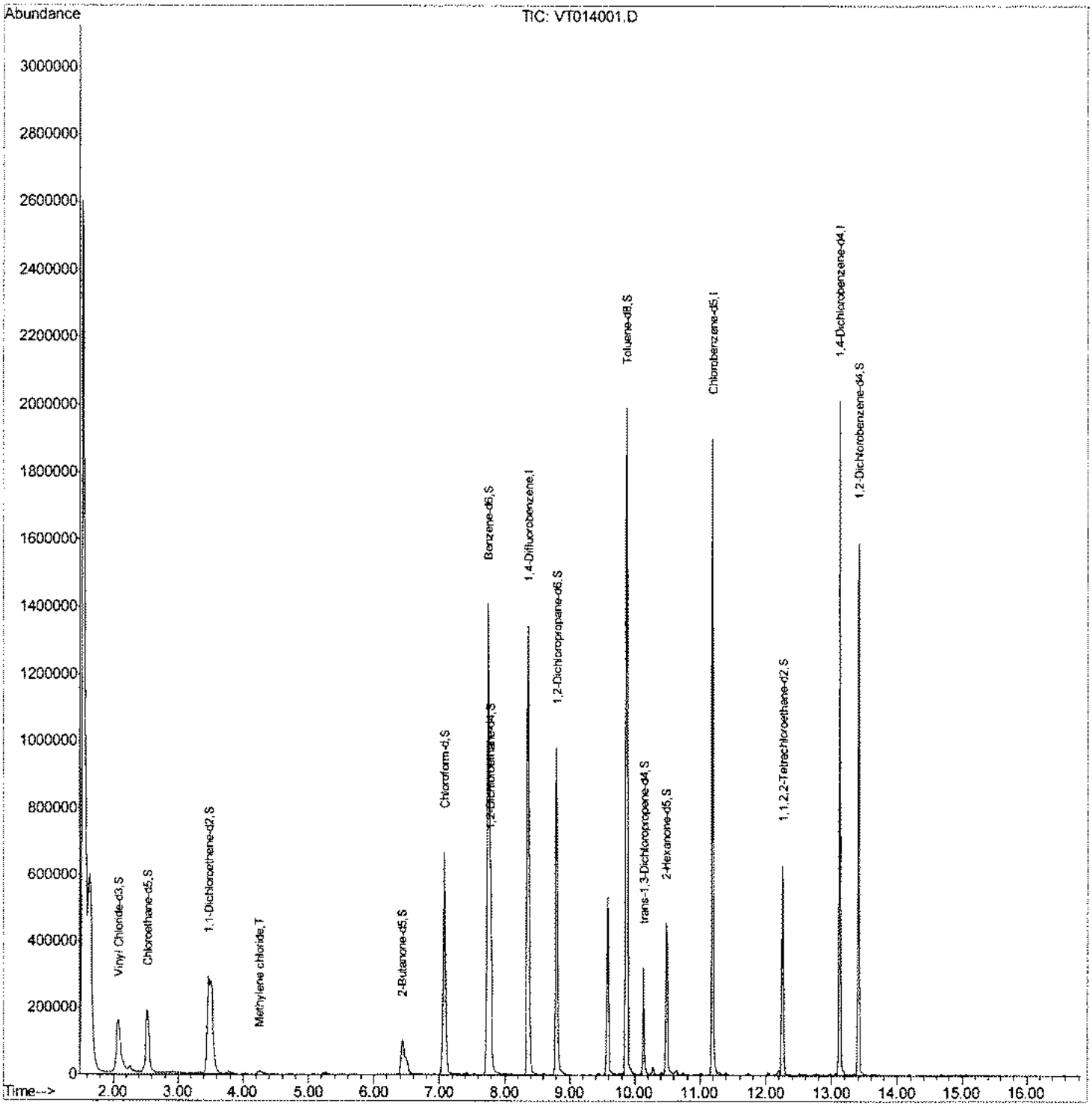
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 10 02:09:32 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VHBLK02

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:42:39 PM



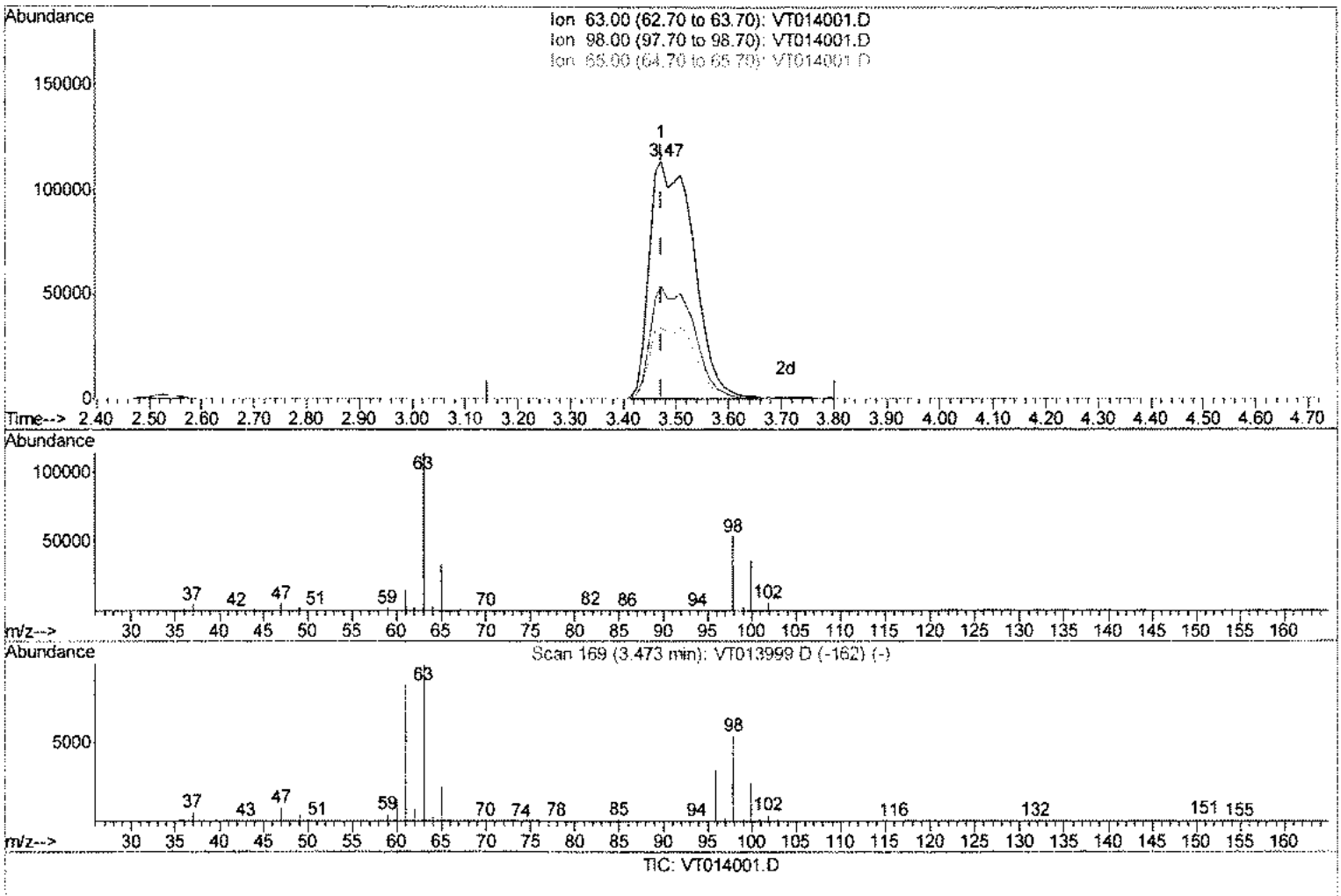
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 10 02:02:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VHBLK02

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:42:39 PM



TIC: VT014001.D

(10) 1,1-Dichloroethene-d2 (S)

3.473min (0.000) 19.74ug/L m M.D 05/13/16

response 665924

Ion	Exp%	Act%
63.00	100	100
98.00	62.90	20.17#
65.00	22.10	17.01
0.00	0.00	0.00

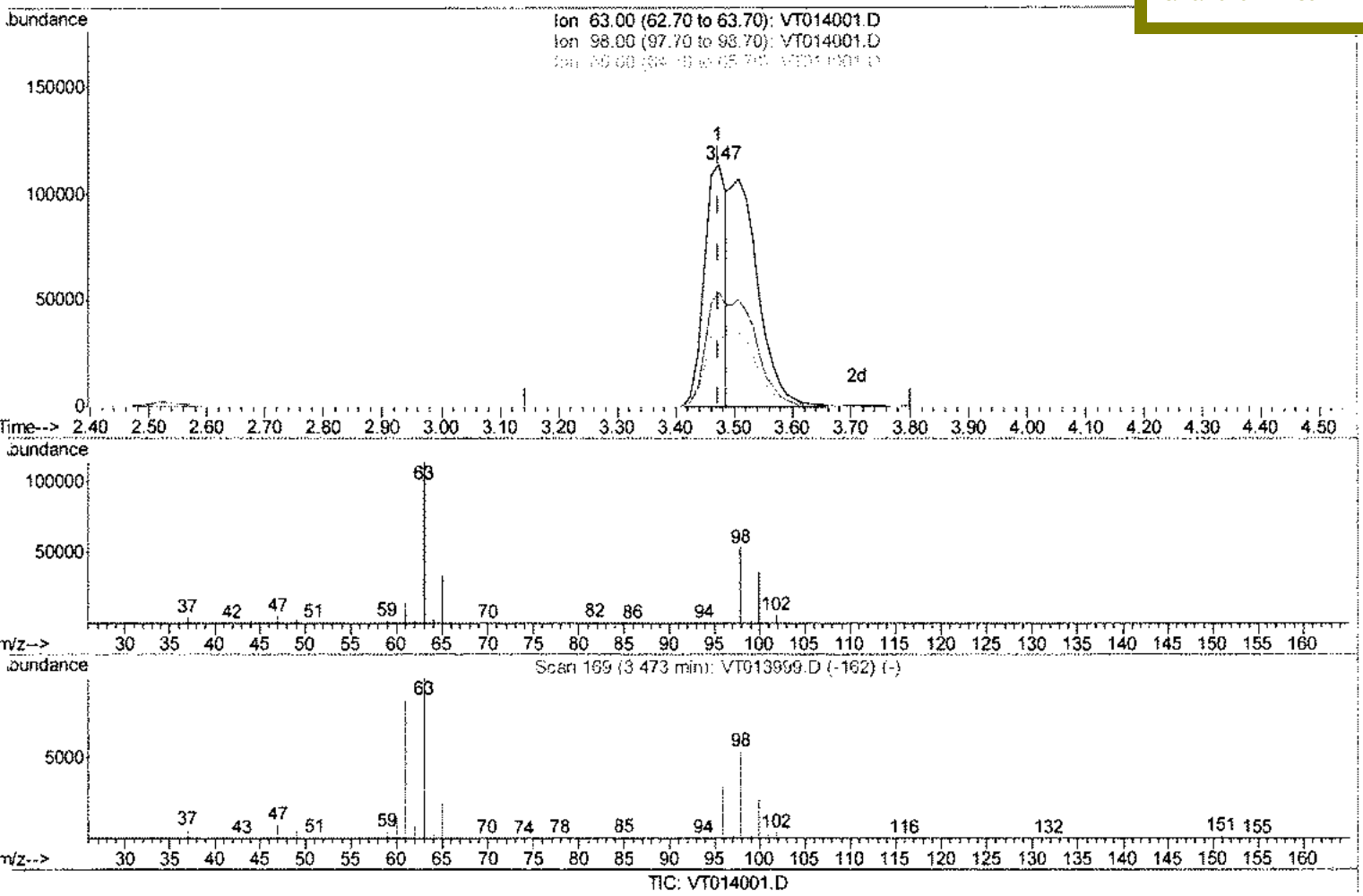
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 10 02:02:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VHBLK02

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:42:39 PM



TIC: VT014001.D

(10) 1,1-Dichloroethene-d2 (S)

3.473min (0.000) 8.85ug/L

response 298434

Ion	Exp%	Act%
63.00	100	100
98.00	62.90	45.00
65.00	22.10	37.96#
0.00	0.00	0.00

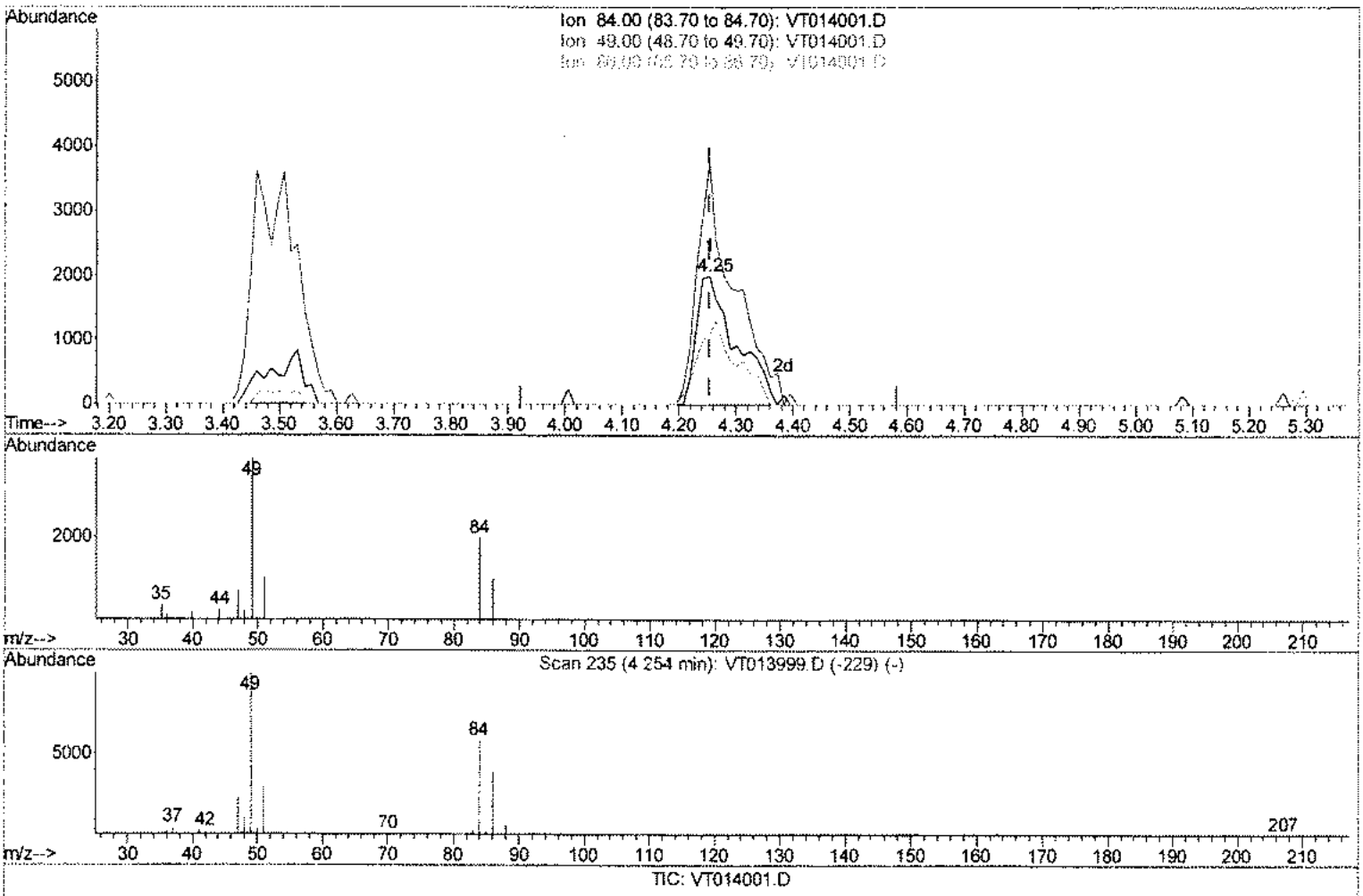
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 10 02:02:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VHBLK02

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:42:39 PM



TIC: VT014001.D

(16) Methylene chloride (T)

4.254min (+0.000) 0.69ug/L m

response 9609

M.D 05/13/16

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	187.25
86.00	64.20	53.80
0.00	0.00	0.00

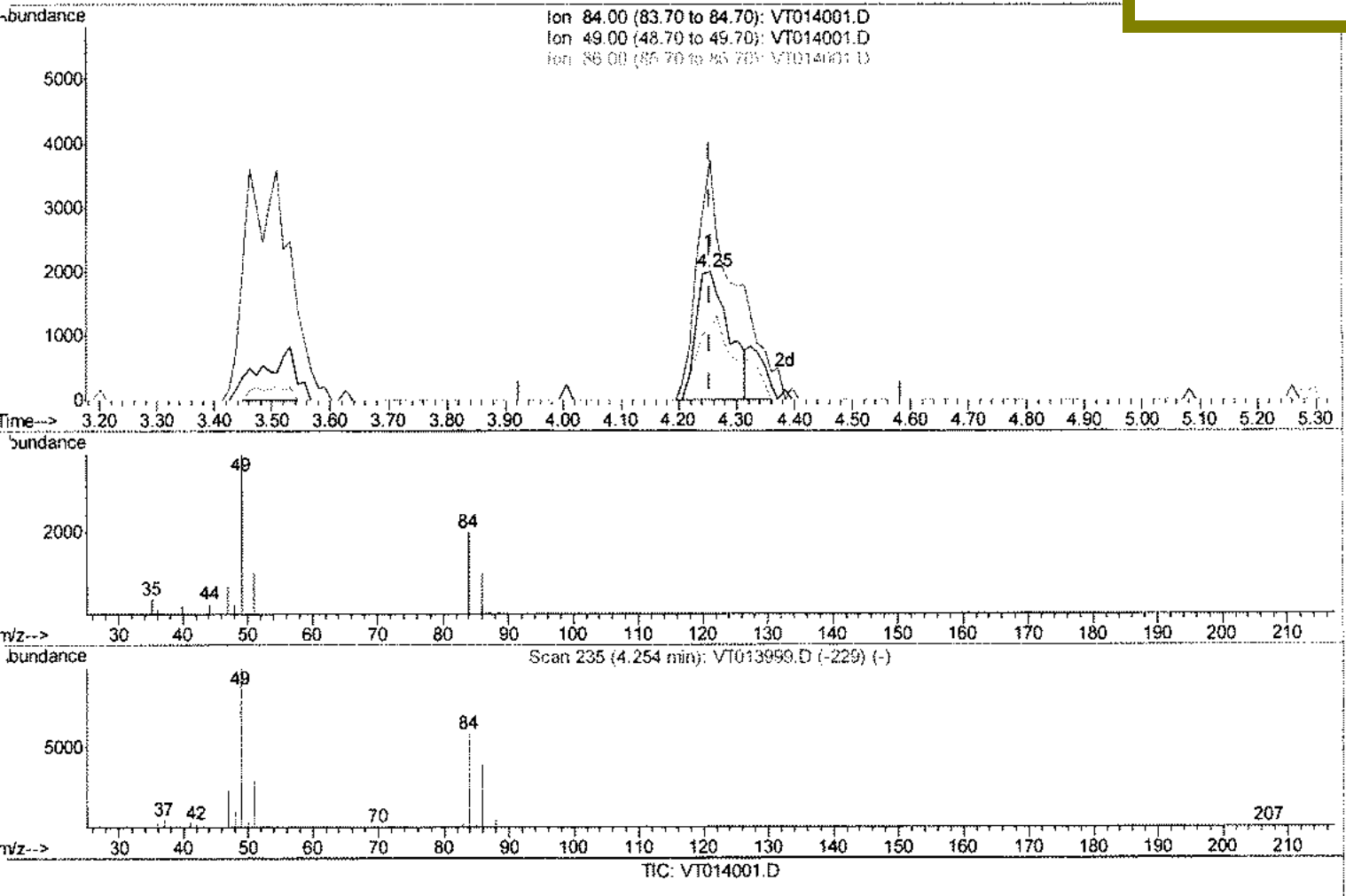
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 10 02:02:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VHBLK02

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:42:39 PM



(16) Methylene chloride (T)

4.254min (+0.000) 0.57ug/L

response 7935

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	187.25
86.00	64.20	53.80
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT014001.D
Acq On : 9 May 2016 17:32
Operator : FY/SY
Sample : H2834-17
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 10 02:09:32 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 02:00:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VHBLK02

Manual Integrations APPROVED
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5/10/2016 7:42:39 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	990013	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	807452	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	399212	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	469047	28.59	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 114.36%			
7) Chloroethane-d5	2.53	69	345864	29.16	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 116.64%			
10) 1,1-Dichloroethene-d2	3.47	63	665924m	19.74	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 78.96%			
20) 2-Butanone-d5	6.43	46	206795	52.98	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 105.96%			
24) Chloroform-d	7.07	84	710478	25.72	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 102.88%			
26) 1,2-Dichloroethane-d4	7.78	65	445556	27.51	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 110.04%			
29) Benzene-d6	7.74	84	1334891	26.43	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 105.72%			
33) 1,2-Dichloropropane-d6	8.80	67	398491	26.74	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 106.96%			
37) Toluene-d8	9.87	98	1181882	26.00	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 104.00%			
38) trans-1,3-Dichloropropene-	10.13	79	146180	25.30	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 101.20%			
39) 2-Hexanone-d5	10.48	63	134172	56.34	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 112.68%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	258155	25.14	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 100.56%			
60) 1,2-Dichlorobenzene-d4	13.41	152	369426	26.36	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 105.44%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	9609m	0.69	ug/L	

M.D 05/13/16

M.D 05/13/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-14MS
Sample wt/vol : 4.64 (g/mL): g
Lab File ID : VT013990.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	8.4	U
74-87-3	Chloromethane	8.4	U
75-01-4	Vinyl chloride	8.4	U
74-83-9	Bromomethane	8.4	U
75-00-3	Chloroethane	8.4	U
75-69-4	Trichlorofluoromethane	8.4	U
75-35-4	1,1-Dichloroethene	79	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	8.4	U
67-64-1	Acetone	14	J
75-15-0	Carbon disulfide	8.4	U
79-20-9	Methyl Acetate	8.4	U
75-09-2	Methylene chloride	2.8	J
156-60-5	trans-1,2-Dichloroethene	8.4	U
1634-04-4	Methyl tert-butyl Ether	8.4	U
75-34-3	1,1-Dichloroethane	8.4	U
156-59-2	cis-1,2-Dichloroethene	8.4	U
78-93-3	2-Butanone	17	U
74-97-5	Bromochloromethane	8.4	U
67-66-3	Chloroform	8.4	U
71-55-6	1,1,1-Trichloroethane	8.4	U
110-82-7	Cyclohexane	8.4	U
56-23-5	Carbon tetrachloride	8.4	U
71-43-2	Benzene	91	
107-06-2	1,2-Dichloroethane	8.4	U
79-01-6	Trichloroethene	87	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-14MS
Sample wt/vol : 4.64 (g/mL): g
Lab File ID : VT013990.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	8.4	U
78-87-5	1,2-Dichloropropane	8.4	U
75-27-4	Bromodichloromethane	8.4	U
10061-01-5	cis-1,3-Dichloropropene	8.4	U
108-10-1	4-Methyl-2-pentanone	17	U
108-88-3	Toluene	85	
10061-02-6	trans-1,3-Dichloropropene	8.4	U
79-00-5	1,1,2-Trichloroethane	8.4	U
127-18-4	Tetrachloroethene	8.4	U
591-78-6	2-Hexanone	17	U
124-48-1	Dibromochloromethane	8.4	U
106-93-4	1,2-Dibromoethane	8.4	U
108-90-7	Chlorobenzene	78	
100-41-4	Ethylbenzene	8.4	U
95-47-6	o-xylene	8.4	U
179601-23-1	m,p-Xylene	8.4	U
100-42-5	Styrene	8.4	U
75-25-2	Bromoform	8.4	U
98-82-8	Isopropylbenzene	8.4	U
79-34-5	1,1,2,2-Tetrachloroethane	8.4	U
541-73-1	1,3-Dichlorobenzene	8.4	U
106-46-7	1,4-Dichlorobenzene	8.4	U
95-50-1	1,2-Dichlorobenzene	8.4	U
96-12-8	1,2-Dibromo-3-chloropropane	8.4	U
120-82-1	1,2,4-trichlorobenzene	8.4	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-14MS
Sample wt/vol : 4.64 (g/mL): g
Lab File ID : VT013990.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	8.4	U

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013990.D
Acq On : 9 May 2016 12:14
Operator : FY/SY
Sample : H2834-14MS
Misc : 4.64g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 10 01:32:44 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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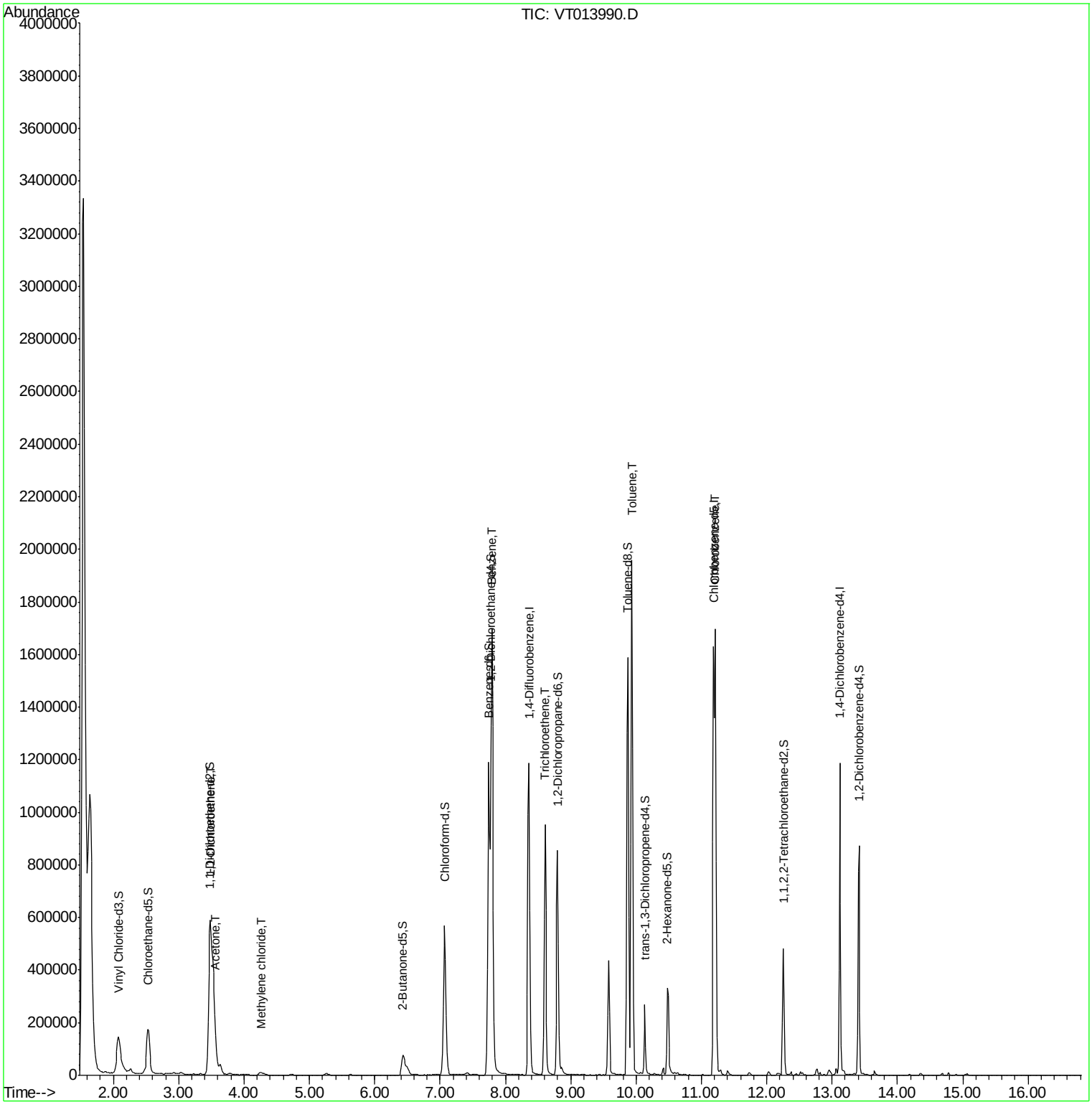
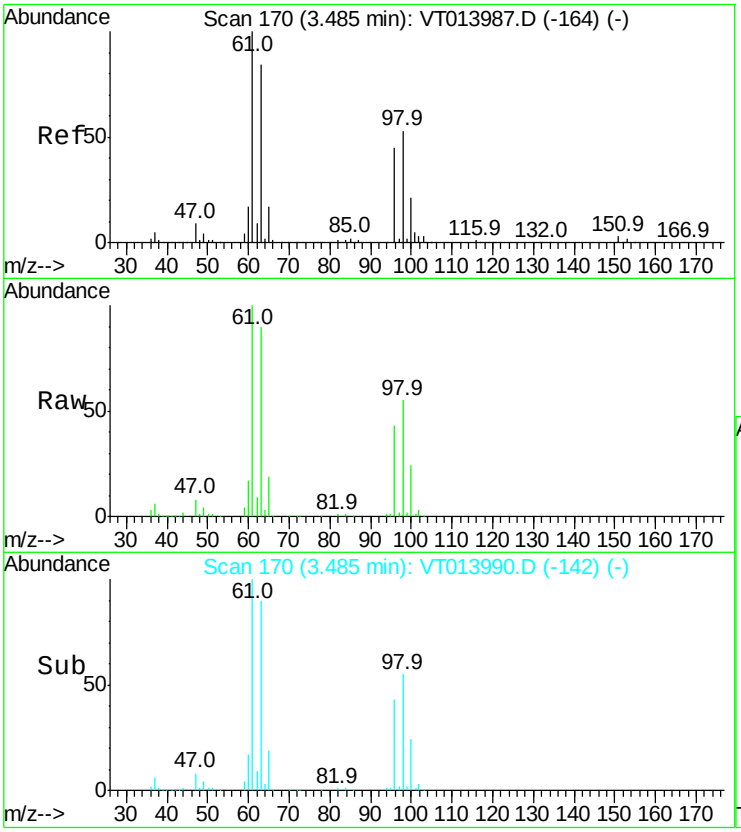
5/10/2016 7:40:46 PM

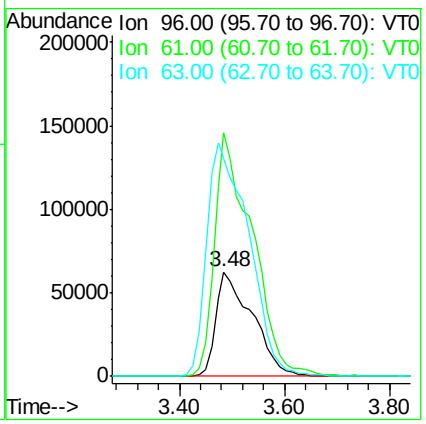




#12
1,1-Dichloroethene
Concen: 23.40 ug/L
RT: 3.48 min Scan# 170
Delta R.T. -0.00 min
Lab File: VT013990.D
Acq: 9 May 2016 12:14

Tgt Ion: 96 Resp: 302743

Ion	Ratio	Lower	Upper
96	100		
61	233.7	148.3	275.5
63	209.7	119.3	221.5



Instrument :
MSVOA_T
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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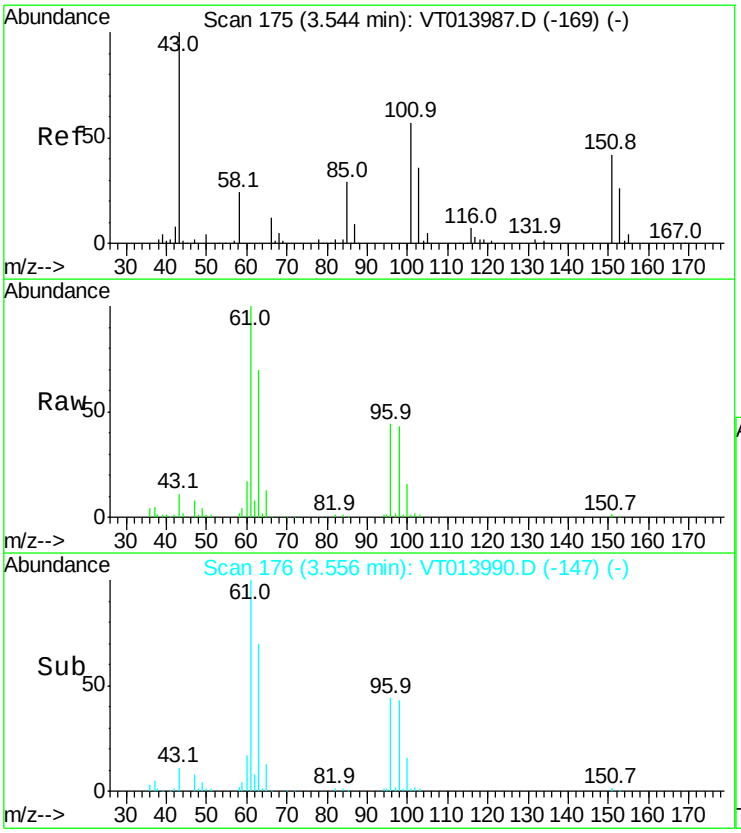
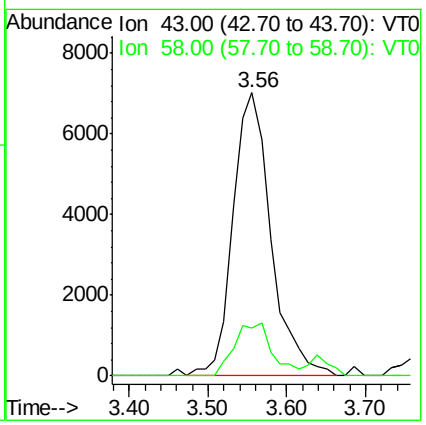
5/10/2016 7:40:46 PM

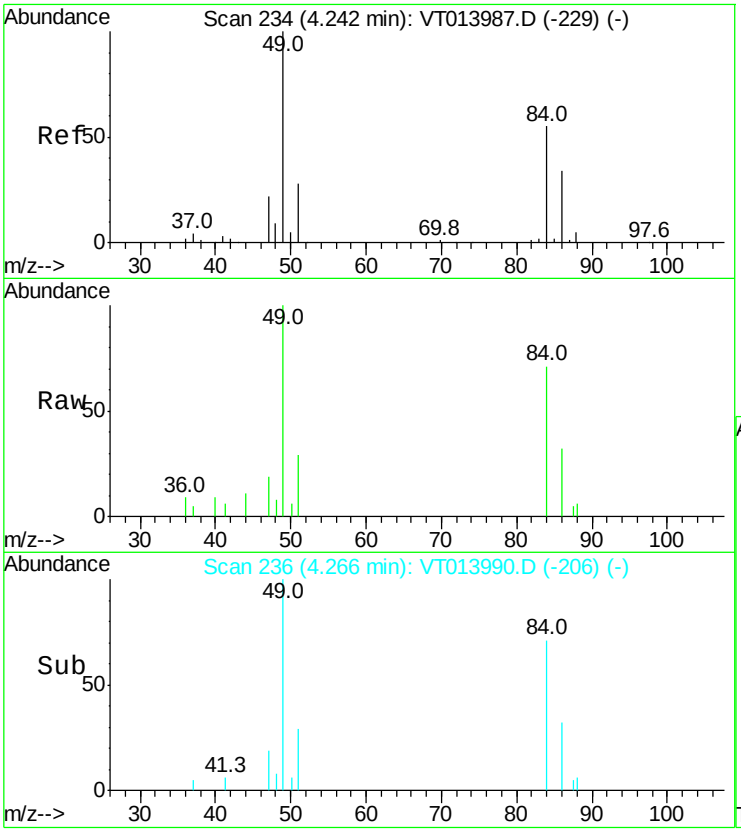


#13
Acetone
Concen: 4.20 ug/L
RT: 3.56 min Scan# 176
Delta R.T. 0.01 min
Lab File: VT013990.D
Acq: 9 May 2016 12:14

Tgt Ion: 43 Resp: 23490

Ion	Ratio	Lower	Upper
43	100		
58	18.7	0.0	50.2

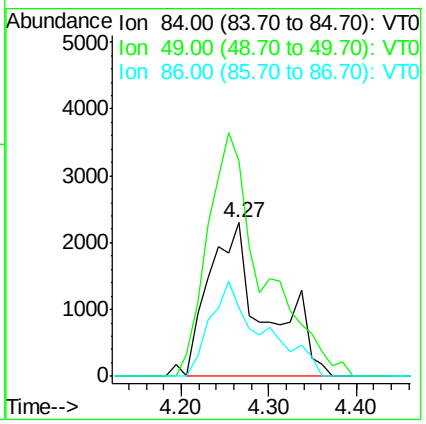




#16
Methylene chloride
Concen: 0.82 ug/L m
RT: 4.27 min Scan# 236
Delta R.T. 0.02 min
Lab File: VT013990.D
Acq: 9 May 2016 12:14

Tgt Ion: 84 Resp: 10186

Ion	Ratio	Lower	Upper
84	100		
49	140.3	116.8	216.8
86	44.8	44.9	83.5#



Instrument :
MSVOA_T
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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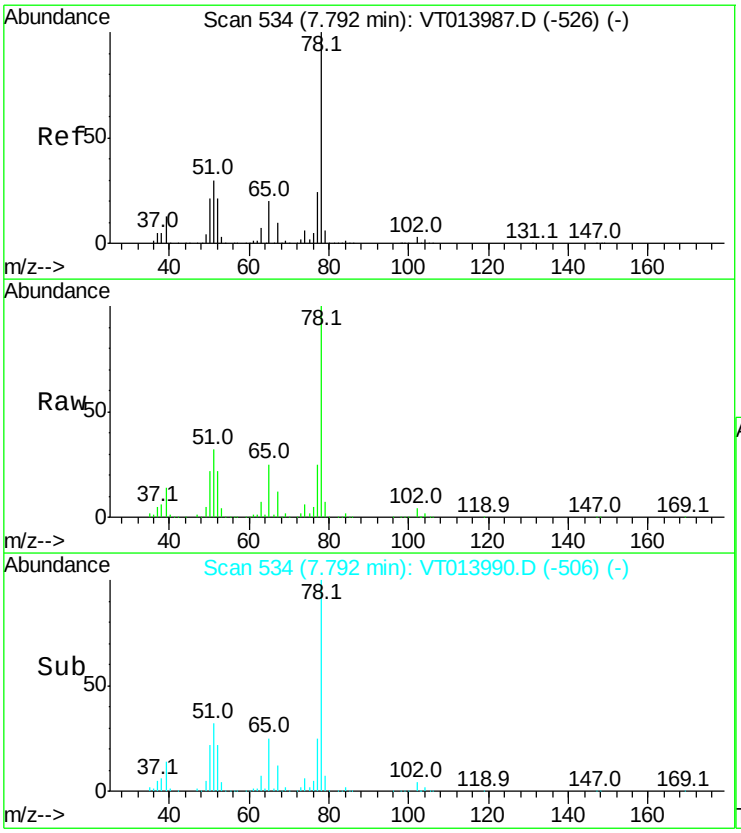
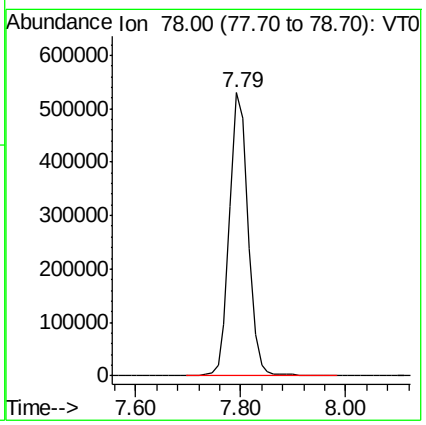
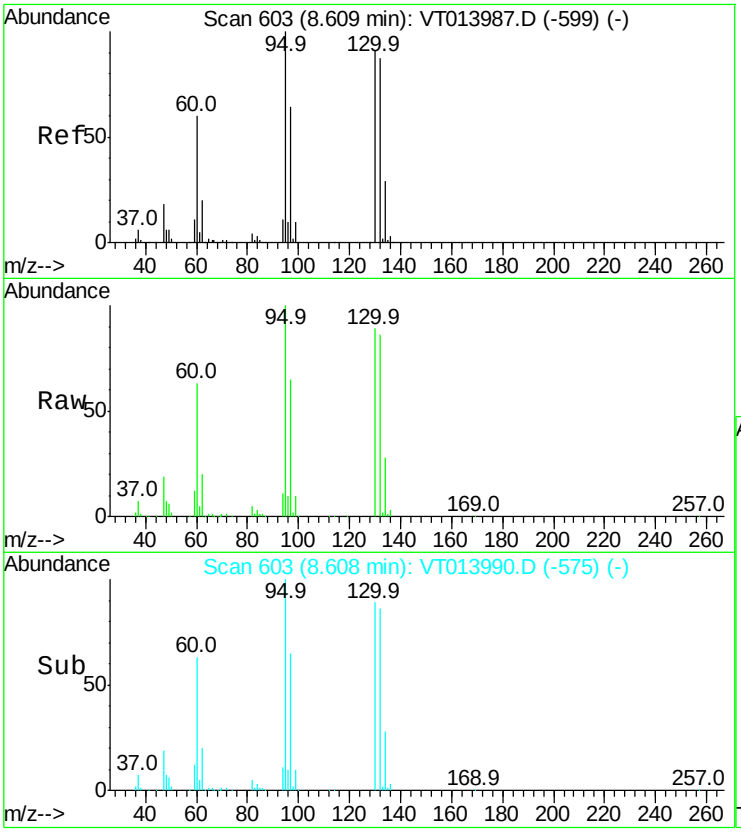
5/10/2016 7:40:46 PM



#34
Benzene
Concen: 26.89 ug/L
RT: 7.79 min Scan# 534
Delta R.T. -0.00 min
Lab File: VT013990.D
Acq: 9 May 2016 12:14

Tgt Ion: 78 Resp: 1292617

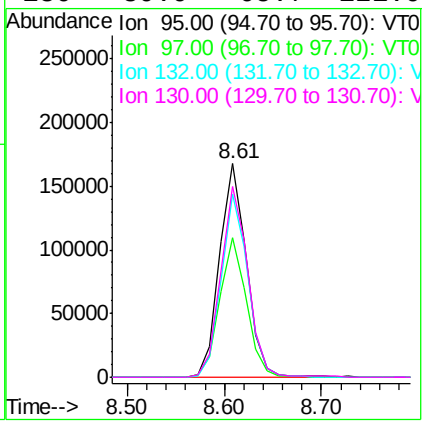




#35
Trichloroethene
Concen: 25.81 ug/L
RT: 8.61 min Scan# 603
Delta R.T. -0.00 min
Lab File: VT013990.D
Acq: 9 May 2016 12:14

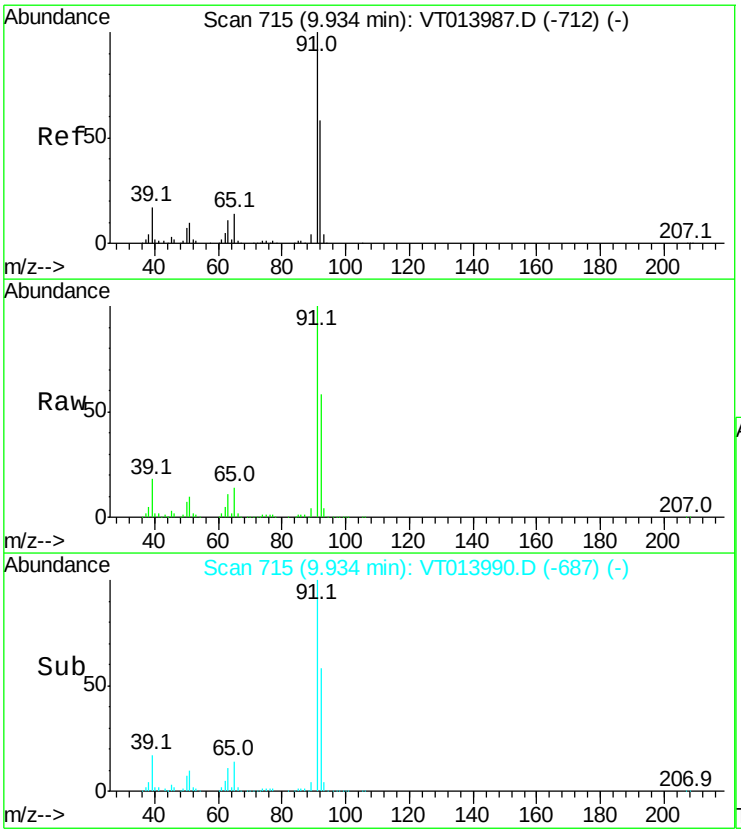
Tgt Ion: 95 Resp: 322132

Ion	Ratio	Lower	Upper
95	100		
97	65.1	44.9	83.5
132	85.0	63.4	117.8
130	89.9	65.7	121.9



Instrument :
MSVOA_T
ClientSampleId :
H4061MS

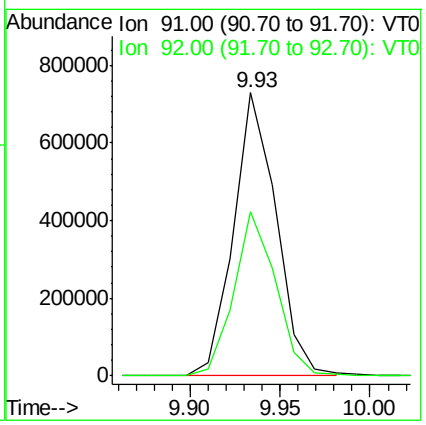
Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:46 PM

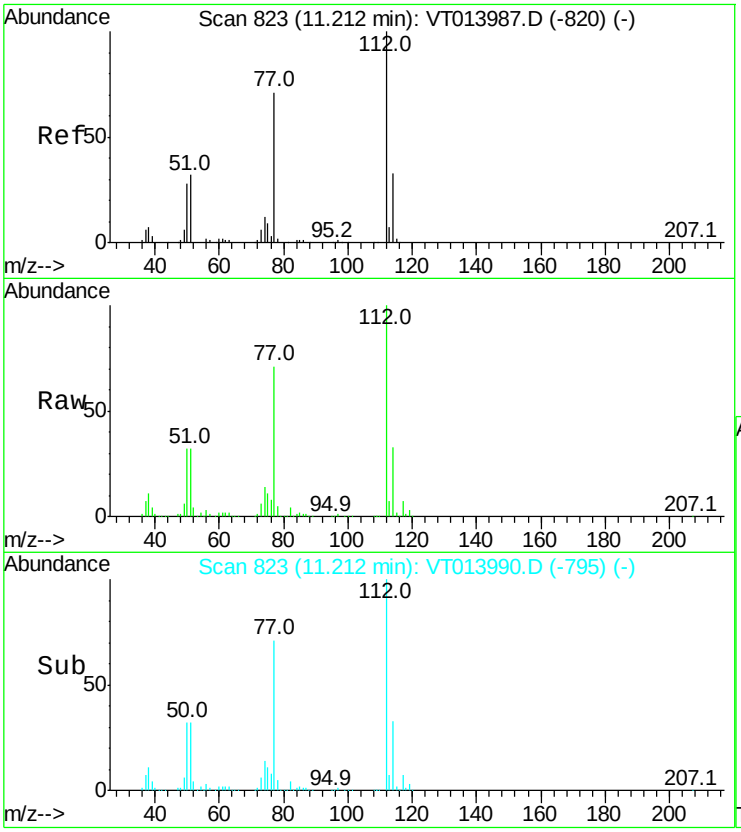


#44
Toluene
Concen: 25.21 ug/L
RT: 9.93 min Scan# 715
Delta R.T. -0.00 min
Lab File: VT013990.D
Acq: 9 May 2016 12:14

Tgt Ion: 91 Resp: 1194352

Ion	Ratio	Lower	Upper
91	100		
92	58.1	39.5	73.4

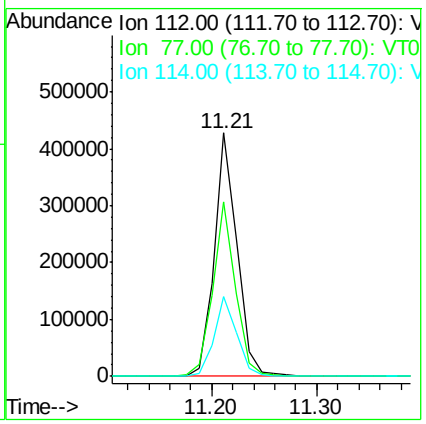




#52
Chlorobenzene
Concen: 23.19 ug/L
RT: 11.21 min Scan# 823
Delta R.T. -0.00 min
Lab File: VT013990.D
Acq: 9 May 2016 12:14

Tgt Ion:112 Resp: 642046

Ion	Ratio	Lower	Upper
112	100		
77	71.5	53.4	80.0
114	32.8	22.6	42.0



Instrument :
MSVOA_T
ClientSampleId :
H4061MS

Manual Integrations APPROVED
mmdadoda
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Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013990.D
Acq On : 9 May 2016 12:14
Operator : FY/SY
Sample : H2834-14MS
Misc : 4.64g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4061MS

Manual Integrations APPROVED
mmdadoda
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Quant Time: May 10 01:32:44 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	881436	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	650608	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	242136	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	404493	27.69	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 110.76%			
7) Chloroethane-d5	2.53	69	303604	28.75	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 115.00%			
10) 1,1-Dichloroethene-d2	3.47	63	776033	25.84	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 103.36%			
20) 2-Butanone-d5	6.43	46	151666	43.64	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 87.28%			
24) Chloroform-d	7.07	84	622121	25.30	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 101.20%			
26) 1,2-Dichloroethane-d4	7.78	65	389926	27.04	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 108.16%			
29) Benzene-d6	7.74	84	1152598	28.32	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 113.28%			
33) 1,2-Dichloropropane-d6	8.80	67	357338	29.76	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 119.04%			
37) Toluene-d8	9.87	98	962149	26.27	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 105.08%			
38) trans-1,3-Dichloropropene-	10.13	79	121350	26.06	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 104.24%			
39) 2-Hexanone-d5	10.48	63	98126	51.14	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 102.28%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	201026	24.30	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 97.20%			
60) 1,2-Dichlorobenzene-d4	13.41	152	203599	23.95	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 95.80%			
Target Compounds						Qvalue
12) 1,1-Dichloroethene	3.48	96	302743	23.40	ug/L	80
13) Acetone	3.56	43	23490	4.20	ug/L	87
16) Methylene chloride	4.27	84	10186m	0.82	ug/L	
34) Benzene	7.79	78	1292617	26.89	ug/L	100
35) Trichloroethene	8.61	95	322132	25.81	ug/L	96
44) Toluene	9.93	91	1194352	25.21	ug/L	98
52) Chlorobenzene	11.21	112	642046	23.19	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013990.D
Acq On : 9 May 2016 12:14
Operator : FY/SY
Sample : H2834-14MS
Misc : 4.64g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 10 01:32:44 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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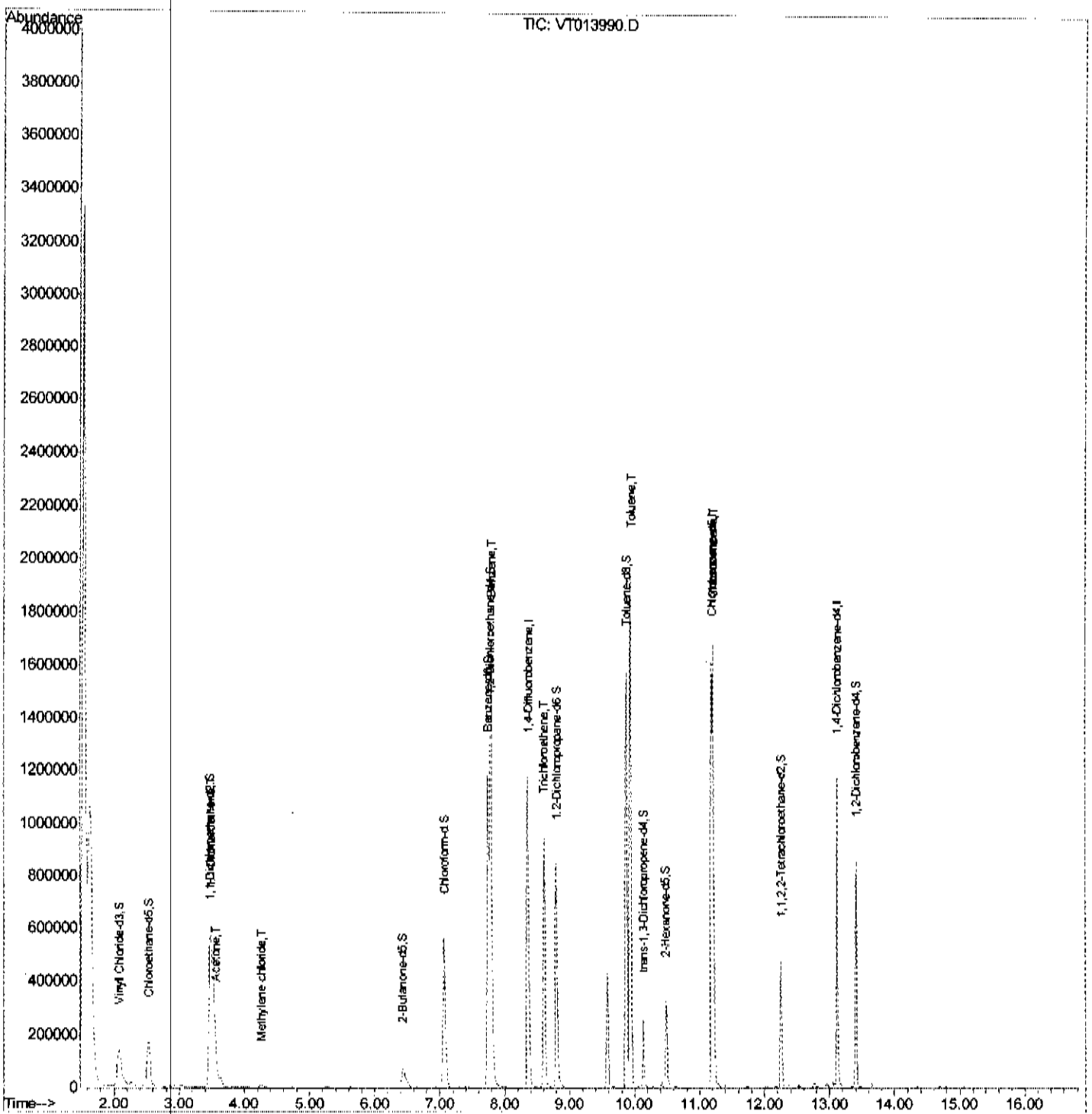


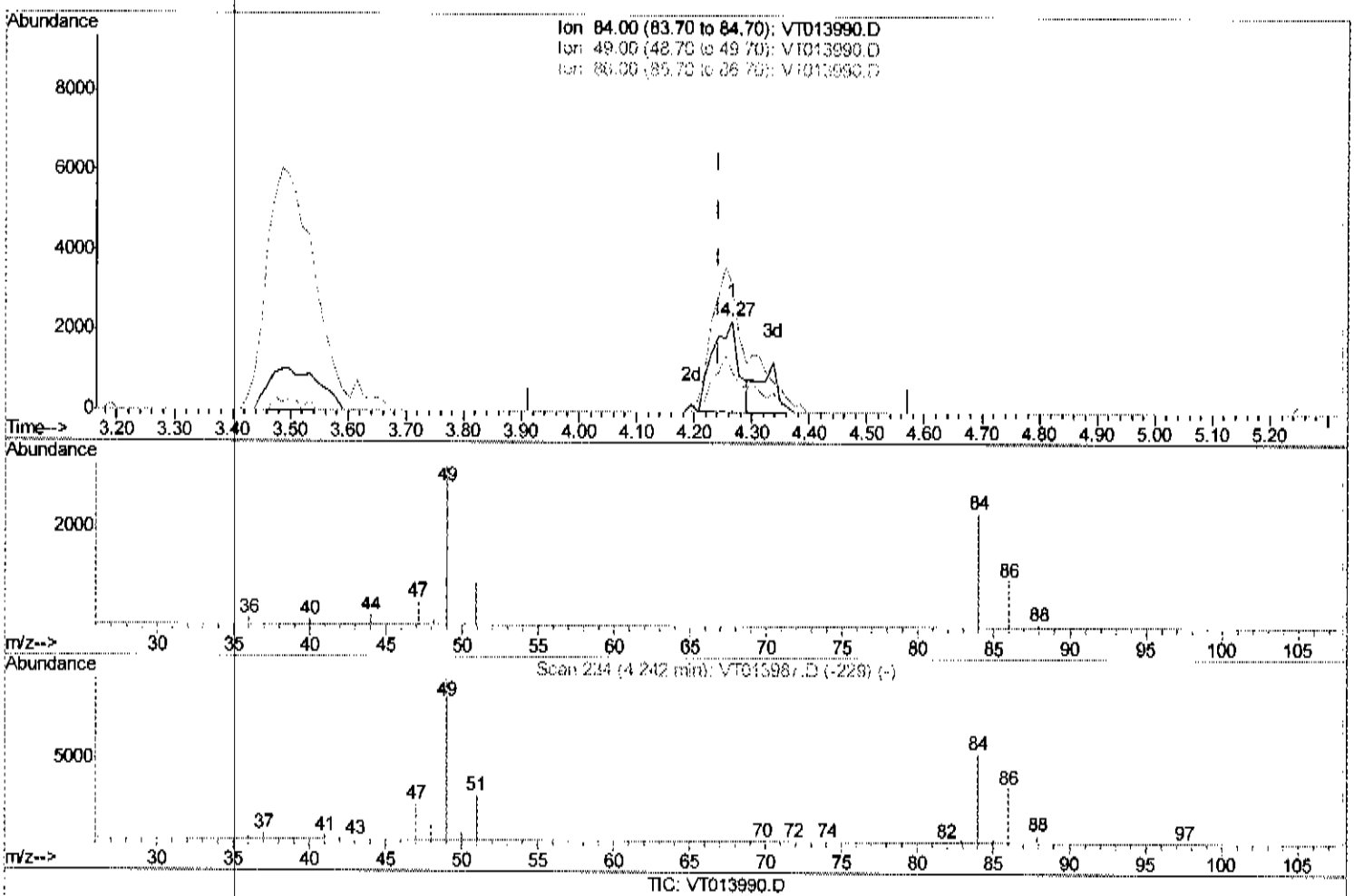
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013990.D
Acq On : 9 May 2016 12:14
Operator : FY/SY
Sample : H2834-14MS
Misc : 4.64g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 10 01:20:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061MS

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:46 PM



TIC: VT013990.D

(16) Methylene chloride (T)

4.266min (+0.023) 0.58ug/L

response 7256

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	140.29
86.00	64.20	44.77#
0.00	0.00	0.00

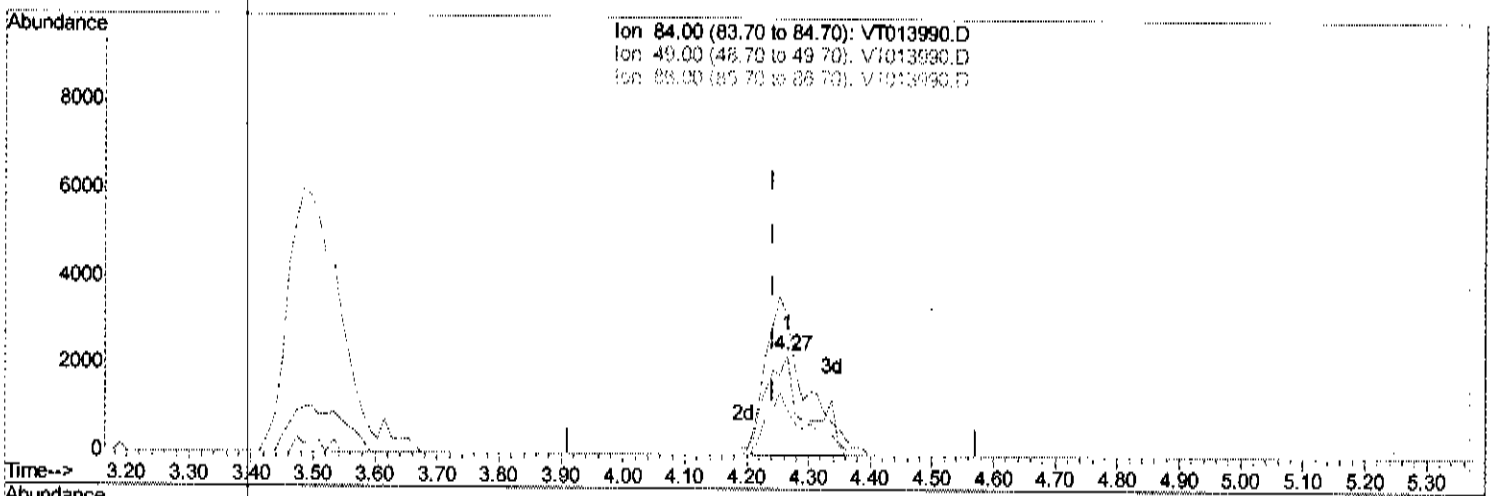
Quantitation Report (Qedit)

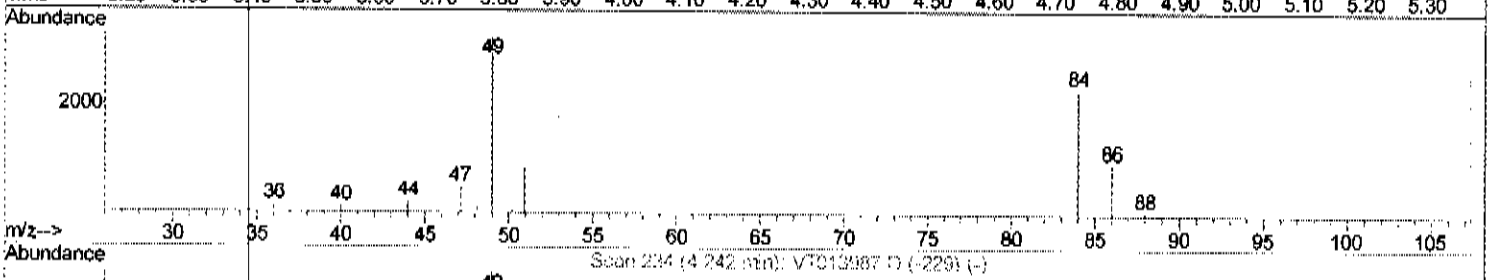
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013990.D
Acq On : 9 May 2016 12:14
Operator : FY/SY
Sample : H2834-14MS
Misc : 4.64g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

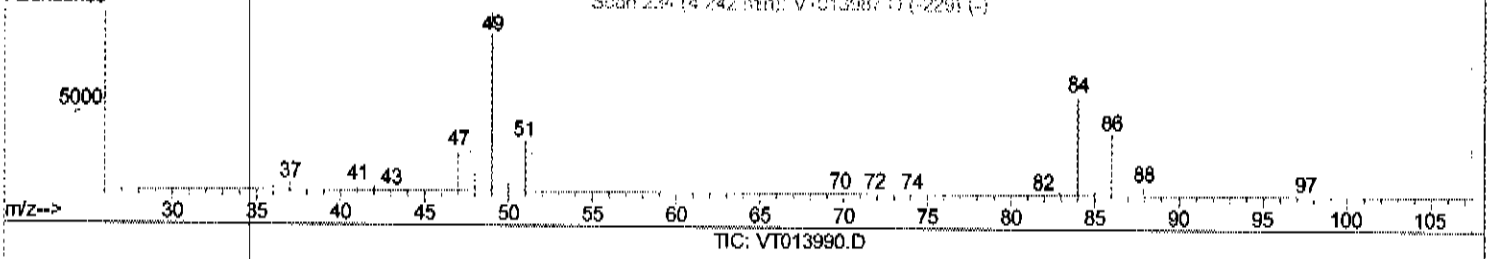
Quant Time: May 10 01:20:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061MS

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:46 PM







(16) Methylene chloride (T)

4.266min (+0.023) 0.82ug/L m

response 10186

FY 5/10/2016

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	140.29
86.00	64.20	44.77#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013990.D
Acq On : 9 May 2016 12:14
Operator : FY/SY
Sample : H2834-14MS
Misc : 4.64g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 10 01:32:44 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : H4061MS

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:46 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	881436	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	650608	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	242136	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	404493	27.69	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 110.76%			
7) Chloroethane-d5	2.53	69	303604	28.75	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 115.00%			
10) 1,1-Dichloroethene-d2	3.47	63	776033	25.84	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 103.36%			
20) 2-Butanone-d5	6.43	46	151666	43.64	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 87.28%			
24) Chloroform-d	7.07	84	622121	25.30	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 101.20%			
26) 1,2-Dichloroethane-d4	7.78	65	389926	27.04	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 108.16%			
29) Benzene-d6	7.74	84	1152598	28.32	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 113.28%			
33) 1,2-Dichloropropane-d6	8.80	67	357338	29.76	ug/L	0.00
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37) Toluene-d8	9.87	98	962149	26.27	ug/L	0.00
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38) trans-1,3-Dichloropropene-	10.13	79	121350	26.06	ug/L	0.00
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39) 2-Hexanone-d5	10.48	63	98126	51.14	ug/L	0.00
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Spiked Amount 25.000	Range 45 - 120		Recovery = 97.20%			
60) 1,2-Dichlorobenzene-d4	13.41	152	203599	23.95	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 95.80%			
Target Compounds						Qvalue
12) 1,1-Dichloroethene	3.48	96	302743	23.40	ug/L	80
13) Acetone	3.56	43	23490	4.20	ug/L	87
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34) Benzene	7.79	78	1292617	26.89	ug/L	100
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

FY 5/10/2016

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-15MSD
Sample wt/vol : 3.66 (g/mL): g
Lab File ID : VT013991.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	11	U
74-87-3	Chloromethane	11	U
75-01-4	Vinyl chloride	11	U
74-83-9	Bromomethane	11	U
75-00-3	Chloroethane	11	U
75-69-4	Trichlorofluoromethane	11	U
75-35-4	1,1-Dichloroethene	100	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	11	U
67-64-1	Acetone	40	
75-15-0	Carbon disulfide	11	U
79-20-9	Methyl Acetate	11	U
75-09-2	Methylene chloride	3.2	J
156-60-5	trans-1,2-Dichloroethene	11	U
1634-04-4	Methyl tert-butyl Ether	11	U
75-34-3	1,1-Dichloroethane	11	U
156-59-2	cis-1,2-Dichloroethene	11	U
78-93-3	2-Butanone	21	U
74-97-5	Bromochloromethane	11	U
67-66-3	Chloroform	11	U
71-55-6	1,1,1-Trichloroethane	11	U
110-82-7	Cyclohexane	11	U
56-23-5	Carbon tetrachloride	11	U
71-43-2	Benzene	110	
107-06-2	1,2-Dichloroethane	11	U
79-01-6	Trichloroethene	110	

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
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H4061MSD

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Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	11	U
78-87-5	1,2-Dichloropropane	11	U
75-27-4	Bromodichloromethane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
108-10-1	4-Methyl-2-pentanone	21	U
108-88-3	Toluene	110	
10061-02-6	trans-1,3-Dichloropropene	11	U
79-00-5	1,1,2-Trichloroethane	11	U
127-18-4	Tetrachloroethene	11	U
591-78-6	2-Hexanone	21	U
124-48-1	Dibromochloromethane	11	U
106-93-4	1,2-Dibromoethane	11	U
108-90-7	Chlorobenzene	98	
100-41-4	Ethylbenzene	11	U
95-47-6	o-xylene	11	U
179601-23-1	m,p-Xylene	11	U
100-42-5	Styrene	11	U
75-25-2	Bromoform	11	U
98-82-8	Isopropylbenzene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
120-82-1	1,2,4-trichlorobenzene	11	U

FORM 1A-OR
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TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MSD

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Date Extracted :
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Date Analyzed : 05/09/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	11	U

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013991.D
Acq On : 9 May 2016 12:41
Operator : FY/SY
Sample : H2834-15MSD
Misc : 3.66g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 01:34:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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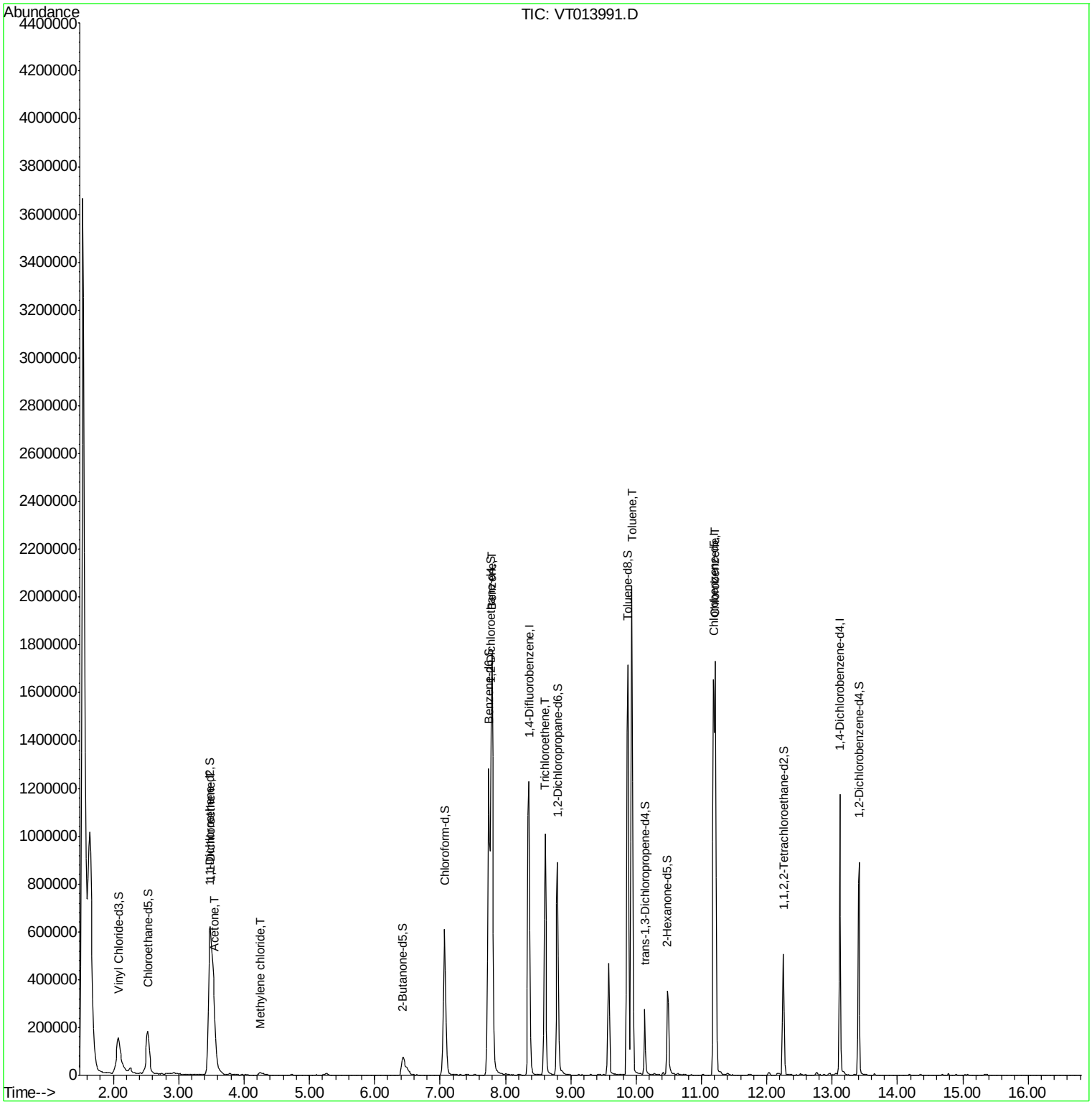
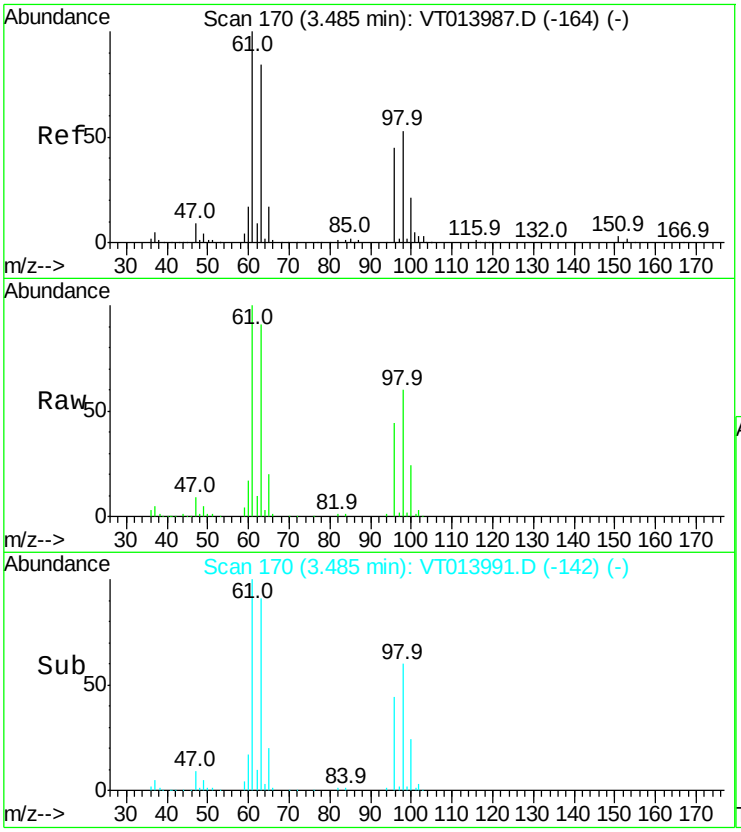
5/10/2016 7:40:48 PM

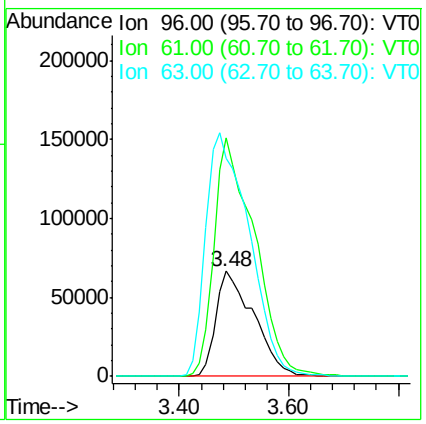




#12
1,1-Dichloroethene
Concen: 23.91 ug/L
RT: 3.48 min Scan# 170
Delta R.T. -0.00 min
Lab File: VT013991.D
Acq: 9 May 2016 12:41

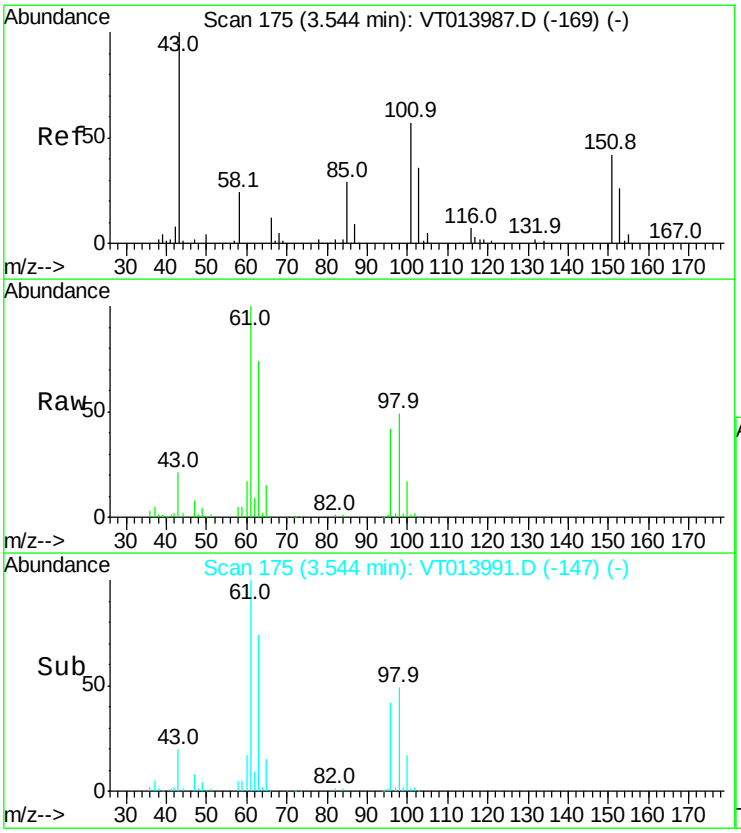
Tgt Ion: 96 Resp: 322956

Ion	Ratio	Lower	Upper
96	100		
61	226.9	148.3	275.5
63	207.3	119.3	221.5



Instrument :
MSVOA_T
ClientSampleId :
H4061MSD

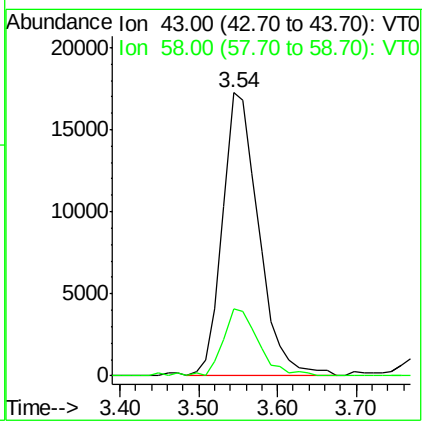
Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:48 PM

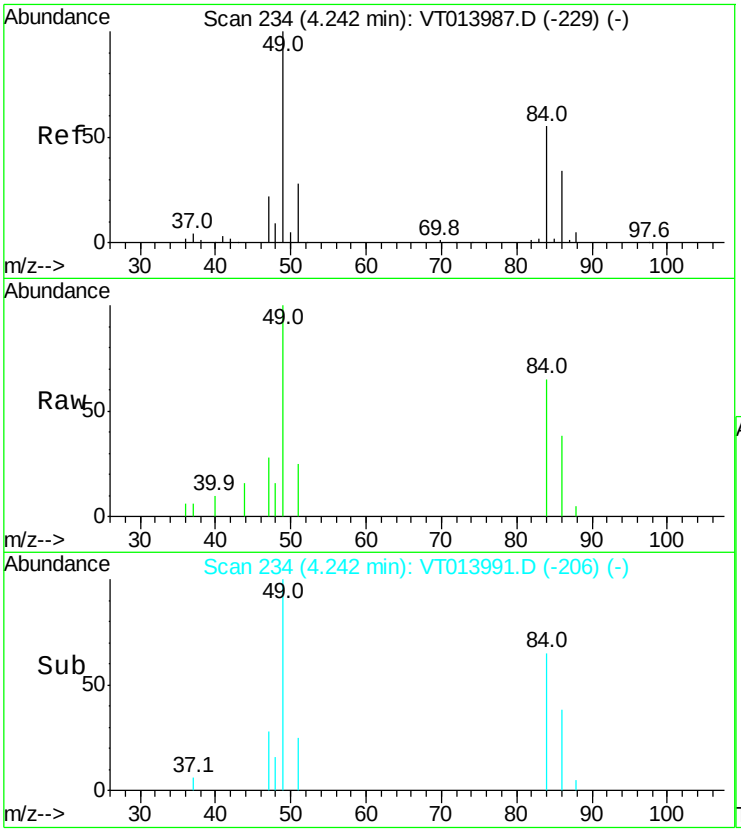


#13
Acetone
Concen: 9.40 ug/L
RT: 3.54 min Scan# 175
Delta R.T. -0.00 min
Lab File: VT013991.D
Acq: 9 May 2016 12:41

Tgt Ion: 43 Resp: 54841

Ion	Ratio	Lower	Upper
43	100		
58	22.2	0.0	50.2

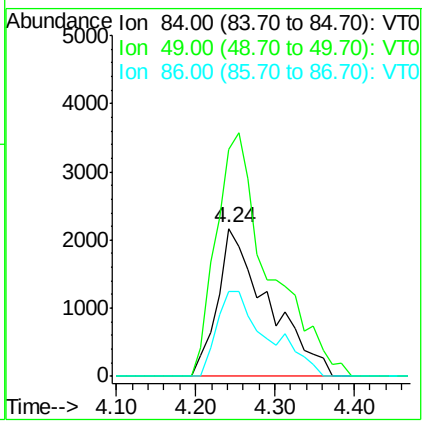




#16
Methylene chloride
Concen: 0.74 ug/L m
RT: 4.24 min Scan# 234
Delta R.T. -0.00 min
Lab File: VT013991.D
Acq: 9 May 2016 12:41

Tgt Ion: 84 Resp: 9606

Ion	Ratio	Lower	Upper
84	100		
49	153.7	116.8	216.8
86	57.8	44.9	83.5



Instrument :
MSVOA_T
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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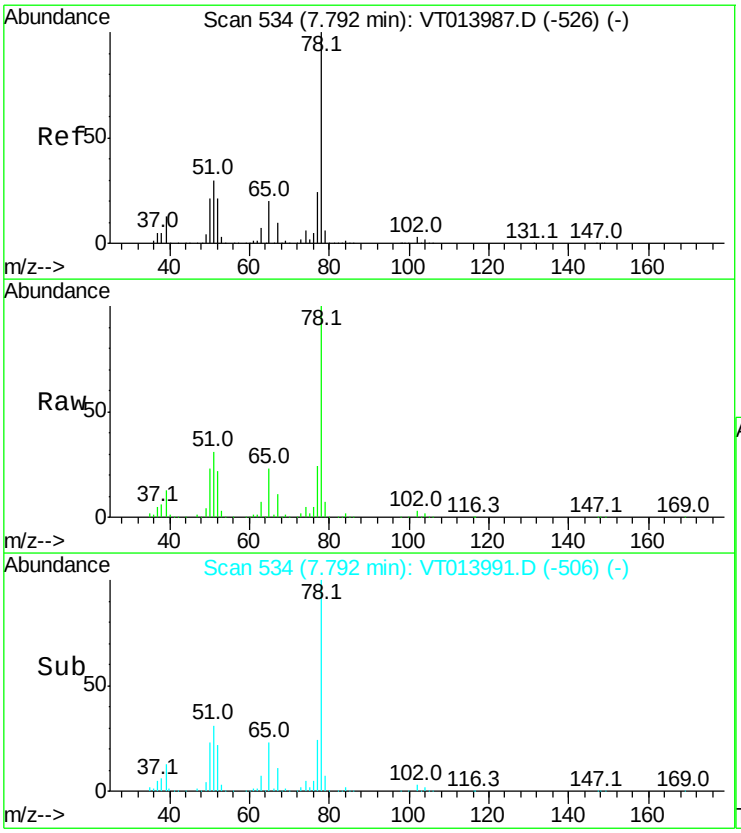
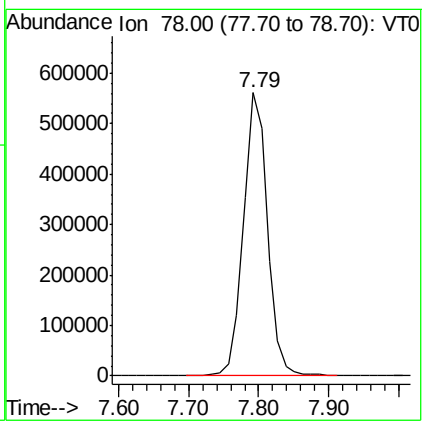
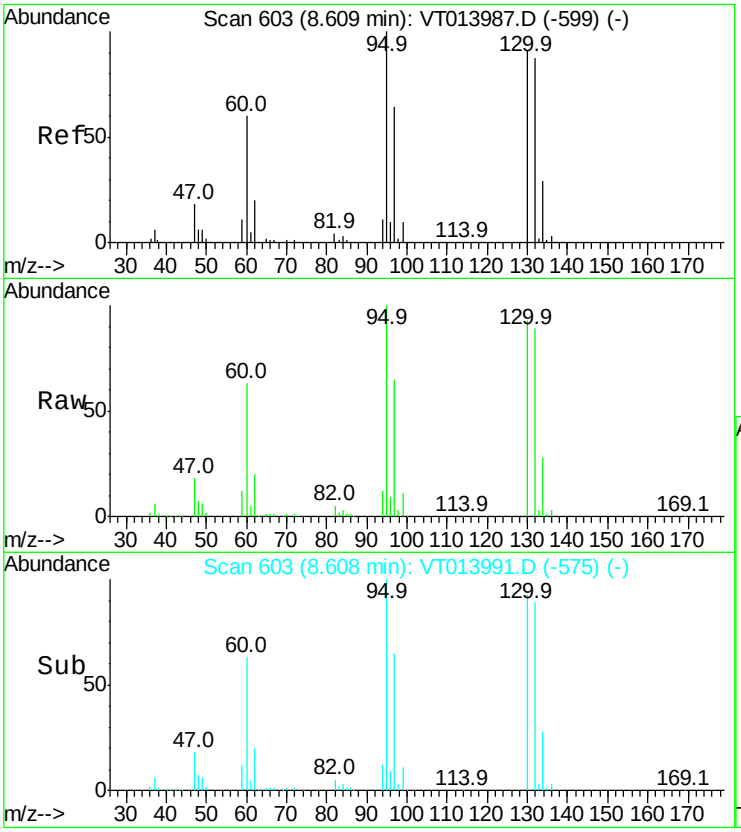


#34
Benzene
Concen: 26.71 ug/L
RT: 7.79 min Scan# 534
Delta R.T. -0.00 min
Lab File: VT013991.D
Acq: 9 May 2016 12:41

Tgt Ion: 78 Resp: 1347771

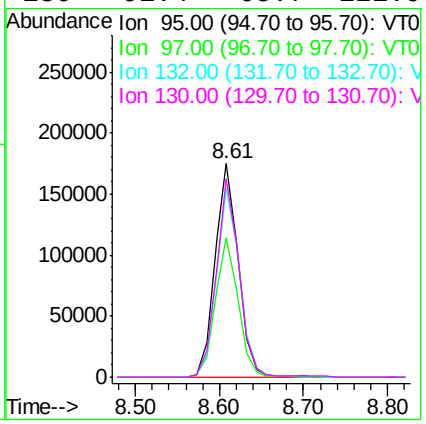




#35
Trichloroethene
Concen: 25.76 ug/L
RT: 8.61 min Scan# 603
Delta R.T. -0.00 min
Lab File: VT013991.D
Acq: 9 May 2016 12:41

Tgt Ion: 95 Resp: 337469

Ion	Ratio	Lower	Upper
95	100		
97	64.4	44.9	83.5
132	88.7	63.4	117.8
130	91.4	65.7	121.9



Instrument :
MSVOA_T
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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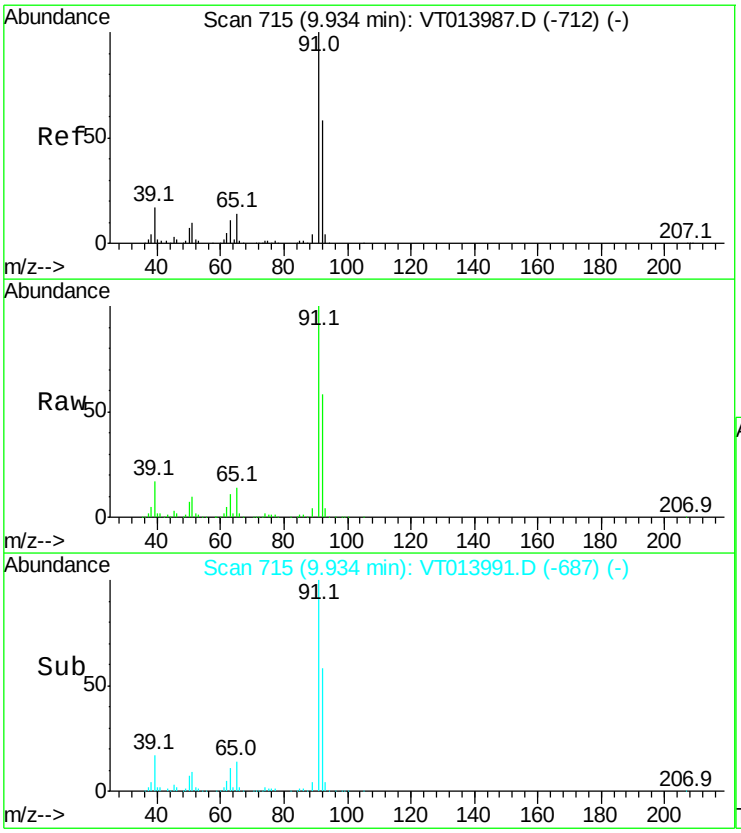
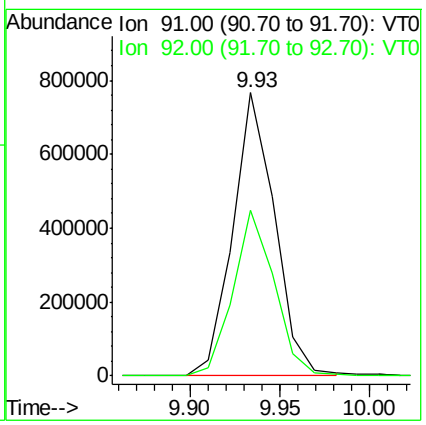
5/10/2016 7:40:48 PM

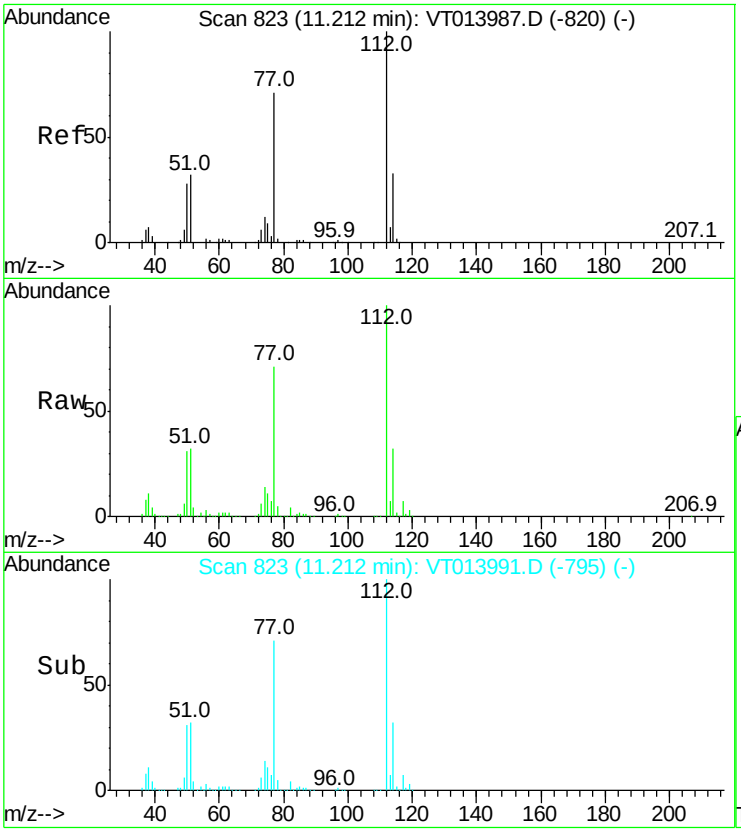


#44
Toluene
Concen: 24.96 ug/L
RT: 9.93 min Scan# 715
Delta R.T. -0.00 min
Lab File: VT013991.D
Acq: 9 May 2016 12:41

Tgt Ion: 91 Resp: 1241408

Ion	Ratio	Lower	Upper
91	100		
92	58.3	39.5	73.4

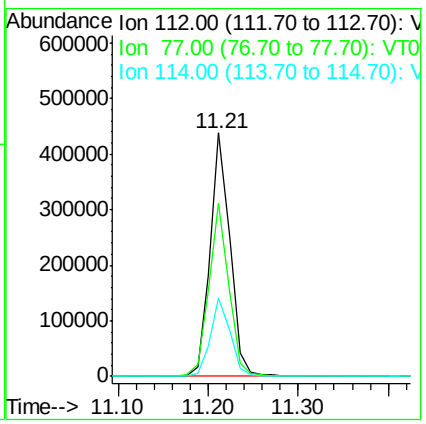




#52
Chlorobenzene
Concen: 22.94 ug/L
RT: 11.21 min Scan# 823
Delta R.T. -0.00 min
Lab File: VT013991.D
Acq: 9 May 2016 12:41

Tgt Ion:112 Resp: 666658

Ion	Ratio	Lower	Upper
112	100		
77	71.4	53.4	80.0
114	32.4	22.6	42.0



Instrument :
MSVOA_T
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013991.D
Acq On : 9 May 2016 12:41
Operator : FY/SY
Sample : H2834-15MSD
Misc : 3.66g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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5/10/2016 7:40:48 PM

Quant Time: May 10 01:34:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	920276	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	682901	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	237621	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	450163	29.52	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 118.08%			
7) Chloroethane-d5	2.53	69	335424	30.42	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 121.68%			
10) 1,1-Dichloroethene-d2	3.47	63	844470	26.93	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 107.72%			
20) 2-Butanone-d5	6.43	46	154301	42.53	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 85.06%			
24) Chloroform-d	7.07	84	665908	25.93	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 103.72%			
26) 1,2-Dichloroethane-d4	7.78	65	410363	27.26	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 109.04%			
29) Benzene-d6	7.74	84	1239344	29.01	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 116.04%			
33) 1,2-Dichloropropane-d6	8.80	67	375062	29.76	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 119.04%			
37) Toluene-d8	9.87	98	1048339	27.27	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 109.08%			
38) trans-1,3-Dichloropropene-	10.13	79	125007	25.58	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 102.32%			
39) 2-Hexanone-d5	10.48	63	102576	50.93	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 101.86%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	211656	24.38	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 97.52%			
60) 1,2-Dichlorobenzene-d4	13.41	152	211800	25.39	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 101.56%			
Target Compounds						Qvalue
12) 1,1-Dichloroethene	3.48	96	322956	23.91	ug/L	83
13) Acetone	3.54	43	54841	9.40	ug/L	94
16) Methylene chloride	4.24	84	9606m	0.74	ug/L	
34) Benzene	7.79	78	1347771	26.71	ug/L	100
35) Trichloroethene	8.61	95	337469	25.76	ug/L	98
44) Toluene	9.93	91	1241408	24.96	ug/L	97
52) Chlorobenzene	11.21	112	666658	22.94	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013991.D
Acq On : 9 May 2016 12:41
Operator : FY/SY
Sample : H2834-15MSD
Misc : 3.66g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 01:34:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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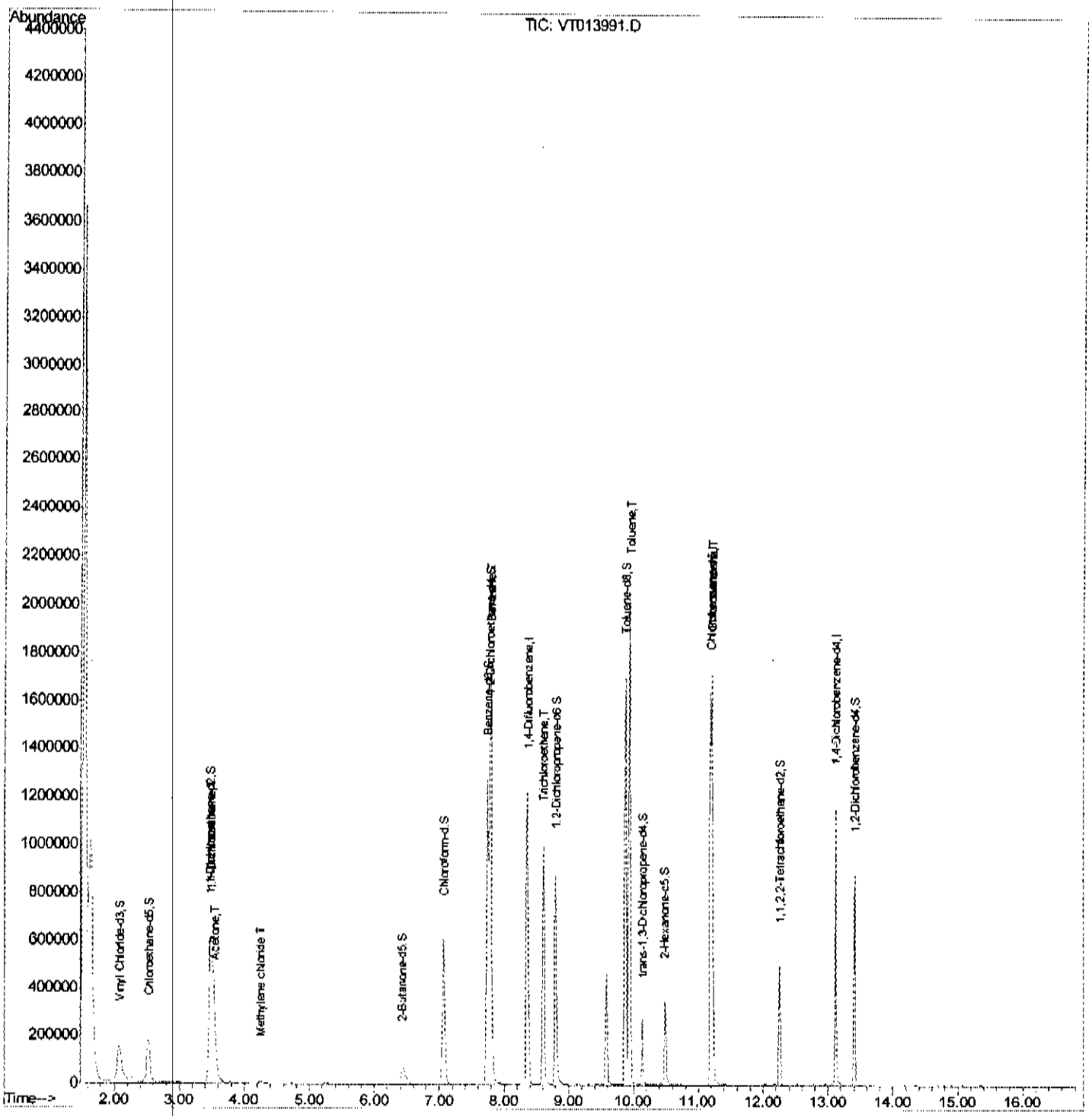

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013991.D
Acq On : 9 May 2016 12:41
Operator : FY/SY
Sample : H2834-15MSD
Misc : 3.66g/10mL/MSVOA_T/SO1L
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 01:20:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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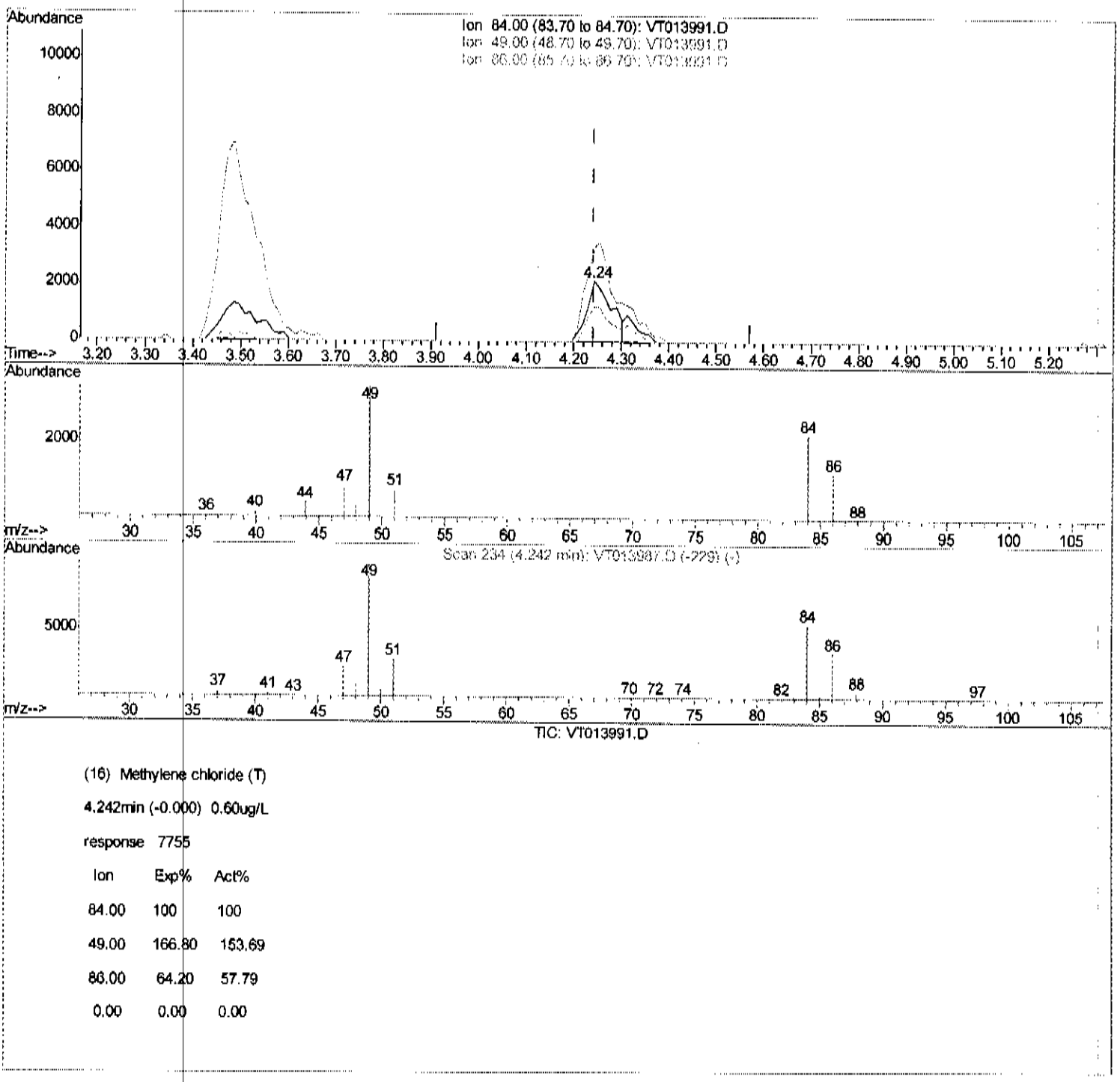
5/10/2016 7:40:48 PM



(16) Methylene chloride (T)

4.242min (-0.000) 0.60ug/L

response 7755

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	153.69
86.00	64.20	57.79
0.00	0.00	0.00

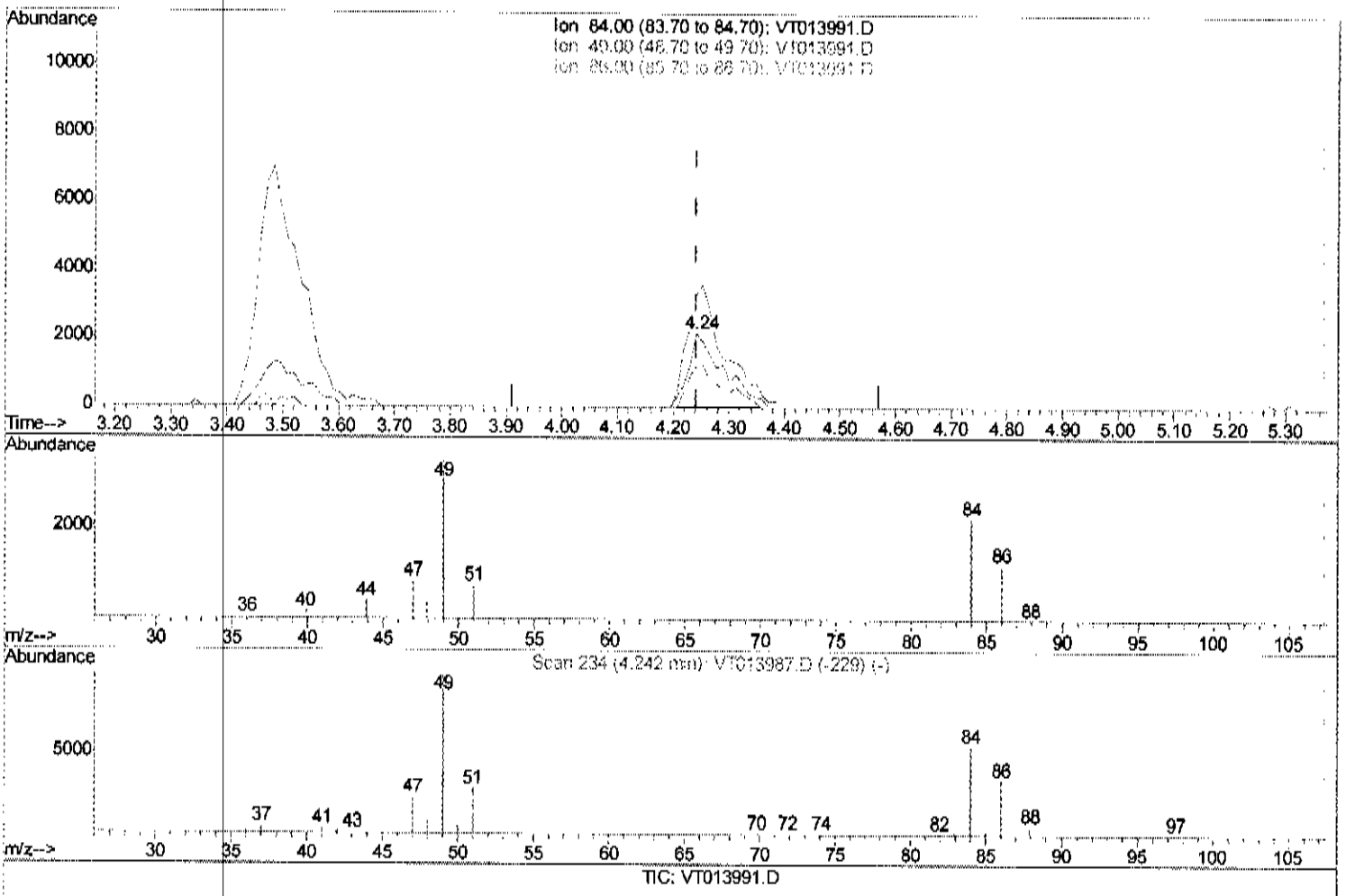
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013991.D
Acq On : 9 May 2016 12:41
Operator : FY/SY
Sample : H2834-15MSD
Misc : 3.66g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 01:20:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:48 PM



(16) Methylene chloride (T)

4.242min (-0.000) 0.74ug/L m

response 9606

Ion	Exp%	Act%
84.00	100	100
49.00	166.80	153.69
86.00	64.20	57.79
0.00	0.00	0.00

FY 5/10/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT050916\
Data File : VT013991.D
Acq On : 9 May 2016 12:41
Operator : FY/SY
Sample : H2834-15MSD
Misc : 3.66g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 01:34:26 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM050616S.M
Quant Title : VOC Analysis
QLast Update : Tue May 10 01:19:30 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : H4061MSD

Manual Integrations APPROVED
mmdadoda
5/10/2016 7:40:48 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	920276	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	682901	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	237621	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	450163	29.52	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 118.08%			
7) Chloroethane-d5	2.53	69	335424	30.42	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 121.68%			
10) 1,1-Dichloroethene-d2	3.47	63	844470	26.93	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 107.72%			
20) 2-Butanone-d5	6.43	46	154301	42.53	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 85.06%			
24) Chloroform-d	7.07	84	665908	25.93	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 103.72%			
26) 1,2-Dichloroethane-d4	7.78	65	410363	27.26	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 109.04%			
29) Benzene-d6	7.74	84	1239344	29.01	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 116.04%			
33) 1,2-Dichloropropane-d6	8.80	67	375062	29.76	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 119.04%			
37) Toluene-d8	9.87	98	1048339	27.27	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 109.08%			
38) trans-1,3-Dichloropropene-	10.13	79	125007	25.58	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 102.32%			
39) 2-Hexanone-d5	10.48	63	102576	50.93	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 101.86%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	211656	24.38	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 97.52%			
60) 1,2-Dichlorobenzene-d4	13.41	152	211800	25.39	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 101.56%			
Target Compounds						Qvalue
12) 1,1-Dichloroethene	3.48	96	322956	23.91	ug/L	83
13) Acetone	3.54	43	54841	9.40	ug/L	94
16) Methylene chloride	4.24	84	9606m	0.74	ug/L	
34) Benzene	7.79	78	1347771	26.71	ug/L	100
35) Trichloroethene	8.61	95	337469	25.76	ug/L	98
44) Toluene	9.93	91	1241408	24.96	ug/L	97
52) Chlorobenzene	11.21	112	666658	22.94	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FT 5/10/2016

FORM 2A-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract: EPW14030

Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4002

Analytical Method : SVOA Level : Low

Matrix : Soil

EPA Sample No .	DMC1 (DXE)	DMC2 (PHL)	DMC3 (BCE)	DMC4 (2CP)	DMC5 (4MP)	DMC6 (NBZ)	DMC7 (2NP)	DMC8 (DCP)	DMC9 (4CA)
H4061	41	44	48	47	46	48	49	48	41
H4061MS	44	49	51	51	49	54	54	51	23
H4061MSD	49	56	57	58	56	62	63	60	33
H4076	37 *	45	48	47	42	52	54	50	19
SBLK32	61	61	67	64	64	66	68	61	80

	QC LIMITS
DMC1 (DXE) = 1,4-Dioxane-d8	40 - 110
DMC2 (PHL) = Phenol-d5	10 - 130
DMC3 (BCE) = Bis(2-Chloroethyl)ether-d8	10 - 150
DMC4 (2CP) = 2-Chlorophenol-d4	15 - 120
DMC5 (4MP) = 4-Methylphenol-d8	10 - 140
DMC6 (NBZ) = Nitrobenzene-d5	10 - 135
DMC7 (2NP) = 2-Nitrophenol-d4	10 - 120
DMC8 (DCP) = 2,4-Dichlorophenol-d3	10 - 140
DMC9 (4CA) = 4-Chloroaniline-d4	1 - 145

FORM 2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030
Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4002
Analytical Method : SVOA Level : Low
Matrix : Soil

EPA Sample No .	DMC10 (DMP)	DMC11 ACY	DMC12 (4NP)	DMC13 (FLR)	DMC14 (NMP)	DMC15 (ANC)	DMC16 (PYR)	DMC17 (BAP)	Tot Out
H4061	51	51	31	52	34	54	57	56	0
H4061MS	54	53	32	52	29	54	54	54	0
H4061MSD	65	63	45	63	38	63	61	64	0
H4076	52	52	34	52	39	52	60	54	1
SBLK32	71	67	61	69	57	71	66	70	0

	QC LIMITS
DMC10 (DMP) = Dimethylphthalate-d6	10 - 145
DMC11 (ACY) = Acenaphthylene-d8	15 - 120
DMC12 (4NP) = 4-Nitrophenol-d4	10 - 150
DMC13 (FLR) = Fluorene-d10	20 - 140
DMC14 (NMP) = 4,6-Dinitro-2-methylphenol-d2	10 - 130
DMC15 (ANC) = Anthracene-d10	10 - 150
DMC16 (PYR) = Pyrene-d10	10 - 130
DMC17 (BAP) = Benzo(a)pyrene-d12	10 - 140

FORM 2A-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract: EPW14030

Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4002

Analytical Method : SVOA Level : _____

Matrix : Water

EPA Sample No .	DMC1 (DXE)	DMC2 (PHL)	DMC3 (BCE)	DMC4 (2CP)	DMC5 (4MP)	DMC6 (NBZ)	DMC7 (2NP)	DMC8 (DCP)	DMC9 (4CA)
H4002	19 *	17	81	65	39	84	84	74	8
H4002MS	16 *	14	69	56	32	73	72	64	5
H4002MSD	17 *	15	73	60	34	77	74	66	5
H4102	18 *	16	75	61	36	77	78	67	4
H4116	15 *	14	70	56	32	72	72	65	2
H4117	17 *	16	78	64	36	81	82	69	5
H4118	20 *	15	78	63	36	81	83	71	4
SBLK30	69	62	68	67	63	69	69	62	85

	QC LIMITS
DMC1 (DXE) = 1,4-Dioxane-d8	40 - 110
DMC2 (PHL) = Phenol-d5	10 - 130
DMC3 (BCE) = Bis(2-Chloroethyl)ether-d8	25 - 120
DMC4 (2CP) = 2-Chlorophenol-d4	20 - 130
DMC5 (4MP) = 4-Methylphenol-d8	25 - 125
DMC6 (NBZ) = Nitrobenzene-d5	20 - 125
DMC7 (2NP) = 2-Nitrophenol-d4	20 - 130
DMC8 (DCP) = 2,4-Dichlorophenol-d3	20 - 120
DMC9 (4CA) = 4-Chloroaniline-d4	1 - 146

FORM 2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030
Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4002
Analytical Method : SVOA Level : _____
Matrix : Water

EPA Sample No .	DMC10 (DMP)	DMC11 ACY	DMC12 (4NP)	DMC13 (FLR)	DMC14 (NMP)	DMC15 (ANC)	DMC16 (PYR)	DMC17 (BAP)	Tot Out
H4002	85	83	10	85	67	88	81	91	1
H4002MS	74	74	10	74	59	79	68	78	1
H4002MSD	79	78	11	81	62	84	72	84	1
H4102	78	79	9 *	79	61	80	71	81	2
H4116	72	73	7 *	74	56	75	68	77	2
H4117	80	81	8 *	81	62	81	74	82	2
H4118	81	81	9 *	82	65	82	75	85	2
SBLK30	71	70	52	71	52	73	66	74	0

	QC LIMITS
DMC10 (DMP) = Dimethylphthalate-d6	25 - 130
DMC11 (ACY) = Acenaphthylene-d8	10 - 130
DMC12 (4NP) = 4-Nitrophenol-d4	10 - 150
DMC13 (FLR) = Fluorene-d10	25 - 125
DMC14 (NMP) = 4,6-Dinitro-2-methylphenol-d2	10 - 130
DMC15 (ANC) = Anthracene-d10	25 - 130
DMC16 (PYR) = Pyrene-d10	15 - 130
DMC17 (BAP) = Benzo(a)pyrene-d12	20 - 130

FORM 3A-OR
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code : CHM Case No. : 46114 MA No .: SDG No. : H4002

Analytical Method : SVOA Level :

Matrix Water

EPA Sample No.(Matrix Spike/Metrix Spike Duplicate): H4002

Instrument ID : BNA_M GC Column ZB-GR ID : 0.25 (mm)

Concentration Units (ug/L,mg/L ug/kg): ug/L

ANALYTE	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS %R #	QC Limits %R
Phenol	40	0	6.3	16	12 - 110
2-Chlorophenol	40	0	23	58	27 - 123
N-Nitroso-di-n-propylamine	40	0	30	75	41 - 116
4-Chloro-3-methylphenol	40	0	24	60	23 - 97
Acenaphthene	40	0	30	75	46 - 118
4-Nitrophenol	40	0	4.7	12	10 - 80
2,4-Dinitrotoluene	40	0	32	80	24 - 96
Pentachlorophenol	40	0	21	52	9 - 103
Pyrene	40	0	28	70	26 - 127

ANALYTE	SPIKE AADDED	MSD CONCENTRATION	MSD %R #	RPD	QC Limits	
					RPD	%R
Phenol	40	6.8	17	6	42	12 - 110
2-Chlorophenol	40	24	60	3	40	27 - 123
N-Nitroso-di-n-propylamine	40	32	80	6	38	41 - 116
4-Chloro-3-methylphenol	40	27	68	13	42	23 - 97
Acenaphthene	40	32	80	6	31	46 - 118
4-Nitrophenol	40	5.1	13	8	50	10 - 80
2,4-Dinitrotoluene	40	36	90	12	38	24 - 96
Pentachlorophenol	40	24	60	14	50	9 - 103
Pyrene	40	29	73	4	31	26 - 127

FORM 3A-OR
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code : CHM Case No. : 46114 MA No .: SDG No. : H4002

Analytical Method : SVOA Level : LOW

Matrix Soil

EPA Sample No.(Matrix Spike/Metrix Spike Duplicate): H4061

Instrument ID : BNA_M GC Column ZB-GR ID : 0.25 (mm)

Concentration Units (ug/L,mg/L ug/kg): ug/Kg

ANALYTE	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS %R #	QC Limits %R
Phenol	2100	0	1000	48	26 - 90
2-Chlorophenol	2100	0	1000	48	25 - 102
N-Nitroso-di-n-propylamine	2100	0	1200	57	41 - 126
4-Chloro-3-methylphenol	2100	0	1100	52	26 - 103
Acenaphthene	2100	0	1100	52	31 - 137
4-Nitrophenol	2100	0	870	41	11 - 114
2,4-Dinitrotoluene	2100	0	1100	52	28 - 89
Pentachlorophenol	2100	0	950	45	17 - 109
Pyrene	2100	0	1100	52	35 - 142

ANALYTE	SPIKE AADDED	MSD CONCENTRATION	MSD %R #	RPD	QC Limits	
					RPD	%R
Phenol	2100	1200	57	17	35	26 - 90
2-Chlorophenol	2100	1200	57	17	50	25 - 102
N-Nitroso-di-n-propylamine	2100	1400	67	16	38	41 - 126
4-Chloro-3-methylphenol	2100	1300	62	18	33	26 - 103
Acenaphthene	2100	1300	62	18	19	31 - 137
4-Nitrophenol	2100	1100	52	24	50	11 - 114
2,4-Dinitrotoluene	2100	1400	67	25	47	28 - 89
Pentachlorophenol	2100	1200	57	24	47	17 - 109
Pyrene	2100	1300	62	18	36	35 - 142

EPA SAMPLE NO.

SBLK30

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : _____ sdg no.: H4002
Analytical Method: SVOA
Level : _____
Matrix : Water
Lab Sample ID: PB90330BL
Instrument ID: BNA_M
Lab File ID : BM005450.D
Extraction Type : CONH
Date Extracted : 05/05/2016
GC Column ( ) : ZB-GR ID : 0.25 (mm)
Date Analyzed : 05/14/2016
GC Column ( ) : _____ ID : _____ (mm)
Time Analyzed : 05:09
Heated Purge: (Y/N) _____ Cleanup(Y/N): N
Cleanup Types : _____

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
H4002	H2834-01	BM005451.D	05/14/2016 05:45
H4002MS	H2834-02MS	BM005452.D	05/14/2016 06:21
H4002MSD	H2834-03MSD	BM005453.D	05/14/2016 06:58
H4102	H2834-18	BM005454.D	05/14/2016 07:34
H4116	H2834-19	BM005455.D	05/14/2016 08:10
H4117	H2834-20	BM005456.D	05/14/2016 08:47
H4118	H2834-21	BM005457.D	05/14/2016 09:23

EPA SAMPLE NO.

SBLK32

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : _____ sdg no.: H4002
Analytical Method: SVOA
Level : Low
Matrix : Soil
Lab Sample ID: PB90332BL
Instrument ID: BNA_M
Lab File ID : BM005388.D
Extraction Type : SOXH
Date Extracted : 05/05/2016
GC Column ( ) : ZB-GR ID : 0.25 (mm)
Date Analyzed : 05/11/2016
GC Column ( ) : _____ ID : _____ (mm)
Time Analyzed : 15:49
Heated Purge: (Y/N) _____ Cleanup(Y/N): Y
Cleanup Types : GPC

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
H4061	H2834-13	BM005389.D	05/11/2016 16:25
H4076	H2834-16	BM005392.D	05/11/2016 18:15
H4061MS	H2834-14MS	BM005459.D	05/14/2016 10:36
H4061MSD	H2834-15MSD	BM005460.D	05/14/2016 11:12

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.
DFTPP64

Lab Name : Chemtech Consulting Group Contract : EPW14030
Lab Code: CHM Case No.: 46114 MA No. : SDG No.: H4002
Analytical Method : SVOA Lab File ID : BM005230.D
Instrument ID: BNA_M BFB / DFTPP : DFTPP
GC Column : ZB-GR ID : 0.25 (mm)
Injection Date : 05/05/2016 Injection Time : 10:23

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	31
68	Less than 2.0% of mass 69	0.6(1.8) 1
69	Present	32.4
70	Less than 2.0% of mass 69	0.0(0.0) 1
127	10.0 - 80.0% of mass 198	43.1
197	Less than 2.0% of mass 198	0.7
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	25.7
365	Greater than 1% of mass 198	3.2
441	Present, but less than mass 443	12.6
442	Greater than 50.0% of mass 198	81.3
443	15.0 - 24.0% of mass 442	15.9(19.5) 2

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTD00540	SSTD00540	BM005231.D	05/05/2016	11:09
SSTD01041	SSTD01041	BM005232.D	05/05/2016	11:45
SSTD02042	SSTD02042	BM005233.D	05/05/2016	12:21
SSTD04043	SSTD04043	BM005234.D	05/05/2016	12:57
SSTD08044	SSTD08044	BM005235.D	05/05/2016	13:33
SSTD16045	SSTD16045	BM005236.D	05/05/2016	15:53

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.
DFTPP36

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Lab File ID : BM005379.D
Instrument ID: BNA_M
BFB / DFTPP : DFTPP
GC Column : ZB-GR ID : 0.25 (mm)
Injection Date : 05/11/2016
Injection Time : 08:24

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	28.4
68	Less than 2.0% of mass 69	0.6(1.9) 1
69	Present	29.9
70	Less than 2.0% of mass 69	0.2(0.6) 1
127	10.0 - 80.0% of mass 198	41.6
197	Less than 2.0% of mass 198	0.8
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	28.2
365	Greater than 1% of mass 198	3.7
441	Present, but less than mass 443	14.7
442	Greater than 50.0% of mass 198	95.4
443	15.0 - 24.0% of mass 442	18.2(19.1) 2

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTD02061	SSTDCCC020	BM005380.D	05/11/2016	09:01
SBLK32	PB90332BL	BM005388.D	05/11/2016	15:49
H4061	H2834-13	BM005389.D	05/11/2016	16:25
H4076	H2834-16	BM005392.D	05/11/2016	18:15
SSTD02062	SSTDCCC020EC	BM005393.D	05/11/2016	18:52

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.
DFTPP38

Lab Name : Chemtech Consulting Group Contract : EPW14030
Lab Code: CHM Case No.: 46114 MA No. : SDG No.: H4002
Analytical Method : SVOA Lab File ID : BM005426.D
Instrument ID: BNA_M BFB / DFTPP : DFTPP
GC Column : ZB-GR ID : 0.25 (mm)
Injection Date : 05/13/2016 Injection Time : 11:10

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	27
68	Less than 2.0% of mass 69	0.6(2) 1
69	Present	29.9
70	Less than 2.0% of mass 69	0.2(0.6) 1
127	10.0 - 80.0% of mass 198	41.5
197	Less than 2.0% of mass 198	0.9
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	28.4
365	Greater than 1% of mass 198	3.8
441	Present, but less than mass 443	15.3
442	Greater than 50.0% of mass 198	98.6
443	15.0 - 24.0% of mass 442	19(19.3) 2

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTD02066	SSTDCCC020	BM005427.D	05/13/2016	11:46
SSTD02034	SSTDCCC020	BM005435.D	05/13/2016	17:05
SSTD02035	SSTDCCC020	BM005449.D	05/14/2016	04:32
SBLK30	PB90330BL	BM005450.D	05/14/2016	05:09
H4002	H2834-01	BM005451.D	05/14/2016	05:45
H4002MS	H2834-02MS	BM005452.D	05/14/2016	06:21
H4002MSD	H2834-03MSD	BM005453.D	05/14/2016	06:58
H4102	H2834-18	BM005454.D	05/14/2016	07:34
H4116	H2834-19	BM005455.D	05/14/2016	08:10
H4117	H2834-20	BM005456.D	05/14/2016	08:47
H4118	H2834-21	BM005457.D	05/14/2016	09:23
H4061MS	H2834-14MS	BM005459.D	05/14/2016	10:36
H4061MSD	H2834-15MSD	BM005460.D	05/14/2016	11:12
SSTD02036	SSTDCCC020EC	BM005461.D	05/14/2016	13:09

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030
Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002
Analytical Method: SVOA Level : LOW
EPA Sample No. : SSTD02061 Lab File ID (Standard) : BM005380.D
Instrument ID : BNA_M Init.Calib.Date(s): 05/05/2016
GC Column : ZB-GR ID: 0.25 (mm) Date Analyzed : 05/11/2016
Heated Purge: Time Analyzed : 09:01

	IS1 (DCB) AREA	RT	IS2 (NPT) AREA	RT	IS3 (ANT) AREA	RT
12 HOUR STD	100625	7.76	477106	10.55	305317	14.40
UPPER LIMIT	201250	8.26	954212	11.05	610634	14.9
LOWER LIMIT	50312.5	7.26	238553	10.05	152659	13.9
EPA SAMPLE NO.						
H4061	88525	7.76	436762	10.55	292129	14.4
H4076	90930	7.76	437247	10.55	281342	14.4
SBLK32	67507	7.76	336886	10.55	229833	14.4

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

FORM 8B-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030
Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002
Analytical Method: SVOA Level : LOW
EPA Sample No. : SSTD02061 Lab File ID (Standard) : BM005380.D
Instrument ID : BNA_M Init.Calib.Date(s): 05/05/2016
GC Column : ZB-GR ID: 0.25 (mm) Date Analyzed : 05/11/2016
Heated Purge: Time Analyzed : 09:01

	IS4 (PHN) AREA	RT	IS5 (CRY) AREA	RT	IS6 (PRY) AREA	RT
12 HOUR STD	736650	17.15	814700	21.34	832126	23.61
UPPER LIMIT	1473300	17.6	1629400	21.84	1664250	24.11
LOWER LIMIT	368325	16.6	407350	20.84	416063	23.11
EPA SAMPLE NO.						
H4061	701614	17.15	767642	21.34	603585	23.61
H4076	666164	17.15	644821	21.34	486399	23.62
SBLK32	578080	17.15	716616	21.34	680658	23.61

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030
Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002
Analytical Method: SVOA Level :
EPA Sample No. : SSTD02035 Lab File ID (Standard) : BM005449.D
Instrument ID : BNA_M Init.Calib.Date(s): 05/05/2016
GC Column : ZB-GR ID: 0.25 (mm) Date Analyzed : 05/14/2016
Heated Purge: Time Analyzed : 04:32

	IS1 (DCB) AREA	RT	IS2 (NPT) AREA	RT	IS3 (ANT) AREA	RT
12 HOUR STD	51526	7.75	233474	10.53	144192	14.39
UPPER LIMIT	103052	8.25	466948	11.03	288384	14.89
LOWER LIMIT	25763	7.25	116737	10.03	72096	13.89
EPA SAMPLE NO.						
H4002	51866	7.75	247395	10.53	166462	14.39
H4002MS	56135	7.75	261561	10.53	169167	14.39
H4002MSD	43867	7.75	207205	10.53	139326	14.39
H4061MS	63562	7.75	296549	10.53	189197	14.39
H4061MSD	51562	7.75	238097	10.53	150598	14.39
H4102	59452	7.75	280477	10.53	183415	14.39
H4116	53059	7.75	244989	10.53	159834	14.39
H4117	59923	7.75	287489	10.53	188536	14.39
H4118	58954	7.75	277226	10.53	179000	14.39
SBLK30	57328	7.75	272738	10.53	178342	14.39

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

FORM 8B-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002
Analytical Method: SVOA | Level :
EPA Sample No. : SSTD02035 | Lab File ID (Standard) : BM005449.D
Instrument ID : BNA_M | Init.Calib.Date(s): 05/05/2016
GC Column : ZB-GR | ID: 0.25 (mm) | Date Analyzed : 05/14/2016
Heated Purge: | Time Analyzed : 04:32

	IS4 (PHN) AREA	RT	IS5 (CRY) AREA	RT	IS6 (PRY) AREA	RT
12 HOUR STD	357486	17.14	439148	21.34	397039	23.6
UPPER LIMIT	714972	17.6	878296	21.84	794078	24.1
LOWER LIMIT	178743	16.6	219574	20.84	198520	23.1
EPA SAMPLE NO.						
H4002	417043	17.14	546706	21.33	500572	23.60
H4002MS	411145	17.14	570201	21.33	566295	23.60
H4002MSD	365368	17.14	539904	21.33	535616	23.60
H4061MS	444383	17.14	518205	21.34	436350	23.61
H4061MSD	383066	17.14	473564	21.34	401608	23.61
H4102	462833	17.14	624224	21.34	579206	23.61
H4116	405010	17.14	552511	21.34	508365	23.60
H4117	468918	17.14	600035	21.34	535962	23.61
H4118	454700	17.14	614788	21.34	582278	23.61
SBLK30	445752	17.14	589547	21.33	522602	23.60

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005451.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	U
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005451.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	5.0	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005451.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H4002

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-01
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005451.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
Extract Concentrated : (Y / N) N
Date Analyzed : 05/14/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 1000 (µL)
Heated Purge : (Y / N)
Extraction Type : CONH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types :
pH : 6 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor : 1.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

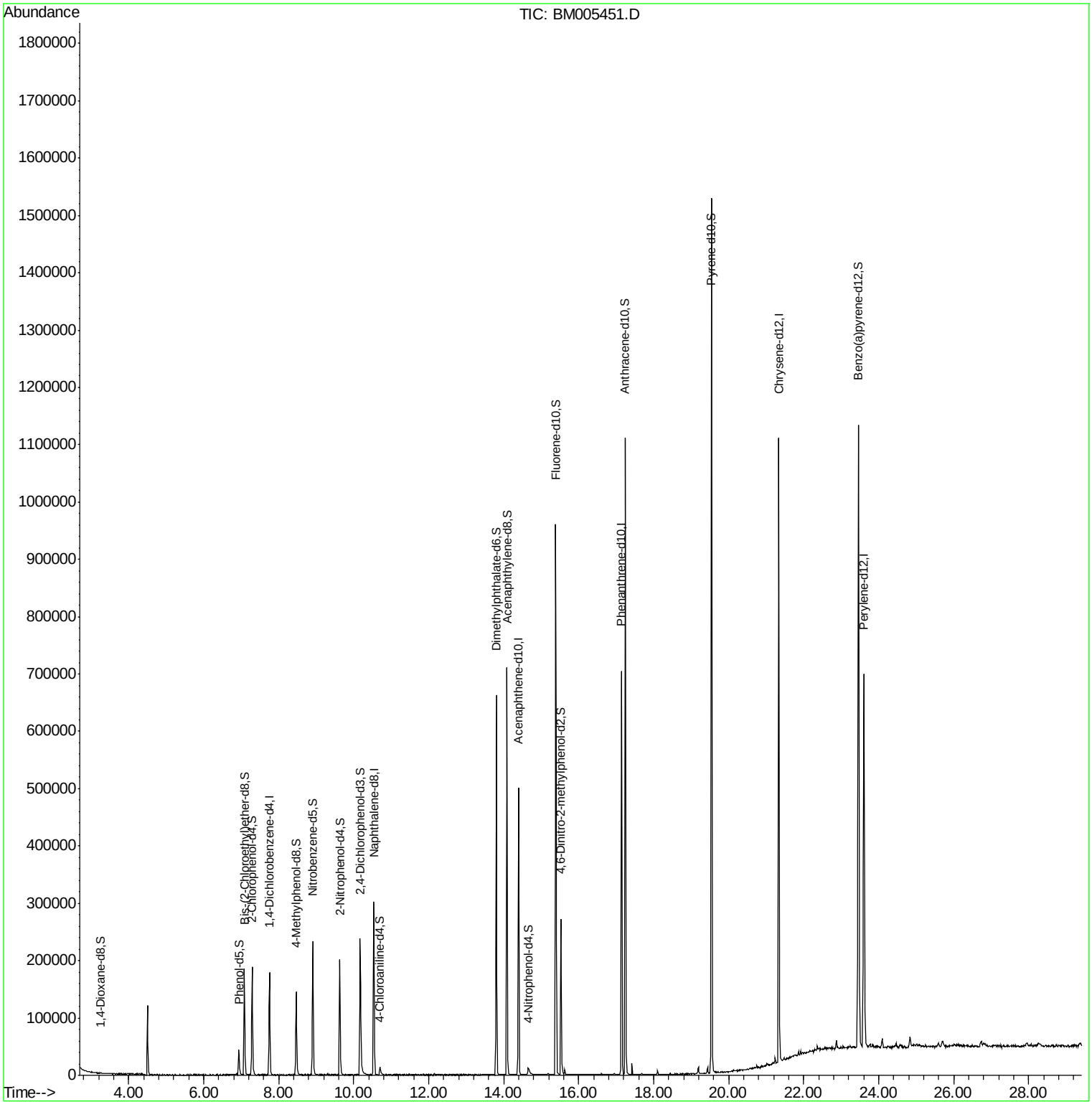
Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 16 03:50:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002

Manual Integrations APPROVED
sohil
5/16/2016 7:01:40 PM



Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4002

Manual Integrations APPROVED
sohil
5/16/2016 7:01:40 PM

Quant Time: May 16 03:50:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	51866	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	247395	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	166462	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	417043	20.00	ng/ul	0.00
75) Chrysene-d12	21.33	240	546706	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	500572	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1664	1.51	ng/uL	0.00
5) Phenol-d5	6.93	99	32450	6.90	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	86793	32.34	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	92174	25.94	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	60687	15.61	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	59072	33.44	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	67168	33.59	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	109832	29.55	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	15071m	3.37	ng/ul	0.02
43) Dimethylphthalate-d6	13.80	166	452555	33.92	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	522280	33.37	ng/ul	0.00
51) 4-Nitrophenol-d4	14.66	143	9303m	3.82	ng/ul	0.04
57) Fluorene-d10	15.39	176	391110	33.95	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	63277	26.97	ng/ul	0.00
70) Anthracene-d10	17.24	188	647448	35.12	ng/ul	0.00
76) Pyrene-d10	19.54	212	816304	32.35	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	807577	36.45	ng/ul	0.00

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4002

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.499	303	308	319	rBV	121205	201902	9.24%	1.141%
2	6.934	717	722	737	rBV	45082	82539	3.78%	0.466%
3	7.081	741	747	757	rBV	184738	299842	13.72%	1.694%
4	7.287	776	782	797	rBV	188471	318003	14.55%	1.797%
5	7.751	852	861	871	rBV	179349	304315	13.92%	1.720%
6	8.463	977	982	998	rBV	144401	246624	11.28%	1.394%
7	8.904	1052	1057	1073	rBV	233678	402571	18.42%	2.275%
8	9.628	1174	1180	1192	rBV	200814	340969	15.60%	1.927%
9	10.169	1267	1272	1295	rBV	237527	478580	21.90%	2.704%
10	10.534	1327	1334	1342	rBV	301930	502645	23.00%	2.840%
11	10.692	1356	1361	1374	rBV2	14249	32837	1.50%	0.186%
12	13.798	1883	1889	1903	rBV	662028	952078	43.56%	5.380%
13	14.086	1931	1938	1949	rBV	709776	1086904	49.73%	6.141%
14	14.392	1983	1990	2001	rBV2	499732	764220	34.96%	4.318%
15	14.651	2030	2034	2046	rBV2	12490	38566	1.76%	0.218%
16	15.386	2153	2159	2171	rBV	959656	1436649	65.73%	8.118%
17	15.522	2177	2182	2197	rBV	271790	399277	18.27%	2.256%
18	17.139	2451	2457	2466	rBV2	704339	1020518	46.69%	5.766%
19	17.239	2468	2474	2487	rVV2	1108988	1653493	75.65%	9.343%
20	17.421	2501	2505	2510	rVB	19891	23495	1.07%	0.133%
21	19.539	2859	2865	2881	rBV2	1525782	2185753	100.00%	12.350%
22	21.333	3165	3170	3182	rBV	1087743	1469485	67.23%	8.303%
23	23.456	3524	3531	3546	rVB2	1084688	2145425	98.15%	12.123%
24	23.603	3549	3556	3567	rVB	648176	1311023	59.98%	7.408%

Sum of corrected areas: 17697713

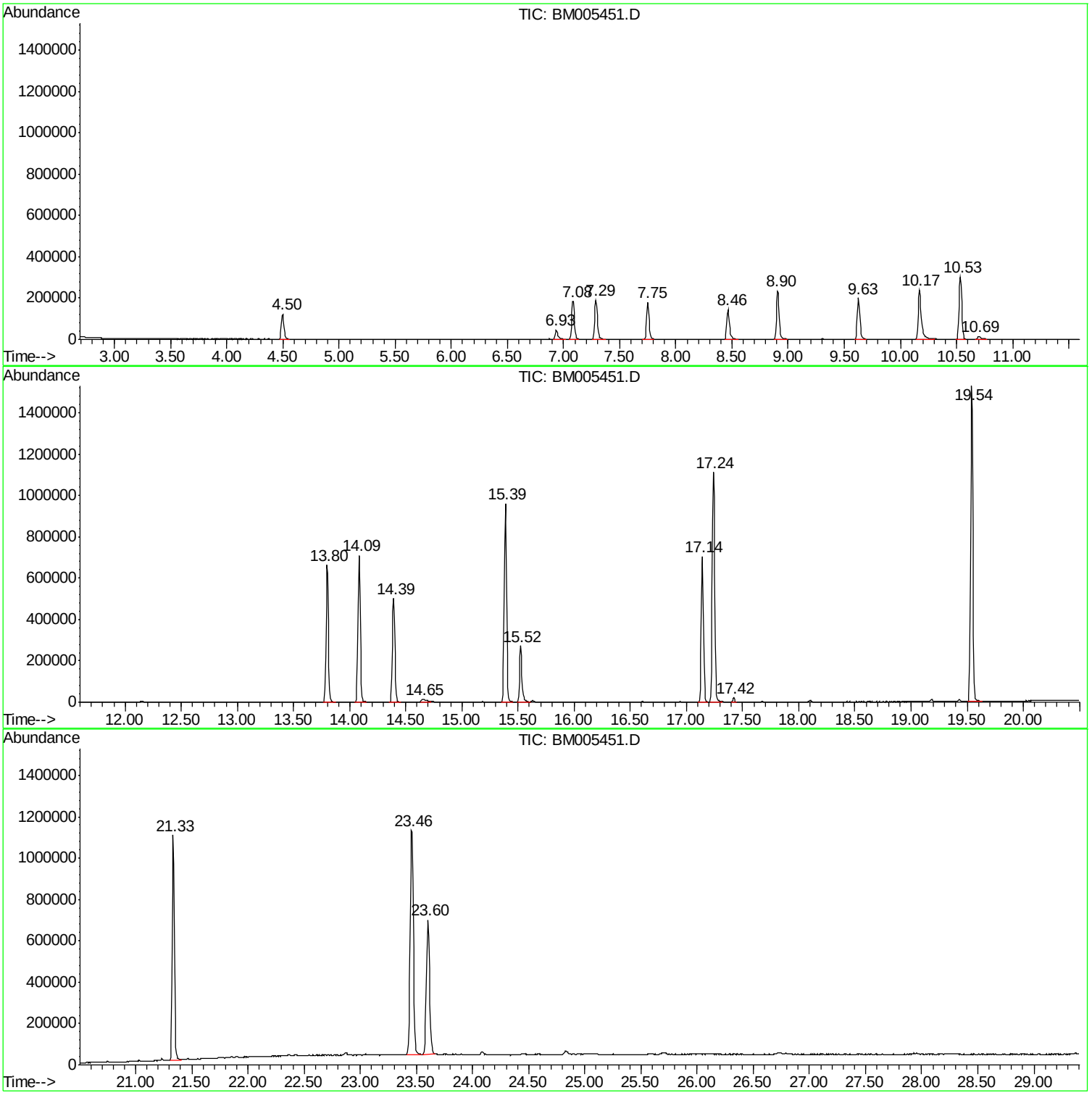
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4002

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
H4002

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4002

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 16 03:50:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002

Manual Integrations APPROVED
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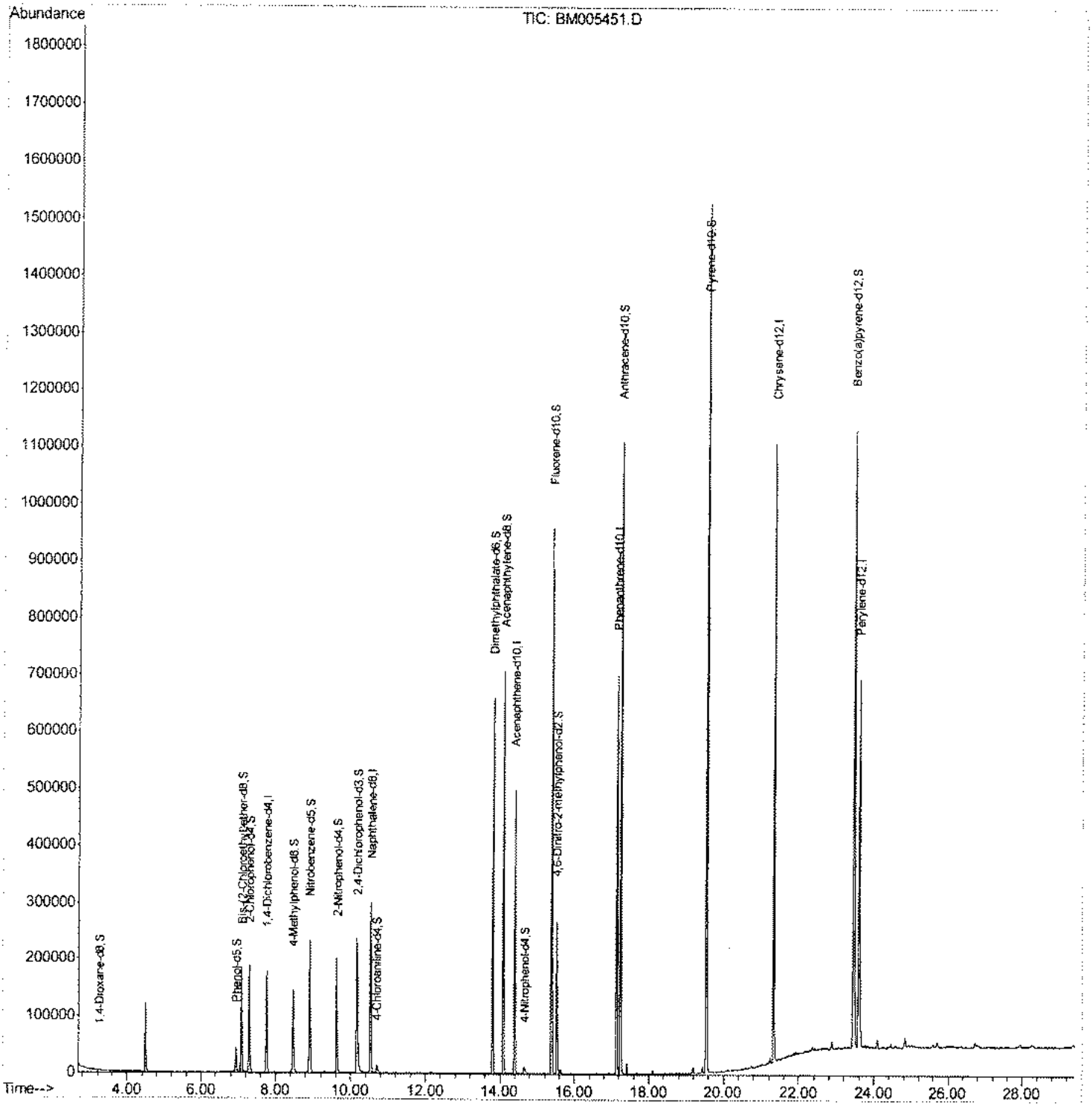


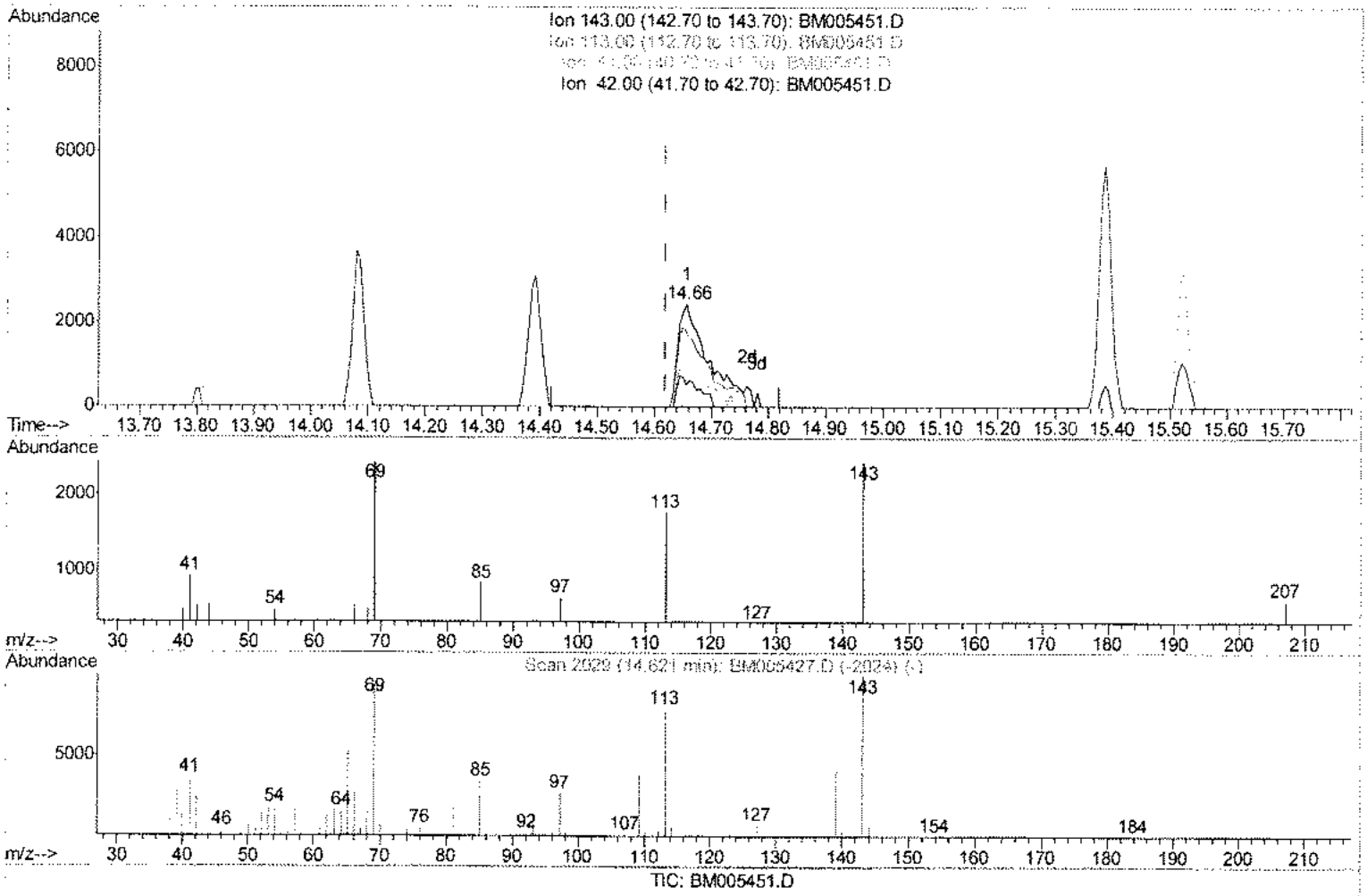
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 16 03:39:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002

Manual Integrations APPROVED
sohil
5/16/2016 7:01:40 PM



(51) 4-Nitrophenol-d4 (S)

14.657min (+0.036) 3.82ng/ul m > U.M 05/14/16

response 9303

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	72.70
41.00	38.10	38.16
42.00	26.00	21.02

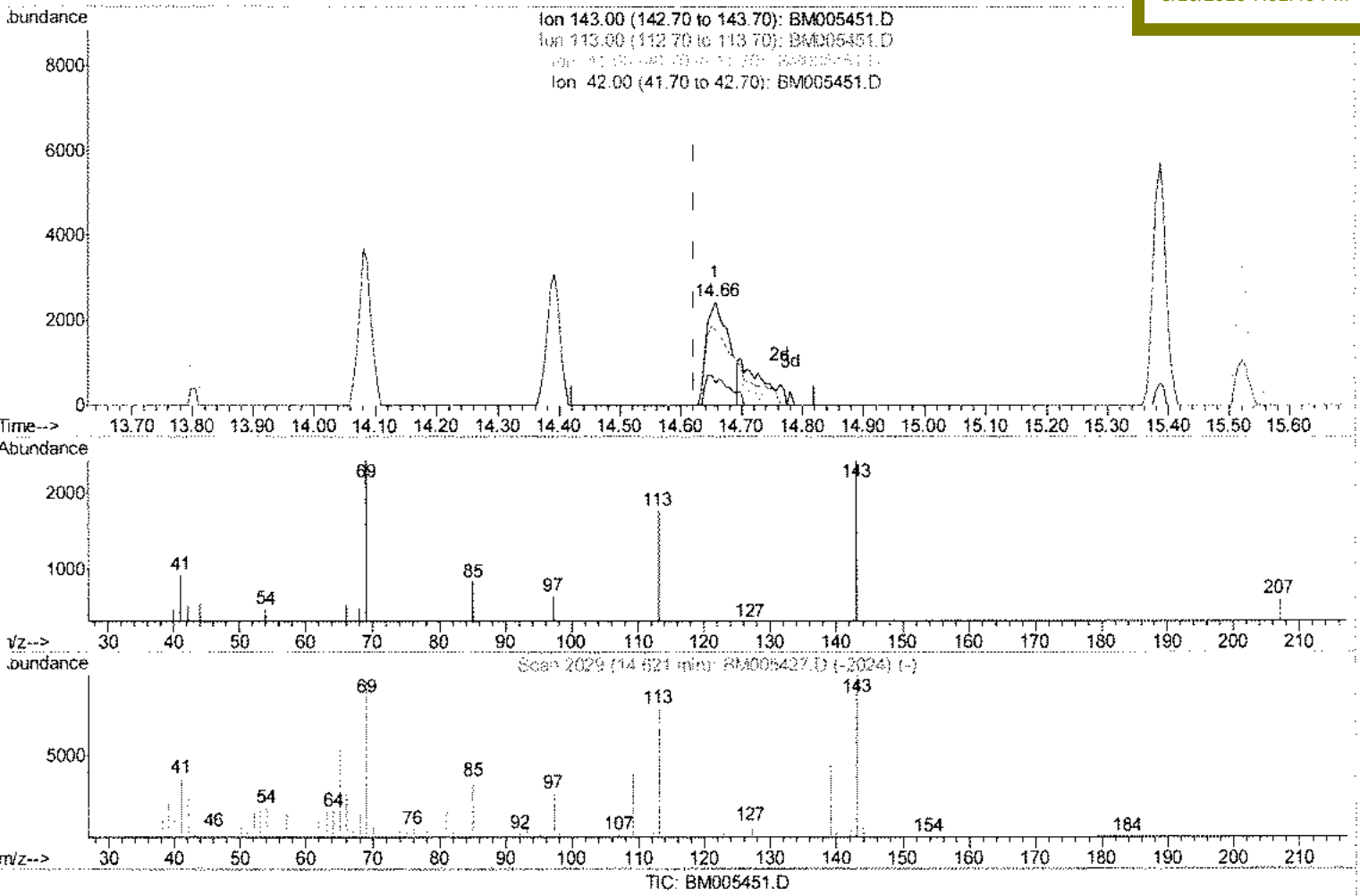
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 16 03:39:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002

Manual Integrations APPROVED
sohil
5/16/2016 7:01:40 PM



TIC: BM005451.D

(51) 4-Nitrophenol-d4 (S)

14.657min (+0.036) 2.58ng/ul

response 6287

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	72.70
41.00	38.10	38.16
42.00	26.00	21.02

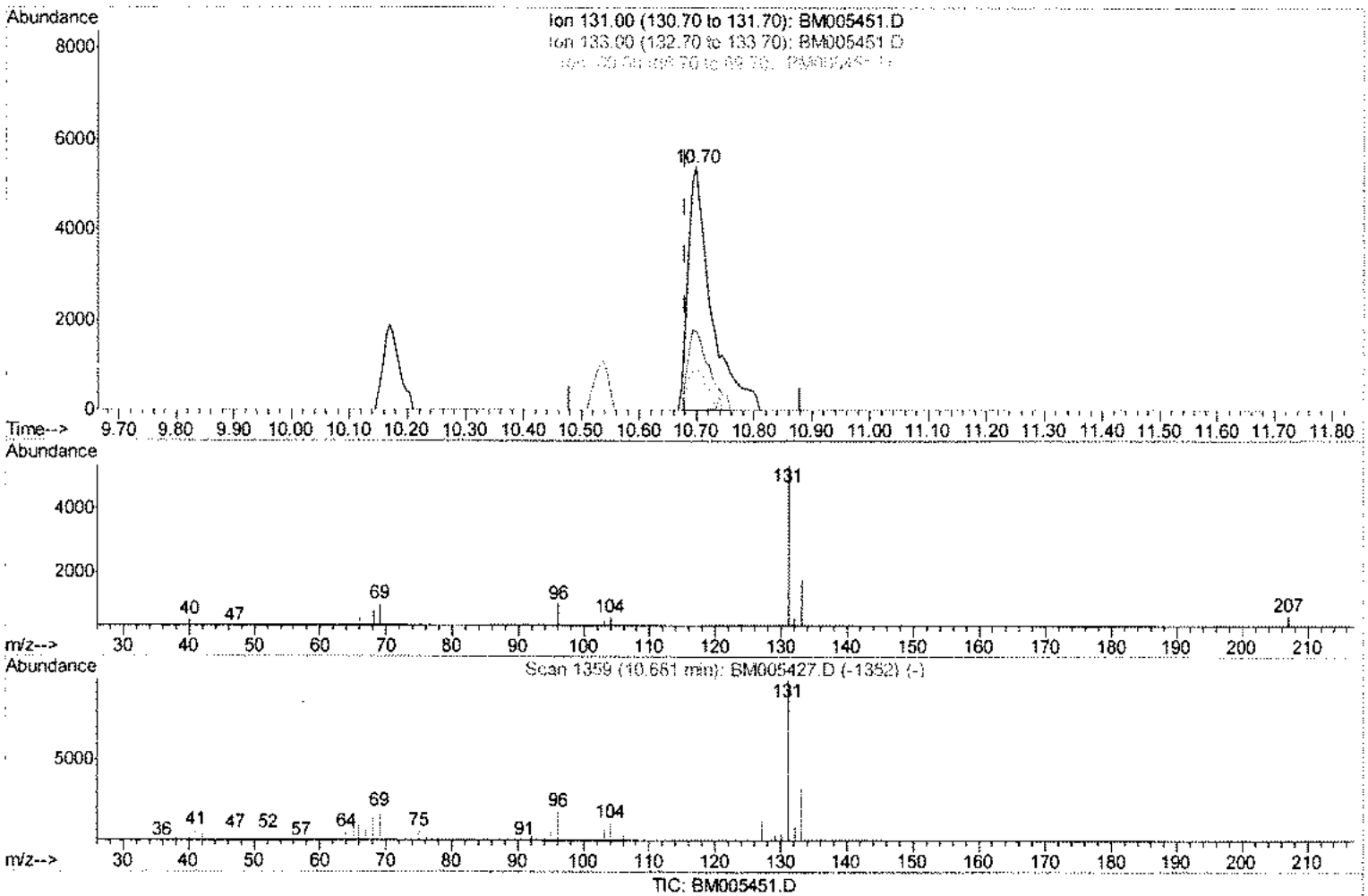
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 16 03:39:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4002

Manual Integrations APPROVED
sohil
5/16/2016 7:01:40 PM



TIC: BM005451.D

(29) 4-Chloroaniline-d4 (S)

10.698min (+0.018) 3.37ng/ul m > U.M 05/17/16

response 15071

Ion	Exp%	Act%
131.00	100	100
133.00	32.30	32.70
69.00	19.20	18.18
0.00	0.00	0.00

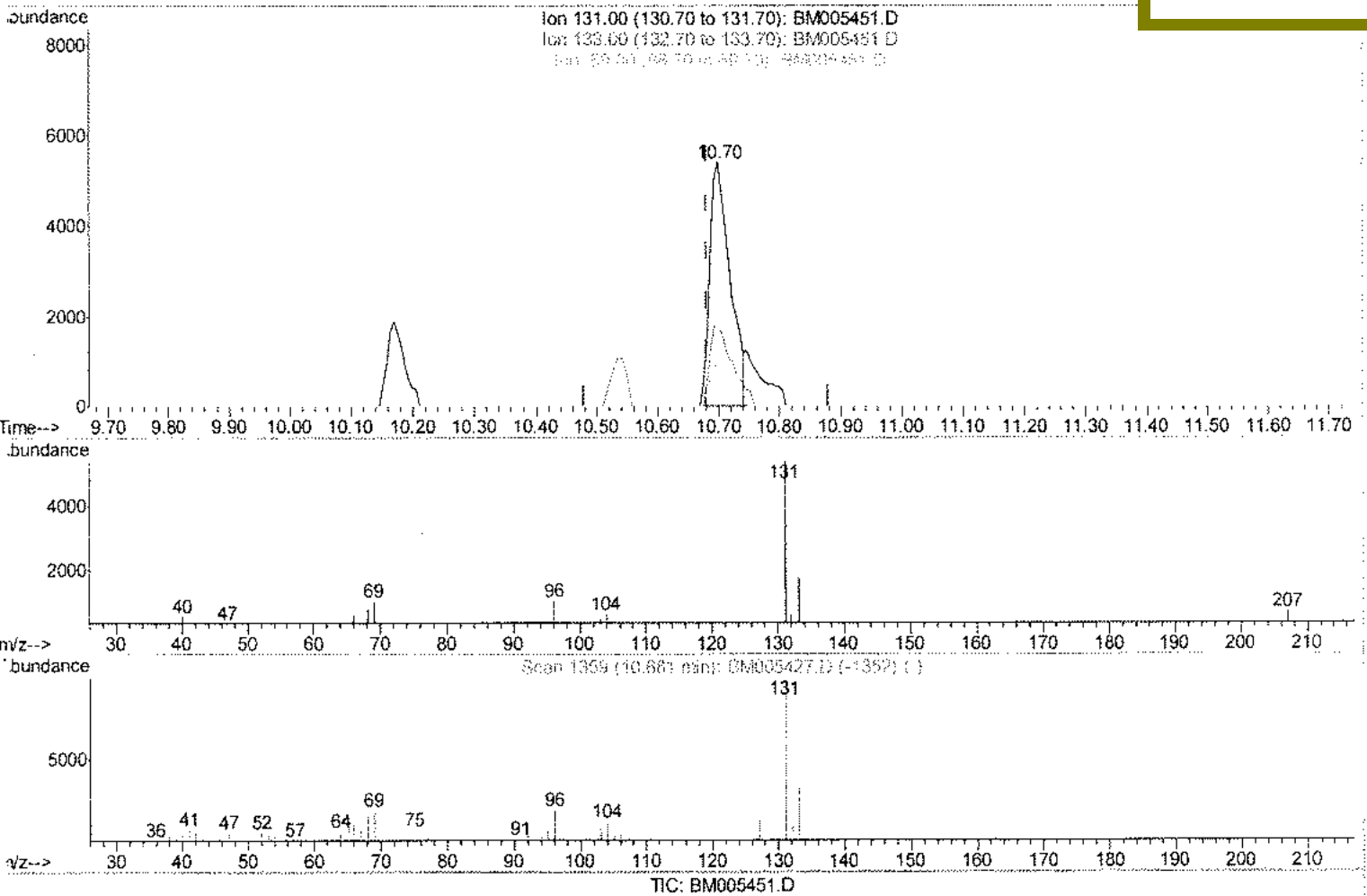
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 16 03:39:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002

Manual Integrations APPROVED
sohil
5/16/2016 7:01:40 PM



TIC: BM005451.D

(29) 4-Chloroaniline-d4 (S)

10.698min (+0.018) 2.80ng/ul

response 12525

Ion	Exp%	Act%
131.00	100	100
133.00	32.30	32.70
69.00	19.20	18.18
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005451.D
Acq On : 14 May 2016 05:45
Operator : UM/SJ
Sample : H2834-01
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 16 03:50:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4002

Manual Integrations APPROVED
sohil
5/16/2016 7:01:40 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	51866	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	247395	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	166462	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	417043	20.00	ng/ul	0.00
75) Chrysene-d12	21.33	240	546706	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	500572	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1664	1.51	ng/uL	0.00
5) Phenol-d5	6.93	99	32450	6.90	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	86793	32.34	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	92174	25.94	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	60687	15.61	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	59072	33.44	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	67168	33.59	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	109832	29.55	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	15071m	3.37	ng/ul	0.02
43) Dimethylphthalate-d6	13.80	166	452555	33.92	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	522280	33.37	ng/ul	0.00
51) 4-Nitrophenol-d4	14.66	143	9303m	3.82	ng/ul	0.04
57) Fluorene-d10	15.39	176	391110	33.95	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	63277	26.97	ng/ul	0.00
70) Anthracene-d10	17.24	188	647448	35.12	ng/ul	0.00
76) Pyrene-d10	19.54	212	816304	32.35	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	807577	36.45	ng/ul	0.00

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

U.M
05/17/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005389.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	100	U
100-52-7	Benzaldehyde	520	U
108-95-2	Phenol	520	U
111-44-4	Bis(2-Chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	270	U
95-48-7	2-Methylphenol	520	U
108-60-1	2,2-oxybis(1-Chloropropane)	520	U
98-86-2	Acetophenone	520	U
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-di-n-propylamine	270	U
67-72-1	Hexachloroethane	270	U
98-95-3	Nitrobenzene	270	U
78-59-1	Isophorone	270	U
88-75-5	2-Nitrophenol	270	U
105-67-9	2,4-Dimethylphenol	270	U
111-91-1	Bis(2-Chloroethoxy)methane	270	U
120-83-2	2,4-Dichlorophenol	270	U
91-20-3	Naphthalene	270	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	270	U
105-60-2	Caprolactam	520	U
59-50-7	4-Chloro-3-methylphenol	270	U
91-57-6	2-Methylnaphthalene	270	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	270	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005389.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	270	U
92-52-4	1,1-Biphenyl	270	U
91-58-7	2-Chloronaphthalene	270	U
88-74-4	2-Nitroaniline	270	U
131-11-3	Dimethylphthalate	370	
606-20-2	2,6-Dinitrotoluene	270	U
208-96-8	Acenaphthylene	270	U
99-09-2	3-Nitroaniline	520	U
83-32-9	Acenaphthene	270	U
51-28-5	2,4-Dinitrophenol	520	U
100-02-7	4-Nitrophenol	520	U
132-64-9	Dibenzofuran	270	U
121-14-2	2,4-Dinitrotoluene	270	U
84-66-2	Diethylphthalate	270	U
86-73-7	Fluorene	270	U
7005-72-3	4-Chlorophenyl-phenylether	270	U
100-01-6	4-Nitroaniline	520	U
534-52-1	4,6-Dinitro-2-methylphenol	520	U
86-30-6	N-Nitrosodiphenylamine	270	U
95-94-3	1,2,4,5-Tetrachlorobenzene	270	U
101-55-3	4-Bromophenyl-phenylether	270	U
118-74-1	Hexachlorobenzene	270	U
1912-24-9	Atrazine	520	U
87-86-5	Pentachlorophenol	520	U
85-01-8	Phenanthrene	270	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005389.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	270	U
86-74-8	Carbazole	520	U
84-74-2	Di-n-butylphthalate	270	U
206-44-0	Fluoranthene	270	U
129-00-0	Pyrene	270	U
85-68-7	Butylbenzylphthalate	270	U
91-94-1	3,3-Dichlorobenzidine	520	U
56-55-3	Benzo(a)anthracene	270	U
218-01-9	Chrysene	270	U
117-81-7	Bis(2-ethylhexyl)phthalate	270	U
117-84-0	Di-n-octyl phthalate	520	U
205-99-2	Benzo(b)fluoranthene	270	U
207-08-9	Benzo(k)fluoranthene	270	U
50-32-8	Benzo(a)pyrene	270	U
193-39-5	Indeno(1,2,3-cd)pyrene	270	U
53-70-3	Dibenzo(a,h)anthracene	270	U
191-24-2	Benzo(g,h,i)perylene	270	U
58-90-2	2,3,4,6-Tetrachlorophenol	270	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4061

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-13
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005389.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
Extract Concentrated : (Y / N) Y
Date Analyzed : 05/11/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 500 (µL)
Heated Purge : (Y / N)
Extraction Type : SOXH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types : GPC
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	002136-71-2	Ethanol, 2-(hexadecyloxy)-	21.04	120	JN
2	000083-47-6	.gamma.-Sitosterol	26.67	130	JN
3	E966796	Total Alkanes	N/A	1000	

EPA-designated Registry Number.

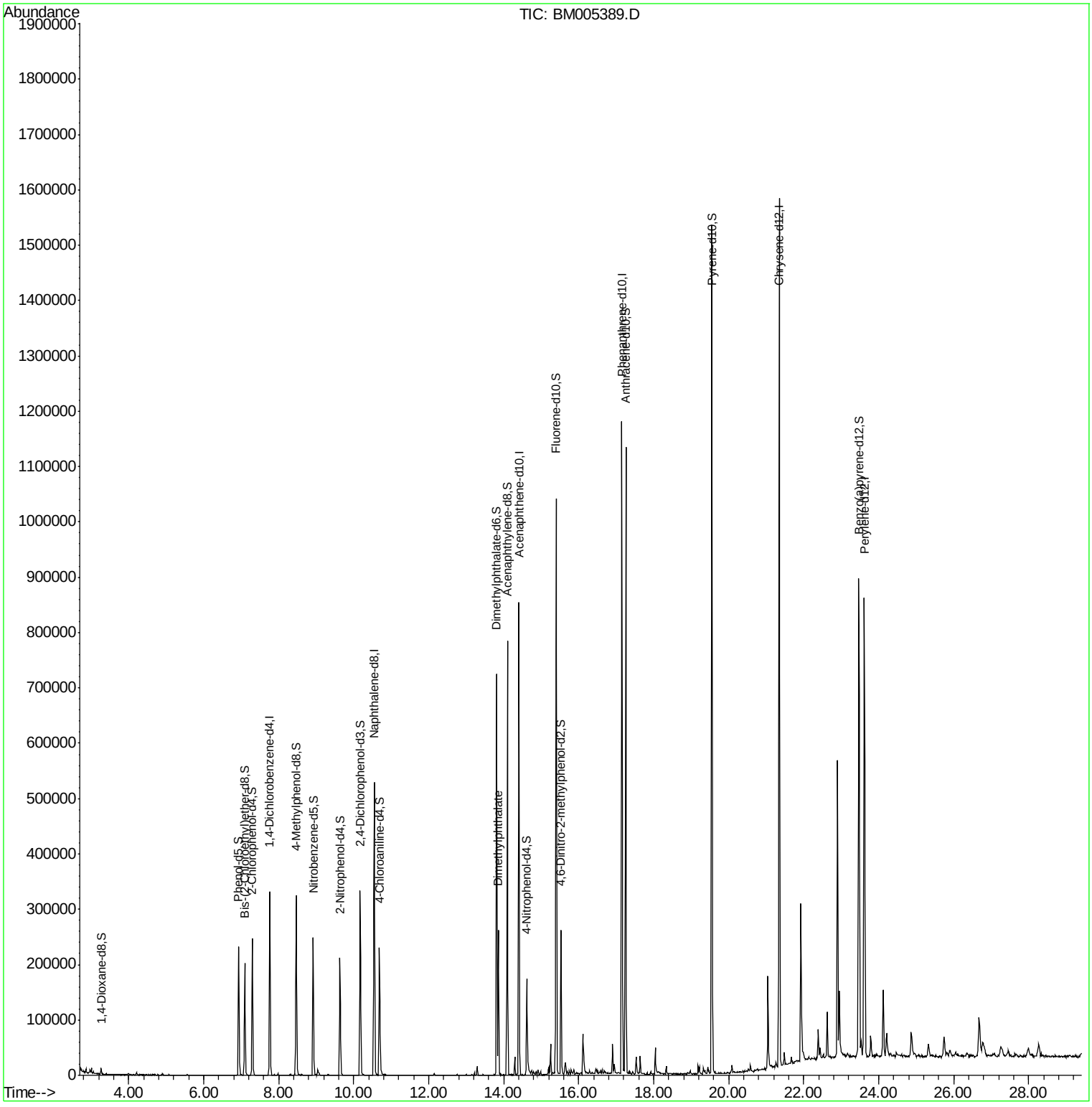
Quantitation Report (LSC Reviewed)

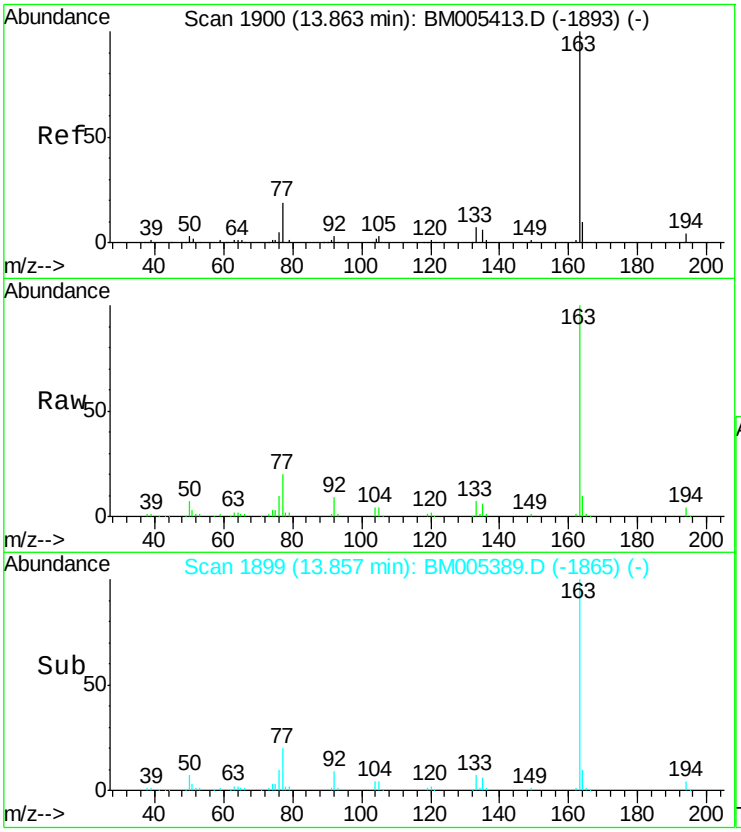
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 12 03:54:37 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061

Manual Integrations APPROVED
sohil
5/12/2016 7:01:40 PM

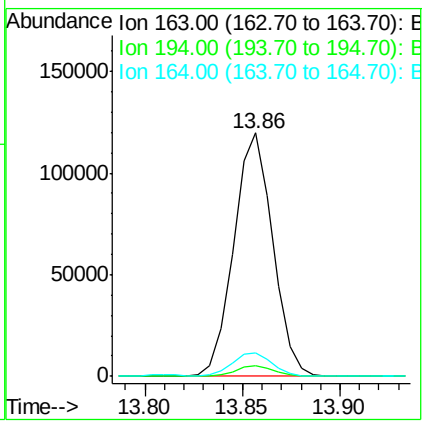




#44
Dimethylphthalate
Concen: 7.09 ng/ul
RT: 13.86 min Scan# 1899
Delta R.T. 0.00 min
Lab File: BM005389.D
Acq: 11 May 2016 16:25

Tgt Ion:163 Resp: 165781

Ion	Ratio	Lower	Upper
163	100		
194	4.4	3.4	5.0
164	9.8	7.9	11.9



Instrument :
BNA_M
ClientSampleId :
H4061

Manual Integrations APPROVED
sohil
5/12/2016 7:01:40 PM

Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Manual Integrations APPROVED
sohil
5/12/2016 7:01:40 PM

Quant Time: May 12 03:54:37 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	88525	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	436762	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	292129	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.15	188	701614	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	767642	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	603585	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.26	96	6112	3.25	ng/uL	0.00
5) Phenol-d5	6.93	99	142174	17.71	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	87906	19.19	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	113045	18.64	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	121438	18.30	ng/ul	0.00
19) Nitrobenzene-d5	8.92	128	59561	19.10	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	68856	19.50	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	125582	19.14	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	129632	16.41	ng/ul	0.00
43) Dimethylphthalate-d6	13.81	166	482023	20.59	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	555651	20.23	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	53701m	12.56	ng/ul	0.00
57) Fluorene-d10	15.40	176	421217	20.83	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	54162	13.72	ng/ul	0.00
70) Anthracene-d10	17.25	188	663926	21.41	ng/ul	0.00
76) Pyrene-d10	19.55	212	802214	22.64	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	596538	22.33	ng/ul	0.00
Target Compounds						Qvalue
44) Dimethylphthalate	13.86	163	165781	7.09	ng/ul	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.928	716	721	735	rBV	232807	386280	17.79%	1.531%
2	7.092	743	749	761	rBV	202605	307252	14.15%	1.218%
3	7.292	777	783	798	rVB	246806	391799	18.04%	1.553%
4	7.757	855	862	873	rBV	331697	533422	24.57%	2.114%
5	8.463	976	982	993	rBV	324300	515702	23.75%	2.044%
6	8.916	1053	1059	1073	rBV	248874	407561	18.77%	1.615%
7	9.633	1175	1181	1193	rVB	212256	353367	16.27%	1.400%
8	10.169	1266	1272	1288	rBV	332906	562112	25.89%	2.228%
9	10.545	1329	1336	1349	rBV	528033	893679	41.16%	3.542%
10	10.686	1354	1360	1379	rBV	229293	410879	18.92%	1.628%
11	13.810	1885	1891	1895	rBV	723227	1017746	46.87%	4.033%
12	13.857	1895	1899	1906	rVB	261173	364527	16.79%	1.445%
13	14.092	1932	1939	1955	rBV	785110	1160299	53.43%	4.598%
14	14.292	1968	1973	1978	rBV	31816	39812	1.83%	0.158%
15	14.404	1985	1992	2000	rVB2	854918	1357919	62.54%	5.381%
16	14.610	2022	2027	2044	rBV	173859	318116	14.65%	1.261%
17	15.245	2130	2135	2140	rVB	54946	68023	3.13%	0.270%
18	15.398	2154	2161	2170	rVB	1039707	1549534	71.36%	6.141%
19	15.521	2177	2182	2195	rVB	259835	371457	17.11%	1.472%
20	15.639	2195	2202	2209	rBV3	21285	48786	2.25%	0.193%
21	16.110	2277	2282	2290	rBV2	72169	137994	6.35%	0.547%
22	16.904	2412	2417	2420	rBV	53307	67282	3.10%	0.267%
23	16.951	2420	2425	2429	rVB3	15869	27086	1.25%	0.107%
24	17.151	2452	2459	2465	rBV2	1179451	1735394	79.92%	6.877%
25	17.251	2469	2476	2485	rVB2	1131164	1724101	79.40%	6.833%
26	17.527	2519	2523	2533	rVV2	29411	47909	2.21%	0.190%
27	17.639	2537	2542	2548	rBV	32521	38436	1.77%	0.152%
28	18.039	2605	2610	2616	rBV	47725	68044	3.13%	0.270%
29	19.180	2800	2804	2807	rBV	15970	21939	1.01%	0.087%
30	19.550	2860	2867	2877	rBV	1532423	2171431	100.00%	8.605%
31	21.044	3114	3121	3132	rBV	168646	236369	10.89%	0.937%
32	21.344	3166	3172	3182	rBV	1568442	2094927	96.48%	8.302%
33	21.486	3192	3196	3200	rVB	20905	25526	1.18%	0.101%
34	21.921	3265	3270	3280	rBV2	284136	465469	21.44%	1.845%

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

35	22.386	3344	3349	3353	rBV	50744	71788	3.31%	0.284%
36	22.433	3355	3357	3365	rVB4	18454	24520	1.13%	0.097%
37	22.621	3384	3389	3400	rBV	81503	112351	5.17%	0.445%
38	22.897	3430	3436	3441	rBV	533149	783839	36.10%	3.106%
39	22.944	3441	3444	3458	rVB2	113291	199928	9.21%	0.792%
40	23.468	3526	3533	3540	rBV2	860178	1654268	76.18%	6.556%
41	23.533	3541	3544	3549	rVV5	25166	38776	1.79%	0.154%
42	23.615	3550	3558	3570	rVB2	828521	1614615	74.36%	6.399%
43	23.785	3582	3587	3594	rVB3	38329	67211	3.10%	0.266%
44	24.115	3637	3643	3652	rBV	119139	227931	10.50%	0.903%
45	24.209	3653	3659	3668	rVV3	38865	88198	4.06%	0.350%
46	24.862	3765	3770	3780	rBV	41101	103795	4.78%	0.411%
47	25.321	3845	3848	3855	rVB4	21099	39713	1.83%	0.157%
48	25.744	3913	3920	3927	rBV3	33064	78686	3.62%	0.312%
49	26.674	4070	4078	4088	rBV7	68229	207596	9.56%	0.823%

Sum of corrected areas: 25233394

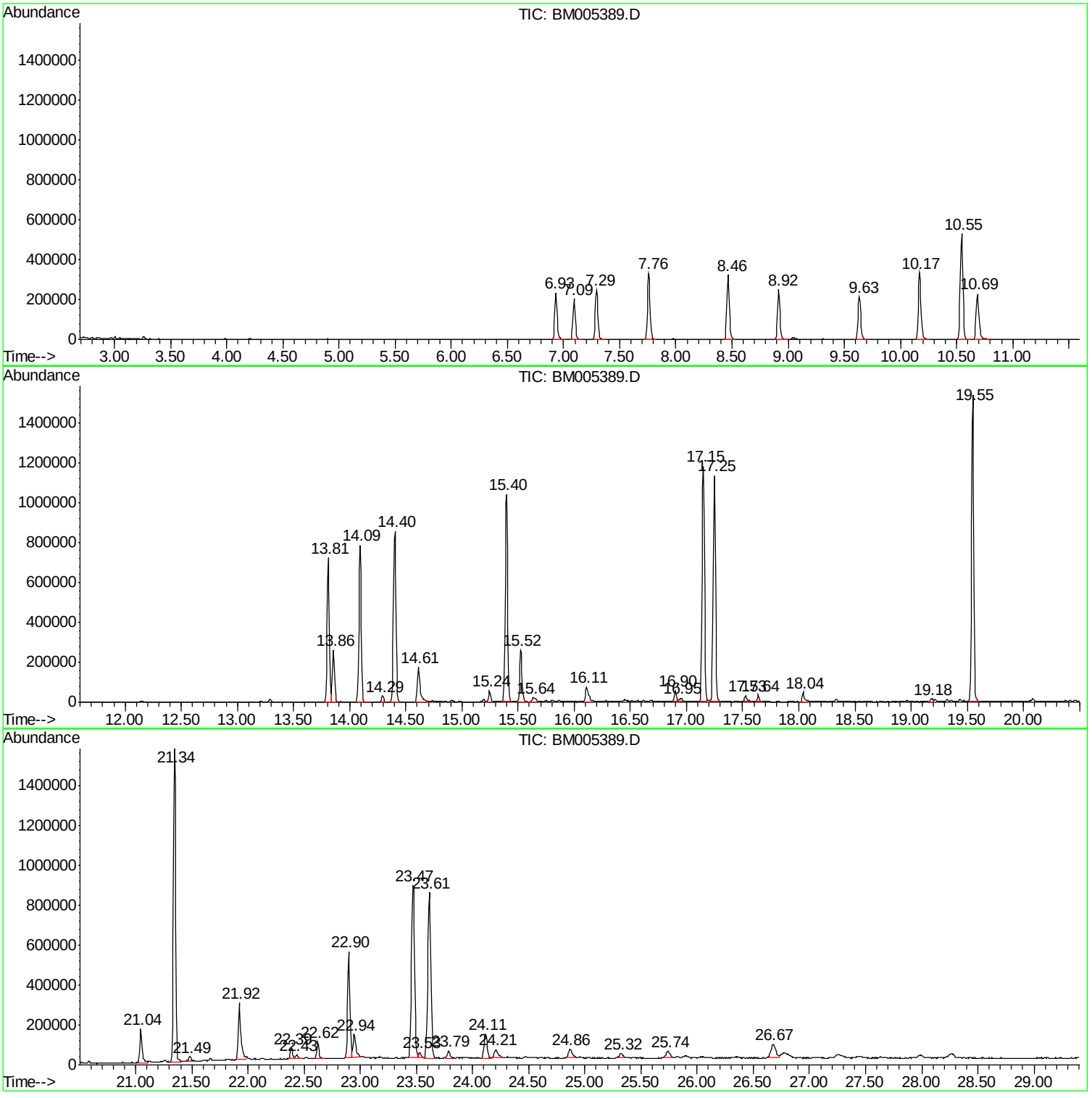
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

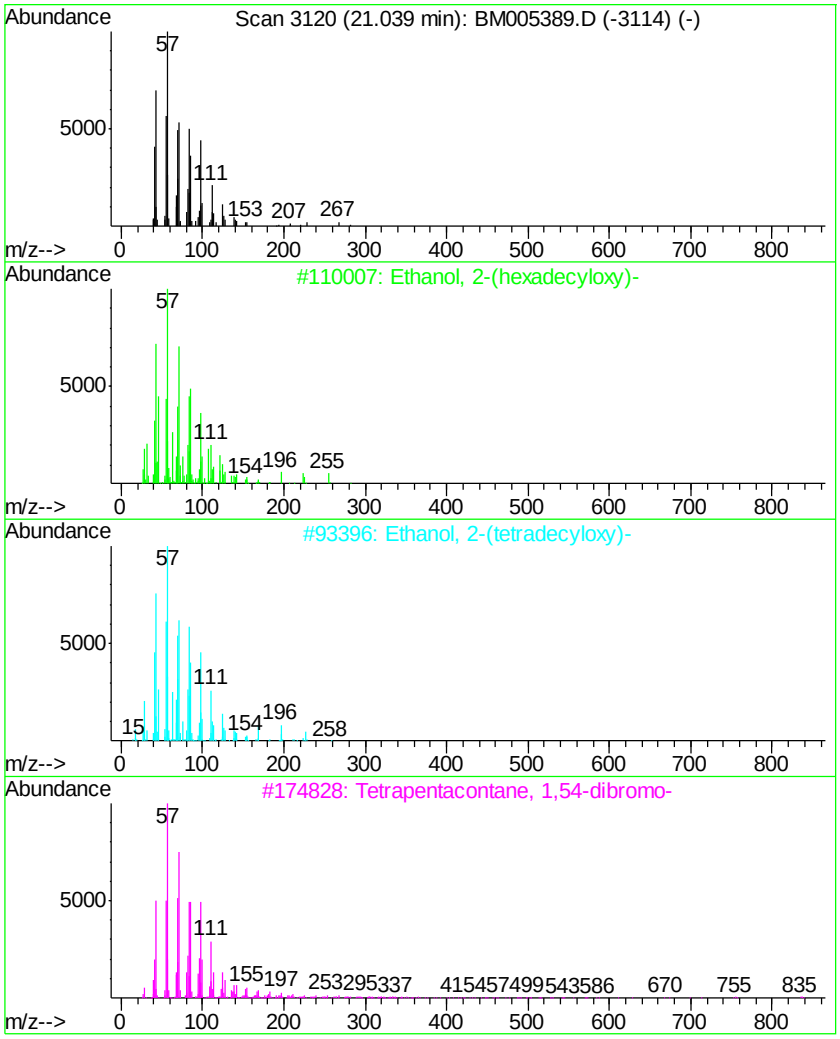
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

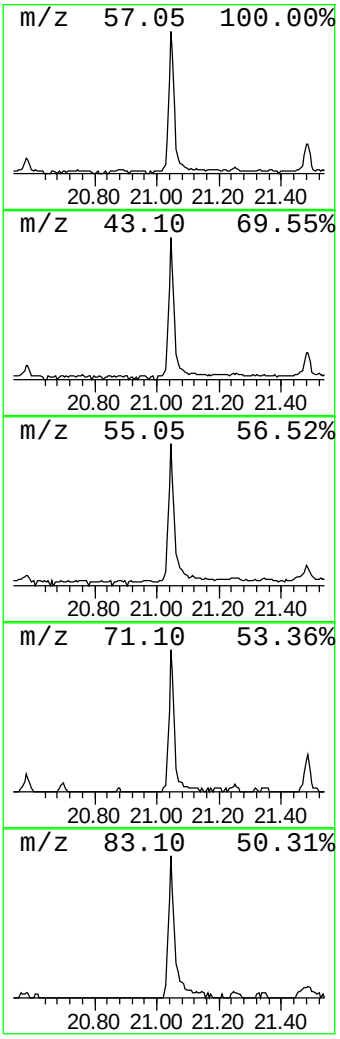
****

Peak Number 1 Ethanol, 2-(hexadecyloxy)- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.04	2.26 ng/ul	236369	Chrysene-d12	21.34

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethanol, 2-(hexadecyloxy)-	286	C18H38O2	002136-71-2	91
2	Ethanol, 2-(tetradecyloxy)-	258	C16H34O2	002136-70-1	87
3	Tetrapentacontane, 1,54-dibromo-	915	C54H108Br2	1000156-09-4	80
4	Heptafluorobutanoic acid, heptad...	452	C21H35F7O2	1000282-97-3	76
5	1-Octadecanol	270	C18H38O	000112-92-5	70





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

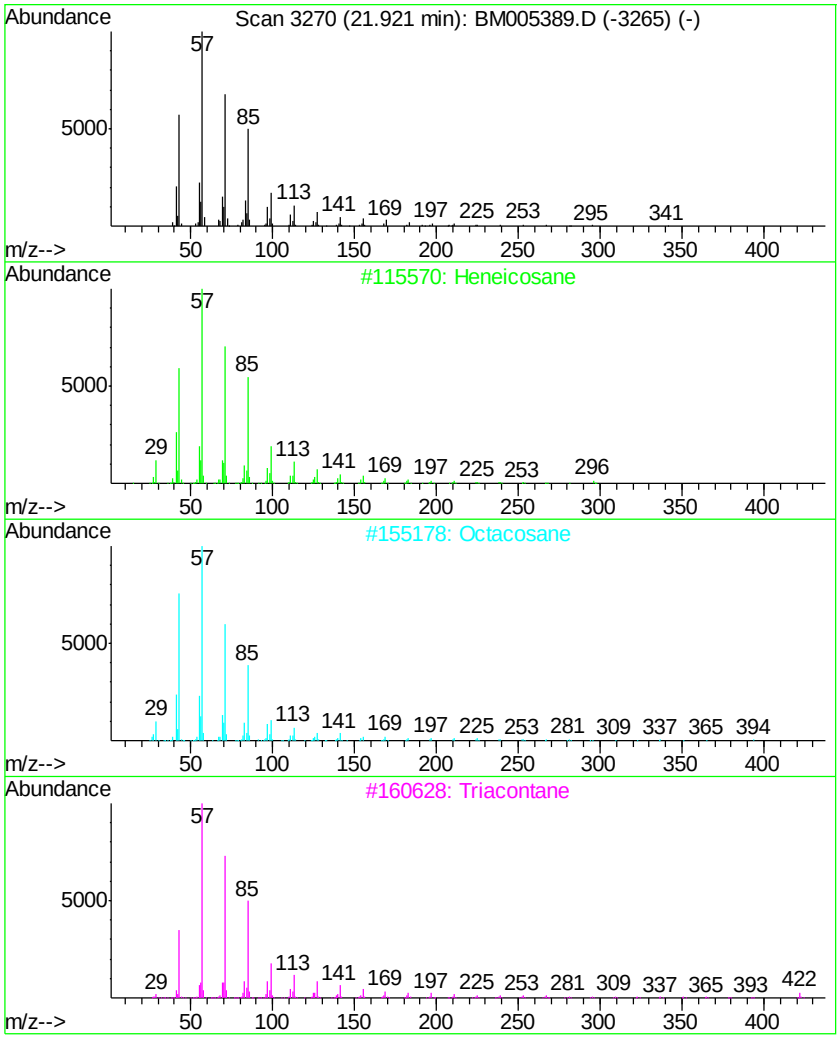
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

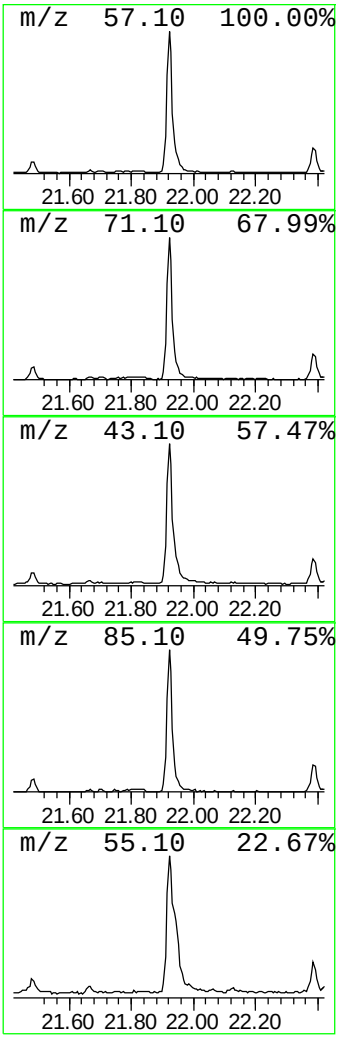
****

Peak Number 2 (DEL) Alkane: Straight-Chai... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.92	4.44 ng/ul	465469	Chrysene-d12	21.34

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heneicosane	296	C21H44	000629-94-7	91
2	Octacosane	394	C28H58	000630-02-4	91
3	Triacontane	422	C30H62	000638-68-6	91
4	Heneicosane, 11-(1-ethylpropyl)-	366	C26H54	055282-11-6	91
5	Pentadecane, 8-heptyl-	310	C22H46	071005-15-7	91





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

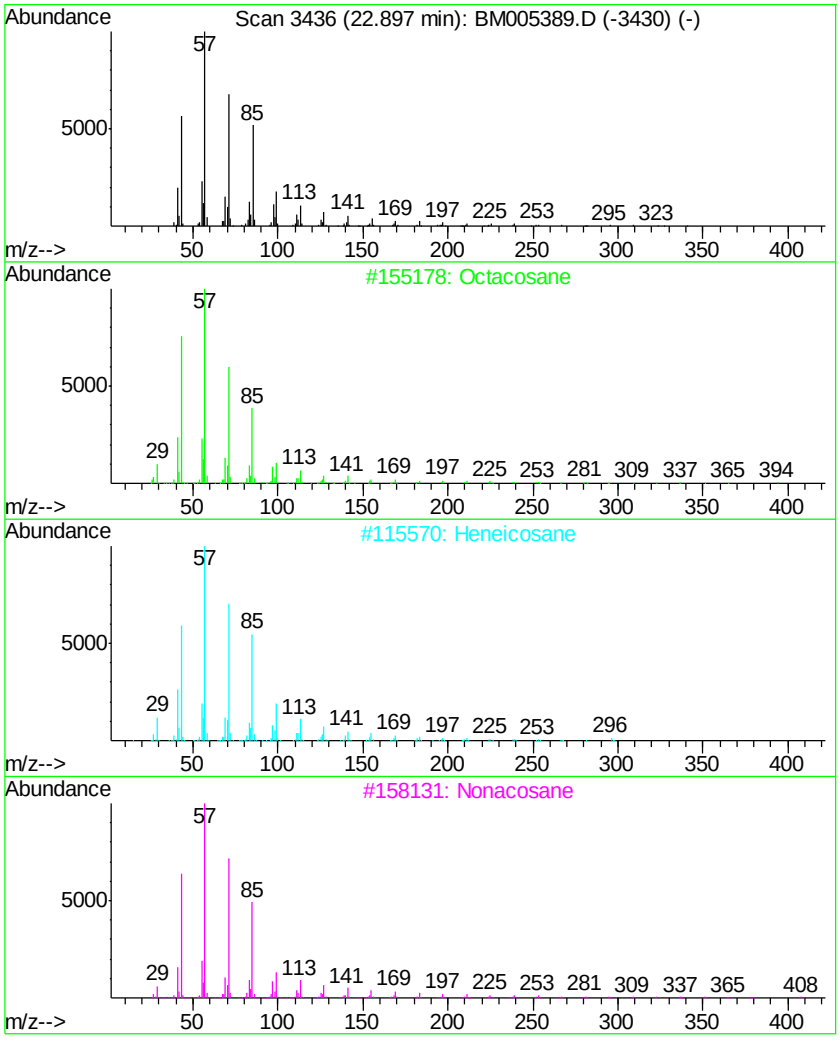
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

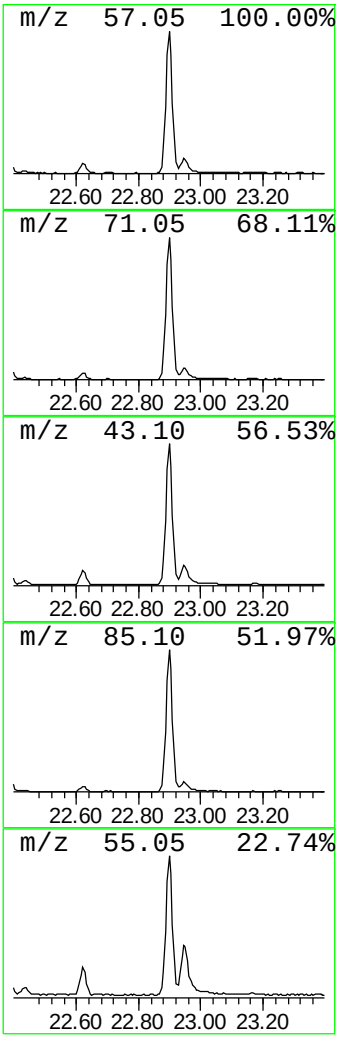
****

Peak Number 3 (DEL) Alkane: Straight-Chai... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.90	9.71 ng/ul	783839	Perylene-d12	23.61

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octacosane	394	C28H58	000630-02-4	91
2	Heneicosane	296	C21H44	000629-94-7	91
3	Nonacosane	408	C29H60	000630-03-5	91
4	Heptacosane	380	C27H56	000593-49-7	91
5	Octacosane	394	C28H58	000630-02-4	91





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

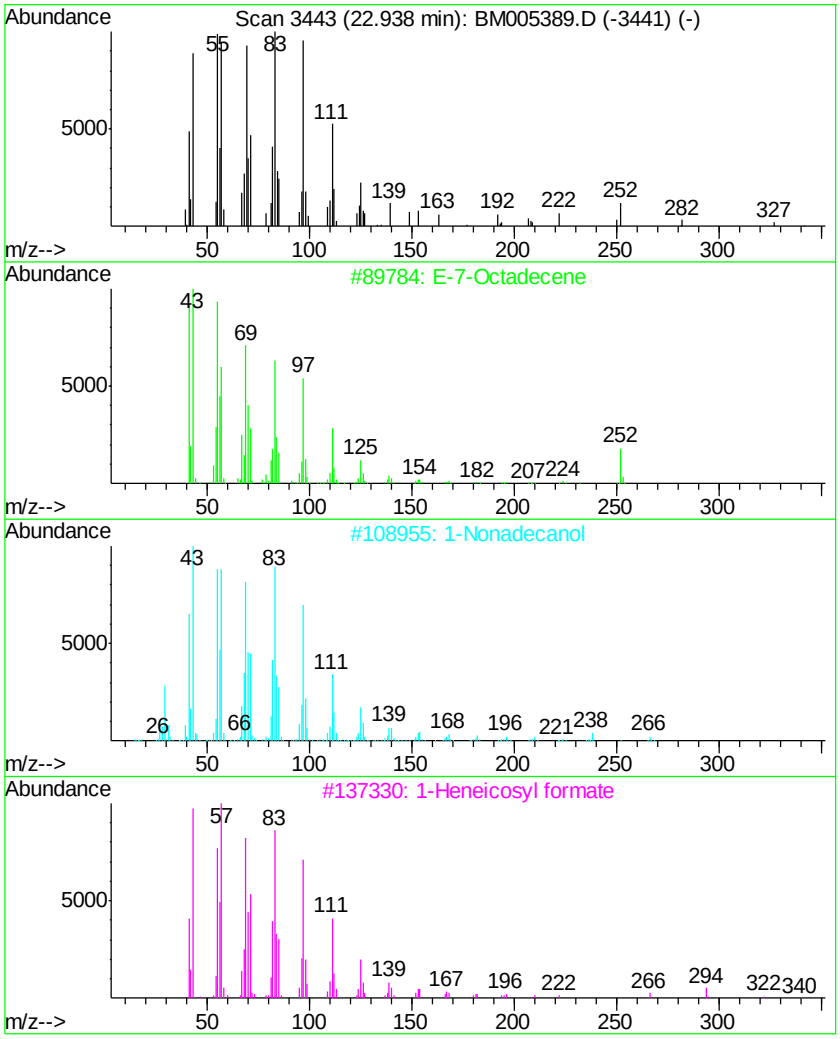
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

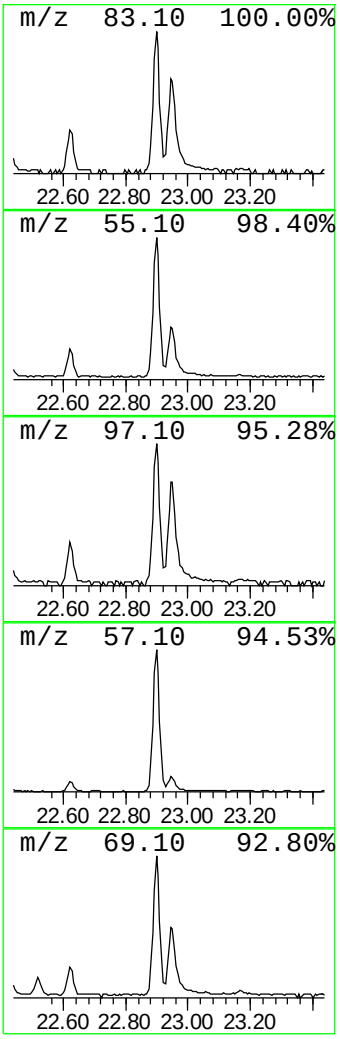
****

Peak Number 4 (DEL) Alkane: Cyclic-22.94 Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.94	2.48 ng/ul	199928	Perylene-d12	23.61

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	E-7-Octadecene	252	C18H36	1000130-92-0	91
2	1-Nonadecanol	284	C19H40O	001454-84-8	81
3	1-Heneicosyl formate	340	C22H44O2	077899-03-7	81
4	Trichloroacetic acid, hexadecyl ...	386	C18H33Cl3O2	074339-54-1	76
5	Bromoacetic acid, hexadecyl ester	362	C18H35BrO2	005454-48-8	74





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

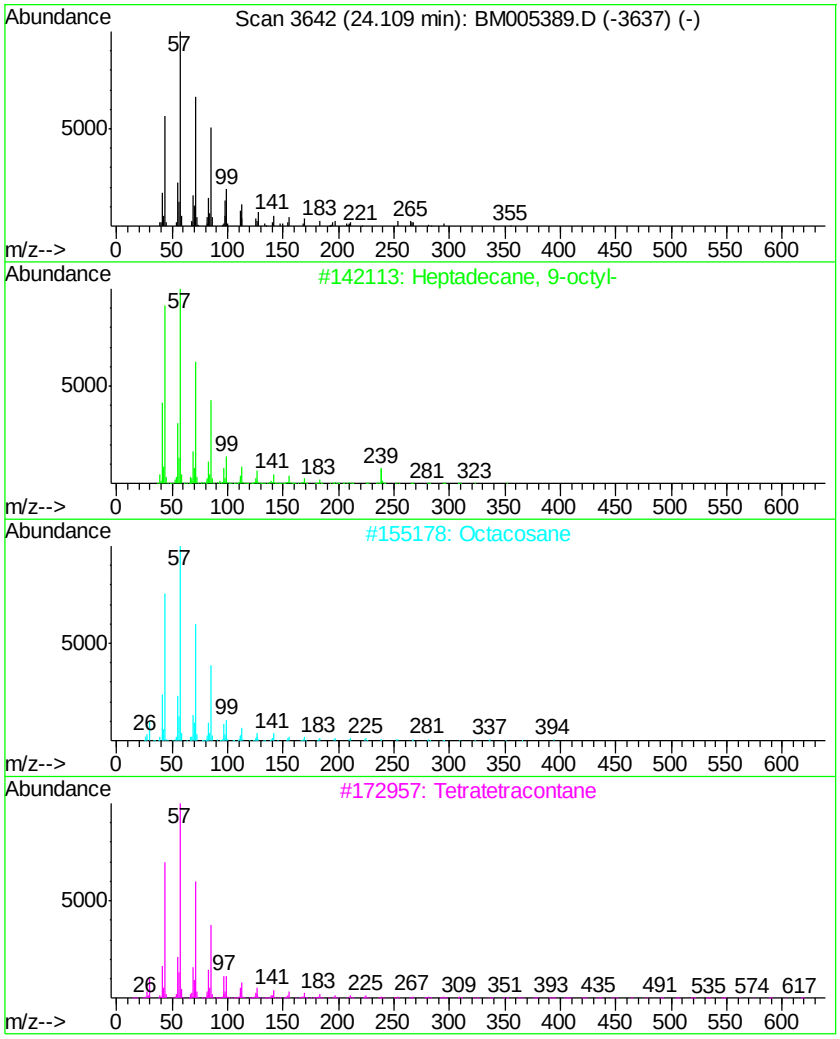
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

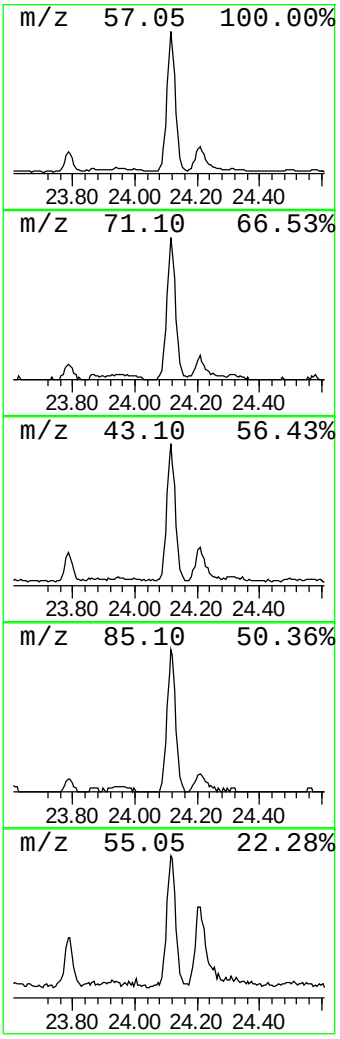
****

Peak Number 5 (DEL) Alkane: Straight-Chai... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.11	2.82 ng/ul	227931	Perylene-d12	23.61

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	90
2	Octacosane	394	C28H58	000630-02-4	90
3	Tetratetracontane	619	C44H90	007098-22-8	90
4	Triacontane	422	C30H62	000638-68-6	90
5	Nonacosane	408	C29H60	000630-03-5	90





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

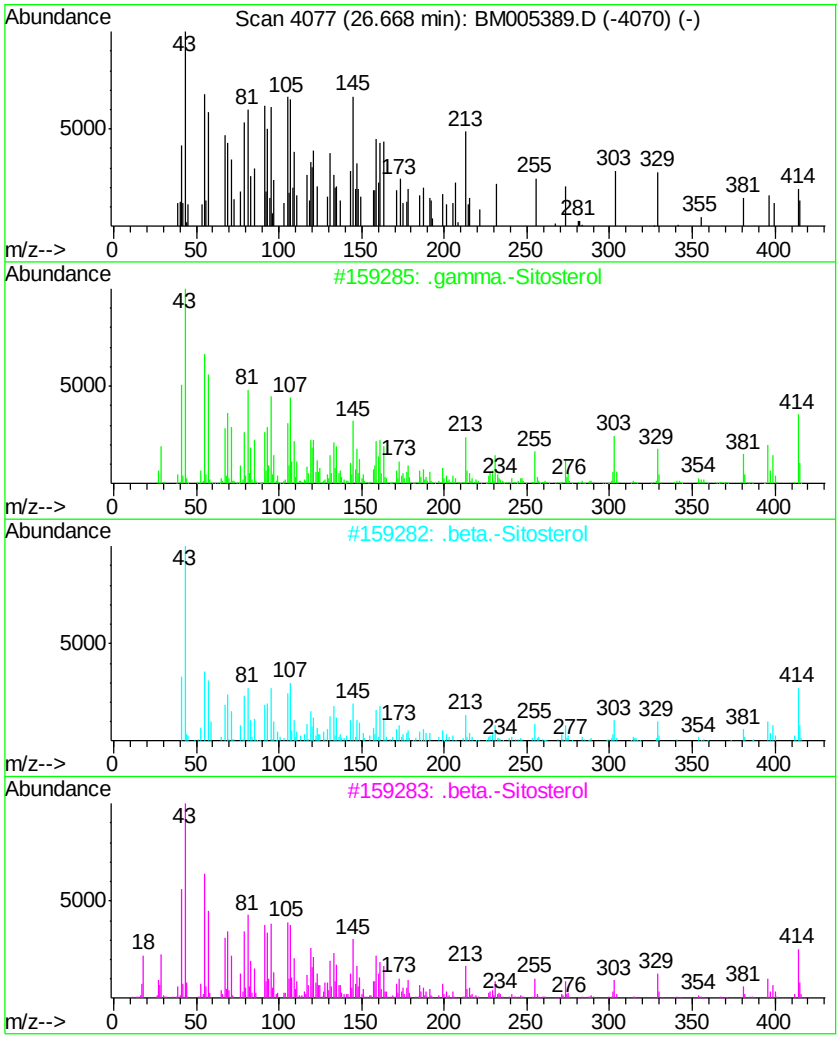
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

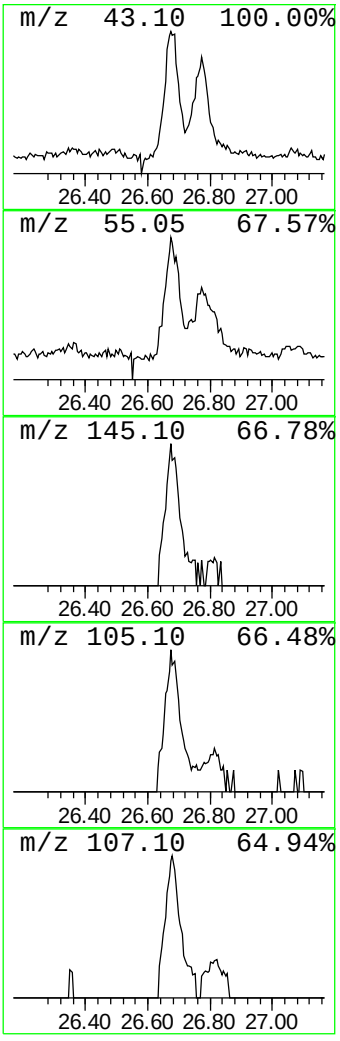
****

Peak Number 6 .gamma.-Sitosterol Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.67	2.57 ng/ul	207596	Perylene-d12	23.61

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	.gamma.-Sitosterol	414	C29H50O	000083-47-6	99
2	.beta.-Sitosterol	414	C29H50O	000083-46-5	95
3	.beta.-Sitosterol	414	C29H50O	000083-46-5	50
4	Stigmasterol, 22,23-dihydro-	414	C29H50O	1000214-20-7	42
5	Pregn-5-en-3-ol, 21-bromo-20-met...	394	C22H35BrO	055103-80-5	22





Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethanol, 2-(hexad...	21.04	2.3	ng/ul	236369	5	21.34	2094930	20.0
(DEL) Alkane: Str...	21.92	4.4	ng/ul	465469	5	21.34	2094930	20.0
(DEL) Alkane: Str...	22.90	9.7	ng/ul	783839	6	23.61	1614620	20.0
(DEL) Alkane: Cyc...	22.94	2.5	ng/ul	199928	6	23.61	1614620	20.0
(DEL) Alkane: Str...	24.11	2.8	ng/ul	227931	6	23.61	1614620	20.0
.gamma.-Sitosterol	26.67	2.6	ng/ul	207596	6	23.61	1614620	20.0

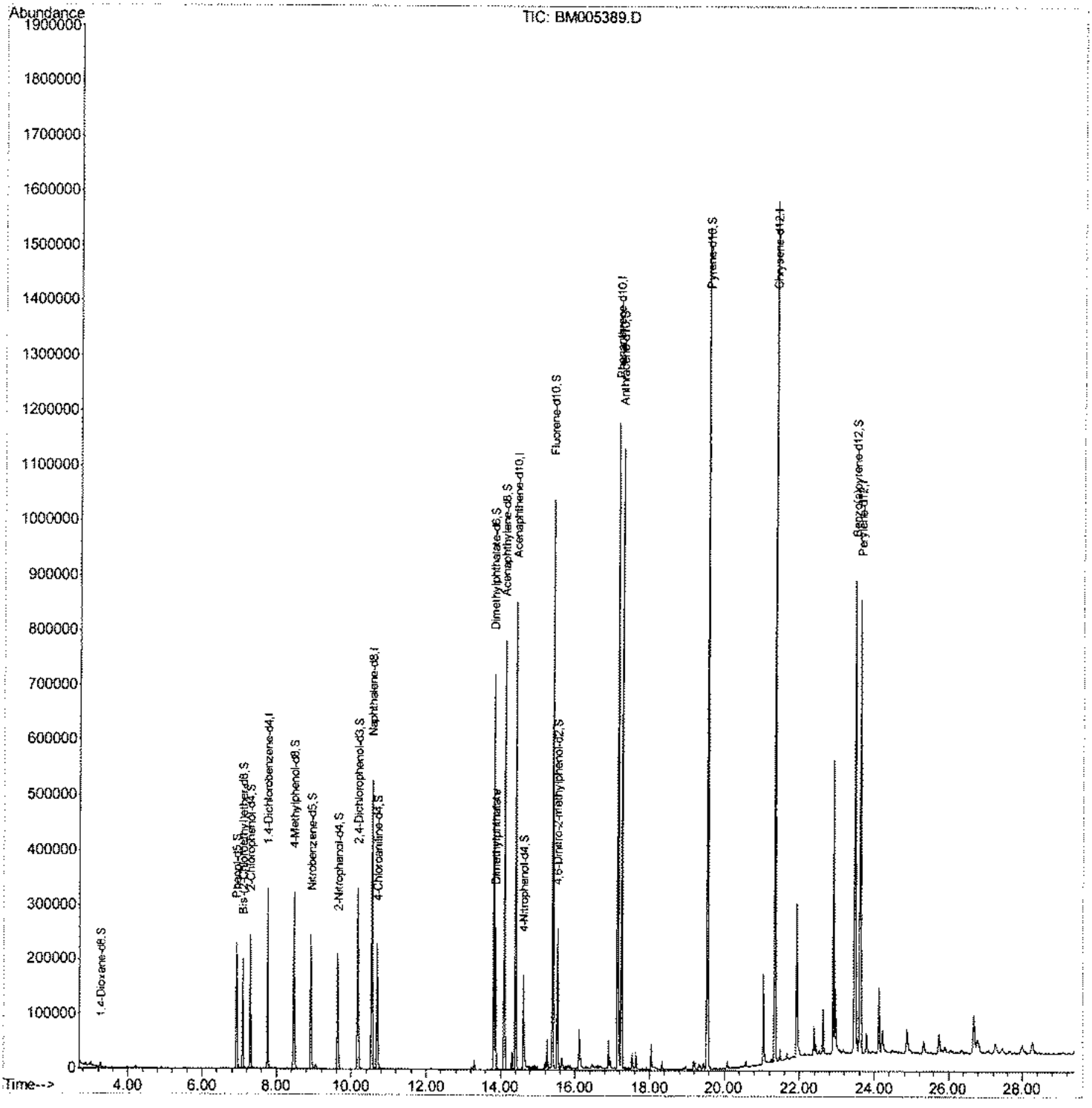
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 12 03:54:37 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061

Manual Integrations APPROVED
sohil
5/12/2016 7:01:40 PM



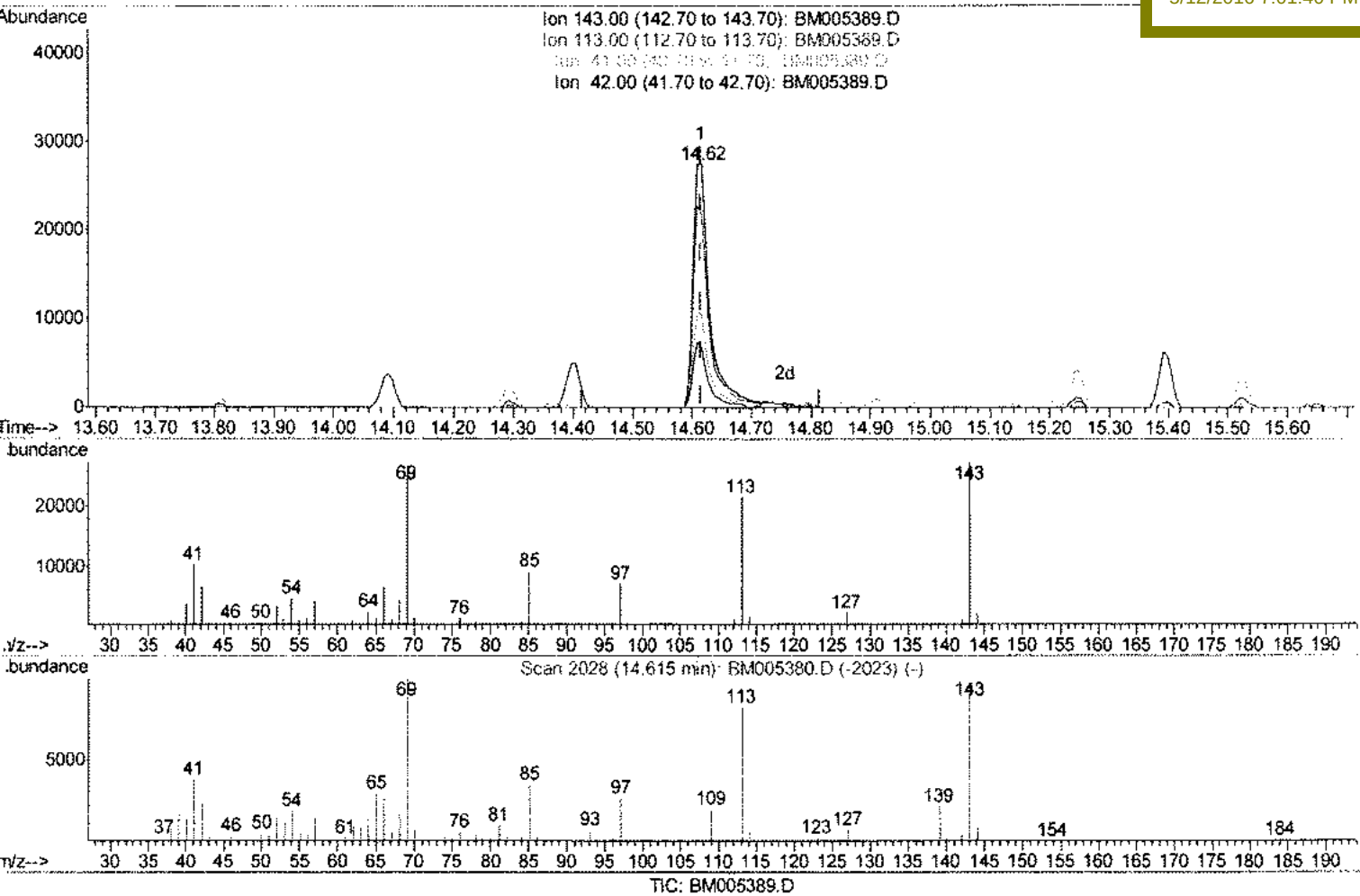
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 12 03:32:24 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061

Manual Integrations APPROVED
sohil
5/12/2016 7:01:40 PM



TIC: BM005389.D

(51) 4-Nitrophenol-d4 (S)

14.615min (+0.000) 12.29ng/ul

response 52519

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	78.80
41.00	38.10	37.68
42.00	26.00	23.89

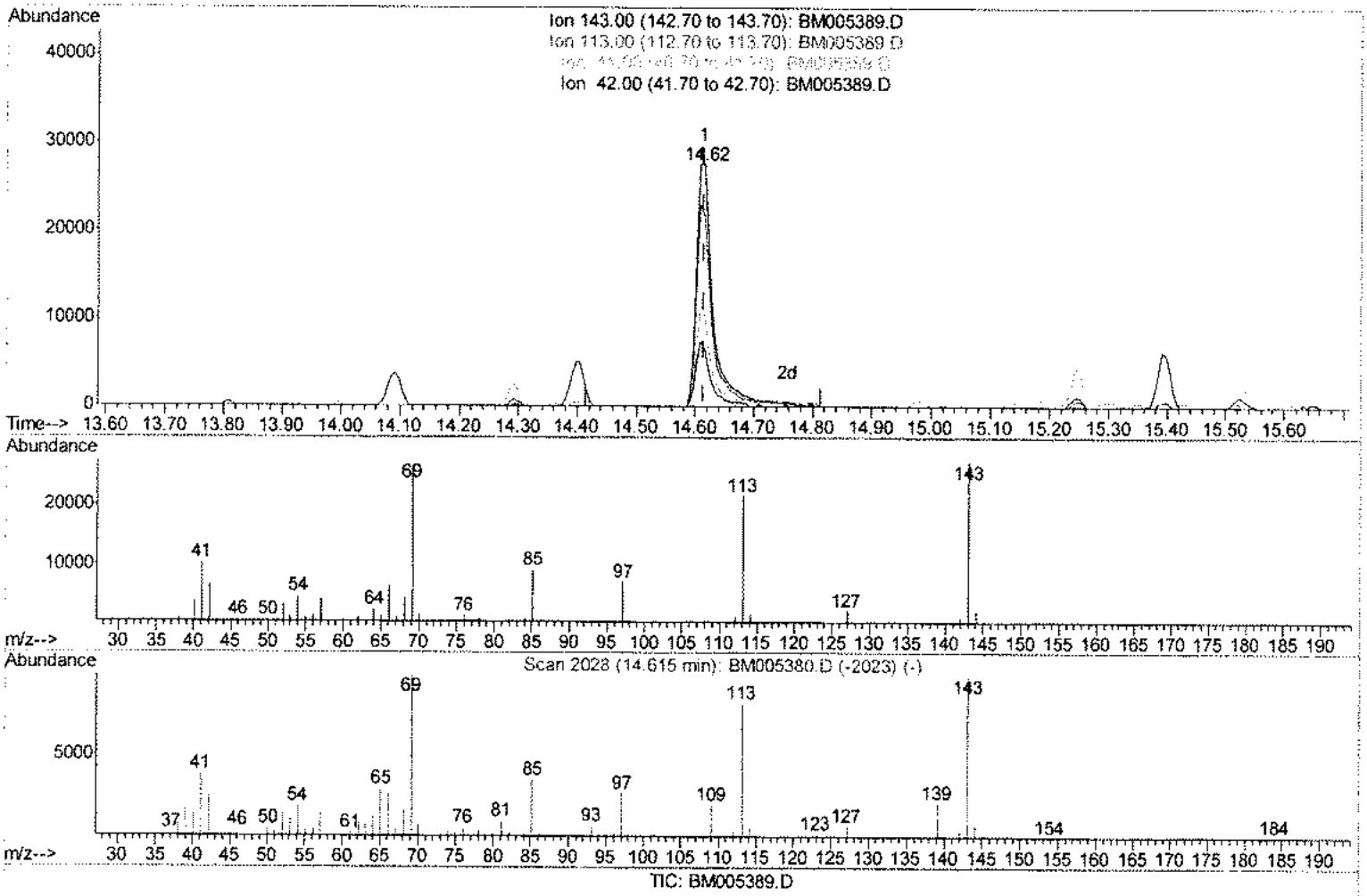
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 12 03:32:24 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061

Manual Integrations APPROVED
sohil
5/12/2016 7:01:40 PM



TIC: BM005389.D

(51) 4-Nitrophenol-d4 (S)

14.615min (+0.000) 12.56ng/ul m > U.M 05/16/16

response 53701

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	78.80
41.00	38.10	37.68
42.00	26.00	23.89

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005389.D
Acq On : 11 May 2016 16:25
Operator : UM/SJ
Sample : H2834-13
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 12 03:54:37 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4061

Manual Integrations APPROVED
sohil
5/12/2016 7:01:40 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	88525	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	436762	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	292129	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.15	188	701614	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	767642	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	603585	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.26	96	6112	3.25	ng/uL	0.00
5) Phenol-d5	6.93	99	142174	17.71	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	87906	19.19	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	113045	18.64	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	121438	18.30	ng/ul	0.00
19) Nitrobenzene-d5	8.92	128	59561	19.10	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	68856	19.50	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	125582	19.14	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	129632	16.41	ng/ul	0.00
43) Dimethylphthalate-d6	13.81	166	482023	20.59	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	555651	20.23	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	53701m	12.56	ng/ul	0.00
57) Fluorene-d10	15.40	176	421217	20.83	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	54162	13.72	ng/ul	0.00
70) Anthracene-d10	17.25	188	663926	21.41	ng/ul	0.00
76) Pyrene-d10	19.55	212	802214	22.64	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	596538	22.33	ng/ul	0.00
Target Compounds						Qvalue
44) Dimethylphthalate	13.86	163	165781	7.09	ng/ul	100

U.M 05/16/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005392.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	120	U
100-52-7	Benzaldehyde	580	U
108-95-2	Phenol	580	U
111-44-4	Bis(2-Chloroethyl)ether	580	U
95-57-8	2-Chlorophenol	300	U
95-48-7	2-Methylphenol	580	U
108-60-1	2,2-oxybis(1-Chloropropane)	580	U
98-86-2	Acetophenone	580	U
106-44-5	4-Methylphenol	580	U
621-64-7	N-Nitroso-di-n-propylamine	300	U
67-72-1	Hexachloroethane	300	U
98-95-3	Nitrobenzene	300	U
78-59-1	Isophorone	300	U
88-75-5	2-Nitrophenol	300	U
105-67-9	2,4-Dimethylphenol	300	U
111-91-1	Bis(2-Chloroethoxy)methane	300	U
120-83-2	2,4-Dichlorophenol	300	U
91-20-3	Naphthalene	300	U
106-47-8	4-Chloroaniline	580	U
87-68-3	Hexachlorobutadiene	300	U
105-60-2	Caprolactam	580	U
59-50-7	4-Chloro-3-methylphenol	300	U
91-57-6	2-Methylnaphthalene	300	U
77-47-4	Hexachlorocyclopentadiene	580	U
88-06-2	2,4,6-Trichlorophenol	300	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005392.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	300	U
92-52-4	1,1-Biphenyl	300	U
91-58-7	2-Chloronaphthalene	300	U
88-74-4	2-Nitroaniline	300	U
131-11-3	Dimethylphthalate	400	
606-20-2	2,6-Dinitrotoluene	300	U
208-96-8	Acenaphthylene	300	U
99-09-2	3-Nitroaniline	580	U
83-32-9	Acenaphthene	300	U
51-28-5	2,4-Dinitrophenol	580	U
100-02-7	4-Nitrophenol	580	U
132-64-9	Dibenzofuran	300	U
121-14-2	2,4-Dinitrotoluene	300	U
84-66-2	Diethylphthalate	300	U
86-73-7	Fluorene	300	U
7005-72-3	4-Chlorophenyl-phenylether	300	U
100-01-6	4-Nitroaniline	580	U
534-52-1	4,6-Dinitro-2-methylphenol	580	U
86-30-6	N-Nitrosodiphenylamine	300	U
95-94-3	1,2,4,5-Tetrachlorobenzene	300	U
101-55-3	4-Bromophenyl-phenylether	300	U
118-74-1	Hexachlorobenzene	300	U
1912-24-9	Atrazine	580	U
87-86-5	Pentachlorophenol	580	U
85-01-8	Phenanthrene	300	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005392.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	300	U
86-74-8	Carbazole	580	U
84-74-2	Di-n-butylphthalate	300	U
206-44-0	Fluoranthene	78	J
129-00-0	Pyrene	93	J
85-68-7	Butylbenzylphthalate	300	U
91-94-1	3,3-Dichlorobenzidine	580	U
56-55-3	Benzo(a)anthracene	300	U
218-01-9	Chrysene	120	J
117-81-7	Bis(2-ethylhexyl)phthalate	300	U
117-84-0	Di-n-octyl phthalate	580	U
205-99-2	Benzo(b)fluoranthene	210	J
207-08-9	Benzo(k)fluoranthene	300	U
50-32-8	Benzo(a)pyrene	85	J
193-39-5	Indeno(1,2,3-cd)pyrene	62	J
53-70-3	Dibenzo(a,h)anthracene	300	U
191-24-2	Benzo(g,h,i)perylene	64	J
58-90-2	2,3,4,6-Tetrachlorophenol	300	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4076

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-16
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005392.D
% Solids : 56.3
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
Extract Concentrated : (Y / N) Y
Date Analyzed : 05/11/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 500 (µL)
Heated Purge : (Y / N)
Extraction Type : SOXH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types : GPC
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	000057-10-3	n-Hexadecanoic acid	18.04	170	JN
2	007390-81-0	Oxirane, hexadecyl-	20.76	150	JN
3	000638-66-4	Octadecanal	21.66	240	JN
4	000520-28-5	4H-1-Benzopyran-4-one, 5-hydroxy-7	21.8	130	JN
5	067860-04-2	Oxirane, heptadecyl-	23.79	430	JN
6	081803-09-0	Thieno[2,3-d]-1,3-thiaselenol-2-th	25.67	120	JN
7	086917-79-5	6-Isopropenyl-4,8a-dimethyl-4a,5,6	26.34	130	JN
8	023707-65-5	Anthracene, 9-(2-propenyl)-	27.45	490	JN
9	000116-04-1	.beta.-Humulene	27.98	590	JN
10	E966796	Total Alkanes	N/A	3800	

EPA-designated Registry Number.

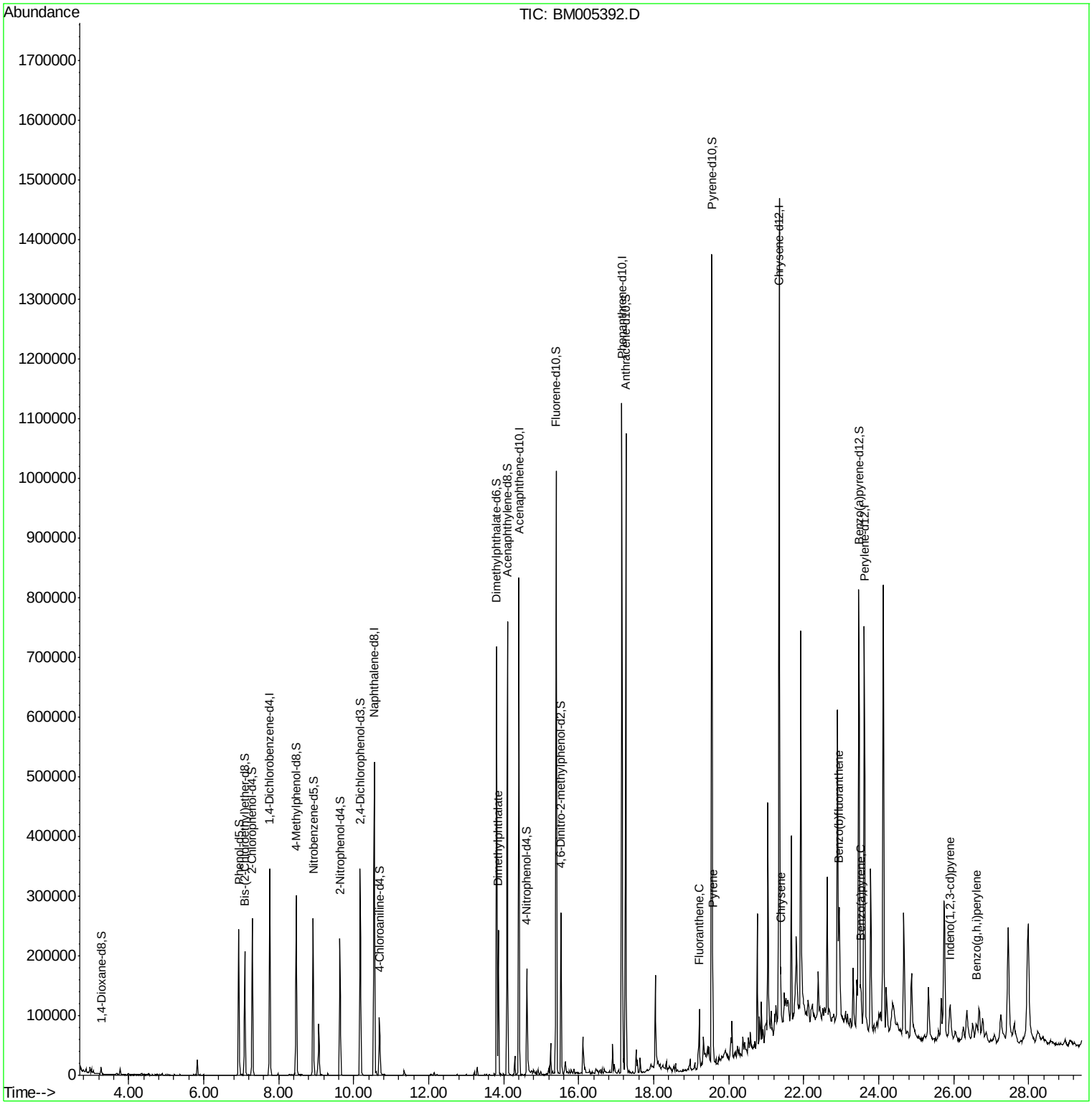
Quantitation Report (LSC Reviewed)

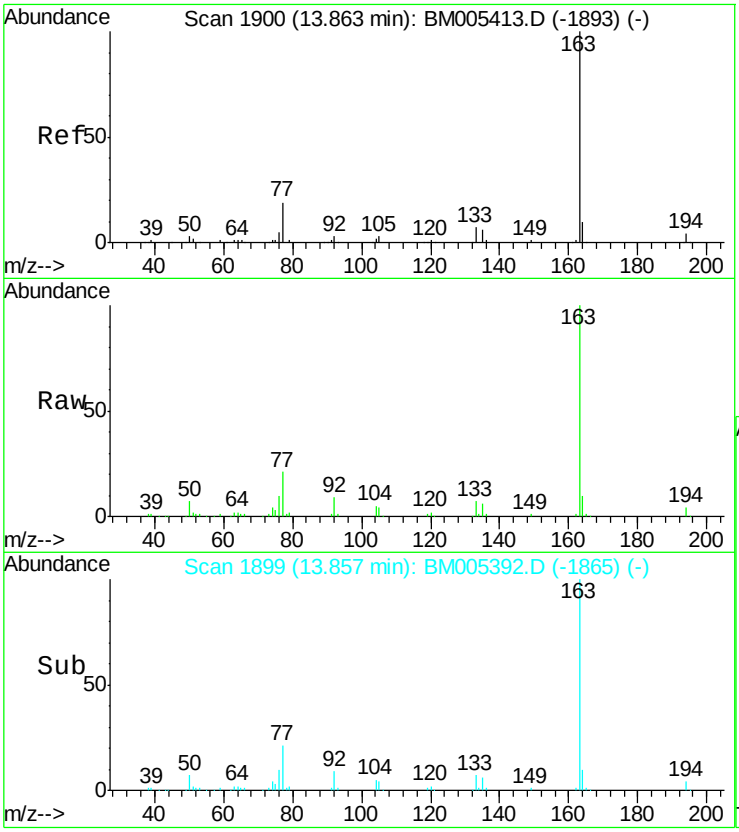
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 12 04:12:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM

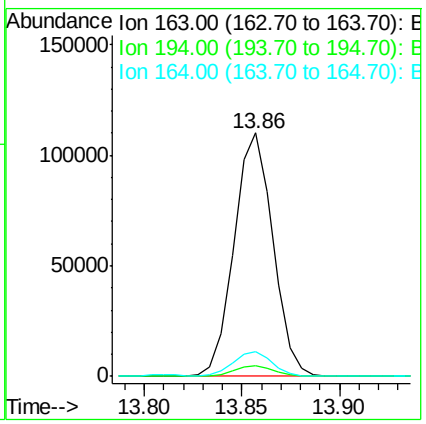




#44
Dimethylphthalate
Concen: 6.73 ng/ul
RT: 13.86 min Scan# 1899
Delta R.T. 0.00 min
Lab File: BM005392.D
Acq: 11 May 2016 18:15

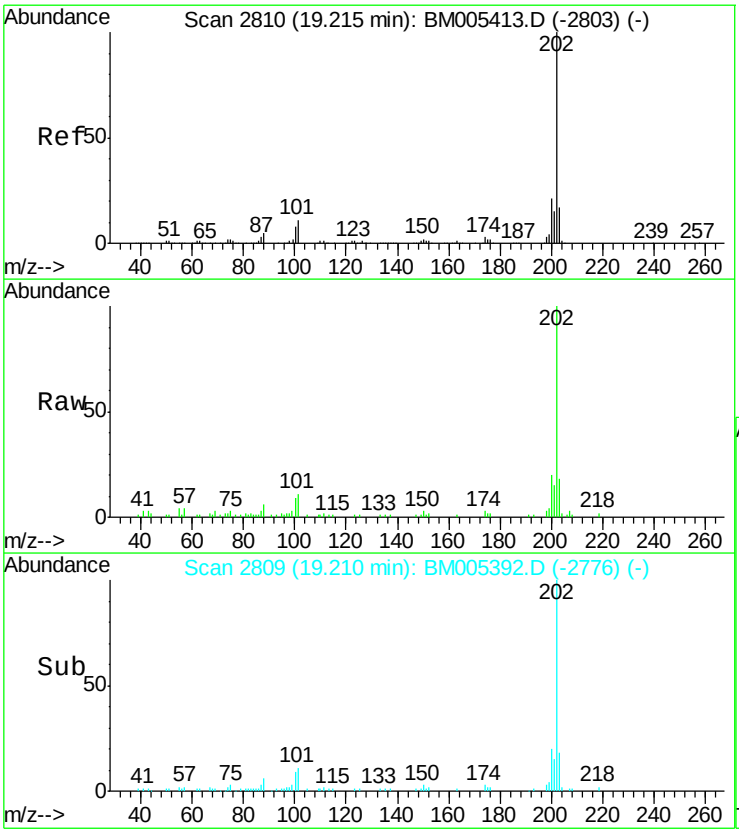
Tgt Ion:163 Resp: 151628

Ion	Ratio	Lower	Upper
163	100		
194	4.2	3.4	5.0
164	10.1	7.9	11.9



Instrument :
BNA_M
ClientSampleId :
H4076

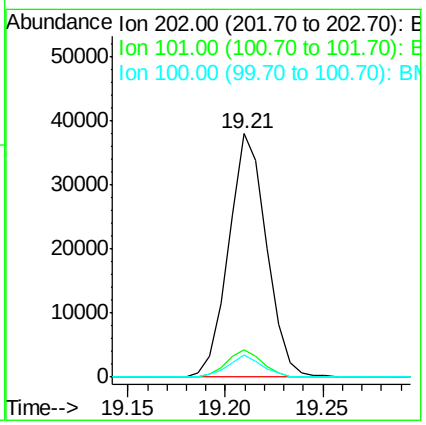
Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM

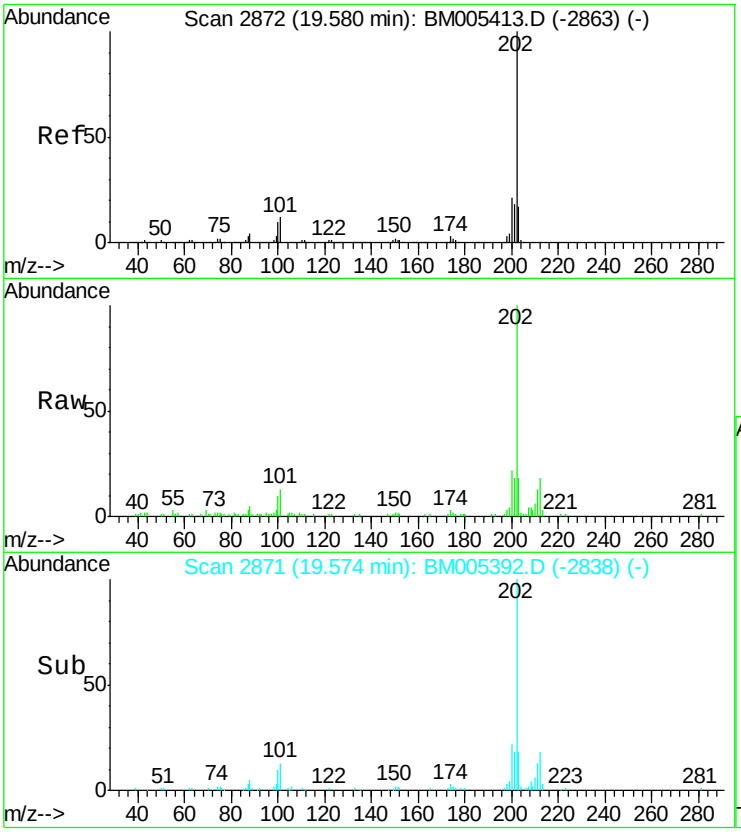


#74
Fluoranthene
Concen: 1.32 ng/ul
RT: 19.21 min Scan# 2809
Delta R.T. -0.01 min
Lab File: BM005392.D
Acq: 11 May 2016 18:15

Tgt Ion:202 Resp: 51091

Ion	Ratio	Lower	Upper
202	100		
101	11.3	9.2	13.8
100	8.9	7.1	10.7

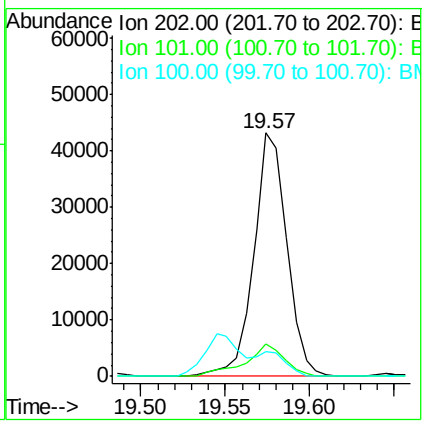




#77
Pyrene
Concen: 1.57 ng/ul
RT: 19.57 min Scan# 2871
Delta R.T. -0.01 min
Lab File: BM005392.D
Acq: 11 May 2016 18:15

Tgt Ion:202 Resp: 58681

Ion	Ratio	Lower	Upper
202	100		
101	13.2	10.8	16.2
100	10.2	8.4	12.6



Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
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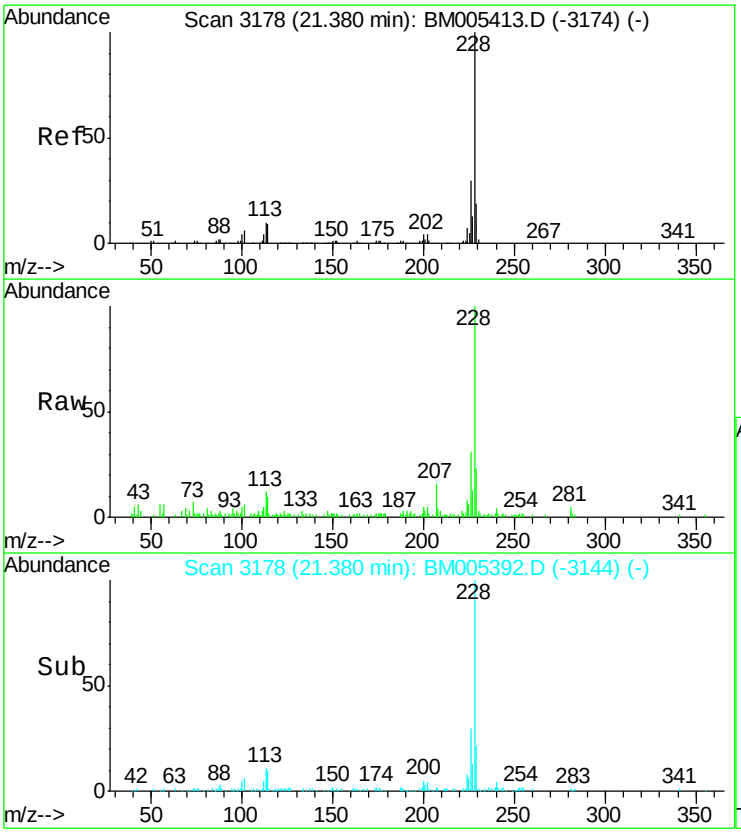
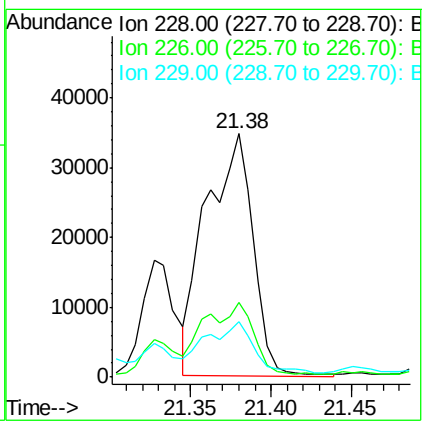
5/12/2016 7:06:50 PM

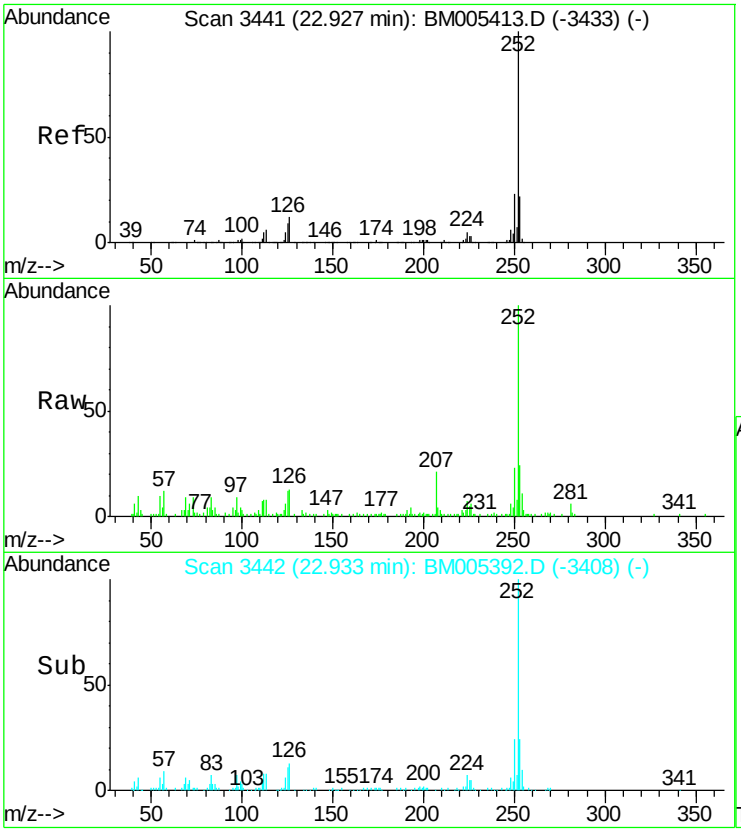


#82
Chrysene
Concen: 2.01 ng/ul m
RT: 21.38 min Scan# 3178
Delta R.T. 0.00 min
Lab File: BM005392.D
Acq: 11 May 2016 18:15

Tgt Ion:228 Resp: 70804

Ion	Ratio	Lower	Upper
228	100		
226	30.9	23.6	35.4
229	22.8	15.4	23.0

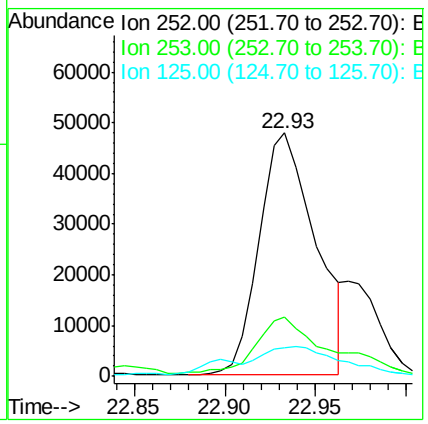




#85
Benzo(b)fluoranthene
Concen: 3.63 ng/ul
RT: 22.93 min Scan# 3442
Delta R.T. 0.00 min
Lab File: BM005392.D
Acq: 11 May 2016 18:15

Tgt Ion:252 Resp: 103329

Ion	Ratio	Lower	Upper
252	100		
253	24.3	17.4	26.2
125	11.6	8.4	12.6



Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
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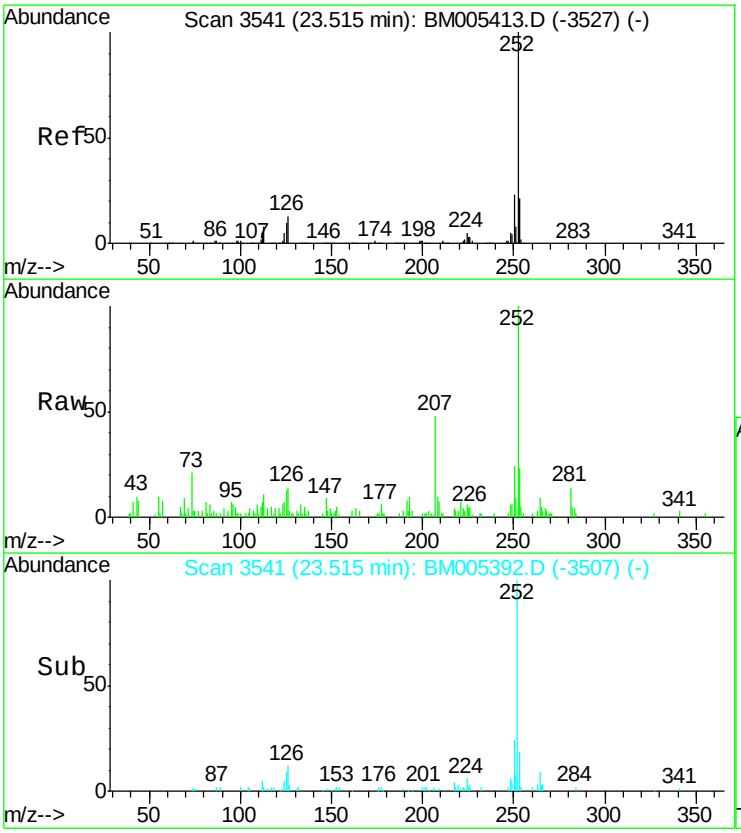
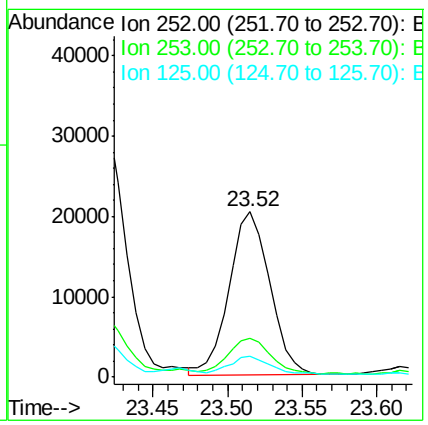
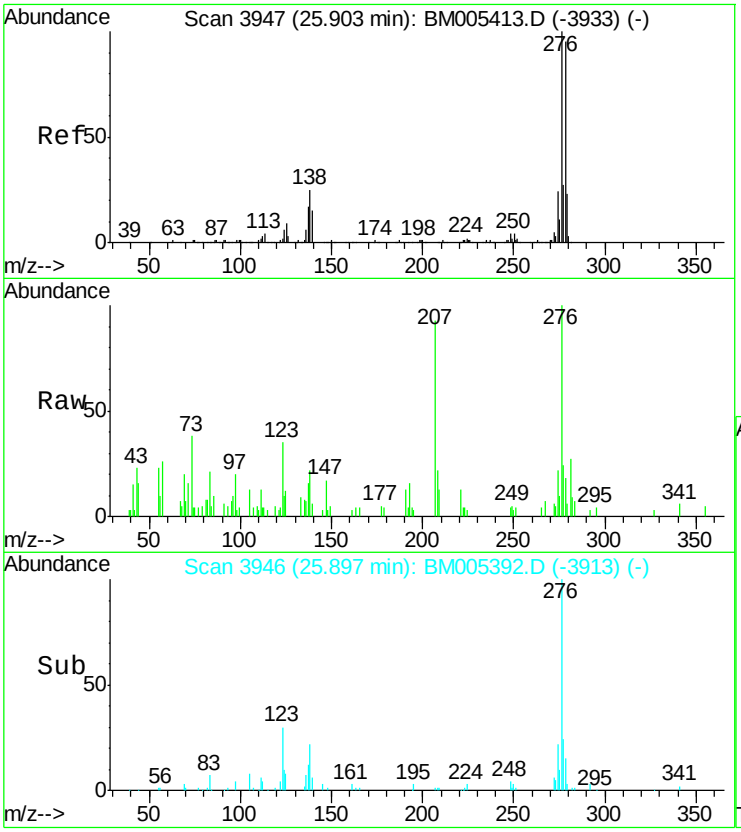


#88
Benzo(a)pyrene
Concen: 1.44 ng/ul
RT: 23.52 min Scan# 3541
Delta R.T. 0.00 min
Lab File: BM005392.D
Acq: 11 May 2016 18:15

Tgt Ion:252 Resp: 38691

Ion	Ratio	Lower	Upper
252	100		
253	23.5	17.5	26.3
125	12.7	8.7	13.1

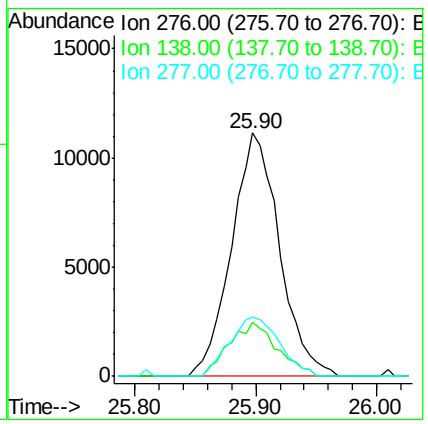




#89
Indeno(1,2,3-cd)pyrene
Concen: 1.05 ng/ul
RT: 25.90 min Scan# 3946
Delta R.T. -0.01 min
Lab File: BM005392.D
Acq: 11 May 2016 18:15

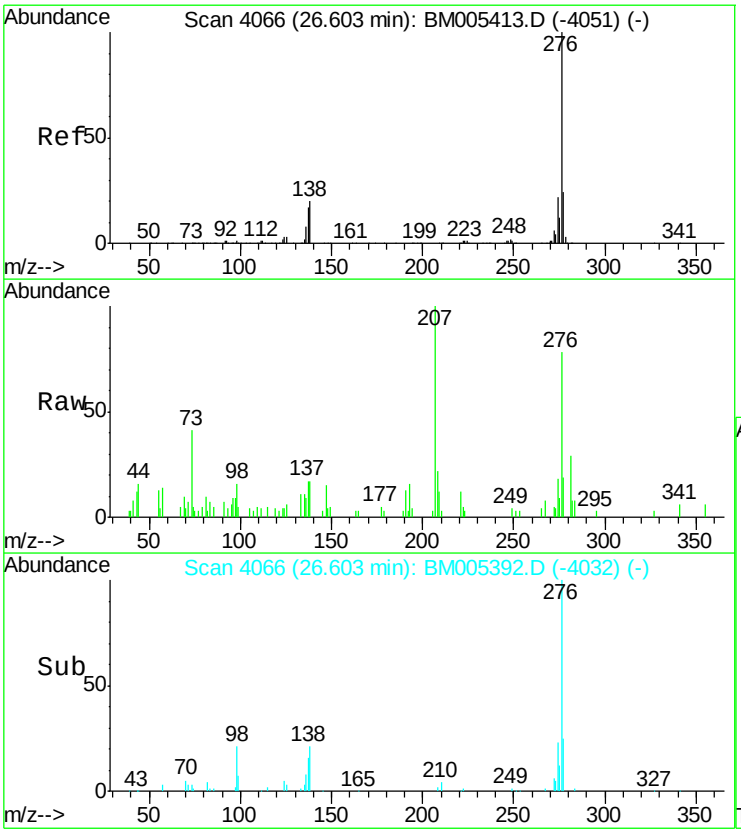
Tgt Ion:276 Resp: 30839

Ion	Ratio	Lower	Upper
276	100		
138	22.2	21.0	31.6
277	24.1	19.9	29.9



Instrument :
BNA_M
ClientSampleId :
H4076

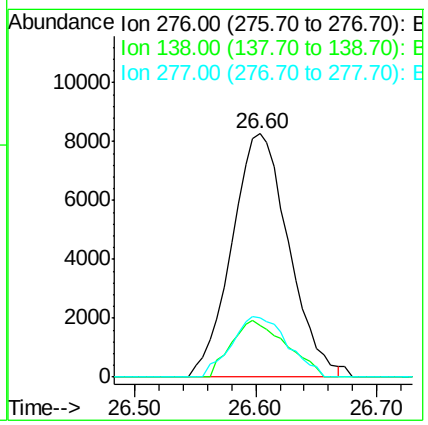
Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM



#91
Benzo(g,h,i)perylene
Concen: 1.09 ng/ul
RT: 26.60 min Scan# 4066
Delta R.T. 0.00 min
Lab File: BM005392.D
Acq: 11 May 2016 18:15

Tgt Ion:276 Resp: 27054

Ion	Ratio	Lower	Upper
276	100		
138	21.4	18.2	27.4
277	24.5	19.4	29.2



Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM

Quant Time: May 12 04:12:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	90930	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	437247	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	281342	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.15	188	666164	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	644821	20.00	ng/ul	0.00
83) Perylene-d12	23.62	264	486399	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.26	96	5766	2.98	ng/uL	0.00
5) Phenol-d5	6.93	99	147061	17.83	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	89802	19.09	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	118058	18.95	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	115078	16.88	ng/ul	0.00
19) Nitrobenzene-d5	8.92	128	64369	20.62	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	76092	21.53	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	130730	19.90	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	61410m	7.77	ng/ul	0.00
43) Dimethylphthalate-d6	13.81	166	467161	20.72	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	548212	20.73	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	55292m	13.43	ng/ul	0.00
57) Fluorene-d10	15.40	176	407141	20.91	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	58723	15.67	ng/ul	0.00
70) Anthracene-d10	17.25	188	615669	20.91	ng/ul	0.00
76) Pyrene-d10	19.55	212	714383	24.00	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	462414	21.48	ng/ul	0.00
Target Compounds						Qvalue
44) Dimethylphthalate	13.86	163	151628	6.73	ng/ul	100
74) Fluoranthene	19.21	202	51091	1.32	ng/ul	100
77) Pyrene	19.57	202	58681	1.57	ng/ul	99
82) Chrysene	21.38	228	70804m	2.01	ng/ul	
85) Benzo(b)fluoranthene	22.93	252	103329	3.63	ng/ul	95
88) Benzo(a)pyrene	23.52	252	38691	1.44	ng/ul	96
89) Indeno(1,2,3-cd)pyrene	25.90	276	30839	1.05	ng/ul	95
91) Benzo(g,h,i)perylene	26.60	276	27054	1.09	ng/ul	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.828	529	534	541	rBV	25689	36678	1.75%	0.115%
2	6.934	716	722	736	rVV	244547	401476	19.16%	1.257%
3	7.093	740	749	762	rBV	208444	316967	15.13%	0.992%
4	7.293	777	783	792	rBV	262532	408464	19.49%	1.278%
5	7.757	855	862	874	rVB	345228	545186	26.02%	1.706%
6	8.463	977	982	990	rBV	300496	482714	23.03%	1.511%
7	8.916	1053	1059	1071	rBV	262140	432917	20.66%	1.355%
8	9.069	1075	1085	1094	rVB2	86248	147851	7.06%	0.463%
9	9.634	1174	1181	1192	rBV	229058	381945	18.23%	1.195%
10	10.169	1266	1272	1286	rBV	345785	593793	28.33%	1.859%
11	10.545	1329	1336	1343	rBV	524603	900212	42.96%	2.818%
12	10.687	1352	1360	1372	rBV	97305	181700	8.67%	0.569%
13	13.810	1885	1891	1895	rBV	717678	983604	46.94%	3.079%
14	13.857	1895	1899	1906	rVB	242148	333532	15.92%	1.044%
15	14.092	1932	1939	1949	rBV	759715	1156860	55.20%	3.621%
16	14.292	1967	1973	1978	rVB	31320	39796	1.90%	0.125%
17	14.404	1982	1992	2000	rVB2	833294	1317273	62.86%	4.123%
18	14.616	2022	2028	2044	rBV	177585	330751	15.78%	1.035%
19	15.245	2131	2135	2141	rVB	51139	61859	2.95%	0.194%
20	15.398	2154	2161	2169	rVB	1008767	1492182	71.20%	4.670%
21	15.522	2177	2182	2193	rVB	270683	392019	18.71%	1.227%
22	15.639	2196	2202	2208	rBV3	20118	43062	2.05%	0.135%
23	16.110	2277	2282	2285	rBV	62236	86773	4.14%	0.272%
24	16.904	2411	2417	2420	rBV	47825	59578	2.84%	0.186%
25	16.951	2420	2425	2430	rVB3	13374	23389	1.12%	0.073%
26	17.151	2452	2459	2464	rBV	1121541	1654136	78.93%	5.177%
27	17.192	2464	2466	2470	rVV	22829	29014	1.38%	0.091%
28	17.251	2470	2476	2485	rVB	1069514	1620420	77.32%	5.072%
29	17.527	2515	2523	2526	rBV3	39710	59339	2.83%	0.186%
30	17.563	2526	2529	2534	rVV2	23046	35255	1.68%	0.110%
31	17.639	2538	2542	2547	rVV2	25103	30968	1.48%	0.097%
32	18.039	2605	2610	2620	rBV	153562	238478	11.38%	0.746%
33	18.968	2765	2768	2772	rVB2	19478	21489	1.03%	0.067%
34	19.180	2799	2804	2806	rBV	24209	35068	1.67%	0.110%

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

35	19.210	2806	2809	2815	rVB	95997	128794	6.15%	0.403%
36	19.321	2823	2828	2833	rBV4	47284	82324	3.93%	0.258%
37	19.433	2842	2847	2850	rBV3	18647	29901	1.43%	0.094%
38	19.468	2850	2853	2859	rVB4	24502	29740	1.42%	0.093%
39	19.551	2861	2867	2880	rVB2	1353622	2095640	100.00%	6.559%
40	19.727	2893	2897	2900	rBV4	13152	23369	1.12%	0.073%
41	20.057	2946	2953	2955	rBV5	36269	65052	3.10%	0.204%
42	20.086	2955	2958	2964	rVB	63053	74730	3.57%	0.234%
43	20.233	2976	2983	2986	rBV2	19476	36051	1.72%	0.113%
44	20.374	3003	3007	3011	rBV2	32675	50695	2.42%	0.159%
45	20.521	3028	3032	3037	rBV6	24411	43848	2.09%	0.137%
46	20.580	3039	3042	3047	rVB4	26472	34100	1.63%	0.107%
47	20.757	3068	3072	3078	rVB	218507	244999	11.69%	0.767%
48	20.821	3080	3083	3088	rBV	43391	60909	2.91%	0.191%
49	20.868	3088	3091	3096	rBV	63067	82502	3.94%	0.258%
50	20.909	3096	3098	3103	rVB2	22692	28623	1.37%	0.090%
51	20.968	3105	3108	3109	rBV2	20044	22202	1.06%	0.069%
52	21.045	3116	3121	3130	rBV2	381174	499630	23.84%	1.564%
53	21.127	3132	3135	3140	rVB	32489	45035	2.15%	0.141%
54	21.227	3149	3152	3154	rBV2	23077	26294	1.25%	0.082%
55	21.257	3154	3157	3162	rBV6	27013	38797	1.85%	0.121%
56	21.345	3166	3172	3177	rBV	1365092	1895602	90.45%	5.933%
57	21.486	3193	3196	3200	rBV3	30112	38387	1.83%	0.120%
58	21.662	3222	3226	3231	rBV3	310514	391588	18.69%	1.226%
59	21.804	3247	3250	3259	rVB3	121571	212212	10.13%	0.664%
60	21.921	3266	3270	3284	rVB	626600	854633	40.78%	2.675%
61	22.386	3345	3349	3353	rBV	69580	94248	4.50%	0.295%
62	22.621	3384	3389	3393	rVB	230178	310874	14.83%	0.973%
63	22.898	3430	3436	3440	rBV	511988	809005	38.60%	2.532%
64	22.939	3440	3443	3454	rVB2	182397	436340	20.82%	1.366%
65	23.315	3503	3507	3518	rVB	98237	175237	8.36%	0.548%
66	23.421	3520	3525	3527	rBV	71389	123030	5.87%	0.385%
67	23.468	3527	3533	3539	rVV2	682244	1251483	59.72%	3.917%
68	23.615	3551	3558	3577	rVB	677961	1388795	66.27%	4.347%
69	23.786	3581	3587	3596	rVB	270807	504582	24.08%	1.579%
70	24.003	3620	3624	3627	rBV6	19884	39913	1.90%	0.125%
71	24.121	3636	3644	3652	rVB	741374	1467083	70.01%	4.592%

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

72	24.203	3654	3658	3670	rVB	74088	163405	7.80%	0.511%
73	24.668	3731	3737	3747	rVB	202995	448185	21.39%	1.403%
74	24.868	3764	3771	3780	rBV	104442	268761	12.82%	0.841%
75	25.327	3842	3849	3857	rBV3	82727	195452	9.33%	0.612%
76	25.668	3901	3907	3912	rBV4	59547	143087	6.83%	0.448%
77	25.744	3913	3920	3929	rVB	225453	582784	27.81%	1.824%
78	26.344	4017	4022	4038	rVB8	48377	156923	7.49%	0.491%
79	26.674	4074	4078	4087	rVB8	41901	101247	4.83%	0.317%
80	27.450	4201	4210	4224	rVB	178717	581662	27.76%	1.821%
81	27.980	4290	4300	4317	rVB6	185848	697496	33.28%	2.183%

Sum of corrected areas: 31949997

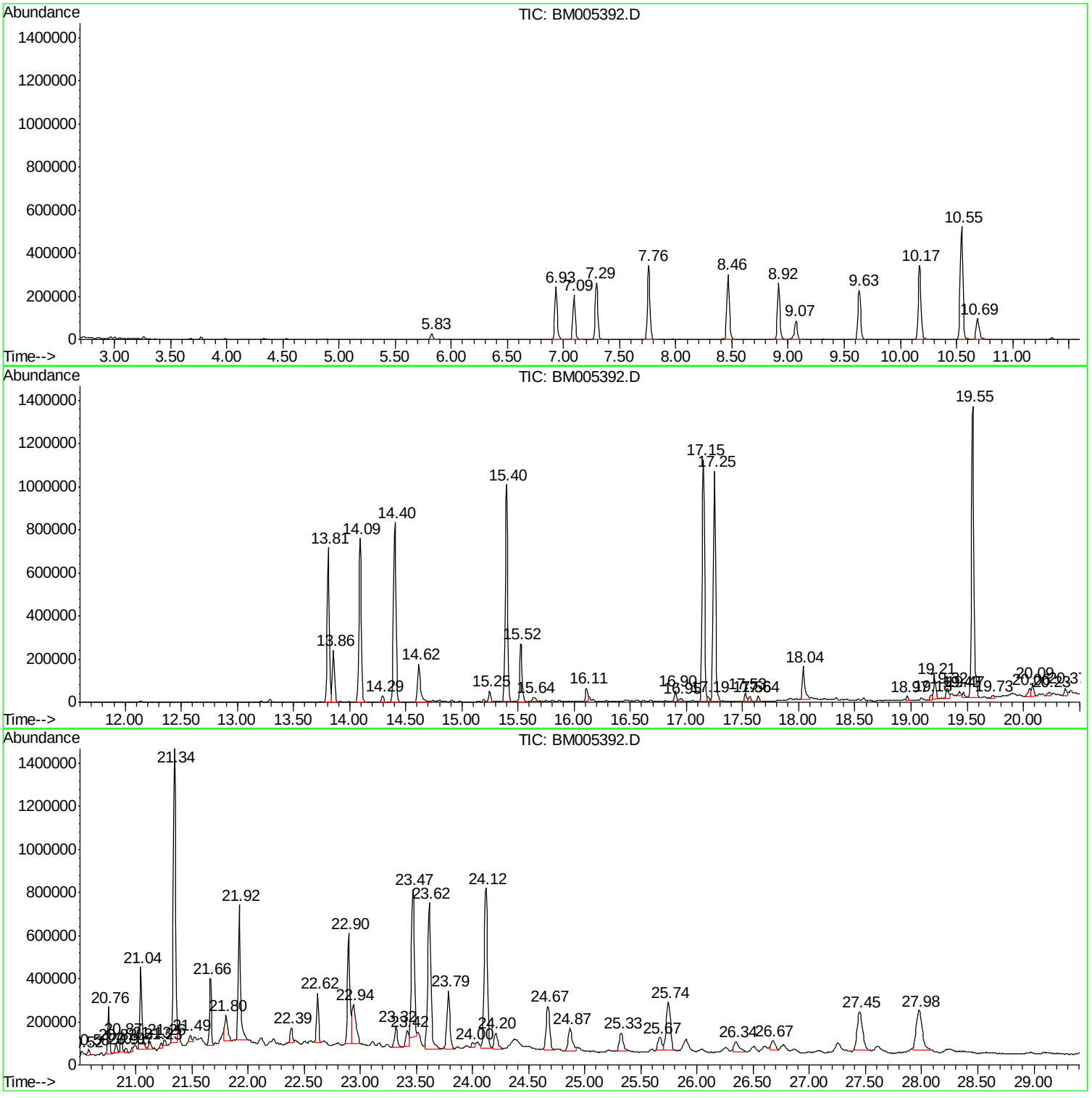
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

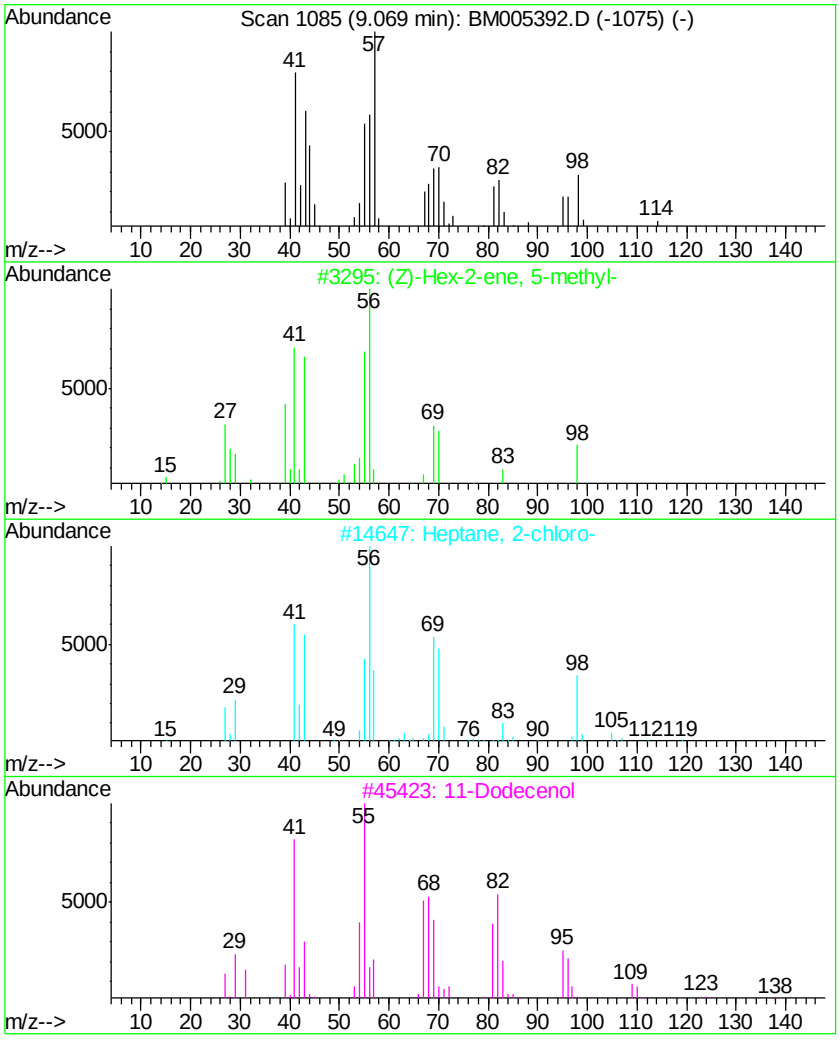
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

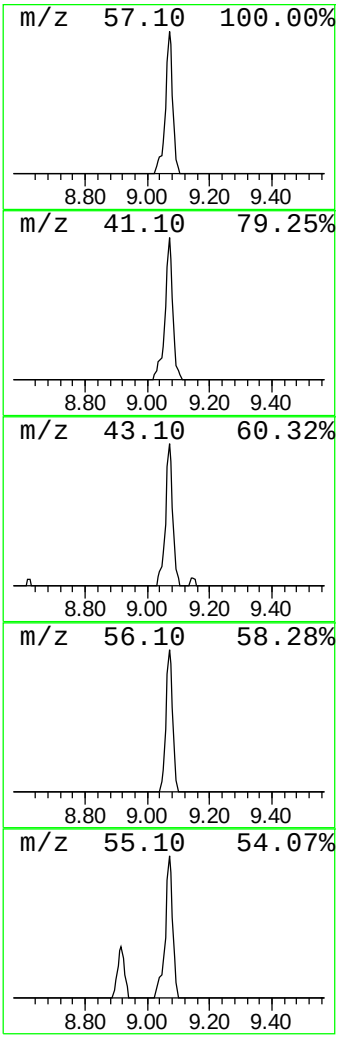
****

Peak Number 1 (DEL) Alkane: Cyclic-9.07 Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.07	5.42 ng/ul	147851	1,4-Dichlorobenzene-d4	7.76

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	(Z)-Hex-2-ene, 5-methyl-	98	C7H14	013151-17-2	27
2	Heptane, 2-chloro-	134	C7H15Cl	001001-89-4	27
3	11-Dodecenol	184	C12H24O	035289-31-7	27
4	(Z)-2-Heptene	98	C7H14	006443-92-1	25
5	2-Heptene	98	C7H14	000592-77-8	22





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

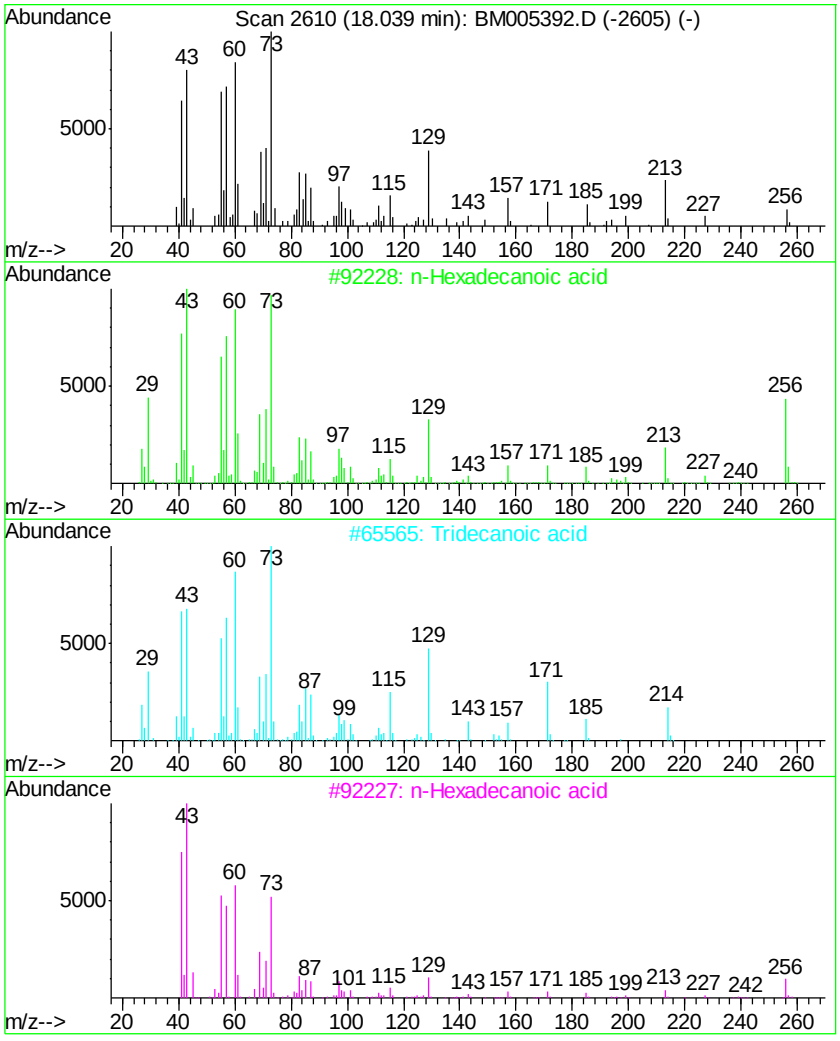
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

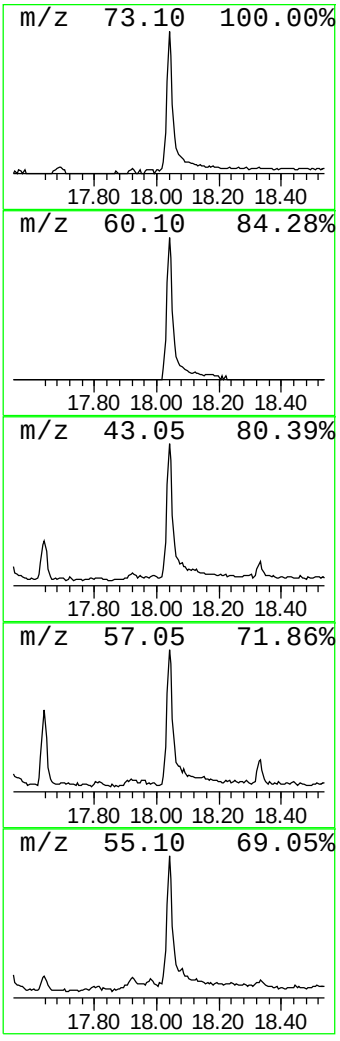
****

Peak Number 2 n-Hexadecanoic acid Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.04	2.88 ng/ul	238478	Phenanthrene-d10	17.15

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	98
2	Tridecanoic acid	214	C13H26O2	000638-53-9	95
3	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	95
4	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	91
5	Tridecanoic acid	214	C13H26O2	000638-53-9	90





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

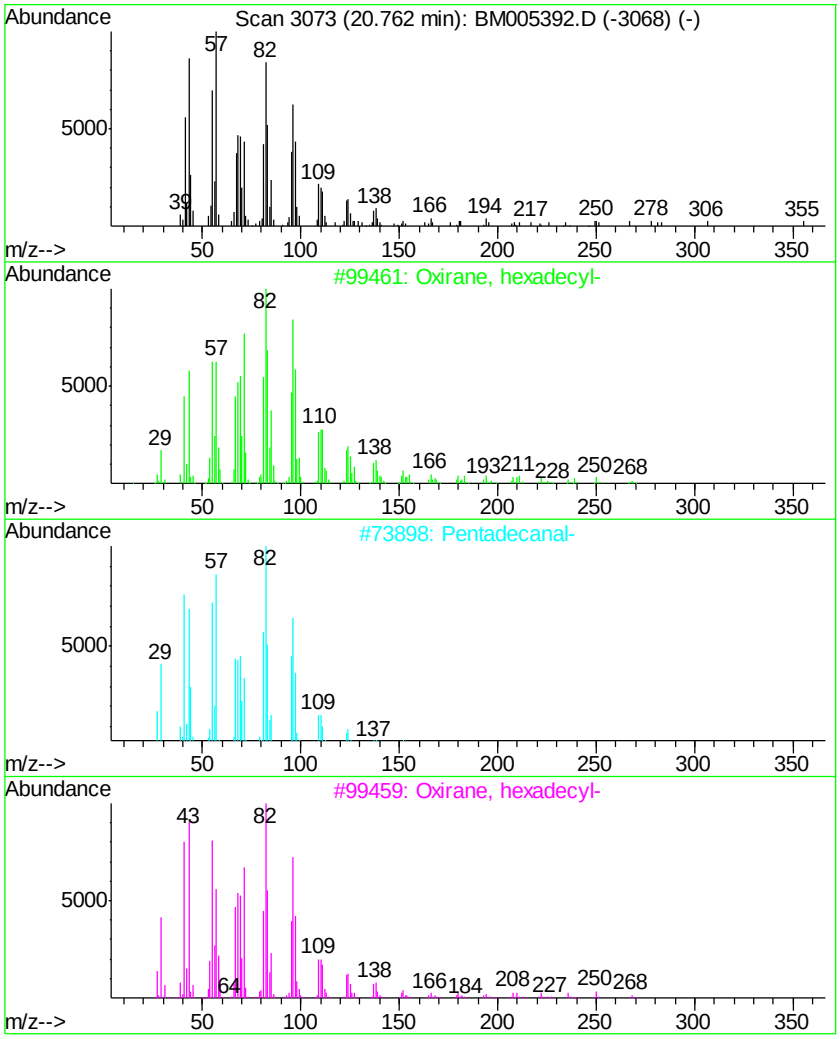
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

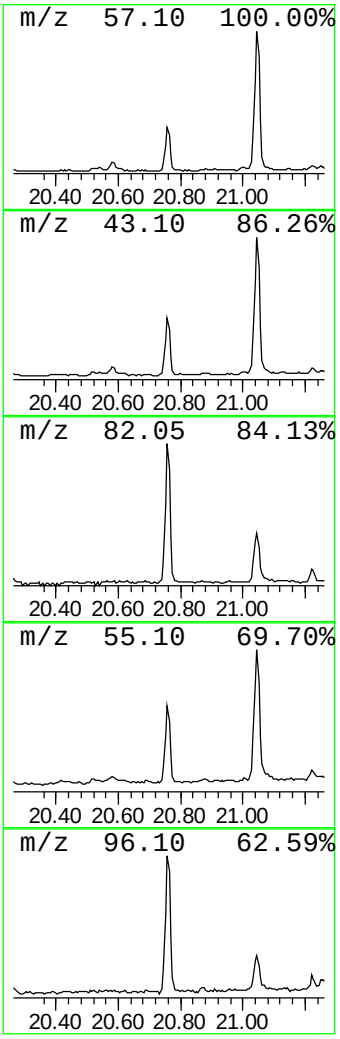
****

Peak Number 3 Oxirane, hexadecyl- Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.76	2.58 ng/ul	244999	Chrysene-d12	21.34

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Oxirane, hexadecyl-	268	C18H36O	007390-81-0	94
2	Pentadecanal-	226	C15H30O	002765-11-9	93
3	Oxirane, hexadecyl-	268	C18H36O	007390-81-0	91
4	17-Octadecenal	266	C18H34O	056554-86-0	91
5	Octadecanal	268	C18H36O	000638-66-4	91





Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

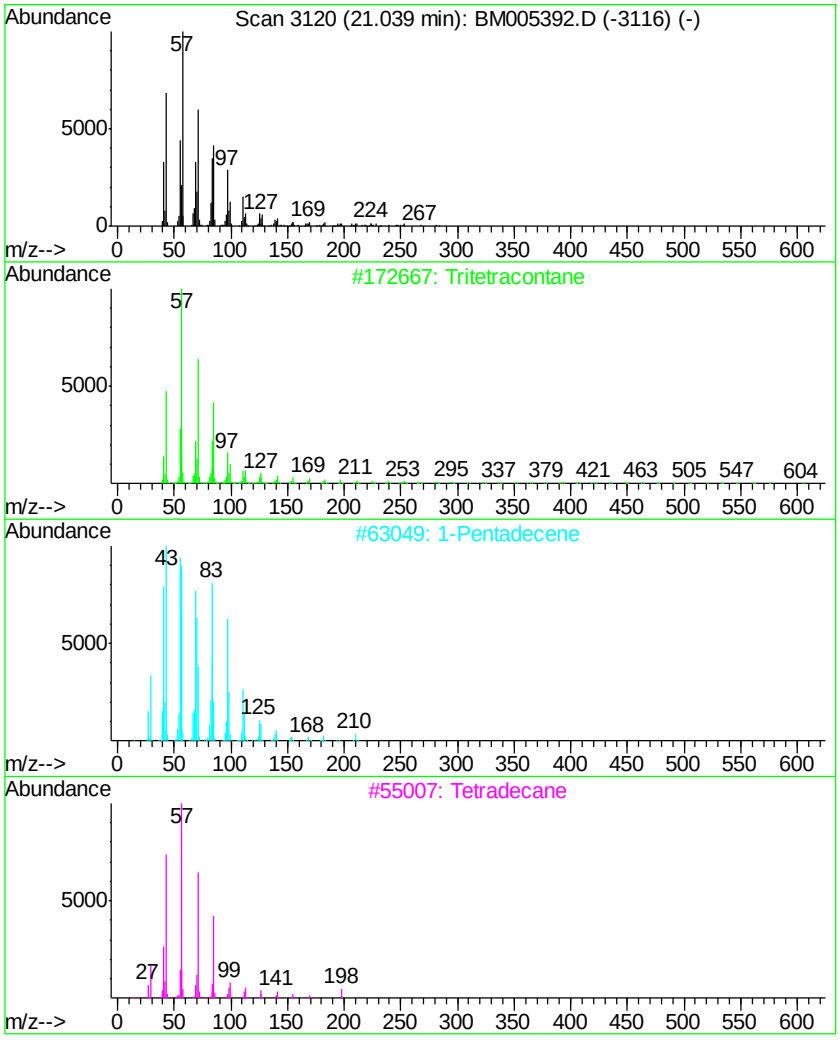
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

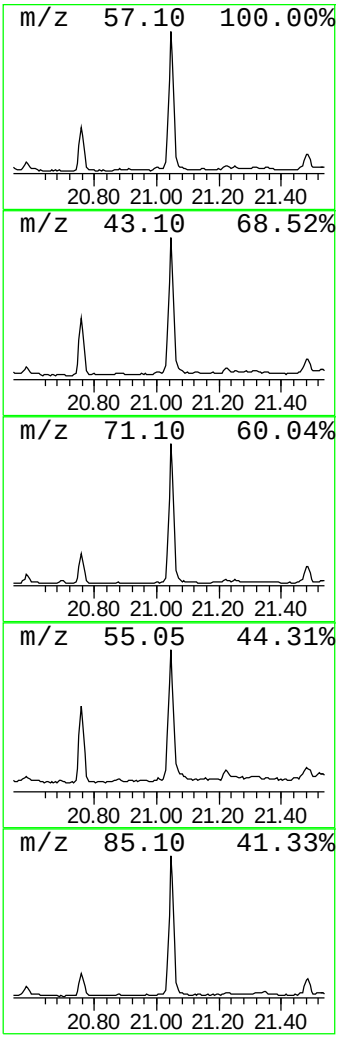
****

Peak Number 4 (DEL) Alkane: Straight-Chai... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.04	5.27 ng/ul	499630	Chrysene-d12	21.34

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tritetracontane	605	C43H88	007098-21-7	91
2	1-Pentadecene	210	C15H30	013360-61-7	86
3	Tetradecane	198	C14H30	000629-59-4	62
4	Pentadecane	212	C15H32	000629-62-9	62
5	Hexadecane	226	C16H34	000544-76-3	62





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

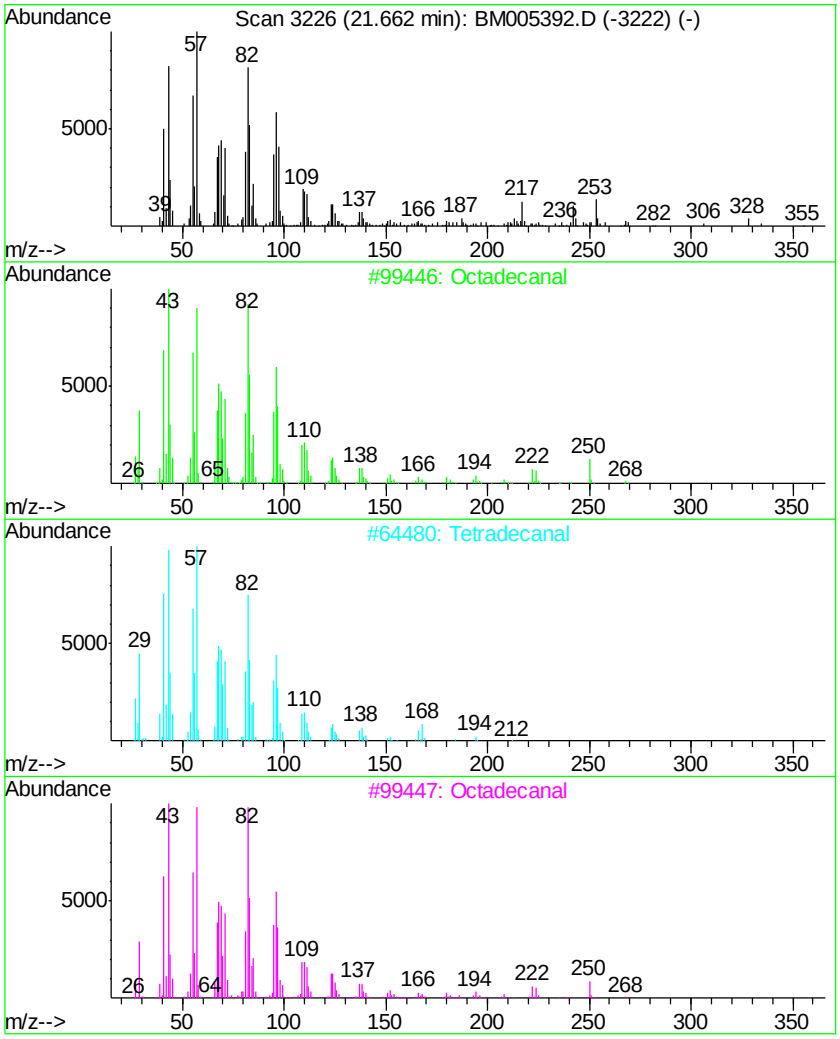
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

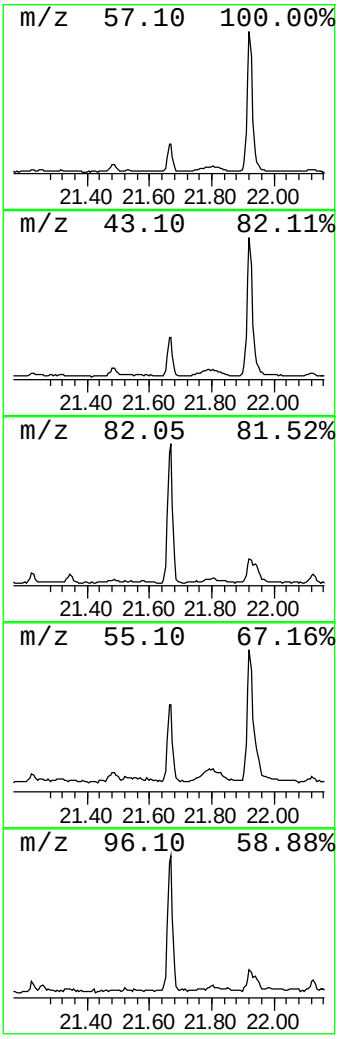
****

Peak Number 5 Octadecanal Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.66	4.13 ng/ul	391588	Chrysene-d12	21.34

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octadecanal	268	C18H36O	000638-66-4	96
2	Tetradecanal	212	C14H28O	000124-25-4	94
3	Octadecanal	268	C18H36O	000638-66-4	91
4	Oxirane, hexadecyl-	268	C18H36O	007390-81-0	91
5	(Z)-14-Tricosenyl formate	366	C24H46O2	077899-10-6	89





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

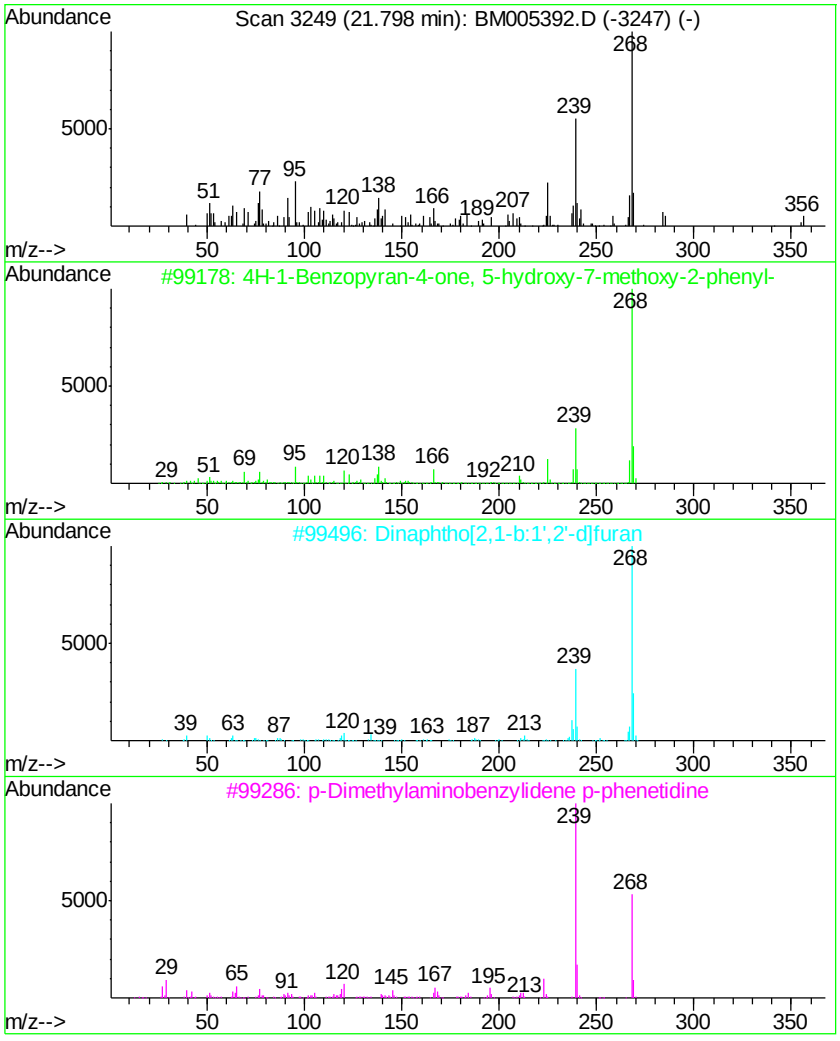
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

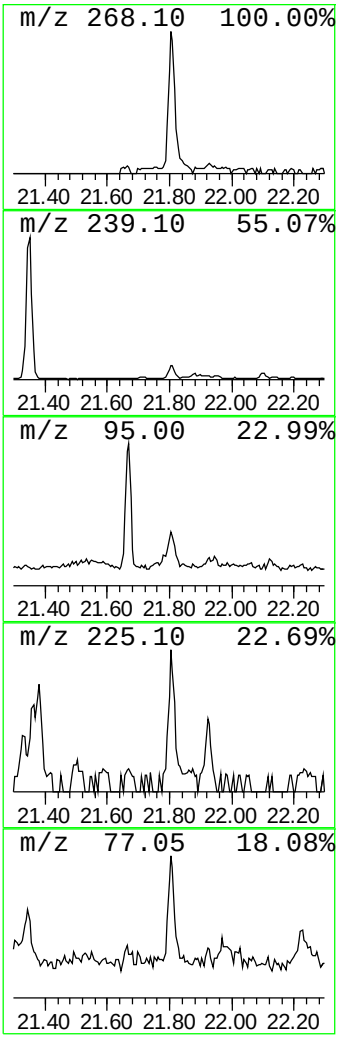
****

Peak Number 6 4H-1-Benzopyran-4-one, 5-hy... Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.80	2.24 ng/ul	212212	Chrysene-d12	21.34

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	4H-1-Benzopyran-4-one, 5-hydroxy...	268	C16H12O4	000520-28-5	95
2	Dinaphtho[2,1-b:1',2'-d]furan	268	C20H12O	000194-63-8	58
3	p-Dimethylaminobenzylidene p-phe...	268	C17H20N2O	015484-93-2	50
4	4H-1-Benzopyran-4-one, 3-hydroxy...	268	C16H12O4	007478-60-6	43
5	4H-1-Benzopyran-4-one, 3-hydroxy...	268	C16H12O4	007478-60-6	43





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Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

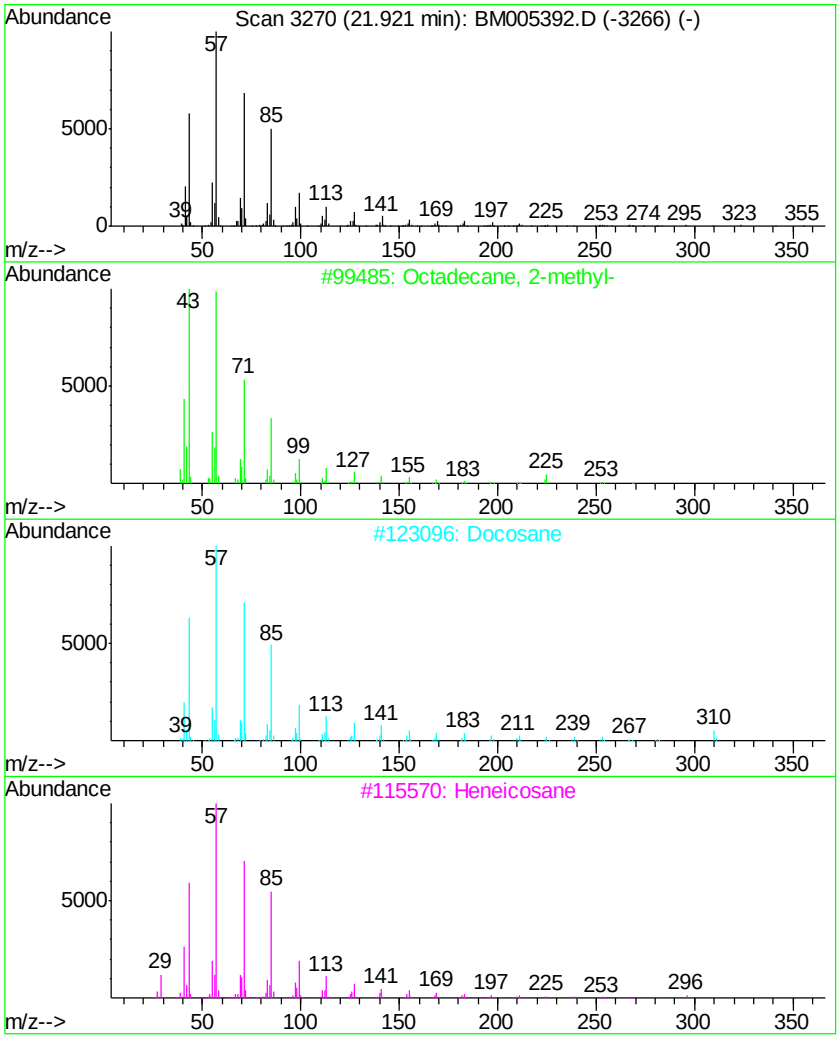
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

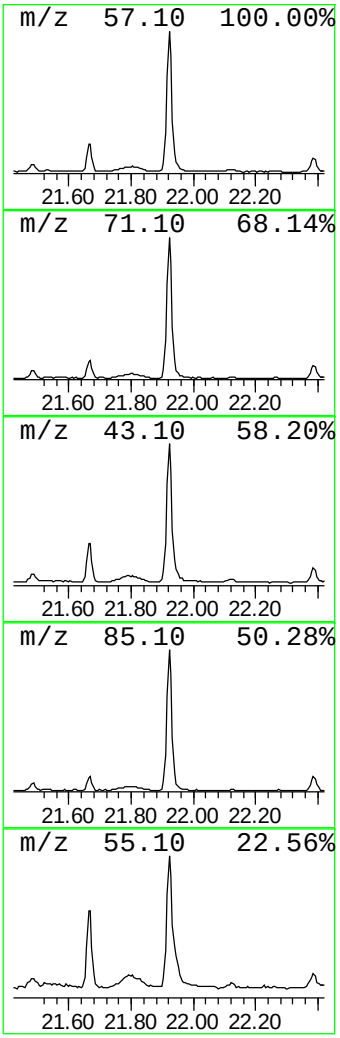
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 7 (DEL) Alkane: Straight-Chai... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.92	9.02 ng/ul	854633	Chrysene-d12	21.34

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octadecane, 2-methyl-	268	C19H40	001560-88-9	94
2	Docosane	310	C22H46	000629-97-0	91
3	Heneicosane	296	C21H44	000629-94-7	91
4	Octacosane	394	C28H58	000630-02-4	91
5	Docosane, 7-hexyl-	394	C28H58	055373-86-9	91





Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

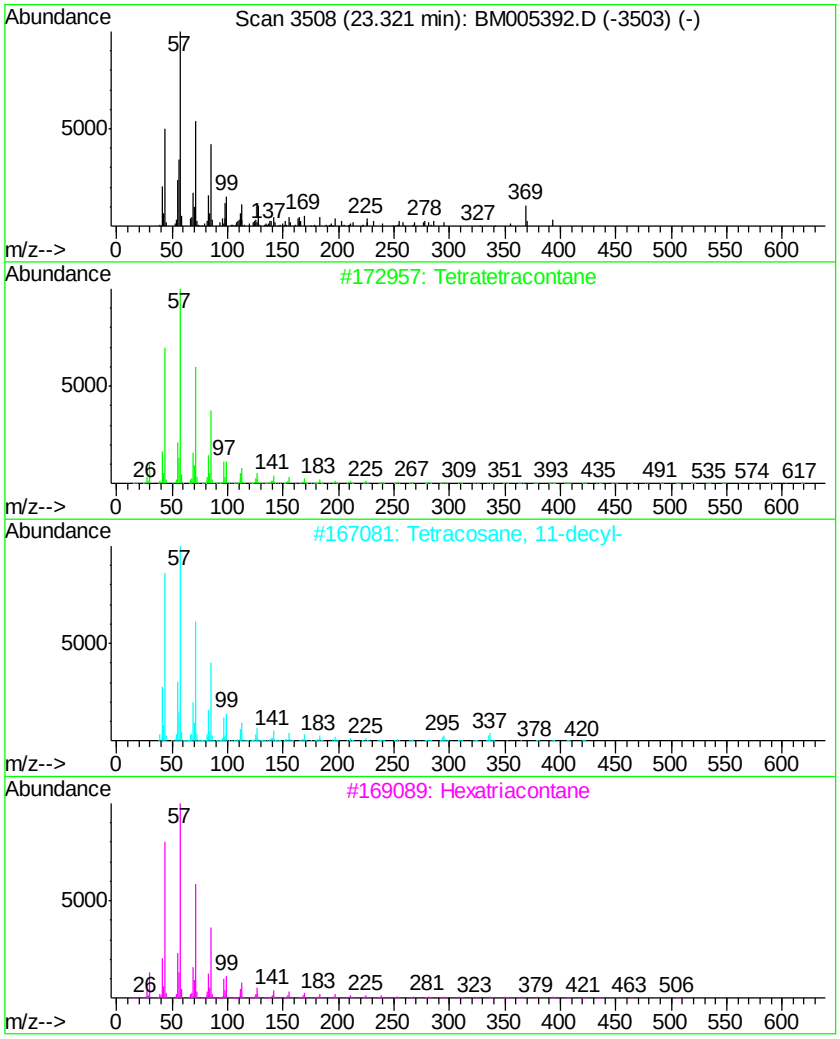
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

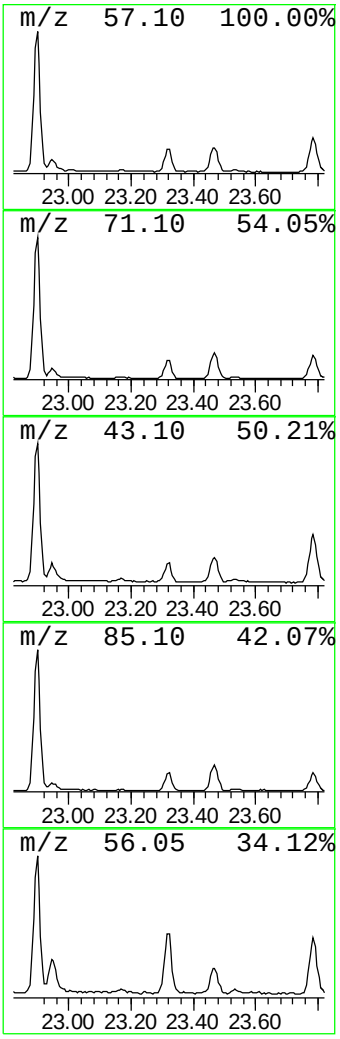
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 9 (DEL) Alkane: Straight-Chai... Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
23.32	2.52 ng/ul	175237	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tetratetracontane	619	C44H90	007098-22-8	87
2	Tetracosane, 11-decyl-	479	C34H70	055429-84-0	83
3	Hexatriacontane	507	C36H74	000630-06-8	83
4	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	83
5	Heneicosane, 11-decyl-	437	C31H64	055320-06-4	83





Library Search Compound Report

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Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

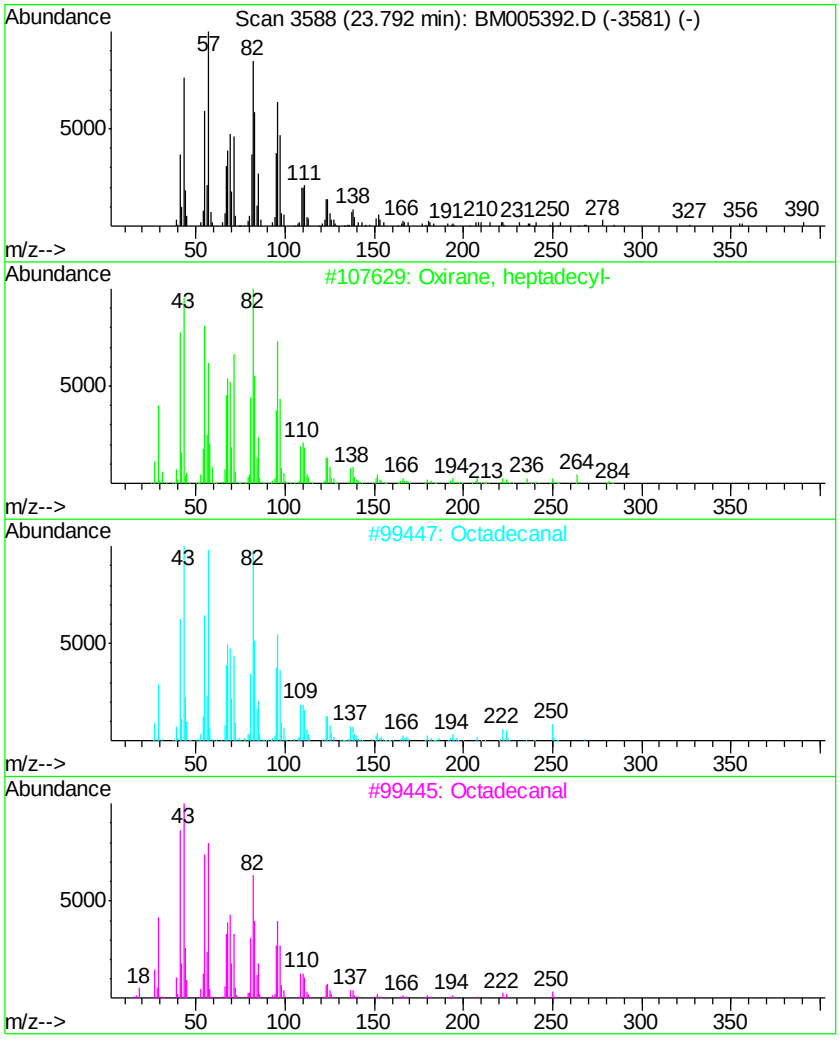
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

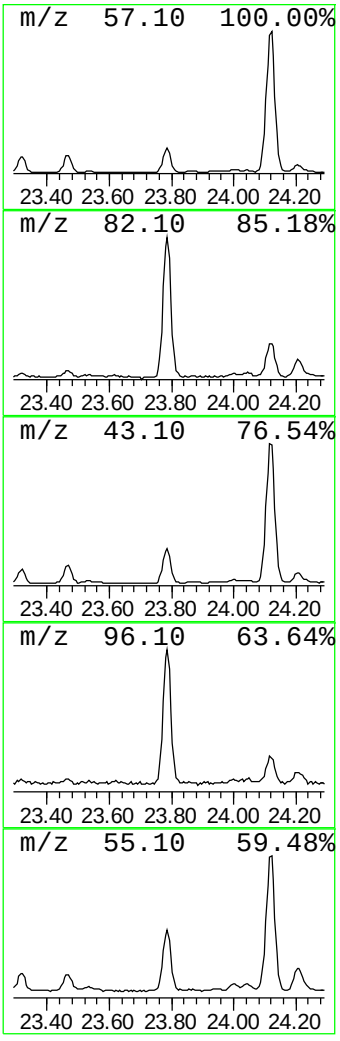
****

Peak Number 10 Oxirane, heptadecyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
23.79	7.27 ng/ul	504582	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Oxirane, heptadecyl-	282	C19H38O	067860-04-2	96
2	Octadecanal	268	C18H36O	000638-66-4	94
3	Octadecanal	268	C18H36O	000638-66-4	91
4	Oxirane, hexadecyl-	268	C18H36O	007390-81-0	90
5	17-Octadecenal	266	C18H34O	056554-86-0	90





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

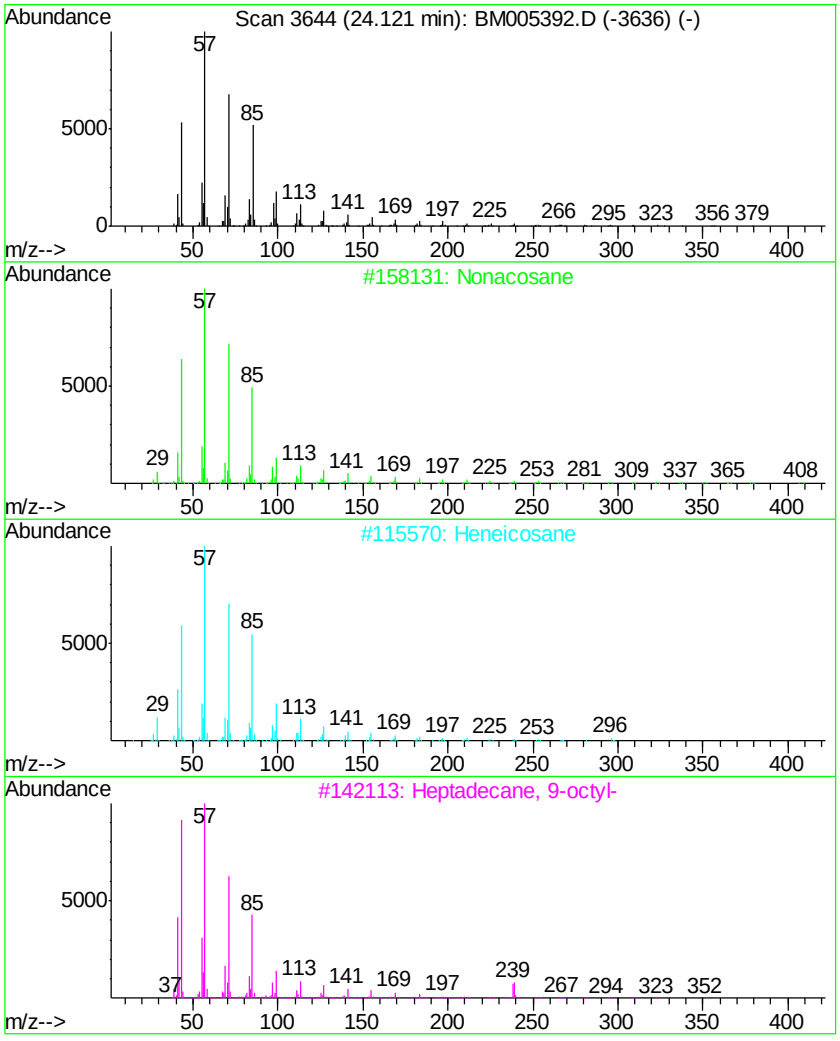
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

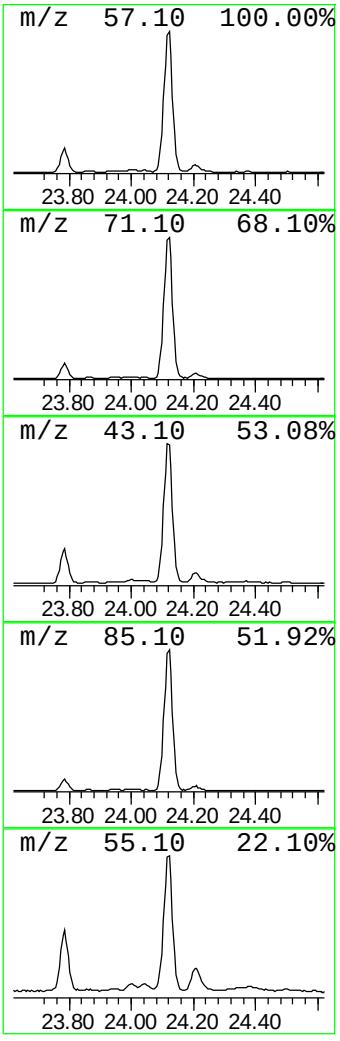
****

Peak Number 11 (DEL) Alkane: Straight-Chai... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.12	21.13 ng/ul	1467080	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Nonacosane	408	C29H60	000630-03-5	91
2	Heneicosane	296	C21H44	000629-94-7	91
3	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	91
4	Octacosane	394	C28H58	000630-02-4	91
5	Tetratriacontane	479	C34H70	014167-59-0	91





Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
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Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

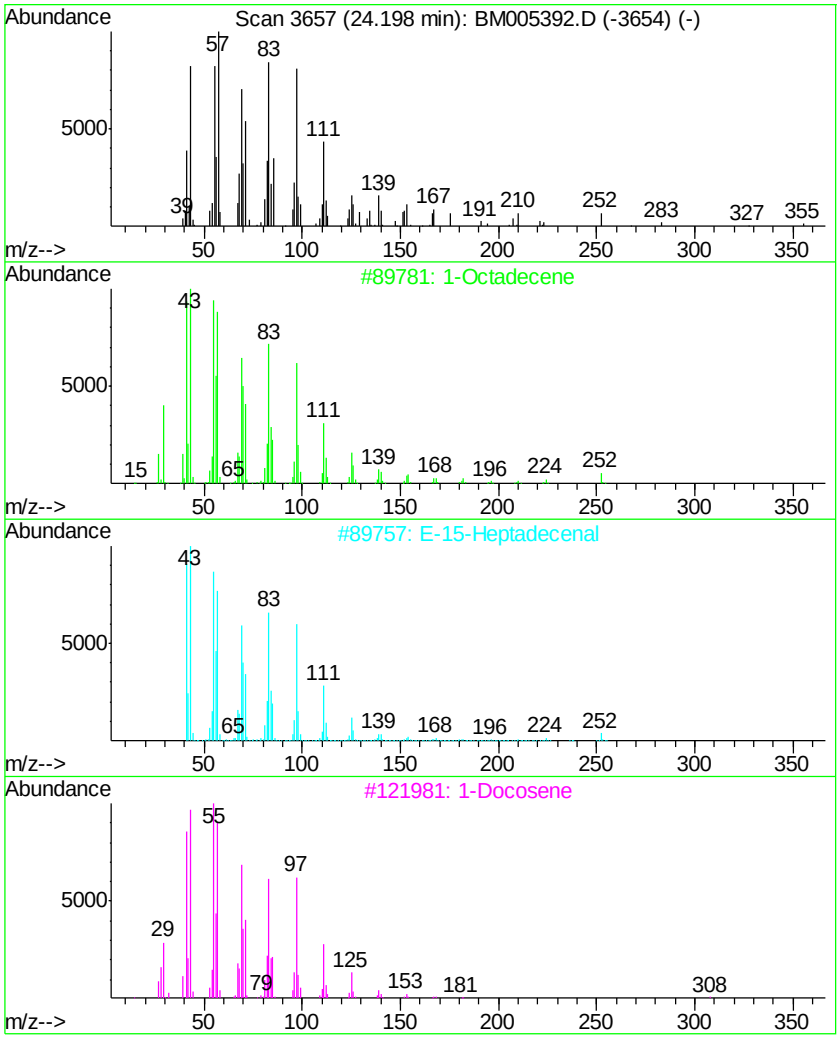
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

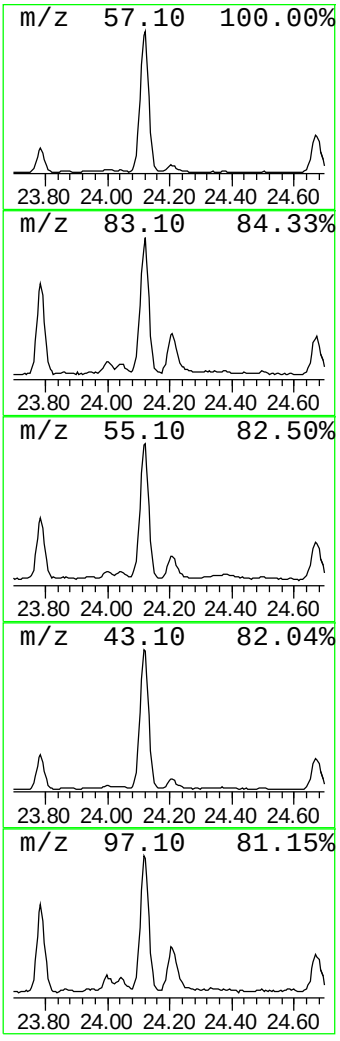
****

Peak Number 12 (DEL) Alkane: Cyclic-24.20 Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.20	2.35 ng/ul	163405	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Octadecene	252	C18H36	000112-88-9	93
2	E-15-Heptadecenal	252	C17H32O	1000130-97-9	91
3	1-Docosene	308	C22H44	001599-67-3	90
4	Bacteriochlorophyll-c-stearyl	841	C52H72MgN4O4	1000164-49-7	87
5	Acetic acid, octadecyl ester	312	C20H40O2	000822-23-1	87





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

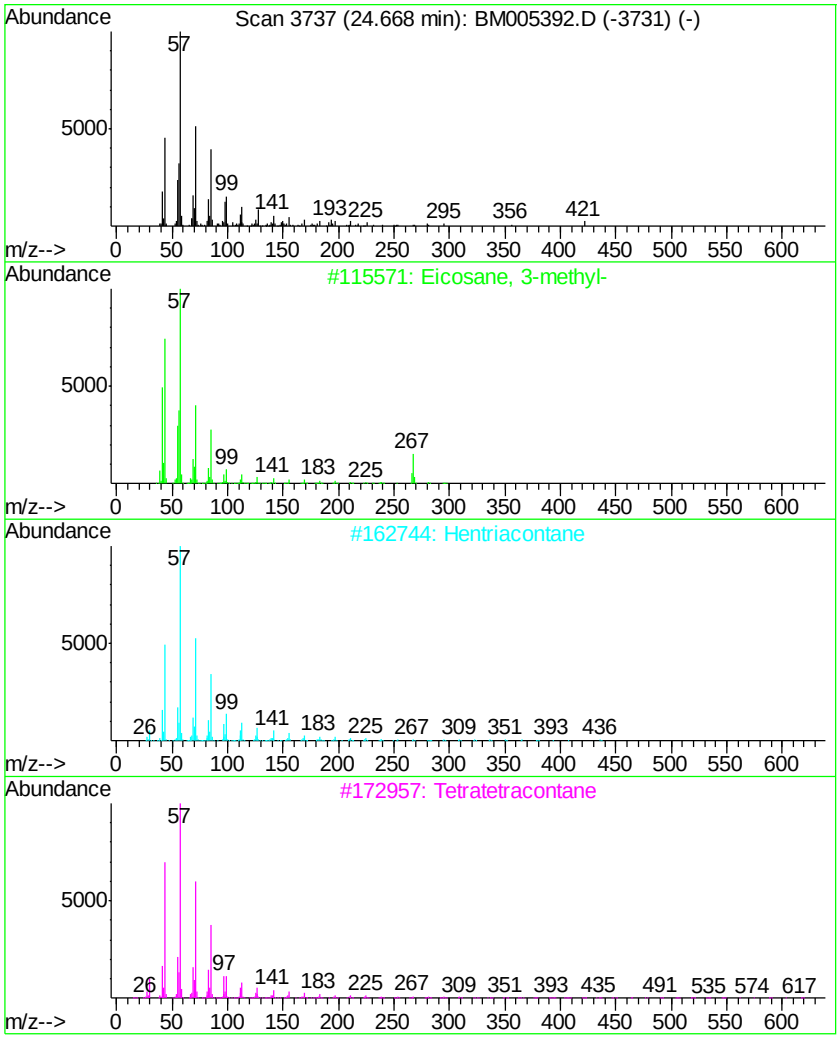
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

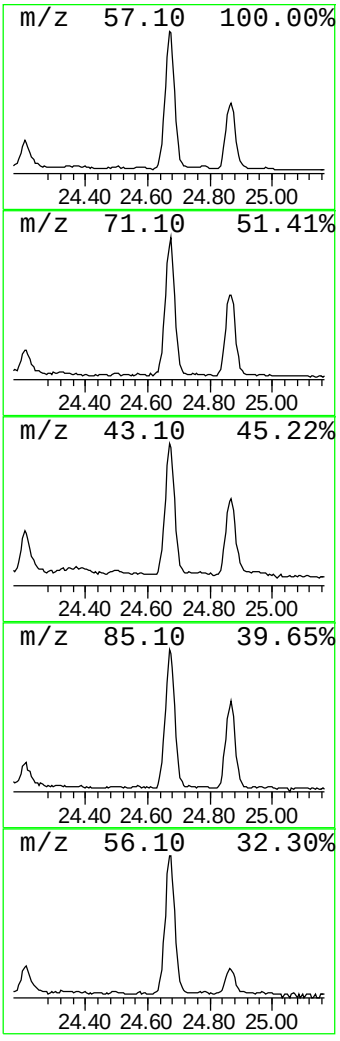
****

Peak Number 13 (DEL) Alkane: Straight-Chai... Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.67	6.45 ng/ul	448185	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Eicosane, 3-methyl-	296	C21H44	006418-46-8	90
2	Hentriacontane	437	C31H64	000630-04-6	87
3	Tetratetracontane	619	C44H90	007098-22-8	87
4	Pentacosane	352	C25H52	000629-99-2	87
5	Heptadecane, 3-methyl-	254	C18H38	006418-44-6	87





Library Search Compound Report

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Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

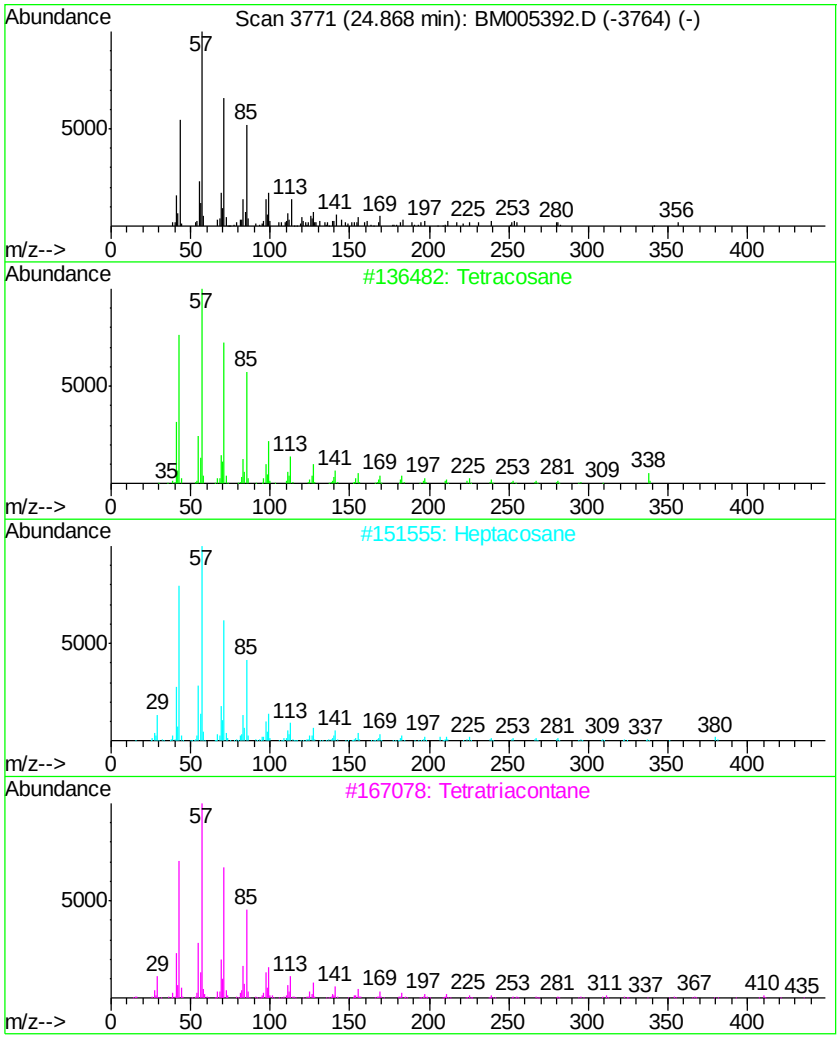
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

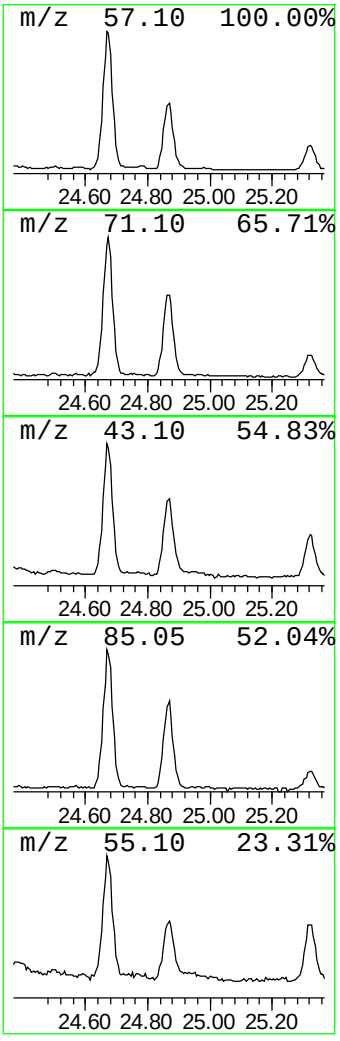
****

Peak Number 14 (DEL) Alkane: Straight-Chai... Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.87	3.87 ng/ul	268761	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tetracosane	338	C24H50	000646-31-1	91
2	Heptacosane	380	C27H56	000593-49-7	91
3	Tetratriacontane	479	C34H70	014167-59-0	90
4	Nonacosane	408	C29H60	000630-03-5	90
5	Tetratetracontane	619	C44H90	007098-22-8	90





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Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

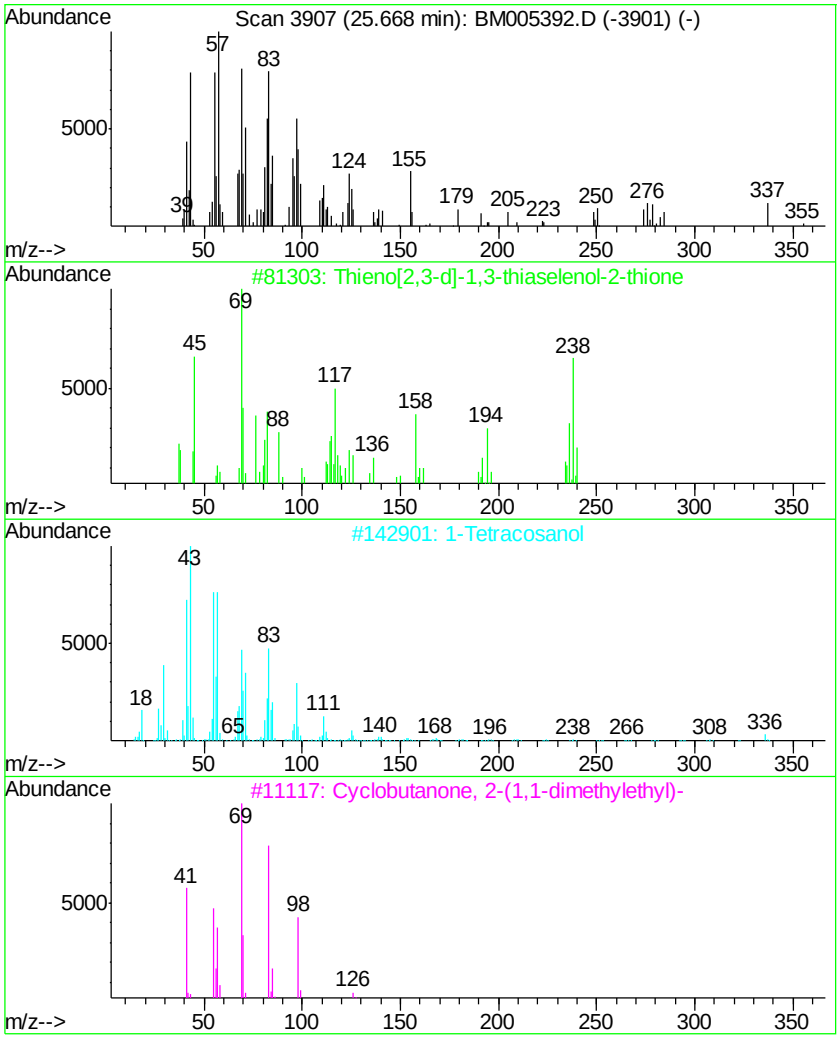
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

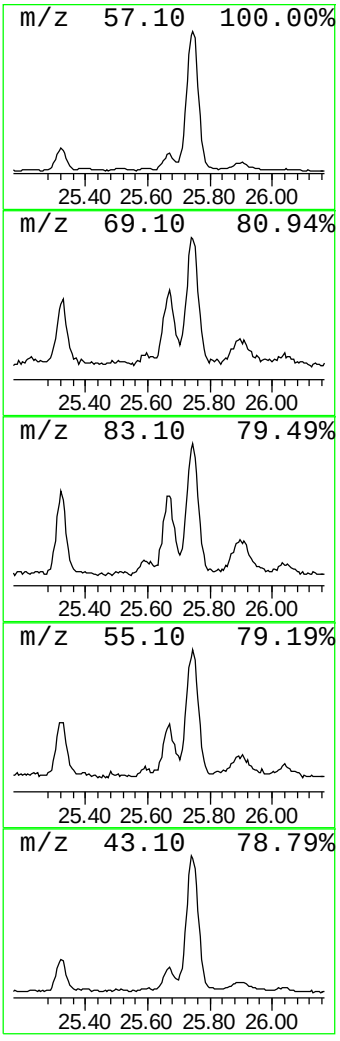
****

Peak Number 16 Thieno[2,3-d]-1,3-thiaselen... Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.67	2.06 ng/ul	143087	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Thieno[2,3-d]-1,3-thiaselenol-2-...	238	C5H2S3Se	081803-09-0	56
2	1-Tetracosanol	354	C24H50O	000506-51-4	52
3	Cyclobutanone, 2-(1,1-dimethylet...	126	C8H14O	004579-31-1	49
4	Cyclohexane, 1-(1,5-dimethylhexy...	280	C20H40	056009-20-2	45
5	6-Octadecenal	266	C18H34O	056554-97-3	43





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

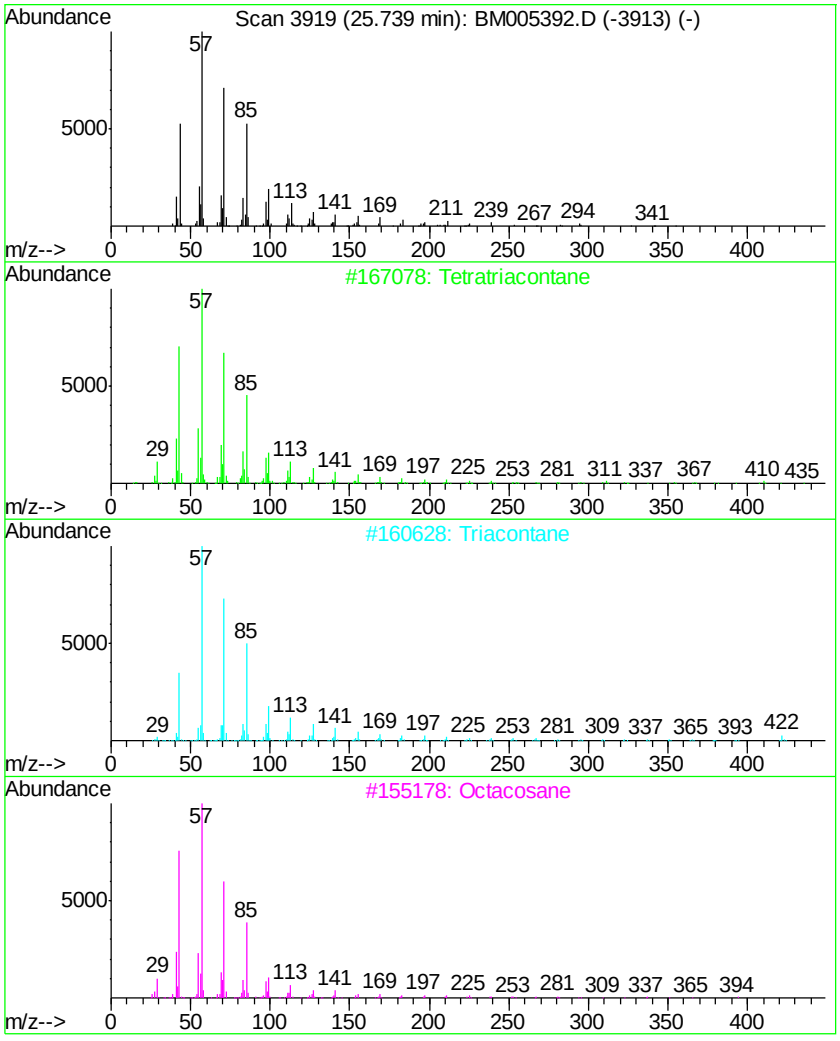
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

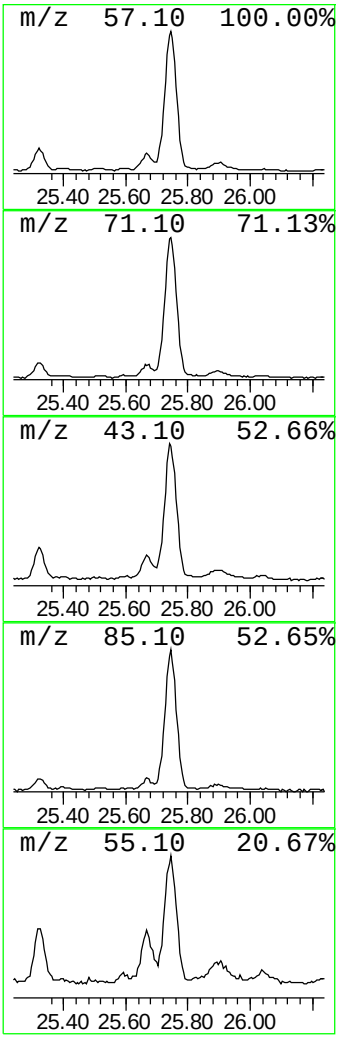
****

Peak Number 17 (DEL) Alkane: Straight-Chai... Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.74	8.39 ng/ul	582784	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tetratriacontane	479	C34H70	014167-59-0	91
2	Triacontane	422	C30H62	000638-68-6	91
3	Octacosane	394	C28H58	000630-02-4	91
4	Tetracosane, 11-decyl-	479	C34H70	055429-84-0	91
5	Tetracosane	338	C24H50	000646-31-1	91





Library Search Compound Report

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Data File : BM005392.D
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Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

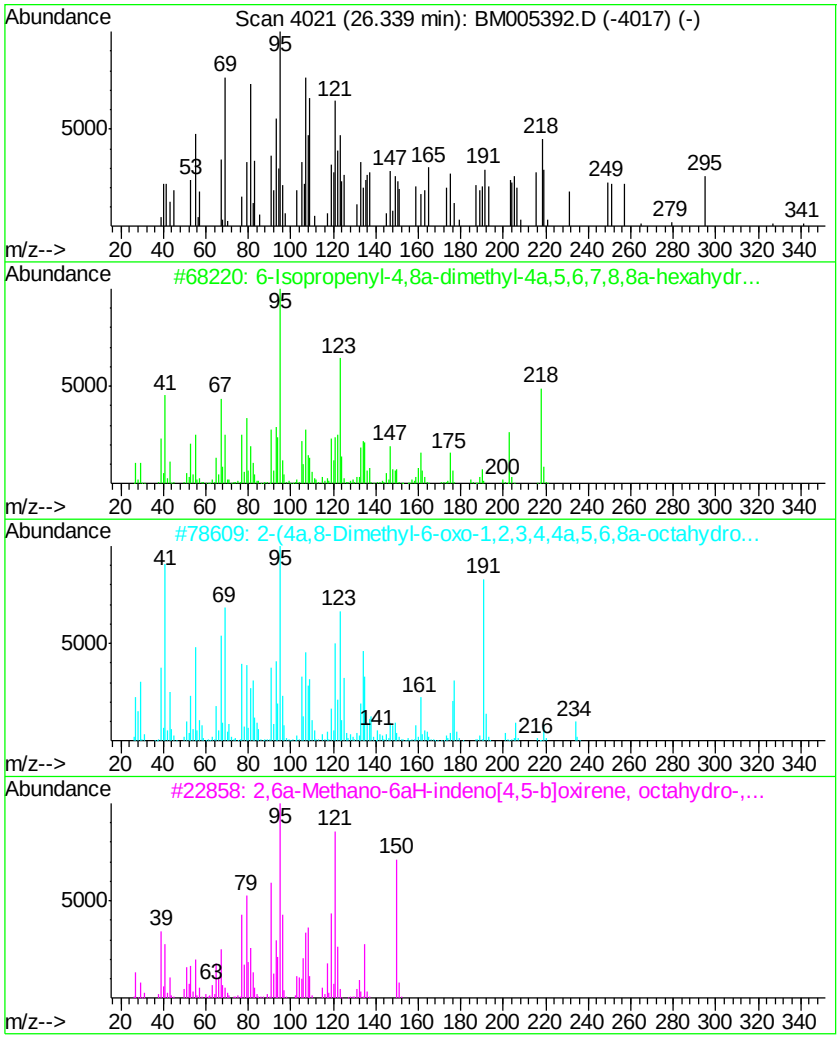
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

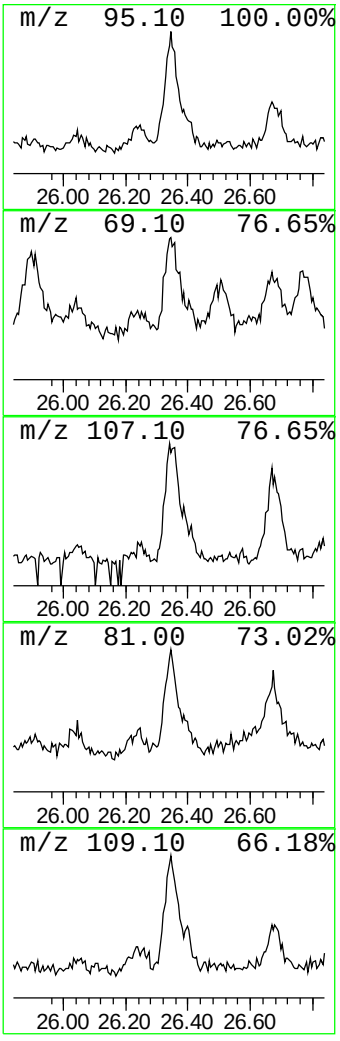
****

Peak Number 18 6-Isopropenyl-4,8a-dimethyl... Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.34	2.26 ng/ul	156923	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	6-Isopropenyl-4,8a-dimethyl-4a,5...	218	C15H22O	086917-79-5	66
2	2-(4a,8-Dimethyl-6-oxo-1,2,3,4,4...	234	C15H22O2	1000190-21-8	38
3	2,6a-Methano-6aH-indeno[4,5-b]ox...	150	C10H14O	016489-32-0	27
4	Cyclohexene, 1-methyl-3-(1-methy...	136	C10H16	000499-03-6	22
5	Bicyclo[2.2.1]heptan-2-ol, 1,7,7...	196	C12H20O2	005655-61-8	22





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Operator : UM/SJ
Sample : H2834-16
Misc :
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Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

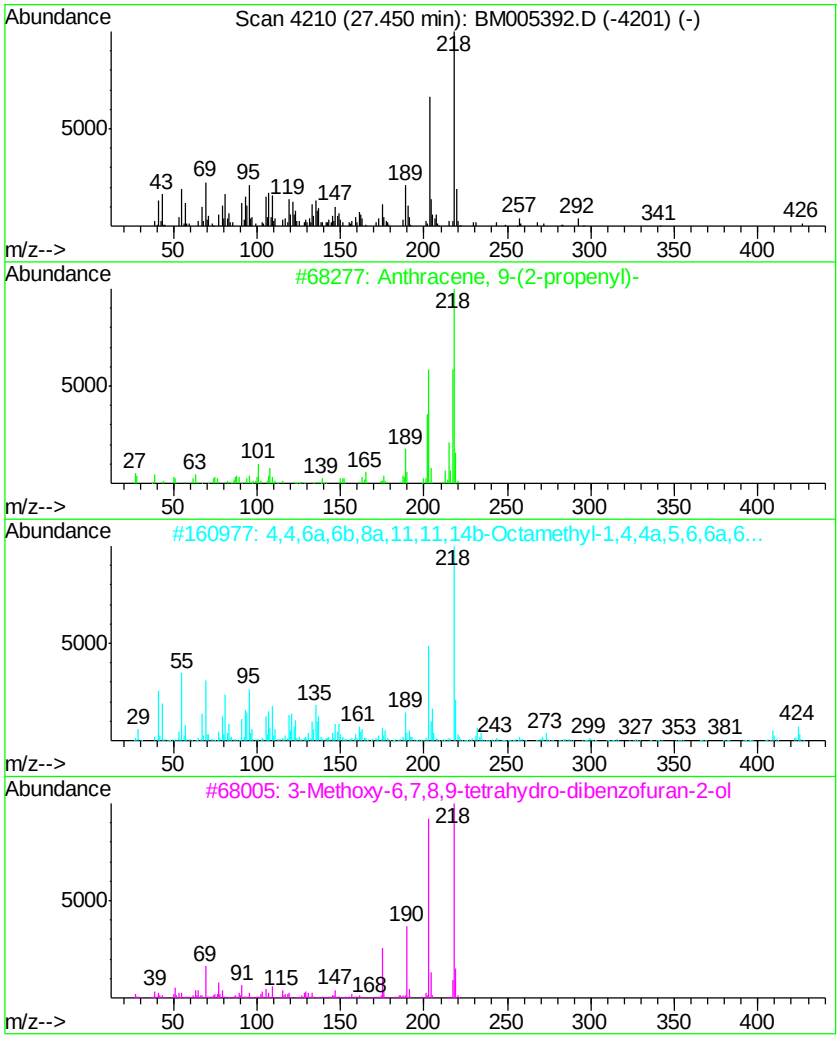
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

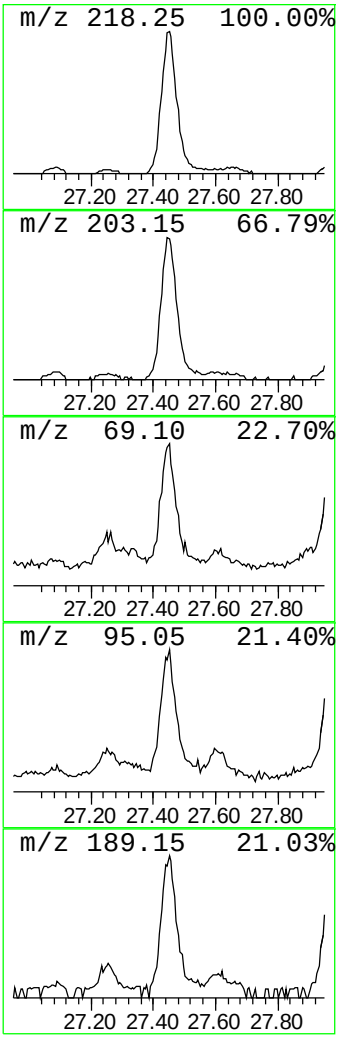
****

Peak Number 19 Anthracene, 9-(2-propenyl)- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
27.45	8.38 ng/ul	581662	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Anthracene, 9-(2-propenyl)-	218	C17H14	023707-65-5	74
2	4,4,6a,6b,8a,11,11,14b-Octamethy...	424	C30H48O	1000194-62-4	68
3	3-Methoxy-6,7,8,9-tetrahydro-dib...	218	C13H14O3	1000186-57-9	62
4	Neoisolongifolene, 8-bromo-	282	C15H23Br	1000151-64-8	53
5	Pyrene, hexadecahydro-	218	C16H26	002435-85-0	53





Library Search Compound Report

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Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
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Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

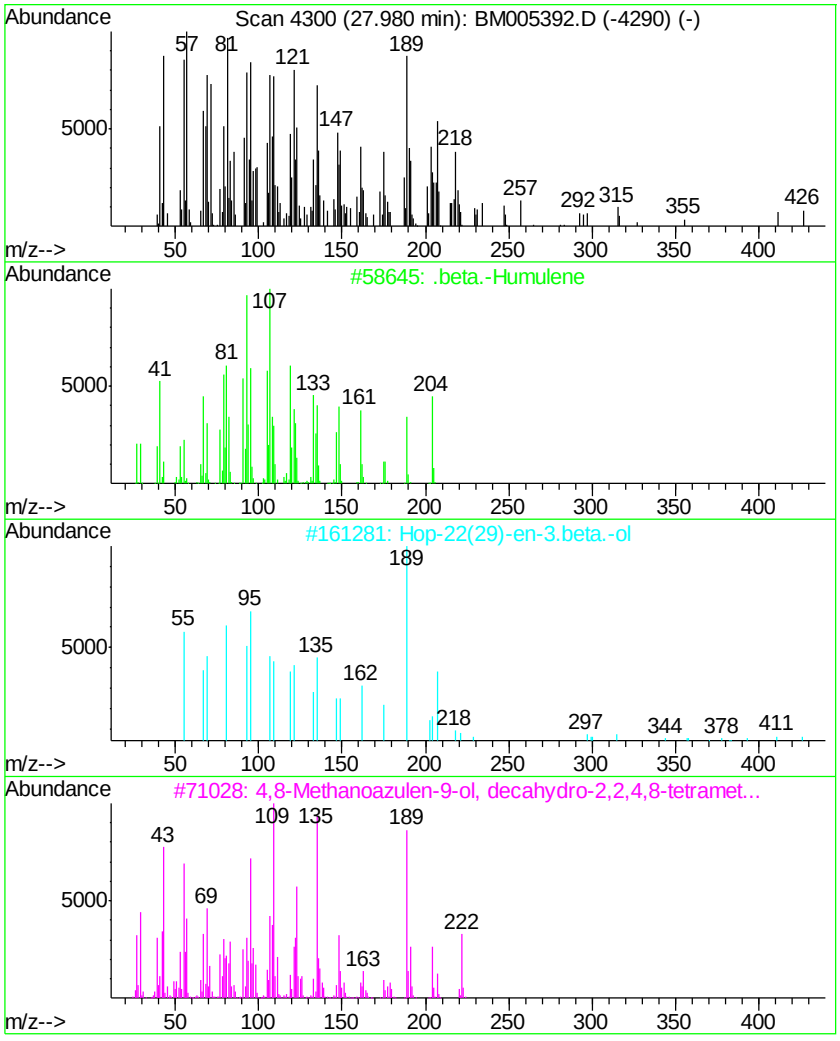
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

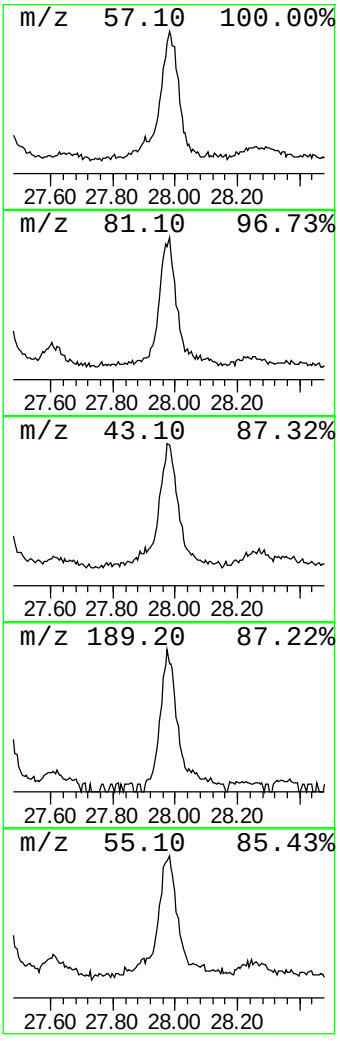
****

Peak Number 20 .beta.-Humulene Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
27.98	10.04 ng/ul	697496	Perylene-d12	23.62

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	.beta.-Humulene	204	C15H24	000116-04-1	56
2	Hop-22(29)-en-3.beta.-ol	426	C30H50O	058801-23-3	50
3	4,8-Methanoazulen-9-ol, decahydr...	222	C15H26O	004586-22-5	38
4	1,5-Cycloundecadiene, 9-(1-methy...	190	C14H22	062338-55-0	38
5	2-Isopropenyl-4a,8-dimethyl-1,2,...	204	C15H24	1000193-57-0	38





Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4076

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard		
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
(DEL) Alkane: Cyc...	9.07	5.4	ng/ul	147851	1	7.76	545186	20.0
n-Hexadecanoic acid	18.04	2.9	ng/ul	238478	4	17.15	1654140	20.0
Oxirane, hexadecyl-	20.76	2.6	ng/ul	244999	5	21.34	1895600	20.0
(DEL) Alkane: Str...	21.04	5.3	ng/ul	499630	5	21.34	1895600	20.0
Octadecanal	21.66	4.1	ng/ul	391588	5	21.34	1895600	20.0
4H-1-Benzopyran-4...	21.80	2.2	ng/ul	212212	5	21.34	1895600	20.0
(DEL) Alkane: Str...	21.92	9.0	ng/ul	854633	5	21.34	1895600	20.0
(DEL) Alkane: Str...	23.32	2.5	ng/ul	175237	6	23.62	1388800	20.0
Oxirane, heptadecyl-	23.79	7.3	ng/ul	504582	6	23.62	1388800	20.0
(DEL) Alkane: Str...	24.12	21.1	ng/ul	1467080	6	23.62	1388800	20.0
(DEL) Alkane: Cyc...	24.20	2.4	ng/ul	163405	6	23.62	1388800	20.0
(DEL) Alkane: Str...	24.67	6.5	ng/ul	448185	6	23.62	1388800	20.0
(DEL) Alkane: Str...	24.87	3.9	ng/ul	268761	6	23.62	1388800	20.0
Thieno[2,3-d]-1,3...	25.67	2.1	ng/ul	143087	6	23.62	1388800	20.0
(DEL) Alkane: Str...	25.74	8.4	ng/ul	582784	6	23.62	1388800	20.0
6-Isopropenyl-4,8...	26.34	2.3	ng/ul	156923	6	23.62	1388800	20.0
Anthracene, 9-(2-...	27.45	8.4	ng/ul	581662	6	23.62	1388800	20.0
.beta.-Humulene	27.98	10.0	ng/ul	697496	6	23.62	1388800	20.0

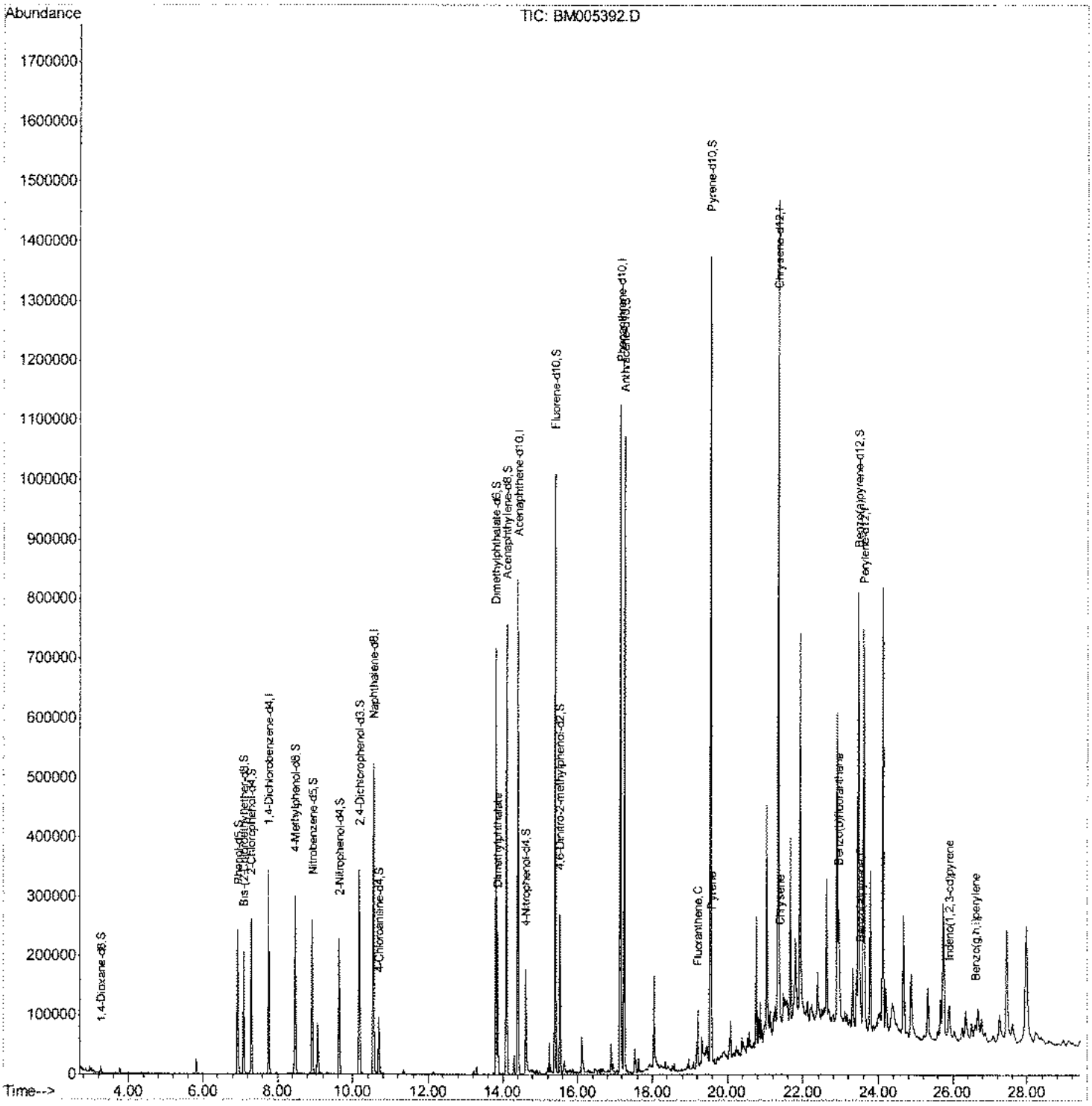
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 12 04:12:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM



Quantitation Report (Qedit)

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Data File : BM005392.D
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Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 12 04:09:05 2016
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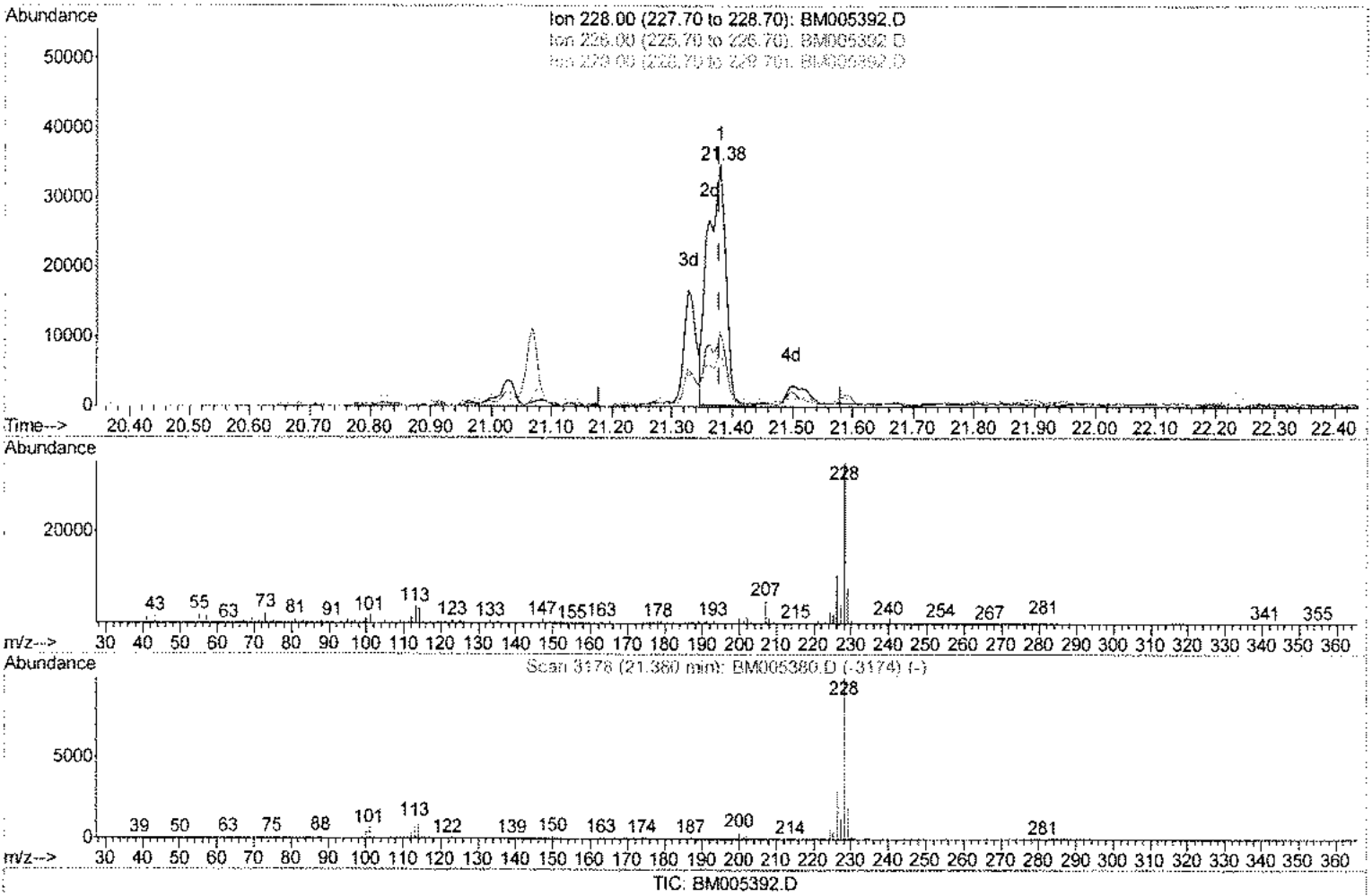
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM



TIC: BM005392.D

(82) Chrysene

21.380min (+0.000) 2.01ng/ul m

response 70804

Ion	Exp%	Act%
228.00	100	100
226.00	29.50	30.92
229.00	19.20	22.77
0.00	0.00	0.00

U.M 05/16/16

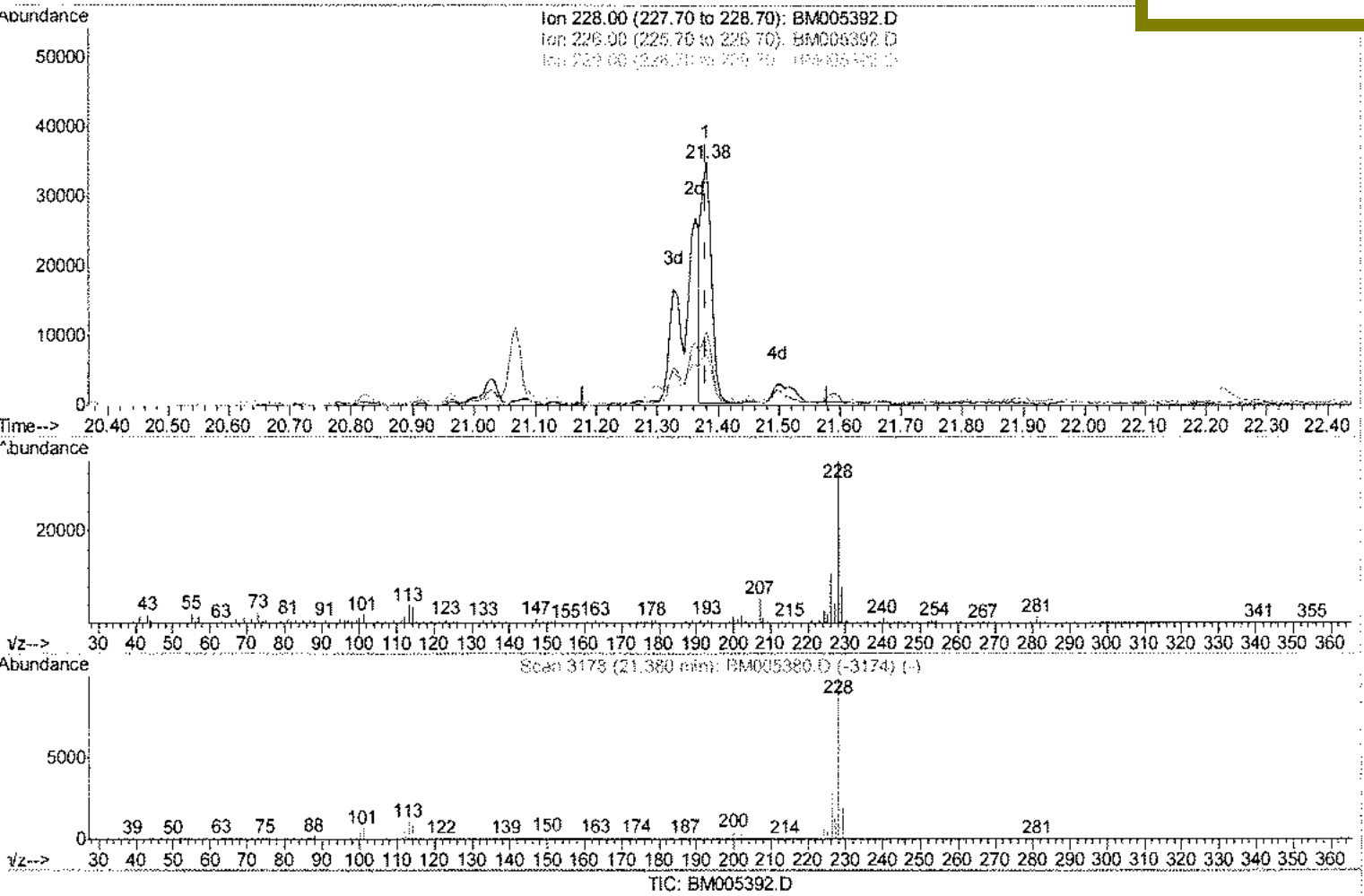
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 12 04:09:05 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM



(82) Chrysene

21.380min (+0.000) 1.10ng/ul

response 38700

Ion	Exp%	Act%
228.00	100	100
226.00	29.50	30.92
229.00	19.20	22.77
0.00	0.00	0.00

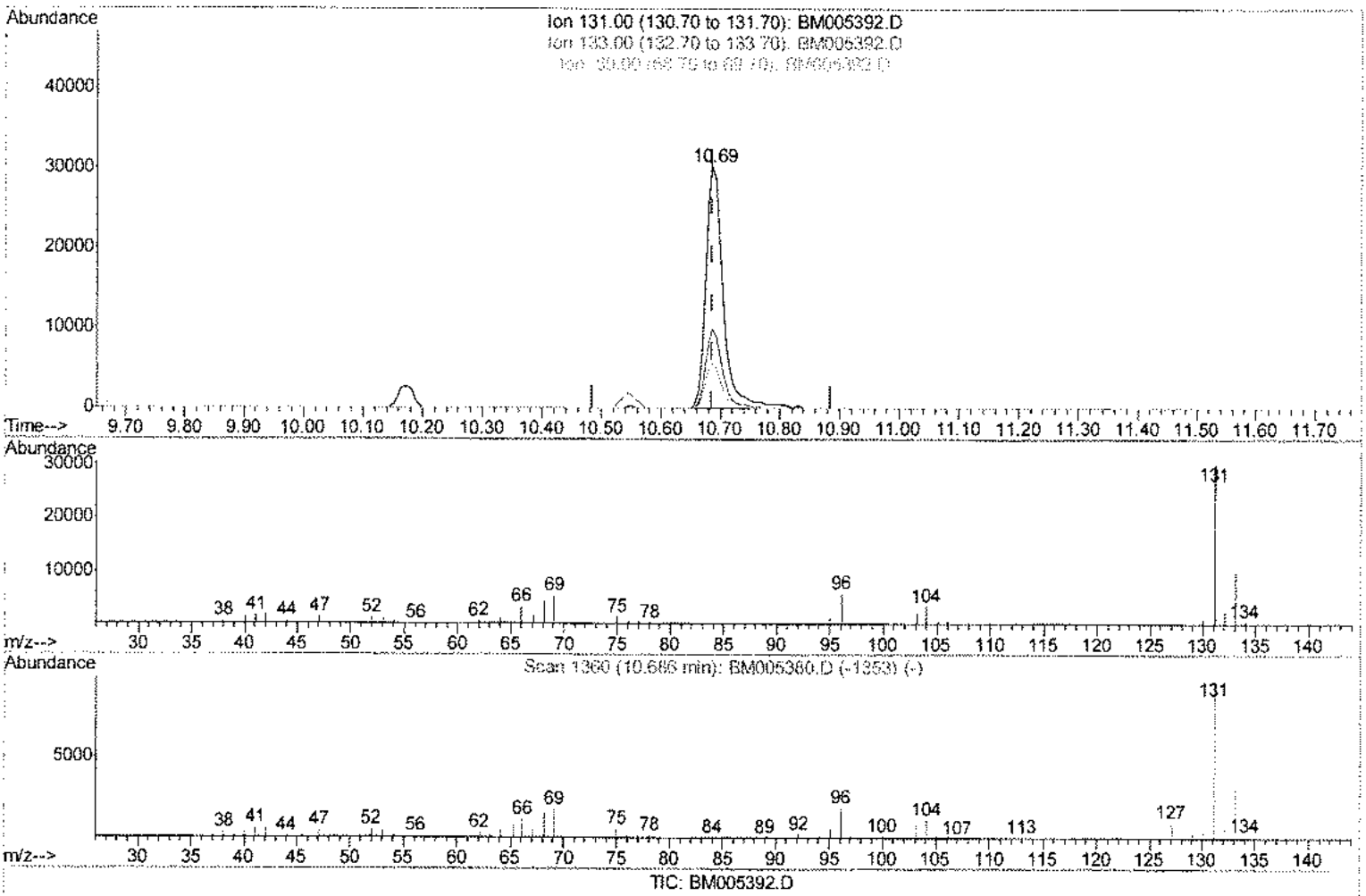
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 12 03:32:53 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM



TIC: BM005392.D

(29) 4-Chloroaniline-d4 (S)

10.687min (+0.000) 7.77ng/ul m

response 61410

Ion	Exp%	Act%
131.00	100	100
133.00	32.30	32.62
69.00	19.20	18.27
0.00	0.00	0.00

U.M 05/16/2016

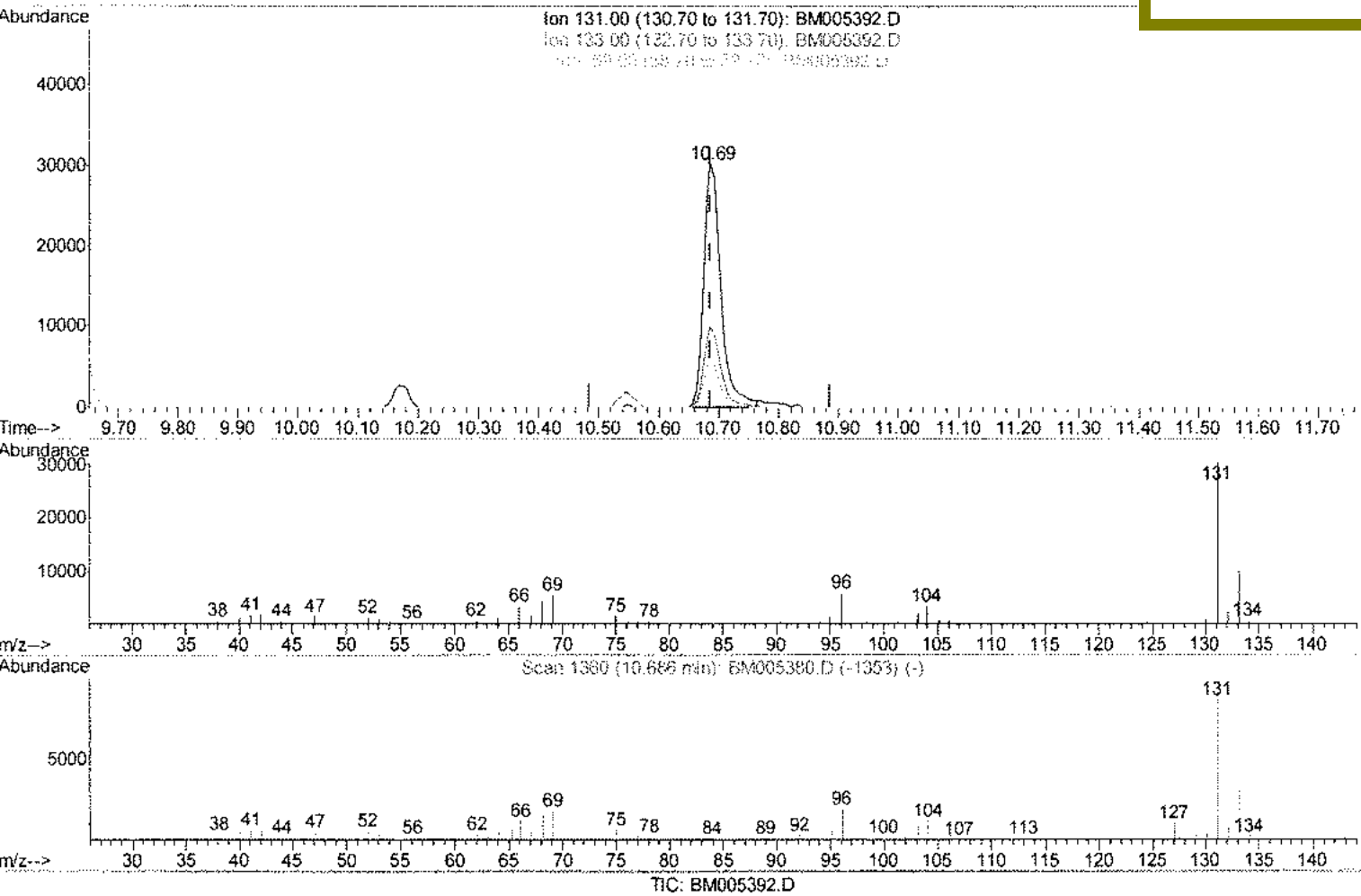
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 12 03:32:53 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM



(29) 4-Chloroaniline-d4 (S)

10.687min (+0.000) 7.55ng/ul

response 59730

Ion	Exp%	Act%
131.00	100	100
133.00	32.30	32.62
69.00	19.20	18.27
0.00	0.00	0.00

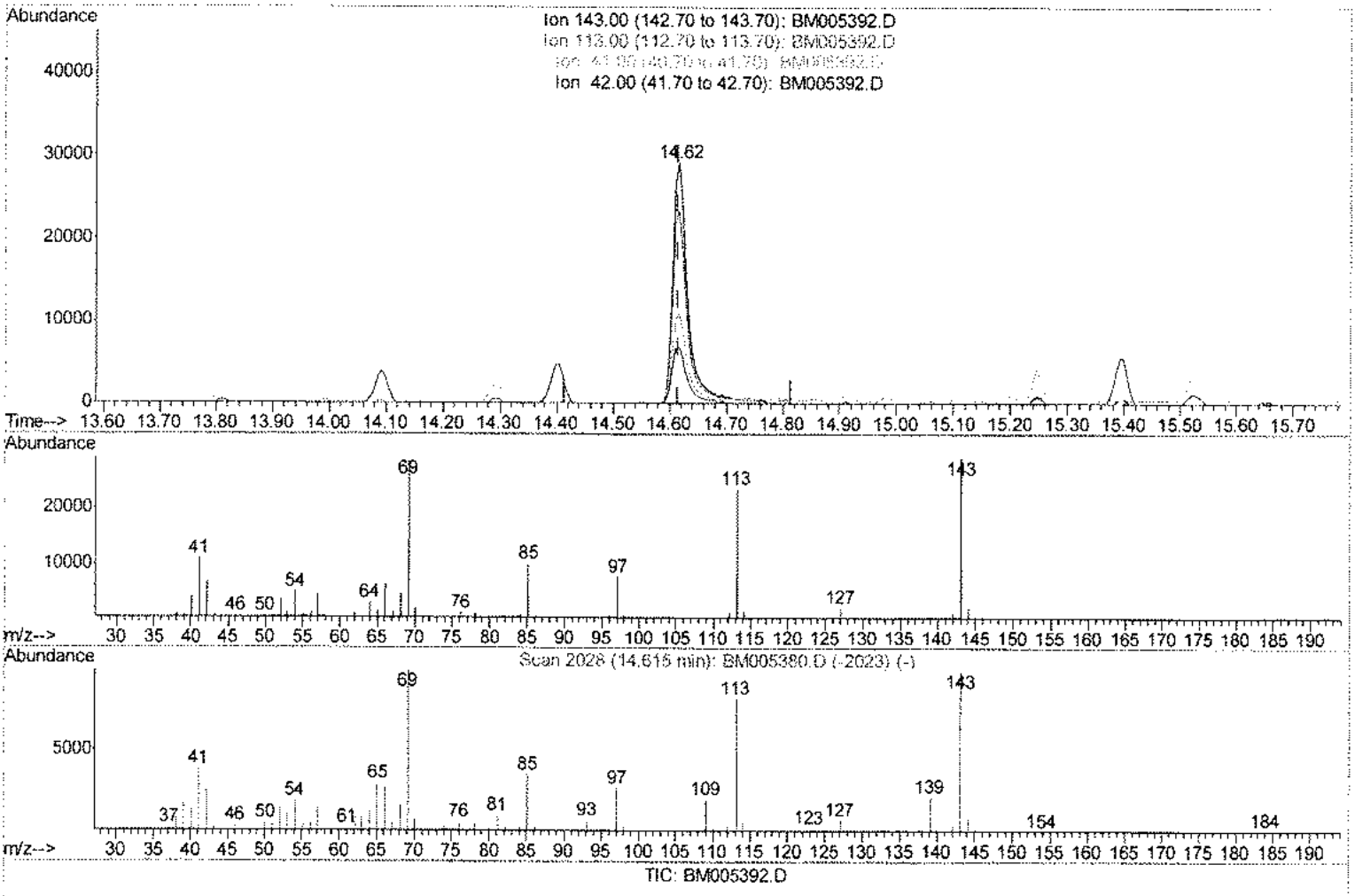
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 12 03:32:53 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM



(51) 4-Nitrophenol-d4 (S)

14.616min (+0.000) 13.43ng/ul m

response 55292

> U.M
05/11/16

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	80.36
41.00	38.10	37.54
42.00	26.00	23.66

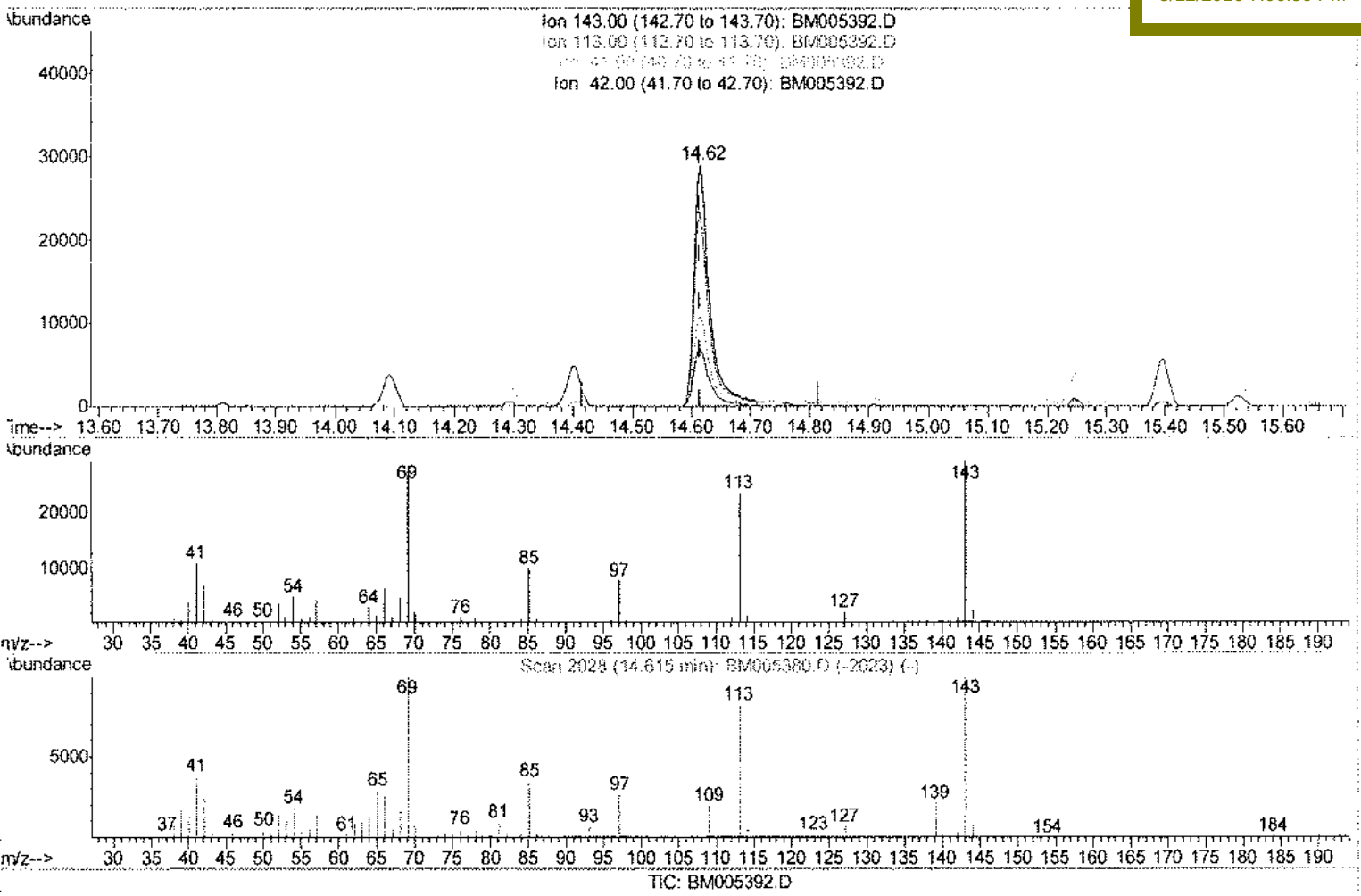
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 12 03:32:53 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM



TIC: BM005392.D

(51) 4-Nitrophenol-d4 (S)

14.616min (+0.000) 13.07ng/ul

response 53810

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	80.36
41.00	38.10	37.54
42.00	26.00	23.66

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005392.D
Acq On : 11 May 2016 18:15
Operator : UM/SJ
Sample : H2834-16
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 12 04:12:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4076

Manual Integrations APPROVED
sohil
5/12/2016 7:06:50 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	90930	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	437247	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	281342	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.15	188	666164	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	644821	20.00	ng/ul	0.00
83) Perylene-d12	23.62	264	486399	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.26	96	5766	2.98	ng/uL	0.00
5) Phenol-d5	6.93	99	147061	17.83	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	89802	19.09	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	118058	18.95	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	115078	16.88	ng/ul	0.00
19) Nitrobenzene-d5	8.92	128	64369	20.62	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	76092	21.53	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	130730	19.90	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	61410m	7.77	ng/ul	0.00
43) Dimethylphthalate-d6	13.81	166	467161	20.72	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	548212	20.73	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	55292m	13.43	ng/ul	0.00
57) Fluorene-d10	15.40	176	407141	20.91	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	58723	15.67	ng/ul	0.00
70) Anthracene-d10	17.25	188	615669	20.91	ng/ul	0.00
76) Pyrene-d10	19.55	212	714383	24.00	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	462414	21.48	ng/ul	0.00
Target Compounds						Qvalue
44) Dimethylphthalate	13.86	163	151628	6.73	ng/ul	100
74) Fluoranthene	19.21	202	51091	1.32	ng/ul	100
77) Pyrene	19.57	202	58681	1.57	ng/ul	99
82) Chrysene	21.38	228	70804m	2.01	ng/ul	
85) Benzo(b)fluoranthene	22.93	252	103329	3.63	ng/ul	95
88) Benzo(a)pyrene	23.52	252	38691	1.44	ng/ul	96
89) Indeno(1,2,3-cd)pyrene	25.90	276	30839	1.05	ng/ul	95
91) Benzo(g,h,i)perylene	26.60	276	27054	1.09	ng/ul	98

U.M 05/16/16

U.M 05/16/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005454.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	U
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005454.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	5.0	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005454.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4102

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-18
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005454.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
Extract Concentrated : (Y / N) N
Date Analyzed : 05/14/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 1000 (µL)
Heated Purge : (Y / N)
Extraction Type : CONH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types :
pH : 6 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor : 1.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

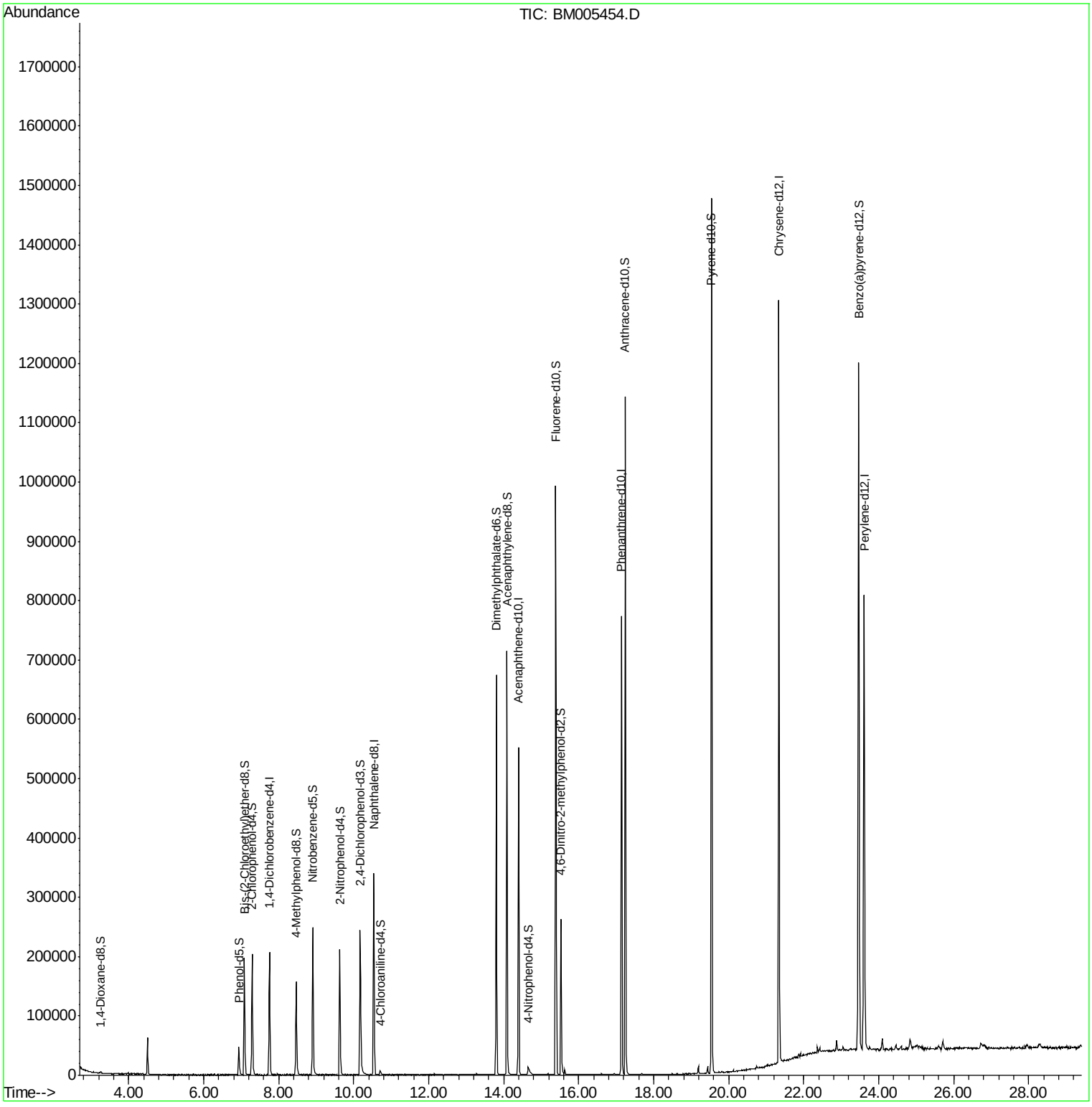
Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 16 03:58:36 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4102

Manual Integrations APPROVED
sohil
5/16/2016 7:01:49 PM



Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
H4102

Manual Integrations APPROVED
sohil
5/16/2016 7:01:49 PM

Quant Time: May 16 03:58:36 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	59452	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	280477	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	183415	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	462833	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	624224	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	579206	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1790	1.42	ng/uL	0.00
5) Phenol-d5	6.93	99	33726	6.25	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	92414	30.04	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	99811	24.51	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	63720	14.30	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	62054	30.99	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	71121	31.37	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	113495	26.93	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	8884	1.75	ng/ul	0.02
43) Dimethylphthalate-d6	13.80	166	457306	31.11	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	544128	31.56	ng/ul	0.00
51) 4-Nitrophenol-d4	14.66	143	9270m	3.45	ng/ul	0.04
57) Fluorene-d10	15.39	176	399202	31.45	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	63208	24.28	ng/ul	0.00
70) Anthracene-d10	17.24	188	653118	31.92	ng/ul	0.00
76) Pyrene-d10	19.54	212	816527	28.34	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	827381	32.27	ng/ul	0.00

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4102

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.499	302	308	318	rVB	63163	102810	4.68%	0.553%
2	6.934	718	722	741	rVB	46995	85413	3.89%	0.459%
3	7.081	741	747	760	rBV	197001	322937	14.70%	1.736%
4	7.287	776	782	798	rBV	202798	343434	15.63%	1.846%
5	7.751	851	861	875	rVB	207219	351738	16.01%	1.891%
6	8.463	977	982	1000	rBV	157232	264310	12.03%	1.421%
7	8.904	1051	1057	1069	rBV	249336	430251	19.59%	2.313%
8	9.628	1174	1180	1191	rBV	212074	362158	16.49%	1.947%
9	10.169	1267	1272	1300	rBV	243491	490963	22.35%	2.639%
10	10.533	1326	1334	1343	rBV	340098	572959	26.08%	3.080%
11	13.798	1883	1889	1908	rBV	673795	966917	44.01%	5.197%
12	14.086	1931	1938	1946	rBV	714539	1128146	51.35%	6.064%
13	14.392	1983	1990	2000	rBV2	551022	850276	38.70%	4.570%
14	14.651	2029	2034	2057	rBV4	12707	44907	2.04%	0.241%
15	15.386	2153	2159	2168	rBV	991842	1466040	66.73%	7.880%
16	15.521	2178	2182	2197	rBV	261541	396582	18.05%	2.132%
17	17.139	2451	2457	2468	rBV2	772642	1131159	51.49%	6.080%
18	17.239	2468	2474	2494	rVV2	1141680	1673431	76.18%	8.995%
19	19.539	2859	2865	2879	rBV2	1474468	2188343	99.61%	11.762%
20	21.339	3165	3171	3182	rBV	1285137	1672930	76.15%	8.992%
21	22.874	3429	3432	3441	rVB4	17480	29325	1.33%	0.158%
22	23.462	3524	3532	3541	rBV2	1157652	2196823	100.00%	11.808%
23	23.609	3549	3557	3571	rBV2	765033	1532891	69.78%	8.239%

Sum of corrected areas: 18604743

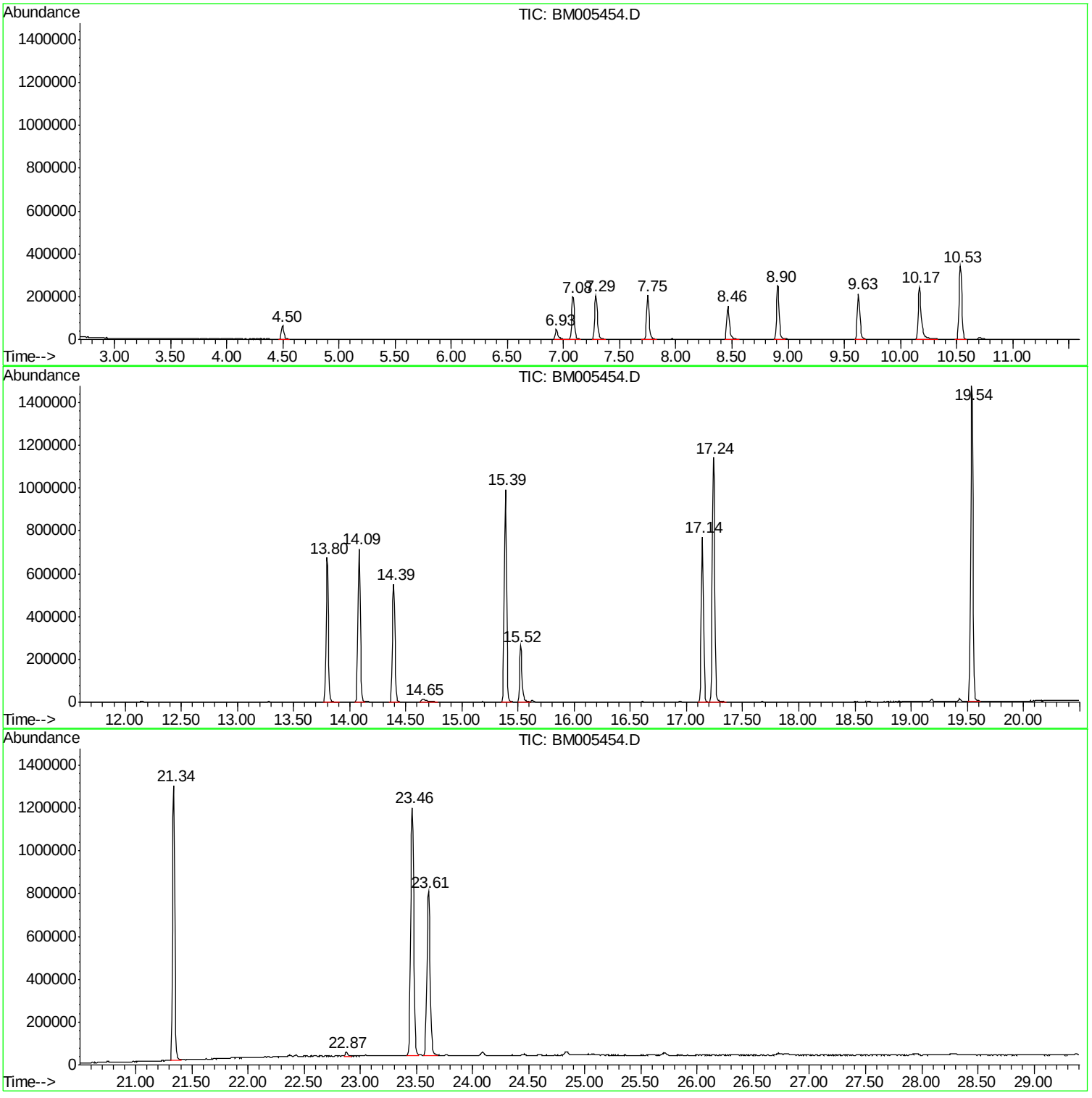
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4102

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
H4102

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4102

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

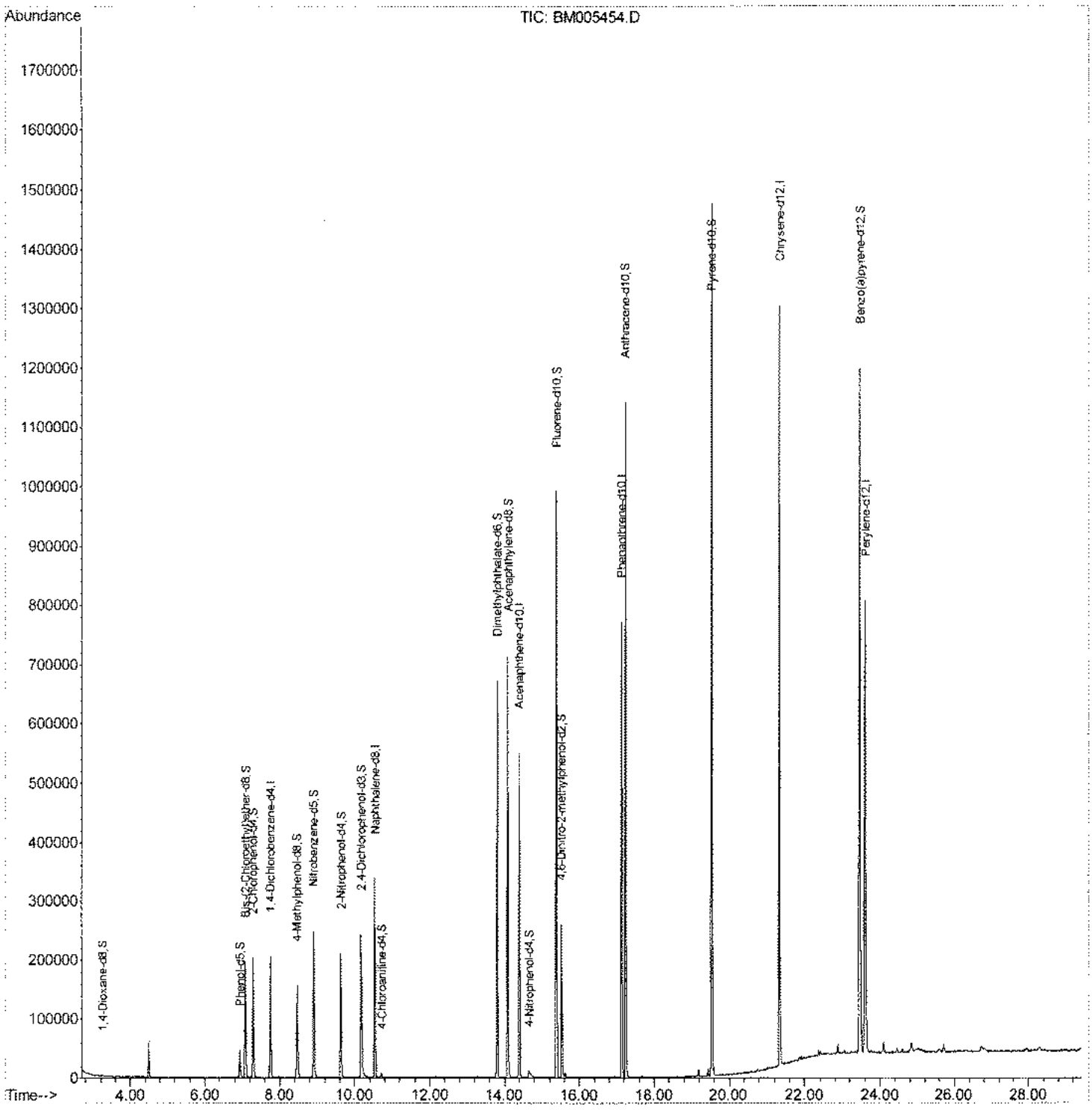
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 16 03:58:36 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4102

Manual Integrations APPROVED
sohil
5/16/2016 7:01:49 PM



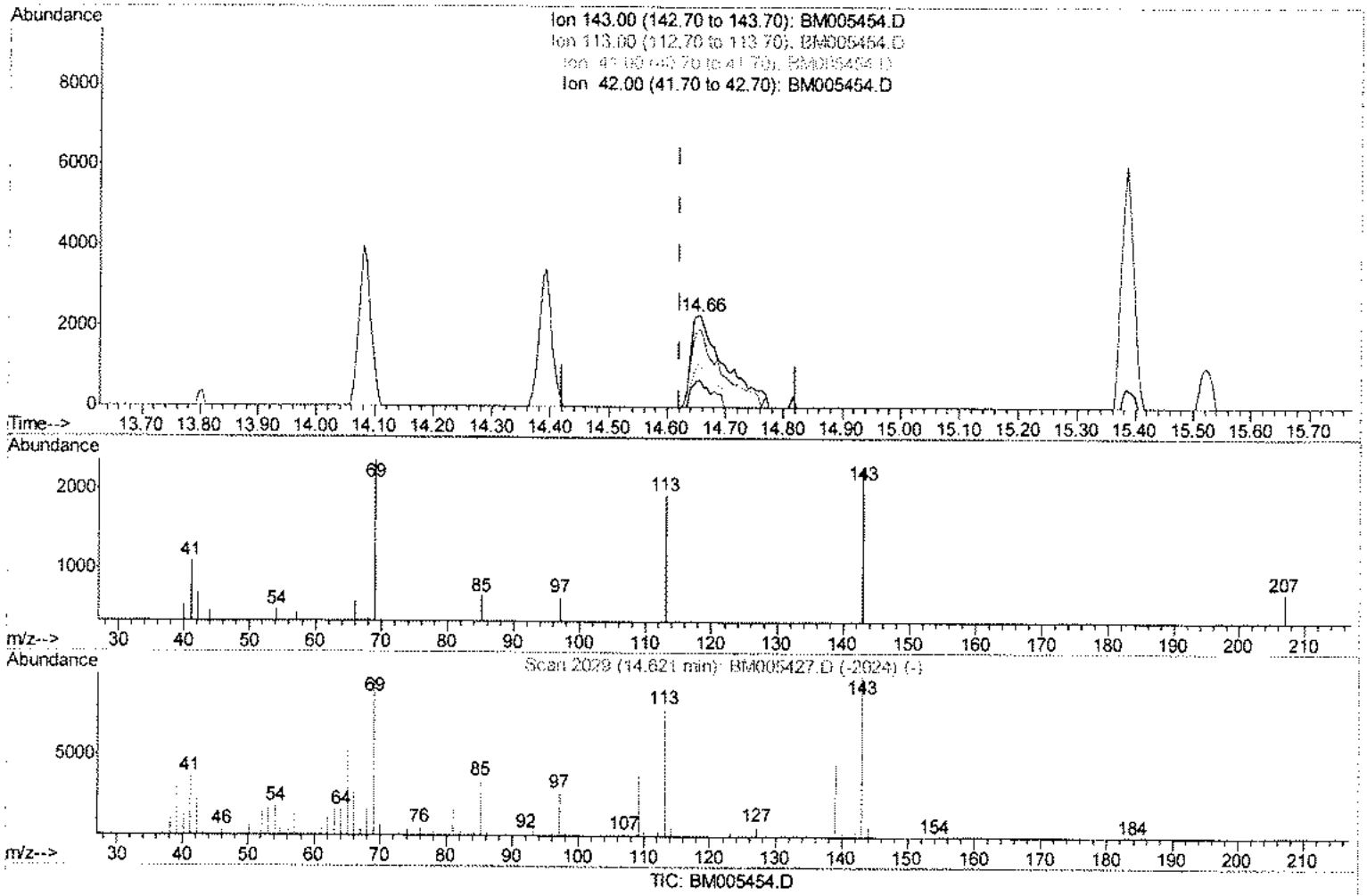
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 16 03:39:58 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4102

Manual Integrations APPROVED
sohil
5/16/2016 7:01:49 PM



TIC: BM005454.D

(51) 4-Nitrophenol-d4 (S)

14.657min (+0.035) 3.45ng/ul m

response 9270

U · M
5/17/16

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	84.06
41.00	38.10	47.26#
42.00	26.00	29.58

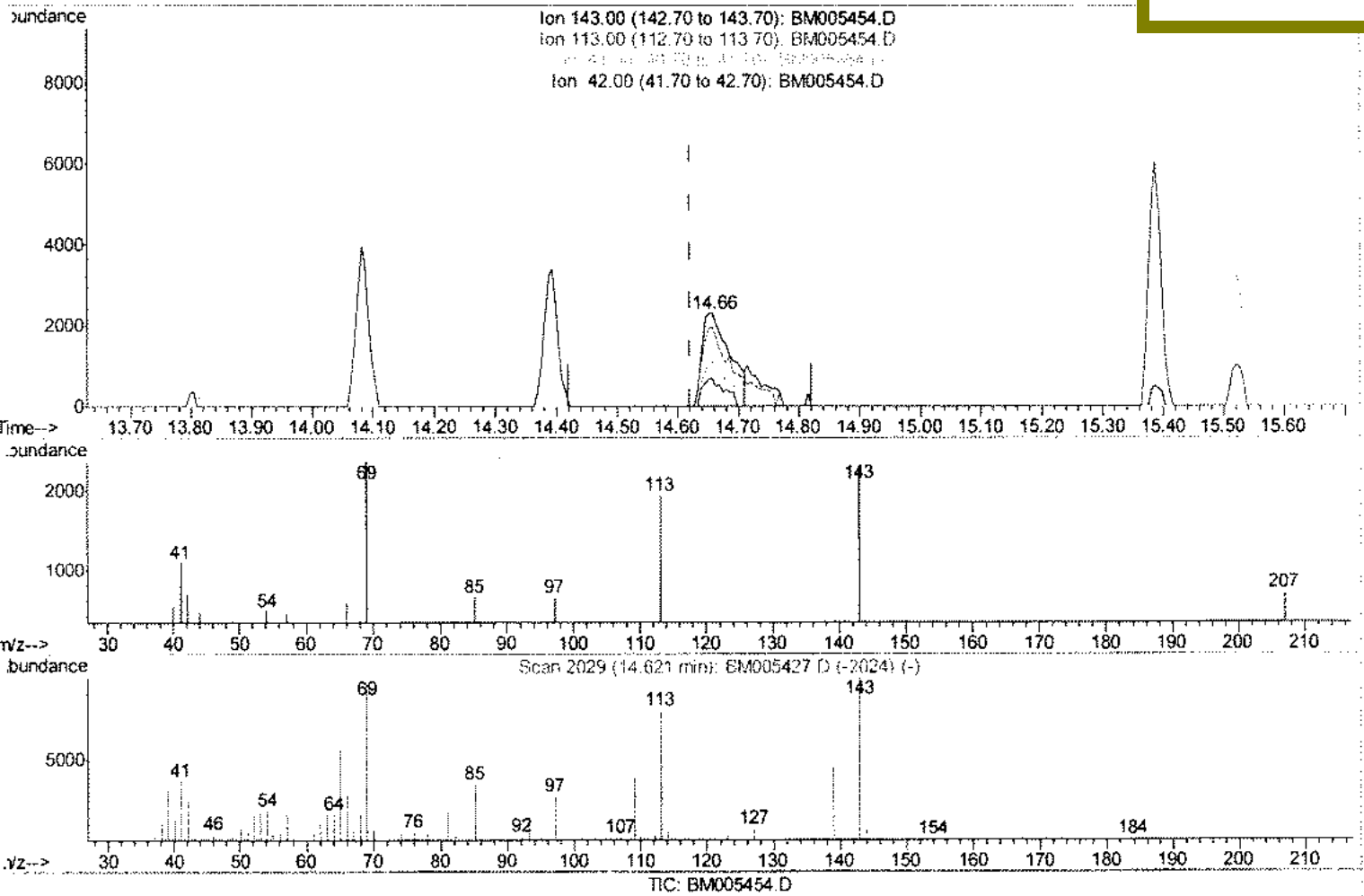
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 16 03:39:58 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4102

Manual Integrations APPROVED
sohil
5/16/2016 7:01:49 PM



TIC: BM005454.D

(51) 4-Nitrophenol-d4 (S)

14.657min (+0.035) 2.70ng/ul

response 7244

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	84.06
41.00	38.10	47.26#
42.00	26.00	29.58

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005454.D
Acq On : 14 May 2016 07:34
Operator : UM/SJ
Sample : H2834-18
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 16 03:58:36 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4102

Manual Integrations APPROVED
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5/16/2016 7:01:49 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	59452	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	280477	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	183415	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	462833	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	624224	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	579206	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1790	1.42	ng/uL	0.00
5) Phenol-d5	6.93	99	33726	6.25	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	92414	30.04	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	99811	24.51	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	63720	14.30	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	62054	30.99	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	71121	31.37	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	113495	26.93	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	8884	1.75	ng/ul	0.02
43) Dimethylphthalate-d6	13.80	166	457306	31.11	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	544128	31.56	ng/ul	0.00
51) 4-Nitrophenol-d4	14.66	143	9270m	3.45	ng/ul	0.04
57) Fluorene-d10	15.39	176	399202	31.45	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	63208	24.28	ng/ul	0.00
70) Anthracene-d10	17.24	188	653118	31.92	ng/ul	0.00
76) Pyrene-d10	19.54	212	816527	28.34	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	827381	32.27	ng/ul	0.00

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

U.M 05/17/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005455.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	U
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005455.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	5.0	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	43	
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005455.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4116

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-19
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005455.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
Extract Concentrated : (Y / N) N
Date Analyzed : 05/14/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 1000 (µL)
Heated Purge : (Y / N)
Extraction Type : CONH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types :
pH : 6 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor : 1.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

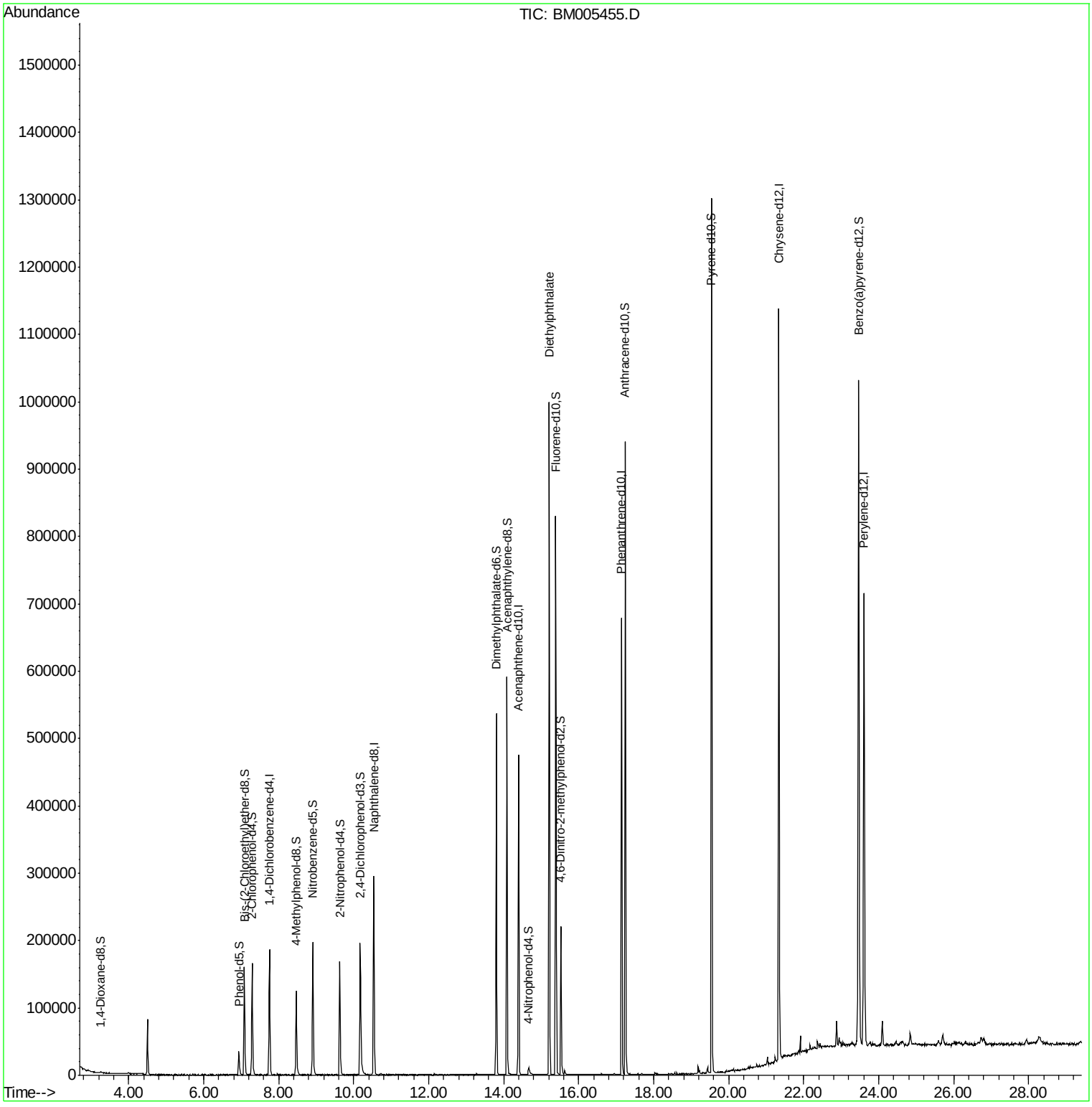
Quantitation Report (LSC Reviewed)

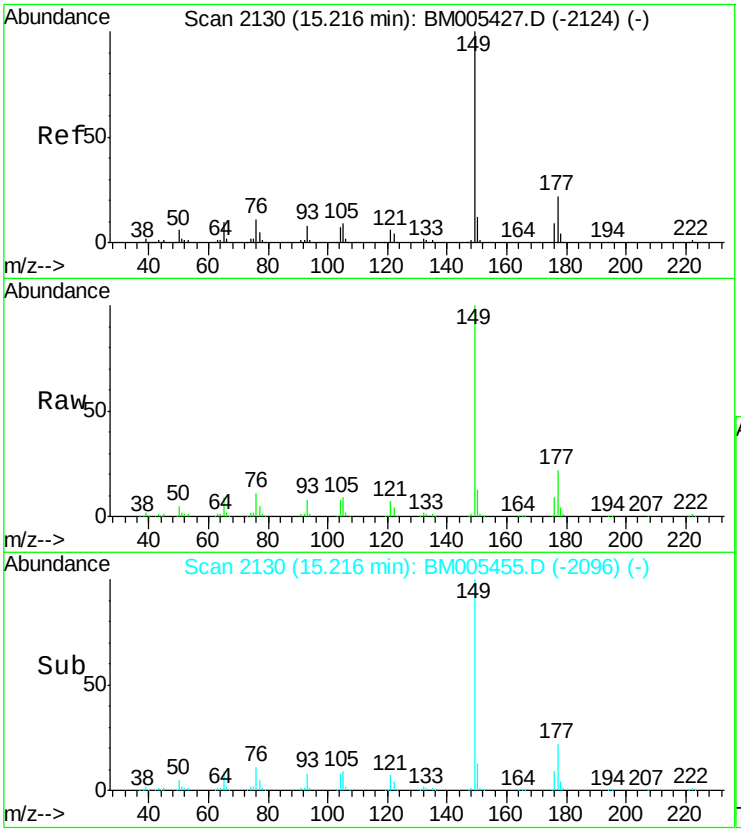
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 16 04:02:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4116

Manual Integrations APPROVED
sohil
5/16/2016 7:01:52 PM

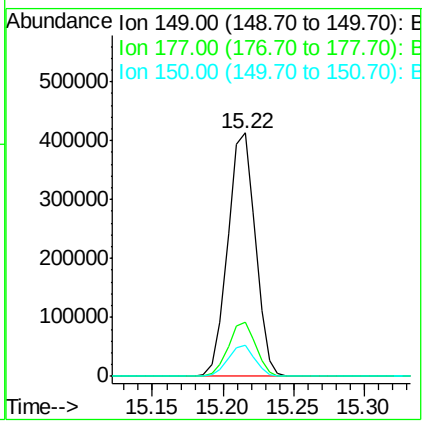




#56
Diethylphthalate
Concen: 43.45 ng/ul
RT: 15.22 min Scan# 2130
Delta R.T. 0.00 min
Lab File: BM005455.D
Acq: 14 May 2016 08:10

Tgt Ion:149 Resp: 561884

Ion	Ratio	Lower	Upper
149	100		
177	22.3	17.6	26.4
150	12.7	9.8	14.8



Instrument :
BNA_M
ClientSampleId :
H4116

Manual Integrations APPROVED
sohil
5/16/2016 7:01:52 PM

Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4116

Manual Integrations APPROVED
sohil
5/16/2016 7:01:52 PM

Quant Time: May 16 04:02:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	53059	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	244989	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	159834	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	405010	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	552511	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	508365	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1359	1.20	ng/uL	0.00
5) Phenol-d5	6.93	99	26652	5.54	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	76526	27.87	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	82125	22.60	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	51669	12.99	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	50585	28.92	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	57150	28.86	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	95958	26.07	ng/ul	0.00
29) 4-Chloroaniline-d4	10.72	131	3962	0.89	ng/ul	0.04
43) Dimethylphthalate-d6	13.80	166	369334	28.83	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	439478	29.25	ng/ul	0.00
51) 4-Nitrophenol-d4	14.66	143	6697m	2.86	ng/ul	0.04
57) Fluorene-d10	15.39	176	328727	29.71	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	51363	22.54	ng/ul	0.00
70) Anthracene-d10	17.24	188	540697	30.20	ng/ul	0.00
76) Pyrene-d10	19.54	212	690549	27.08	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	693696	30.83	ng/ul	0.00
Target Compounds						Qvalue
56) Diethylphthalate	15.22	149	561884	43.45	ng/ul	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4116

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.499	302	308	317	rVB	81888	134260	7.22%	0.779%
2	6.934	717	722	739	rBV	35366	67305	3.62%	0.391%
3	7.081	742	747	764	rVB	160927	264391	14.22%	1.535%
4	7.287	776	782	797	rBV	165477	282364	15.18%	1.639%
5	7.751	852	861	876	rVB	185940	315114	16.95%	1.829%
6	8.463	977	982	993	rBV	125126	211200	11.36%	1.226%
7	8.910	1051	1058	1072	rBV	197492	349172	18.78%	2.027%
8	9.628	1174	1180	1194	rBV	167603	289396	15.56%	1.680%
9	10.169	1267	1272	1298	rBV	195895	409400	22.02%	2.376%
10	10.533	1327	1334	1344	rBV	294682	498460	26.81%	2.893%
11	13.798	1883	1889	1904	rBV	535736	775432	41.70%	4.501%
12	14.086	1931	1938	1952	rBV	591337	917877	49.36%	5.328%
13	14.392	1984	1990	2004	rVB2	474427	733782	39.46%	4.259%
14	14.657	2031	2035	2046	rBV4	9720	28930	1.56%	0.168%
15	15.216	2122	2130	2139	rBV	999077	1356561	72.95%	7.874%
16	15.386	2153	2159	2171	rBV	829007	1197051	64.38%	6.948%
17	15.521	2177	2182	2194	rBV	219252	320818	17.25%	1.862%
18	17.139	2451	2457	2468	rBV2	677804	992102	53.35%	5.759%
19	17.239	2468	2474	2487	rVV2	938713	1381017	74.27%	8.016%
20	19.539	2859	2865	2880	rBV2	1298449	1859496	100.00%	10.793%
21	21.339	3165	3171	3182	rBV	1116312	1504454	80.91%	8.732%
22	21.903	3264	3267	3271	rBV	23346	25981	1.40%	0.151%
23	22.880	3428	3433	3438	rVB	34855	50557	2.72%	0.293%
24	23.462	3525	3532	3544	rVB2	985759	1854435	99.73%	10.764%
25	23.603	3549	3556	3570	rVB2	670827	1345548	72.36%	7.810%
26	24.086	3635	3638	3646	rVB	36276	63307	3.40%	0.367%

Sum of corrected areas: 17228410

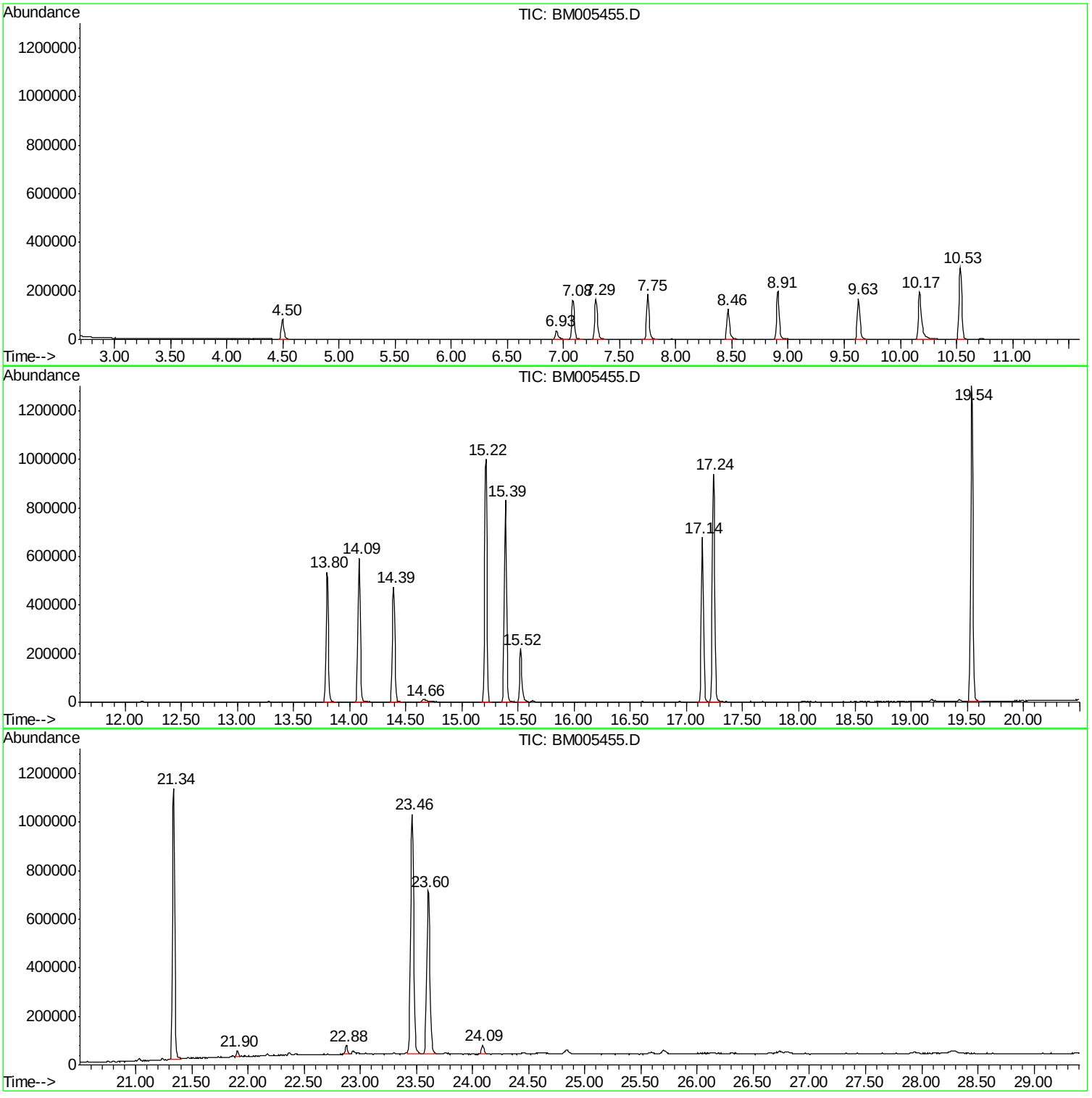
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4116

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
H4116

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4116

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

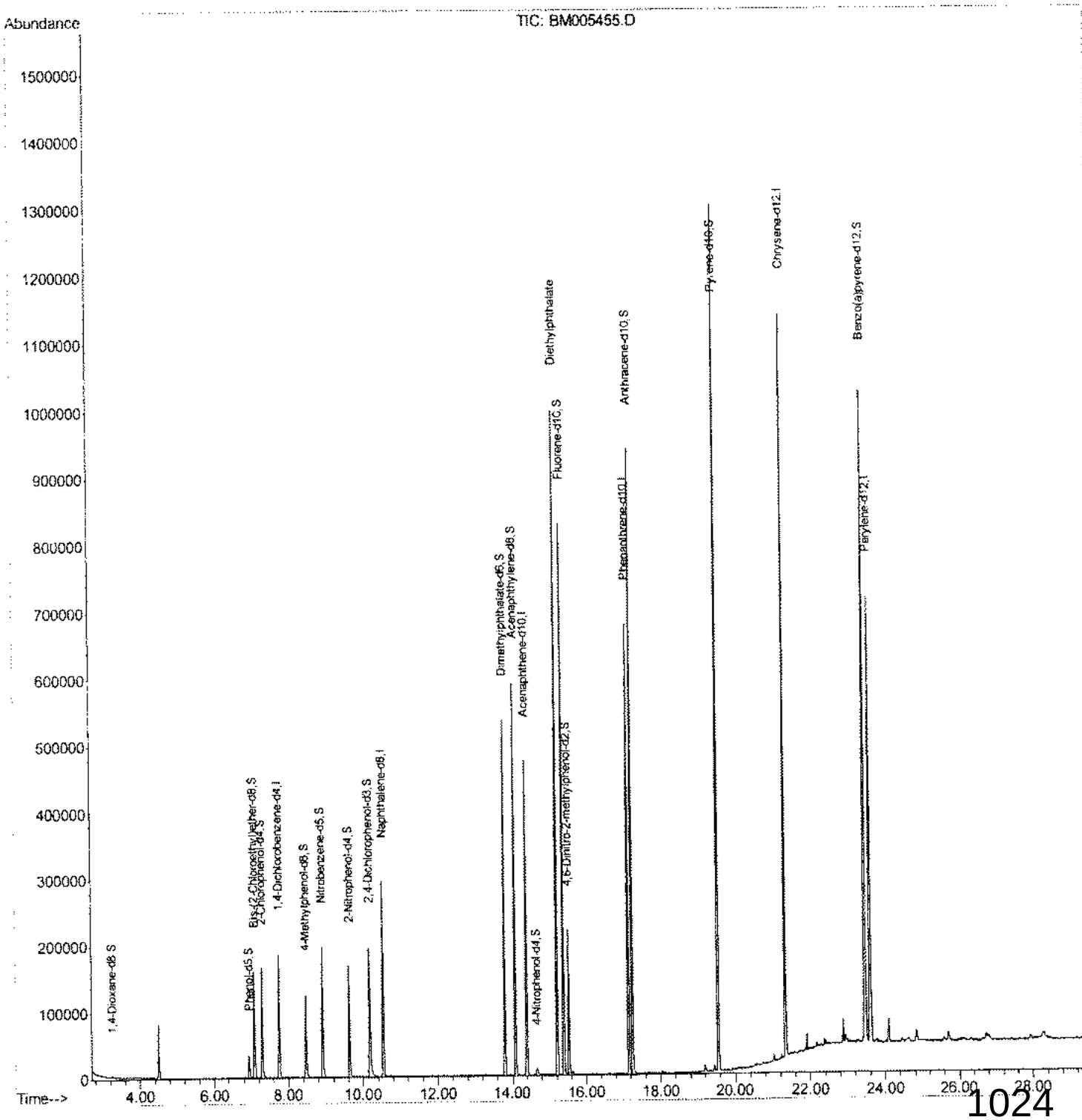
Quantitation Report (QT Reviewed)

Instrument :
BNA_M
ClientSampleId :
H4116

Manual Integrations APPROVED
sohil
5/16/2016 7:01:52 PM

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 16 04:02:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration



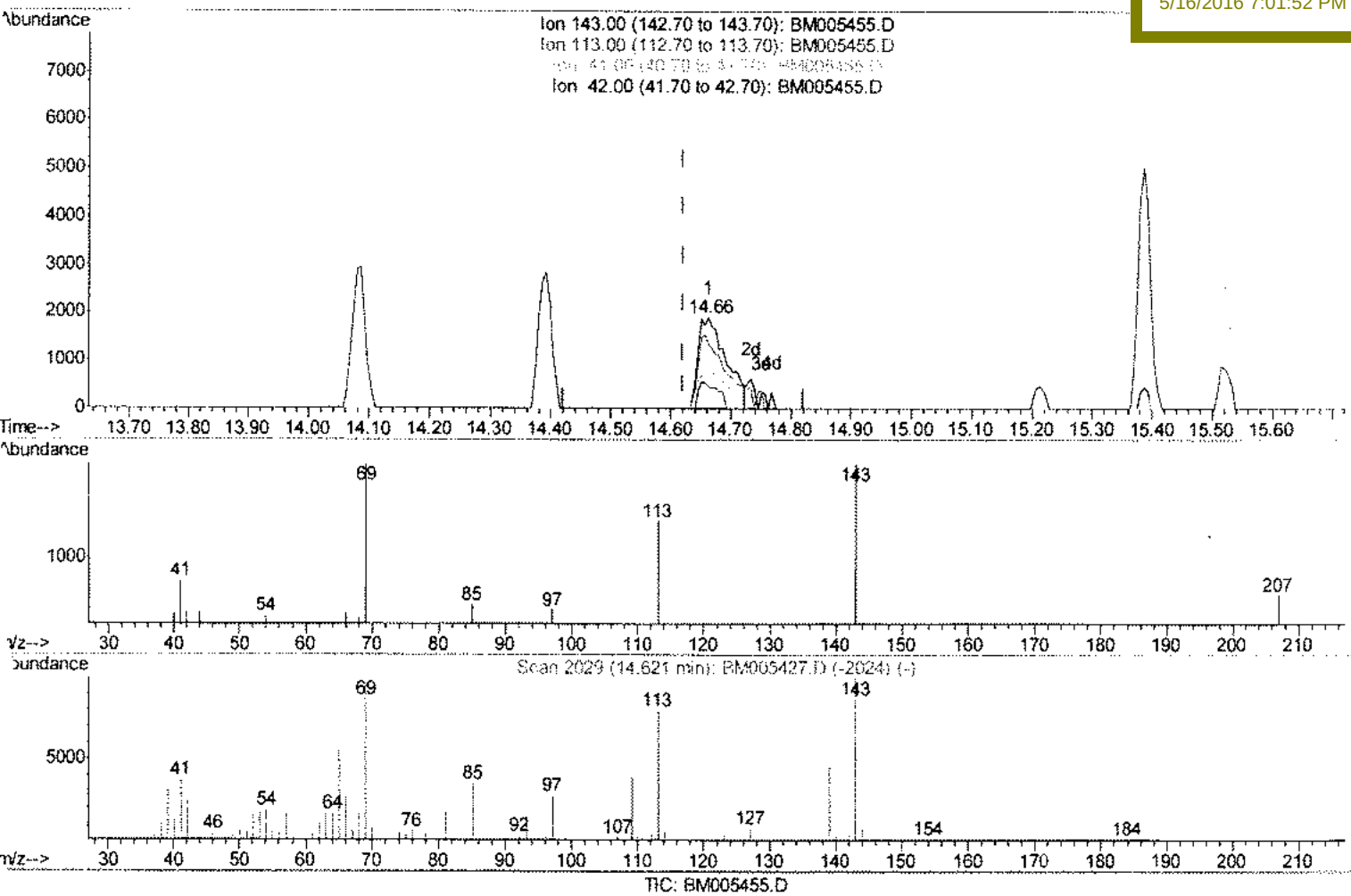
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 16 03:40:08 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4116

Manual Integrations APPROVED
sohil
5/16/2016 7:01:52 PM



(51) 4-Nitrophenol-d4 (S)

14.663min (+0.041) 2.63ng/ul

response 6155

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	70.85
41.00	38.10	40.17
42.00	26.00	24.62

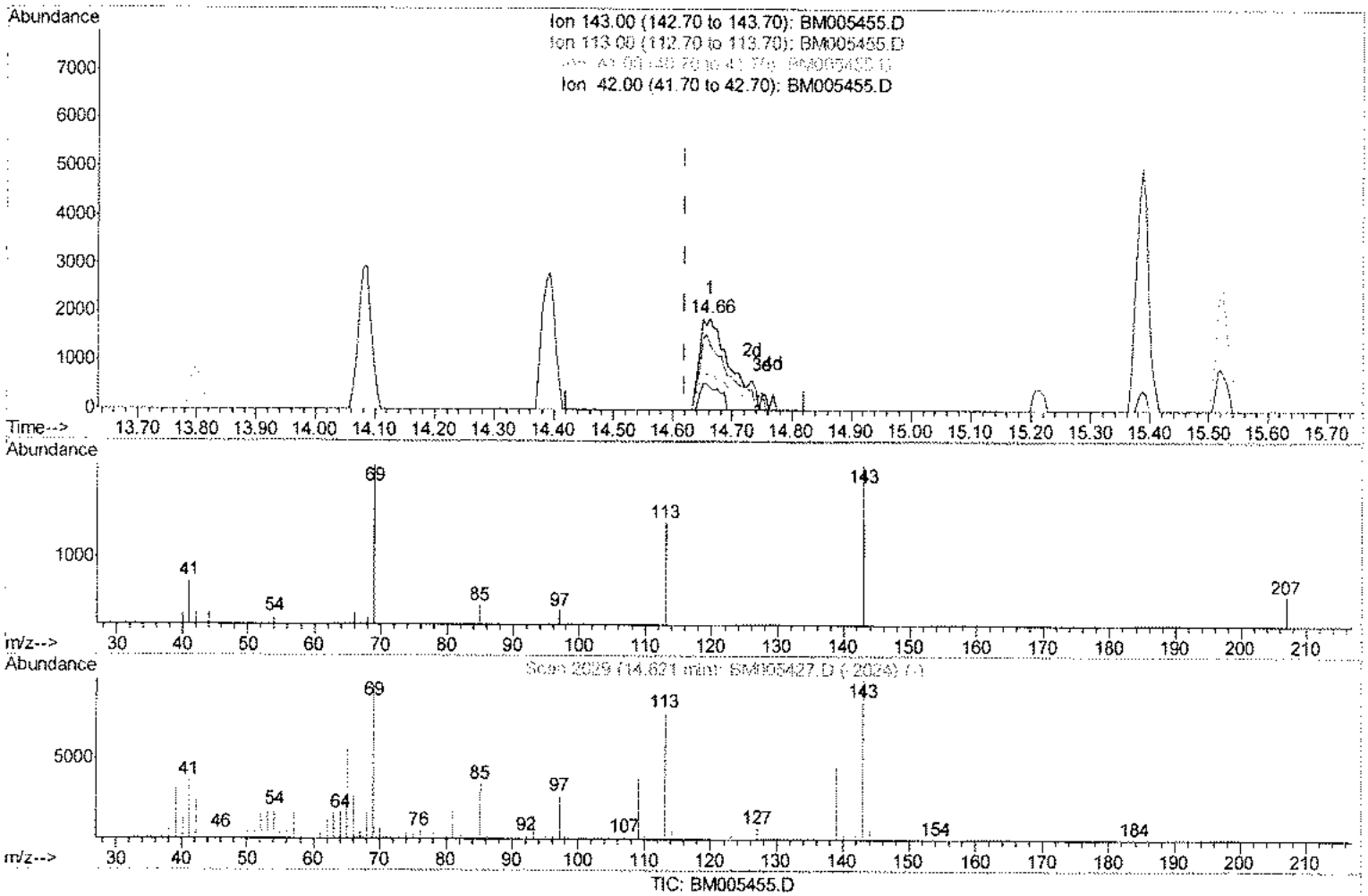
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 16 03:40:08 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4116

Manual Integrations APPROVED
sohil
5/16/2016 7:01:52 PM



TIC: BM005455.D

(51) 4-Nitrophenol-d4 (S)

14.663min (+0.041) 2.86ng/ul m

response 6697

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	70.85
41.00	38.10	40.17
42.00	26.00	24.62

U.M
05/17/16

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005455.D
Acq On : 14 May 2016 08:10
Operator : UM/SJ
Sample : H2834-19
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 16 04:02:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4116

Manual Integrations APPROVED
sohil
5/16/2016 7:01:52 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	53059	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	244989	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	159834	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	405010	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	552511	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	508365	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1359	1.20	ng/uL	0.00
5) Phenol-d5	6.93	99	26652	5.54	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	76526	27.87	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	82125	22.60	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	51669	12.99	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	50585	28.92	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	57150	28.86	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	95958	26.07	ng/ul	0.00
29) 4-Chloroaniline-d4	10.72	131	3962	0.89	ng/ul	0.04
43) Dimethylphthalate-d6	13.80	166	369334	28.83	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	439478	29.25	ng/ul	0.00
51) 4-Nitrophenol-d4	14.66	143	6697m	2.86	ng/ul	0.04
57) Fluorene-d10	15.39	176	328727	29.71	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	51363	22.54	ng/ul	0.00
70) Anthracene-d10	17.24	188	540697	30.20	ng/ul	0.00
76) Pyrene-d10	19.54	212	690549	27.08	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	693696	30.83	ng/ul	0.00
Target Compounds						Qvalue
56) Diethylphthalate	15.22	149	561884	43.45	ng/ul	99

U.M
05/17/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005456.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	U
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005456.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	5.0	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005456.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4117

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-20
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005456.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
Extract Concentrated : (Y / N) N
Date Analyzed : 05/14/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 1000 (µL)
Heated Purge : (Y / N)
Extraction Type : CONH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types :
pH : 6 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor : 1.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

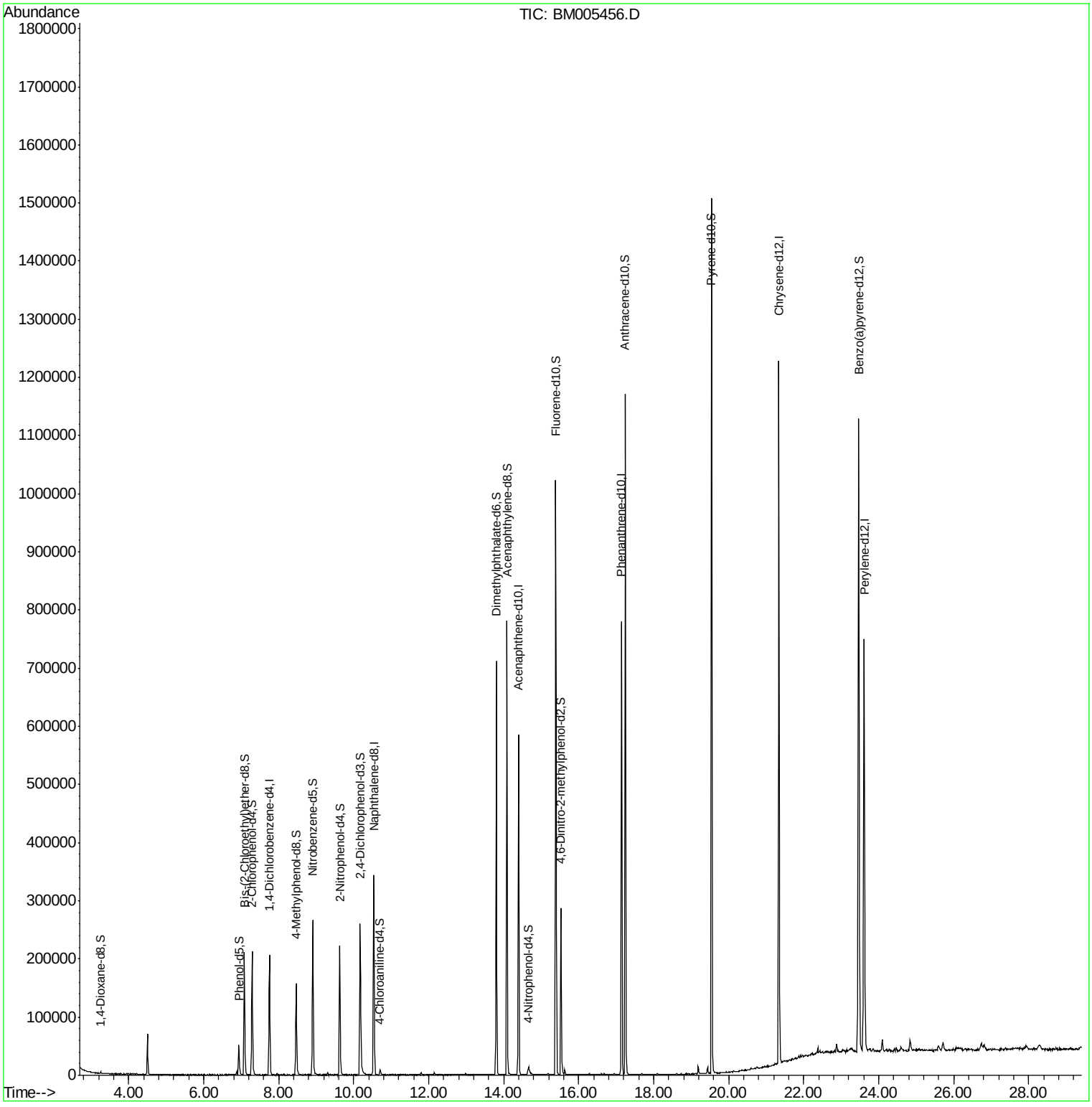
Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 16 04:04:50 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4117

Manual Integrations APPROVED
sohil
5/16/2016 7:01:54 PM



Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4117

Manual Integrations APPROVED
sohil
5/16/2016 7:01:54 PM

Quant Time: May 16 04:04:50 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	59923	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	287489	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	188536	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	468918	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	600035	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	535962	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1763	1.38	ng/uL	0.00
5) Phenol-d5	6.93	99	34814	6.41	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	96883	31.25	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	105175	25.62	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	65277	14.53	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	66489	32.39	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	76348	32.85	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	119147	27.58	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	9889	1.90	ng/ul	0.02
43) Dimethylphthalate-d6	13.80	166	483566	32.00	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	575966	32.49	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	9009m	3.27	ng/ul	0.03
57) Fluorene-d10	15.39	176	420362	32.21	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	65350	24.77	ng/ul	0.00
70) Anthracene-d10	17.24	188	674626	32.55	ng/ul	0.00
76) Pyrene-d10	19.54	212	824229	29.76	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	782907	33.00	ng/ul	0.00

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4117

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.498	302	308	316	rVB	70157	113575	5.14%	0.604%
2	6.934	718	722	735	rBV	50640	87058	3.94%	0.463%
3	7.081	741	747	758	rBV	211285	334247	15.13%	1.777%
4	7.286	776	782	799	rBV	212802	362374	16.40%	1.926%
5	7.751	852	861	872	rBV	205498	354645	16.05%	1.885%
6	8.463	977	982	993	rBV	157568	270333	12.24%	1.437%
7	8.904	1051	1057	1074	rBV	266225	457972	20.73%	2.435%
8	9.627	1174	1180	1192	rBV	222164	388913	17.60%	2.068%
9	10.169	1265	1272	1292	rBV	260142	526428	23.83%	2.799%
10	10.533	1327	1334	1346	rBV	343080	581686	26.33%	3.092%
11	13.798	1883	1889	1900	rBV	711751	1019395	46.14%	5.419%
12	14.086	1931	1938	1949	rBV	780150	1201990	54.41%	6.390%
13	14.392	1984	1990	2001	rBV2	584218	867764	39.28%	4.613%
14	14.657	2030	2035	2054	rBV2	13107	45169	2.04%	0.240%
15	15.386	2152	2159	2177	rBV	1022016	1543673	69.87%	8.207%
16	15.521	2177	2182	2197	rBV	285681	418282	18.93%	2.224%
17	17.139	2451	2457	2468	rBV2	779399	1149170	52.02%	6.109%
18	17.239	2468	2474	2488	rVV2	1169782	1726118	78.13%	9.177%
19	19.539	2859	2865	2879	rBV2	1504487	2209269	100.00%	11.745%
20	21.338	3165	3171	3183	rBV	1208946	1606757	72.73%	8.542%
21	23.462	3524	3532	3547	rBV2	1087456	2102579	95.17%	11.178%
22	23.609	3549	3557	3568	rVV2	705089	1405999	63.64%	7.475%
23	24.091	3635	3639	3646	rVB2	19552	36773	1.66%	0.195%

Sum of corrected areas: 18810169

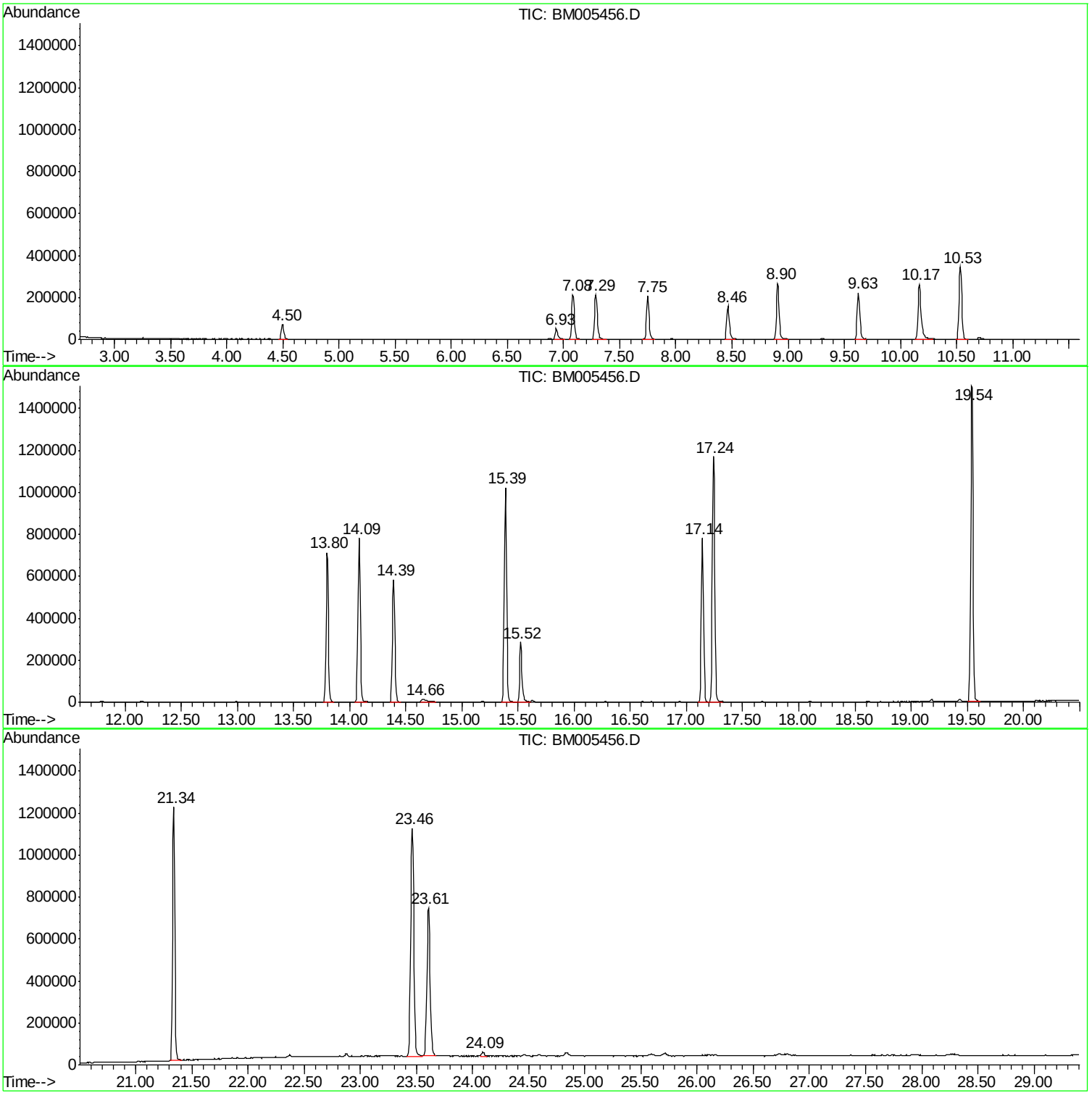
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4117

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
H4117

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4117

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

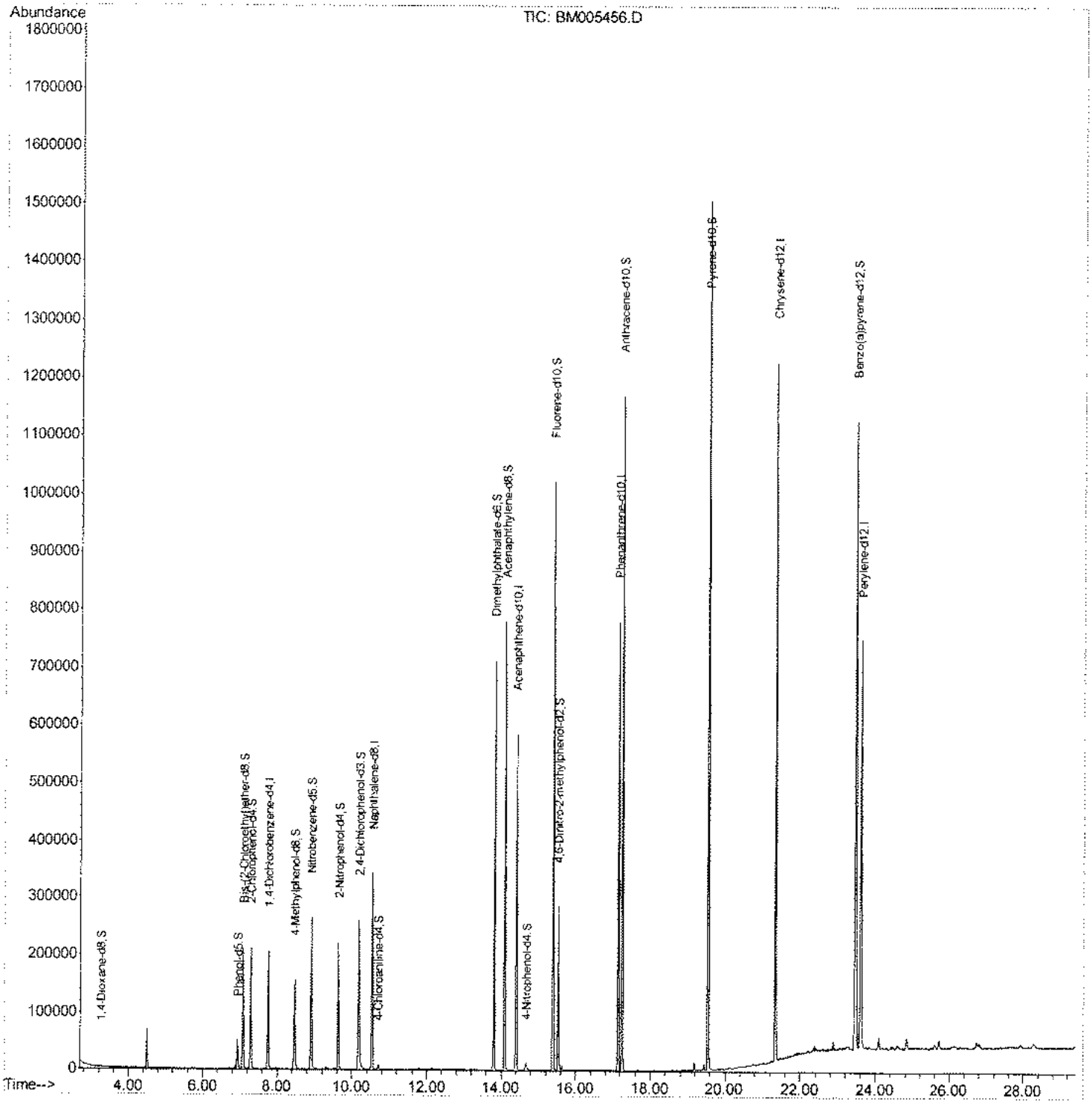
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 16 04:04:50 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4117

Manual Integrations APPROVED
sohil
5/16/2016 7:01:54 PM



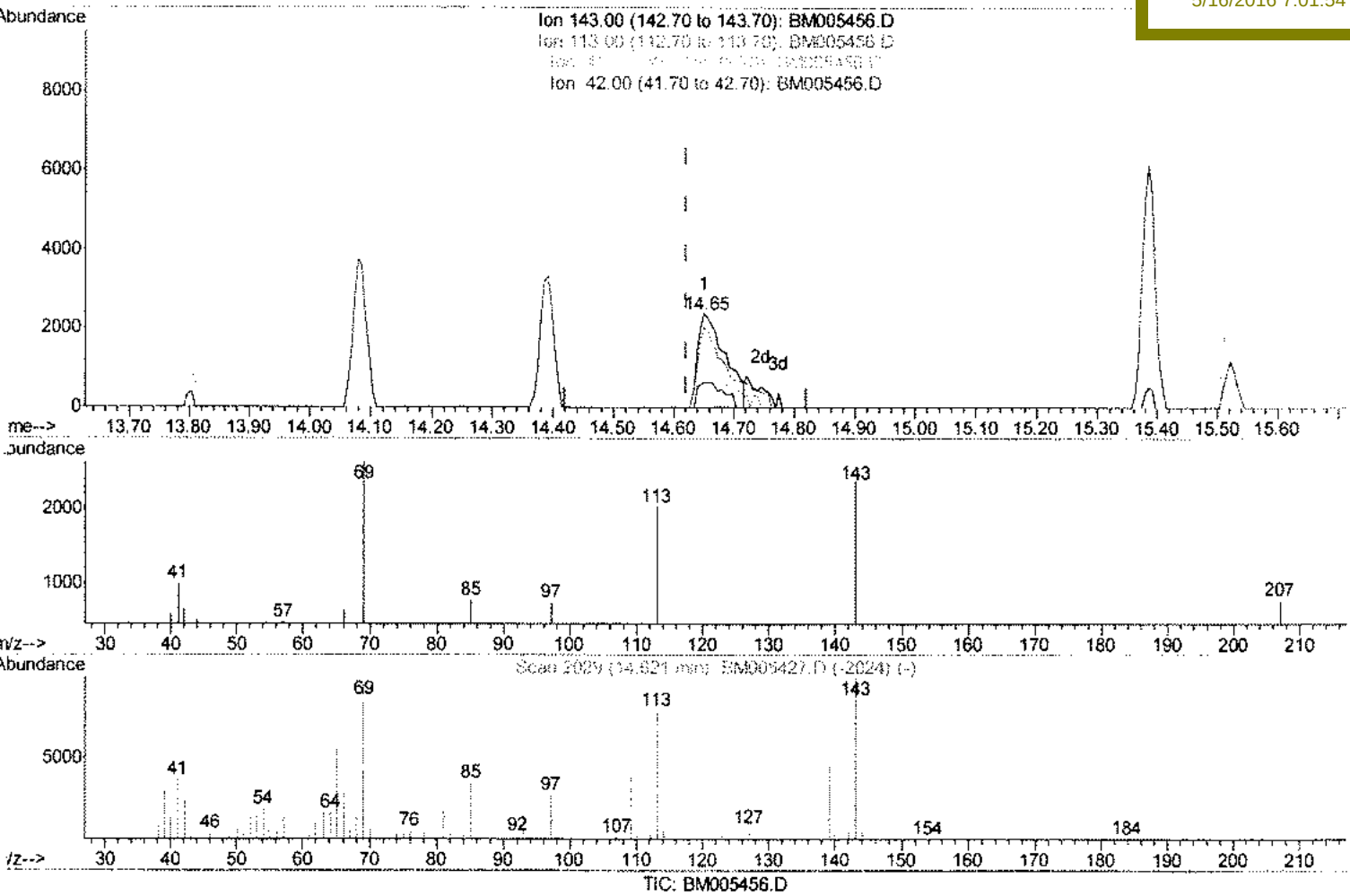
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 16 03:40:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4117

Manual Integrations APPROVED
sohil
5/16/2016 7:01:54 PM



(51) 4-Nitrophenol-d4 (S)

14.651min (+0.029) 2.74ng/ul

response 7570

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	85.35
41.00	38.10	41.83
42.00	26.00	27.65

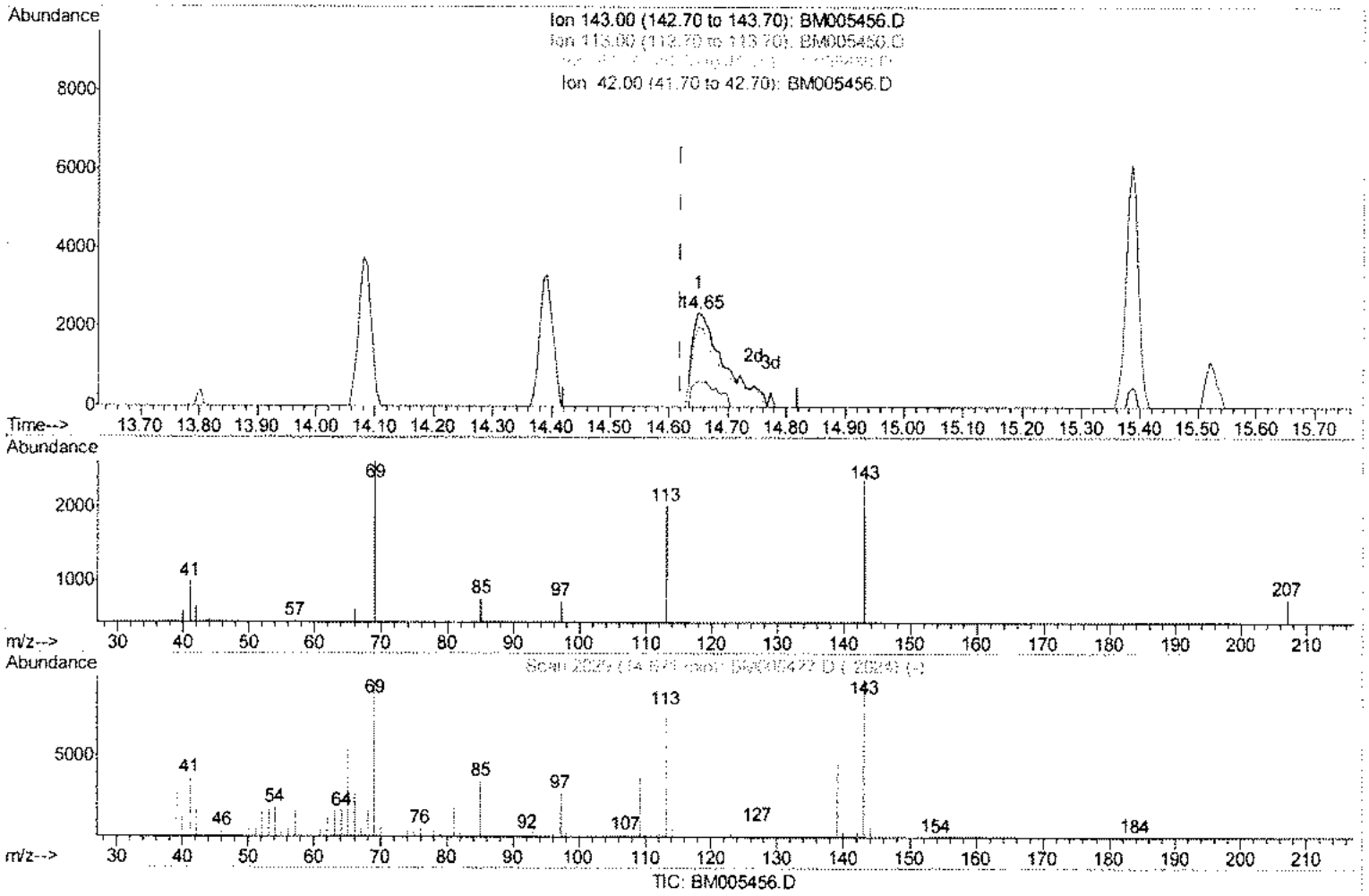
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 16 03:40:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4117

Manual Integrations APPROVED
sohil
5/16/2016 7:01:54 PM



(51) 4-Nitrophenol-d4 (S)

14.651min (+0.029) 3.27ng/ul m

response 9009

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	85.35
41.00	38.10	41.83
42.00	26.00	27.65

U.M 05/17/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005456.D
Acq On : 14 May 2016 08:47
Operator : UM/SJ
Sample : H2834-20
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 16 04:04:50 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4117

Manual Integrations APPROVED
sohil
5/16/2016 7:01:54 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	59923	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	287489	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	188536	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	468918	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	600035	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	535962	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1763	1.38	ng/uL	0.00
5) Phenol-d5	6.93	99	34814	6.41	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	96883	31.25	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	105175	25.62	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	65277	14.53	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	66489	32.39	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	76348	32.85	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	119147	27.58	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	9889	1.90	ng/ul	0.02
43) Dimethylphthalate-d6	13.80	166	483566	32.00	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	575966	32.49	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	9009m	3.27	ng/ul	0.03
57) Fluorene-d10	15.39	176	420362	32.21	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	65350	24.77	ng/ul	0.00
70) Anthracene-d10	17.24	188	674626	32.55	ng/ul	0.00
76) Pyrene-d10	19.54	212	824229	29.76	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	782907	33.00	ng/ul	0.00

U.M 05/17/16

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005457.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	U
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005457.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	5.0	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005457.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4118

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-21
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005457.D
% Solids :
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
Extract Concentrated : (Y / N) N
Date Analyzed : 05/14/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 1000 (µL)
Heated Purge : (Y / N)
Extraction Type : CONH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types :
pH : 6 Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor : 1.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

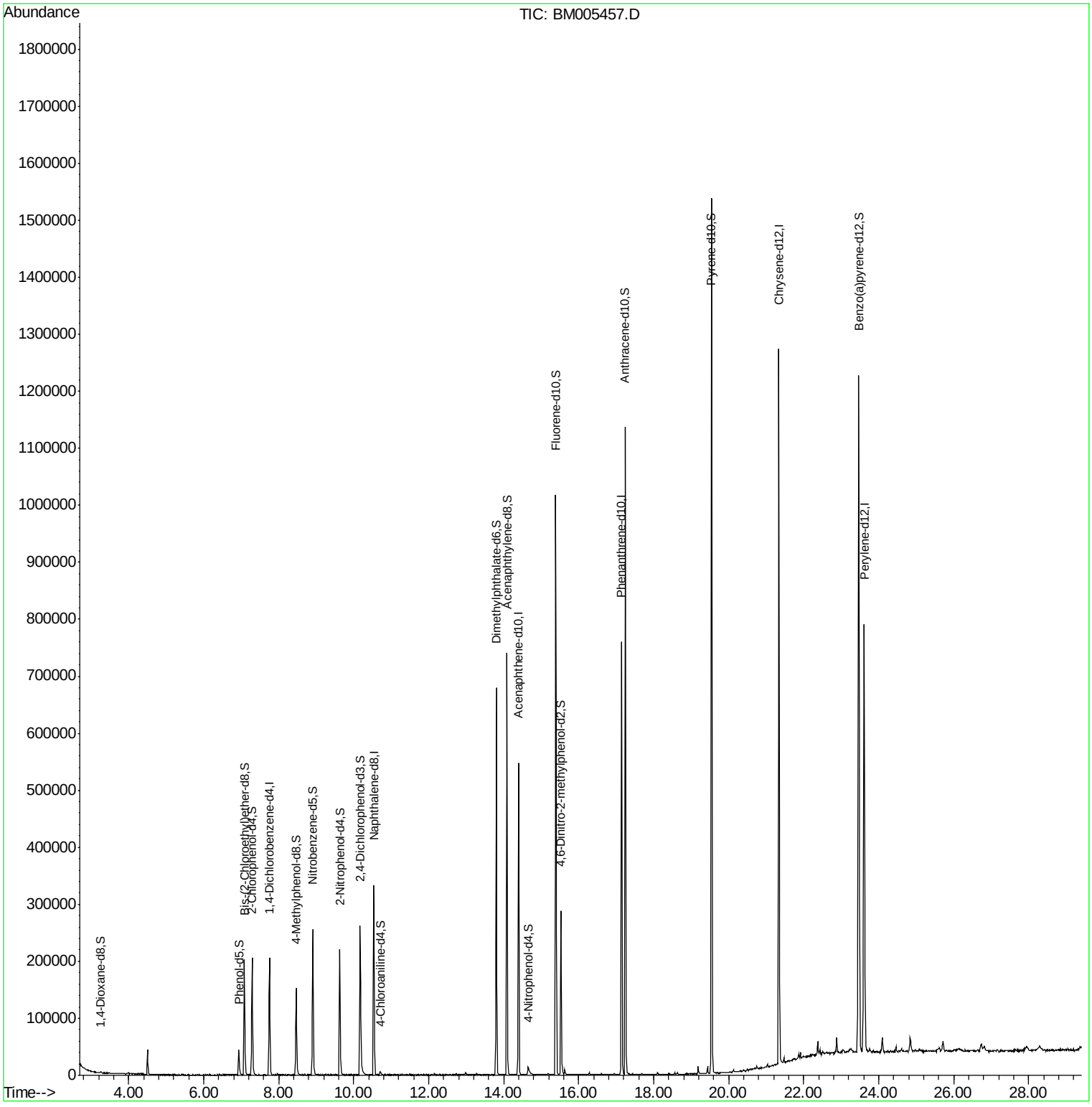
Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 16 04:06:36 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4118

Manual Integrations APPROVED
sohil
5/16/2016 7:01:57 PM



Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4118

Manual Integrations APPROVED
sohil
5/16/2016 7:01:57 PM

Quant Time: May 16 04:06:36 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	58954	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	277226	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	179000	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	454700	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	614788	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	582278	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1967	1.57	ng/uL	0.00
5) Phenol-d5	6.93	99	32625	6.10	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	95107	31.18	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	101421	25.11	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	64228	14.53	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	64041	32.36	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	74212	33.12	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	118599	28.47	ng/ul	0.00
29) 4-Chloroaniline-d4	10.71	131	8082	1.61	ng/ul	0.03
43) Dimethylphthalate-d6	13.80	166	467687	32.60	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	544919	32.38	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	9406m	3.59	ng/ul	0.03
57) Fluorene-d10	15.39	176	407738	32.91	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	66525	26.01	ng/ul	0.00
70) Anthracene-d10	17.24	188	659755	32.82	ng/ul	0.00
76) Pyrene-d10	19.54	212	848369	29.89	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	873385	33.89	ng/ul	0.00

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4118

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.498	303	308	317	rVB	43194	69877	2.98%	0.367%
2	6.934	718	722	737	rBV	45304	81679	3.48%	0.429%
3	7.081	742	747	760	rBV	201906	327538	13.97%	1.722%
4	7.286	776	782	796	rBV	205185	350164	14.93%	1.841%
5	7.751	855	861	875	rVB	205553	350480	14.95%	1.842%
6	8.463	977	982	999	rBV	152073	265349	11.32%	1.395%
7	8.904	1051	1057	1071	rBV	256061	442487	18.87%	2.326%
8	9.627	1174	1180	1193	rVB	219890	375774	16.03%	1.975%
9	10.169	1266	1272	1295	rBV	261544	519777	22.17%	2.732%
10	10.533	1327	1334	1342	rBV	333554	566598	24.16%	2.978%
11	13.798	1883	1889	1904	rBV	678008	984511	41.99%	5.175%
12	14.086	1931	1938	1954	rBV	739946	1140814	48.65%	5.997%
13	14.392	1984	1990	2002	rBV2	547179	823503	35.12%	4.329%
14	14.651	2029	2034	2048	rBV2	14185	40829	1.74%	0.215%
15	15.386	2153	2159	2174	rVB	1016619	1496869	63.84%	7.869%
16	15.521	2177	2182	2196	rBV	286427	424064	18.08%	2.229%
17	17.139	2452	2457	2468	rBV2	758271	1114803	47.54%	5.860%
18	17.239	2468	2474	2489	rVV	1134767	1689437	72.05%	8.881%
19	19.539	2859	2865	2881	rBV2	1534786	2272238	96.90%	11.944%
20	21.338	3165	3171	3181	rBV	1254348	1658046	70.71%	8.716%
21	22.374	3343	3347	3351	rBV2	23273	28554	1.22%	0.150%
22	22.880	3429	3433	3438	rVB3	24822	31890	1.36%	0.168%
23	23.462	3524	3532	3543	rBV2	1186870	2344883	100.00%	12.326%
24	23.609	3549	3557	3567	rBV	749548	1526166	65.08%	8.023%
25	24.091	3635	3639	3646	rVB3	26587	46661	1.99%	0.245%
26	24.838	3762	3766	3775	rVB3	23643	50339	2.15%	0.265%

Sum of corrected areas: 19023330

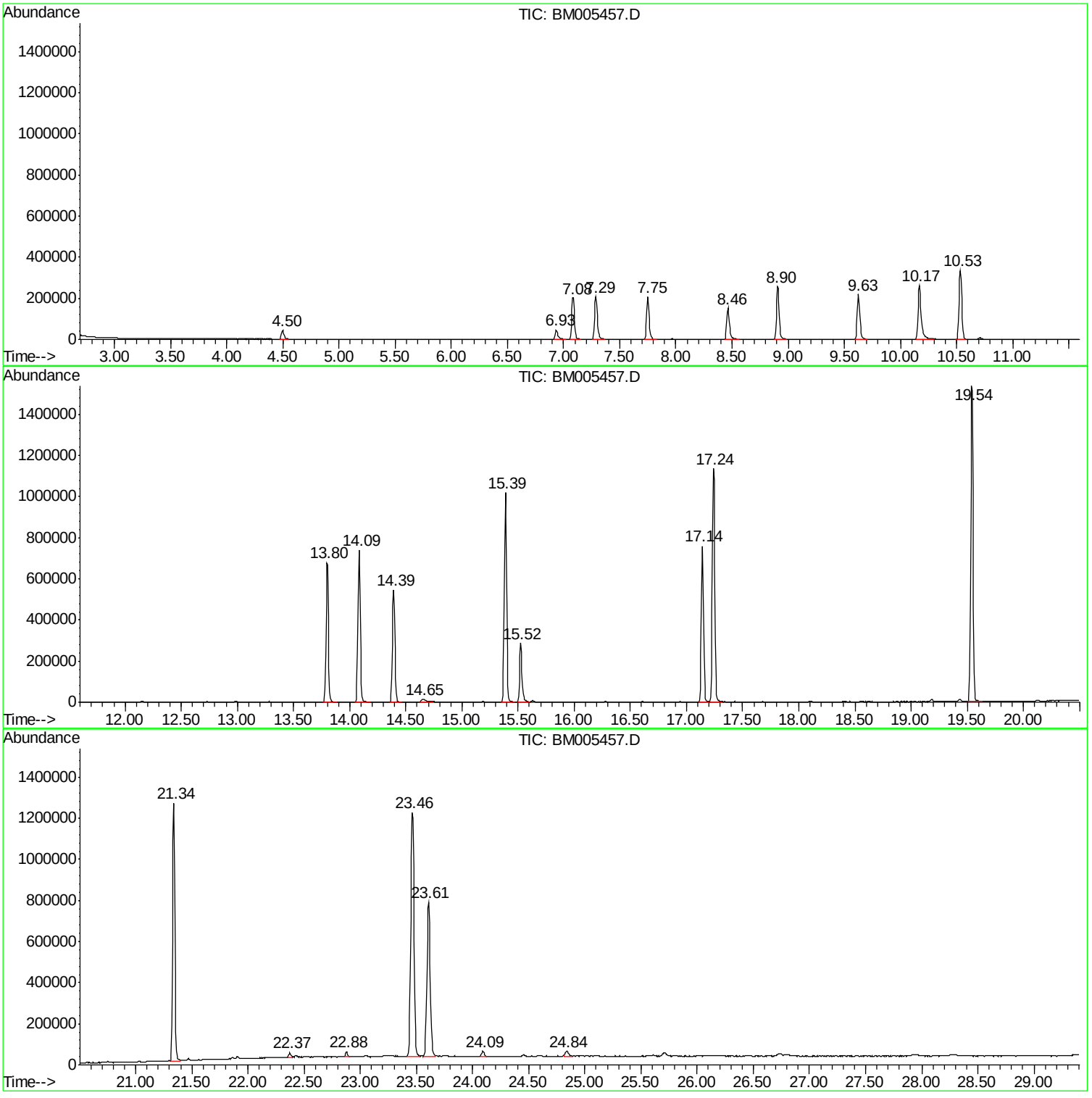
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4118

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
H4118

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4118

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

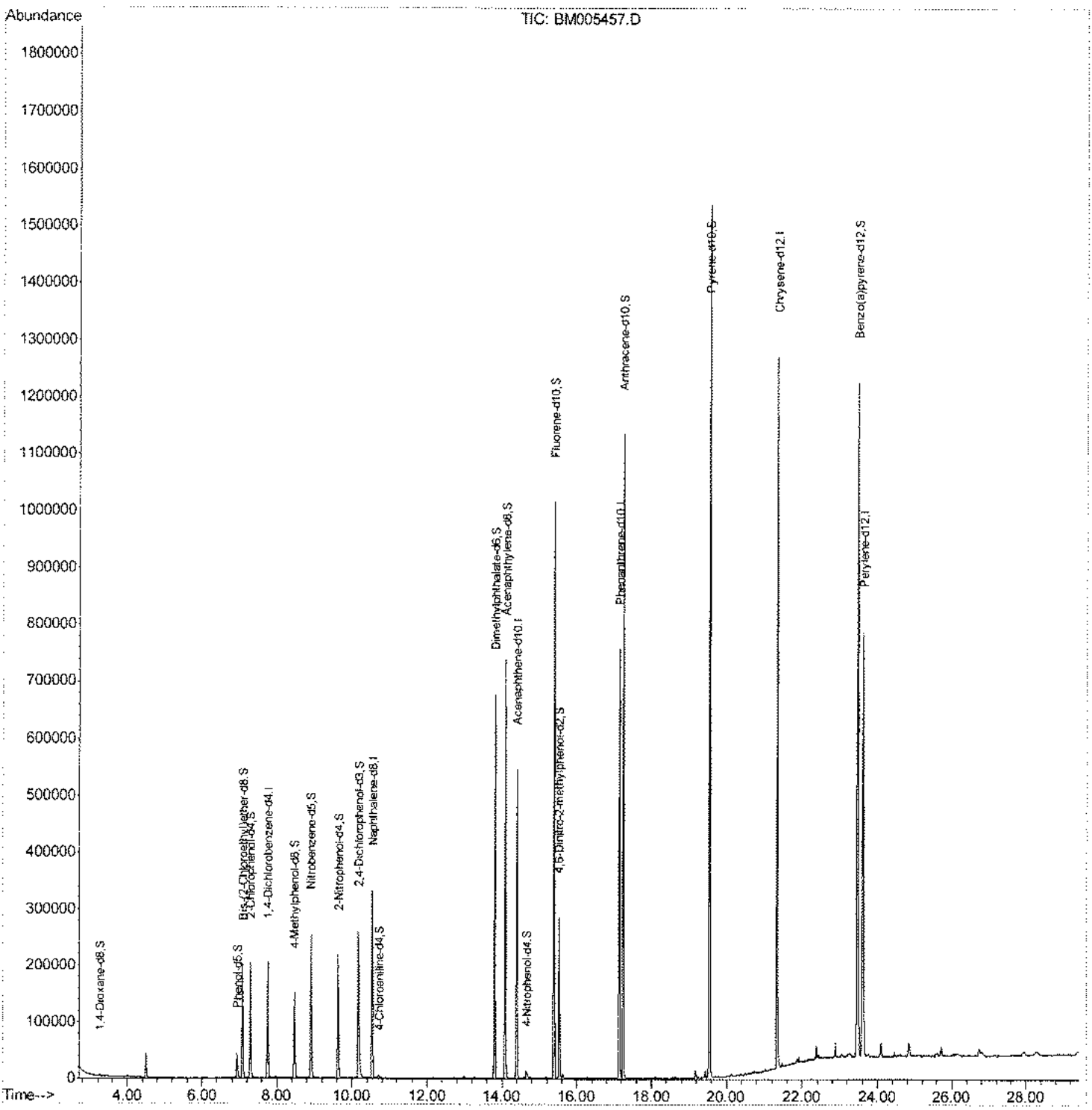
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 16 04:06:36 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4118

Manual Integrations APPROVED
sohil
5/16/2016 7:01:57 PM



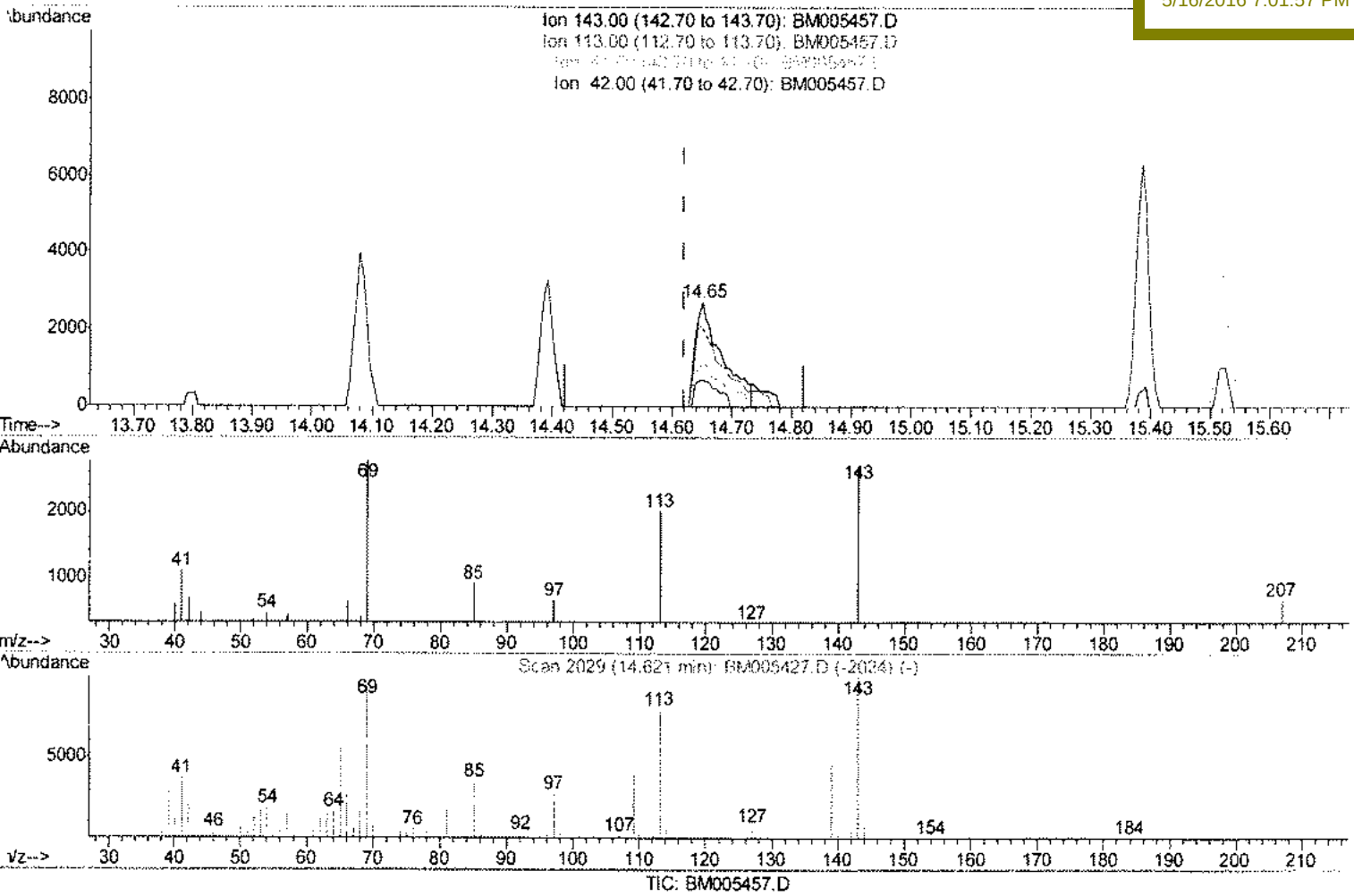
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 16 03:40:31 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4118

Manual Integrations APPROVED
sohil
5/16/2016 7:01:57 PM



TIC: BM005457.D

(51) 4-Nitrophenol-d4 (S)

14.651min (+0.029) 3.21ng/ul

response 8401

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	75.02
41.00	38.10	40.66
42.00	26.00	25.32

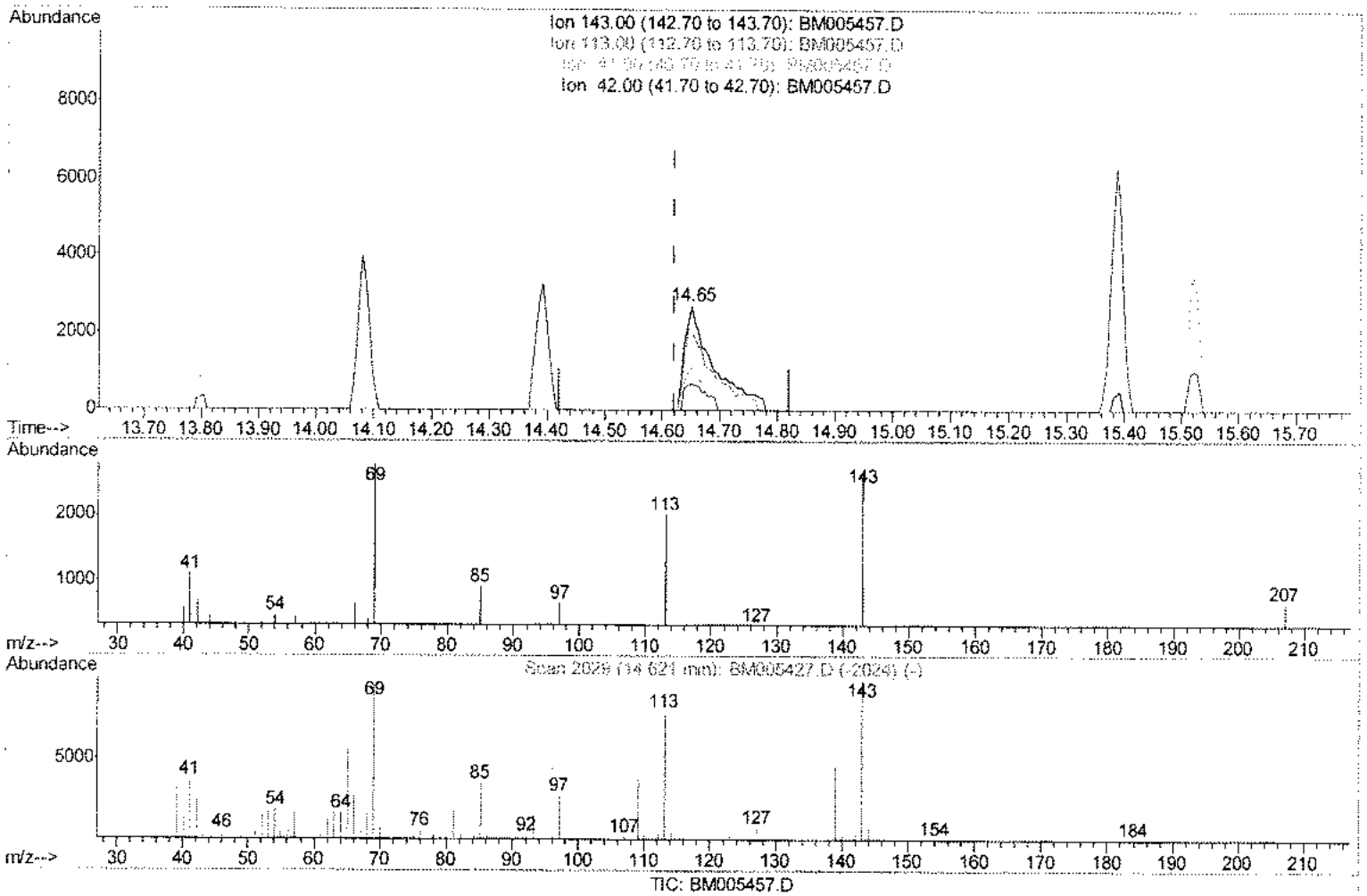
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 16 03:40:31 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4118

Manual Integrations APPROVED
sohil
5/16/2016 7:01:57 PM



TIC: BM005457.D

(51) 4-Nitrophenol-d4 (S)

14.651min (+0.029) 3.59ng/ul m

response 9406

U.M 05/17/16

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	75.02
41.00	38.10	40.66
42.00	26.00	25.32

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005457.D
Acq On : 14 May 2016 09:23
Operator : UM/SJ
Sample : H2834-21
Misc :
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 16 04:06:36 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4118

Manual Integrations APPROVED
sohil
5/16/2016 7:01:57 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	58954	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	277226	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	179000	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	454700	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	614788	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	582278	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1967	1.57	ng/uL	0.00
5) Phenol-d5	6.93	99	32625	6.10	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	95107	31.18	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	101421	25.11	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	64228	14.53	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	64041	32.36	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	74212	33.12	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	118599	28.47	ng/ul	0.00
29) 4-Chloroaniline-d4	10.71	131	8082	1.61	ng/ul	0.03
43) Dimethylphthalate-d6	13.80	166	467687	32.60	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	544919	32.38	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	9406m	3.59	ng/ul	0.03
57) Fluorene-d10	15.39	176	407738	32.91	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	66525	26.01	ng/ul	0.00
70) Anthracene-d10	17.24	188	659755	32.82	ng/ul	0.00
76) Pyrene-d10	19.54	212	848369	29.89	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	873385	33.89	ng/ul	0.00

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

U.M
05/17/16

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group | Contract: EPW14030

Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002

Analytical Method : SVOA | Level :

Instrument ID: BNA_M | Calibration Date(s): 05/05/2016 05/05/2016

GC Column: ZB-GR | ID: 0.25 (mm) | Calibration Time(s): 11:09 15:53

Length : 30 (m)

Heated Purge: (Y/N) | Purge Volume : (mL)

LAB FILE ID:	RRF005 =BM005231.D RRF040 =BM005234.D			RRF010= BM005232.D RRF080= BM005235.D			RRF020 =BM005233.D RRF160 =BM005236.D	
ANALYTE	RRF005	RRF010	RRF020	RRF040	RRF080	RRF160	$\overline{\text{RRF}}$	% RSD
1,4-Dioxane	0.797	0.789	0.828	0.752	0.710		0.776	5.8
Benzaldehyde		1.093	1.158	1.003	0.762	0.378	0.879	36.2
Phenol		1.841	1.952	1.887	1.887	1.807	1.875	2.9
Bis(2-Chloroethyl)ether		1.468	1.502	1.430	1.377	1.280	1.411	6.2
2-Chlorophenol	1.318	1.383	1.465	1.423	1.418		1.401	3.9
2-Methylphenol		1.394	1.492	1.483	1.475	1.401	1.449	3.3
2,2-oxybis(1-Chloropropane)		2.031	2.029	1.954	1.847	1.712	1.915	7.1
Acetophenone		2.412	2.419	2.193	2.125	1.958	2.221	8.9
4-Methylphenol		1.600	1.689	1.619	1.594	1.538	1.608	3.4
N-Nitroso-di-n-propylamine	1.134	1.218	1.227	1.144	1.080		1.161	5.3
Hexachloroethane	0.517	0.523	0.541	0.530	0.525		0.527	1.7
Nitrobenzene	0.340	0.354	0.369	0.362	0.363		0.357	3.1
Isophorone	0.643	0.681	0.723	0.716	0.708		0.694	4.7
2-Nitrophenol	0.155	0.169	0.181	0.182	0.183		0.174	7.0
2,4-Dimethylphenol	0.356	0.371	0.382	0.369	0.370		0.370	2.5
Bis(2-Chloroethoxy)methane	0.438	0.440	0.445	0.426	0.412		0.432	3.1
2,4-Dichlorophenol	0.290	0.301	0.320	0.316	0.311		0.308	4.0
Naphthalene	1.038	1.024	1.031	0.982	0.956		1.006	3.5
4-Chloroaniline		0.399	0.431	0.397	0.356	0.260	0.369	17.9
Hexachlorobutadiene	0.186	0.183	0.185	0.180	0.180		0.183	1.5
Caprolactam		0.097	0.114	0.121	0.122	0.120	0.115	9.0
4-Chloro-3-methylphenol	0.347	0.364	0.384	0.379	0.371		0.369	4.0
2-Methylnaphthalene	0.778	0.782	0.777	0.731	0.695		0.753	5.1
Hexachlorocyclopentadiene		0.237	0.296	0.330	0.356	0.335	0.311	15.0
2,4,6-Trichlorophenol	0.367	0.390	0.422	0.427	0.420		0.405	6.4
2,4,5-Trichlorophenol	0.408	0.440	0.462	0.477	0.461		0.450	5.9
1,1-Biphenyl	1.619	1.643	1.644	1.571	1.445		1.584	5.3
2-Chloronaphthalene	1.188	1.212	1.241	1.208	1.141		1.198	3.1
2-Nitroaniline	0.299	0.340	0.392	0.408	0.406		0.369	12.9
Dimethylphthalate	1.615	1.637	1.671	1.578	1.507		1.602	3.9
2,6-Dinitrotoluene	0.257	0.293	0.336	0.347	0.346		0.316	12.5
Acenaphthylene	2.003	2.081	2.082	1.949	1.832		1.989	5.2

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group | Contract: EPW14030

Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4002

Analytical Method : SVOA | Level :

Instrument ID: BNA_M | Calibration Date(s): 05/05/2016 05/05/2016

GC Column: ZB-GR | ID: 0.25 (mm) | Calibration Time(s): 11:09 15:53

Length : 30 (m)

Heated Purge: (Y/N) | Purge Volume : (mL)

LAB FILE ID:	RRF005 =BM005231.D RRF040 =BM005234.D			RRF010= BM005232.D RRF080= BM005235.D			RRF020 =BM005233.D RRF160 =BM005236.D	
ANALYTE	RRF005	RRF010	RRF020	RRF040	RRF080	RRF160	$\overline{RRF}$	% RSD
3-Nitroaniline		0.305	0.370	0.360	0.344	0.305	0.337	9.1
Acenaphthene	1.361	1.374	1.343	1.270	1.206		1.311	5.4
2,4-Dinitrophenol		0.106	0.155	0.192	0.226	0.229	0.182	28.5
4-Nitrophenol		0.221	0.246	0.252	0.259	0.239	0.243	6.0
Dibenzofuran	1.992	1.988	1.979	1.850	1.701		1.902	6.7
2,4-Dinitrotoluene	0.397	0.463	0.498	0.507	0.490		0.471	9.5
Diethylphthalate	1.599	1.636	1.685	1.626	1.546		1.618	3.2
Fluorene	1.642	1.613	1.525	1.411	1.244		1.487	11.0
4-Chlorophenyl-phenylether	0.807	0.795	0.756	0.701	0.626		0.737	10.1
4-Nitroaniline		0.337	0.374	0.370	0.361	0.342	0.357	4.6
4,6-Dinitro-2-methylphenol		0.103	0.119	0.126	0.126	0.116	0.118	8.1
N-Nitrosodiphenylamine	0.571	0.581	0.563	0.534	0.489		0.548	6.7
4-Bromophenyl-phenylether	0.194	0.198	0.199	0.190	0.179		0.192	4.2
1,2,4,5-Tetrachlorobenzene	0.600	0.609	0.633	0.614	0.586		0.608	2.9
Hexachlorobenzene	0.219	0.222	0.223	0.212	0.199		0.215	4.6
Atrazine		0.208	0.218	0.210	0.194	0.169	0.200	9.7
Pentachlorophenol		0.101	0.118	0.126	0.129	0.124	0.120	9.3
Phenanthrene	1.130	1.111	1.095	1.012	0.911		1.052	8.6
Anthracene	1.133	1.118	1.084	1.010	0.898		1.048	9.2
Carbazole		1.028	1.027	0.953	0.867	0.738	0.922	13.3
Di-n-butylphthalate	1.097	1.153	1.199	1.137	1.040		1.125	5.3
Fluoranthene		1.346	1.339	1.213	1.059	0.868	1.165	17.4
Pyrene	1.201	1.193	1.200	1.142	1.065		1.160	5.1
Butylbenzylphthalate	0.419	0.452	0.502	0.524	0.512		0.482	9.3
3,3-Dichlorobenzidine		0.348	0.403	0.376	0.347	0.324	0.360	8.5
Benzo(a)anthracene	1.188	1.175	1.194	1.132	1.062		1.150	4.8
Chrysene	1.145	1.105	1.138	1.077	0.992		1.091	5.7
Bis(2-ethylhexyl)phthalate	0.618	0.665	0.728	0.697	0.637		0.669	6.6
Di-n-octyl phthalate		1.202	1.271	1.264	1.143	0.960	1.168	10.9
Benzo(b)fluoranthene	1.218	1.200	1.181	1.175	1.072		1.169	4.8
Benzo(k)fluoranthene	1.124	1.152	1.162	1.069	0.996		1.101	6.2
Benzo(a)pyrene	1.144	1.148	1.145	1.083	1.008		1.106	5.5

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group
Contract: EPW14030
Lab Code: CHM Case No.: 46114
MA No.: SDG No.: H4002
Analytical Method : SVOA
Level :
Instrument ID: BNA_M
Calibration Date(s): 05/05/2016 05/05/2016
GC Column: ZB-GR ID: 0.25 (mm)
Calibration Time(s): 11:09 15:53
Length : 30 (m)
Heated Purge: (Y/N)
Purge Volume : (mL)

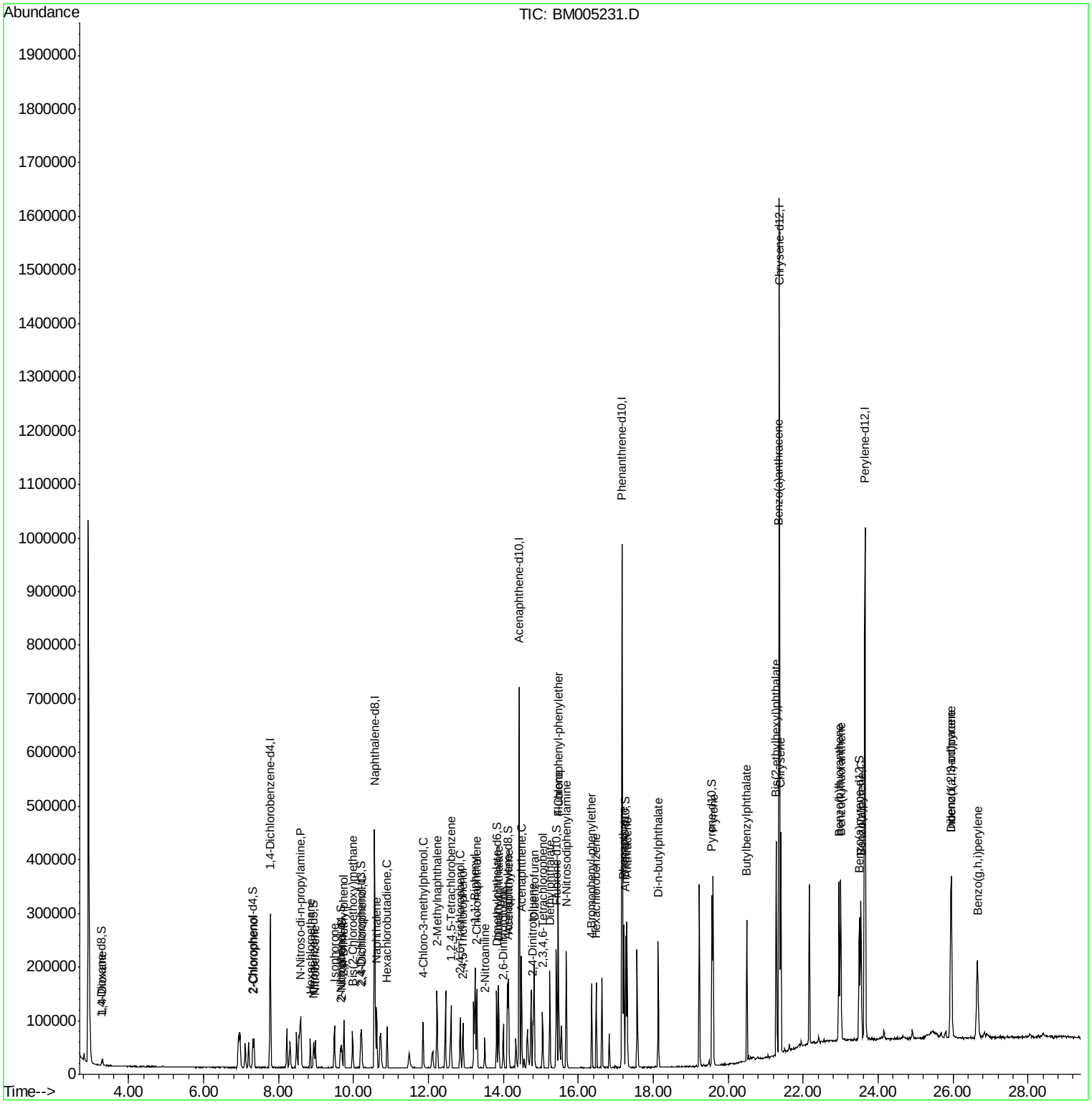
LAB FILE ID:	RRF005 =BM005231.D RRF040 =BM005234.D			RRF010= BM005232.D RRF080= BM005235.D			RRF020 =BM005233.D RRF160 =BM005236.D	
ANALYTE	RRF005	RRF010	RRF020	RRF040	RRF080	RRF160	$\overline{\text{RRF}}$	% RSD
Indeno(1,2,3-cd)pyrene	1.248	1.233	1.258	1.191	1.103		1.206	5.3
Dibenzo(a,h)anthracene	1.054	1.045	1.059	0.991	0.898		1.010	6.7
Benzo(g,h,i)perylene	1.040	1.020	1.050	1.032	0.968		1.022	3.2
2,3,4,6-Tetrachlorophenol	0.346	0.370	0.398	0.402	0.395		0.382	6.2
1,4-Dioxane-d8	0.444	0.437	0.438	0.413	0.395		0.425	4.8
Phenol-d5		1.743	1.864	1.843	1.830	1.791	1.814	2.6
Bis-(2-Chloroethyl)ether-d8		1.080	1.106	1.045	0.998	0.945	1.035	6.2
2-Chlorophenol-d4	1.275	1.328	1.426	1.408	1.413		1.370	4.8
4-Methylphenol-d8		1.440	1.536	1.531	1.513	1.476	1.499	2.7
Nitrobenzene-d5	0.126	0.135	0.147	0.151	0.154		0.143	8.4
2-Nitrophenol-d4	0.138	0.151	0.169	0.173	0.177		0.162	10.2
2,4-Dichlorophenol-d3	0.275	0.292	0.313	0.311	0.311		0.300	5.5
4-Chloroaniline-d4		0.383	0.426	0.396	0.351	0.252	0.362	18.5
Dimethylphthalate-d6	1.582	1.624	1.676	1.611	1.524		1.603	3.5
Acenaphthylene-d8	1.825	1.918	1.975	1.888	1.795		1.880	3.8
4-Nitrophenol-d4		0.254	0.303	0.308	0.311	0.288	0.293	7.9
Fluorene-d10	1.448	1.438	1.429	1.352	1.255		1.384	5.9
4,6-Dinitro-2-methylphenol-d2		0.095	0.111	0.120	0.123	0.113	0.113	9.6
Anthracene-d10	0.929	0.932	0.914	0.857	0.787		0.884	7.0
Pyrene-d10	0.912	0.934	0.954	0.929	0.886		0.923	2.8
Benzo(a)pyrene-d12	0.893	0.905	0.908	0.885	0.836		0.885	3.3

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005231.D
Acq On : 05 May 2016 11:09
Operator : UM/SJ
Sample : SSTD00540
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SSTD00540

Quant Time: May 05 14:04:10 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005231.D
Acq On : 05 May 2016 11:09
Operator : UM/SJ
Sample : SSTD00540
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD00540

Quant Time: May 05 14:04:10 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	77482	20.00	ng/ul	0.00
18) Naphthalene-d8	10.56	136	367748	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	244001	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.16	188	591120	20.00	ng/ul	0.00
75) Chrysene-d12	21.36	240	705171	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	699412	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.27	96	3441	2.27	ng/uL	0.00
5) Phenol-d5	0.00	99	0d	0.00	ng/ul	
7) Bis-(2-Chloroethyl)ether-d	0.00	67	0d	0.00	ng/ul	
9) 2-Chlorophenol-d4	7.31	132	24702	4.87	ng/ul	0.00
13) 4-Methylphenol-d8	0.00	113	0d	0.00	ng/ul	
19) Nitrobenzene-d5	8.93	128	11562	4.67	ng/ul	0.00
22) 2-Nitrophenol-d4	9.65	143	12686	4.63	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.19	165	25307	4.77	ng/ul	0.00
29) 4-Chloroaniline-d4	0.00	131	0d	0.00	ng/ul	
43) Dimethylphthalate-d6	13.82	166	96474	5.02	ng/ul	0.00
46) Acenaphthylene-d8	14.11	160	111352	4.91	ng/ul	0.00
51) 4-Nitrophenol-d4	0.00	143	0d	0.00	ng/ul	
57) Fluorene-d10	15.41	176	88310	5.18	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	0.00	200	0d	0.00	ng/ul	
70) Anthracene-d10	17.26	188	137322	5.18	ng/ul	0.00
76) Pyrene-d10	19.56	212	160760	5.15	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.50	264	156129	5.03	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.30	88	6177	2.19	ng/uL#	90
10) 2-Chlorophenol	7.34	128	25535	4.86	ng/ul	94
15) N-Nitroso-di-n-propylamine	8.57	70	21964	5.33	ng/ul	99
17) Hexachloroethane	8.85	117	10020	4.88	ng/ul	95
20) Nitrobenzene	8.97	77	31263	5.03	ng/ul	95
21) Isophorone	9.49	82	59080	5.02	ng/ul	96
23) 2-Nitrophenol	9.68	139	14268	4.76	ng/ul	96
24) 2,4-Dimethylphenol	9.74	107	32692	4.92	ng/ul	99
25) Bis(2-Chloroethoxy)methane	9.97	93	40257	5.44	ng/ul	99
27) 2,4-Dichlorophenol	10.22	162	26636	4.87	ng/ul	98
28) Naphthalene	10.62	128	95401	5.13	ng/ul	99
31) Hexachlorobutadiene	10.89	225	17113	4.80	ng/ul	99
33) 4-Chloro-3-methylphenol	11.86	107	31864	4.98	ng/ul	98
34) 2-Methylnaphthalene	12.23	142	71515	5.17	ng/ul	98
36) 1,2,4,5-Tetrachlorobenzene	12.60	216	36606	4.93	ng/ul	97
38) 2,4,6-Trichlorophenol	12.85	196	22379	4.79	ng/ul	94
39) 2,4,5-Trichlorophenol	12.92	196	24890	4.74	ng/ul	95
40) 1,1'-Biphenyl	13.25	154	98762	5.18	ng/ul	98
41) 2-Chloronaphthalene	13.29	162	72471	4.97	ng/ul	99
42) 2-Nitroaniline	13.50	65	18246	4.68	ng/ul	89
44) Dimethylphthalate	13.87	163	98523	5.09	ng/ul	99
45) 2,6-Dinitrotoluene	14.00	165	15678	4.33	ng/ul	97
47) Acenaphthylene	14.14	152	122204	5.05	ng/ul	100

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005231.D
Acq On : 05 May 2016 11:09
Operator : UM/SJ
Sample : SSTD00540
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD00540

Quant Time: May 05 14:04:10 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Acenaphthene	14.48	153	83035	5.18	ng/ul	99
53) Dibenzofuran	14.82	168	121528	5.13	ng/ul	98
54) 2,4-Dinitrotoluene	14.79	165	24205	4.28	ng/ul#	95
55) 2,3,4,6-Tetrachlorophenol	15.05	232	21133	4.59	ng/ul#	94
56) Diethylphthalate	15.24	149	97550	4.99	ng/ul	99
58) Fluorene	15.47	166	100154	5.37	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.46	204	49222	5.31	ng/ul	96
64) N-Nitrosodiphenylamine	15.67	169	84397	5.25	ng/ul	99
65) 4-Bromophenyl-phenylether	16.36	248	28617	5.08	ng/ul	96
66) Hexachlorobenzene	16.47	284	32365	5.03	ng/ul	97
69) Phenanthrene	17.21	178	166988	5.26	ng/ul	99
71) Anthracene	17.30	178	167417	5.25	ng/ul	99
73) Di-n-butylphthalate	18.13	149	162102	5.17	ng/ul	99
77) Pyrene	19.59	202	211675	5.32	ng/ul	99
78) Butylbenzylphthalate	20.49	149	73797	4.94	ng/ul	97
80) Benzo(a)anthracene	21.34	228	209481	5.21	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.27	149	108996	5.12	ng/ul	99
82) Chrysene	21.40	228	201866	5.22	ng/ul	99
85) Benzo(b)fluoranthene	22.96	252	212925	5.15	ng/ul	99
86) Benzo(k)fluoranthene	23.00	252	196555	4.88	ng/ul	98
88) Benzo(a)pyrene	23.54	252	200049	5.12	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.94	276	218199	5.55	ng/ul	99
90) Dibenzo(a,h)anthracene	25.95	278	184354	5.60	ng/ul	100
91) Benzo(g,h,i)perylene	26.64	276	181802	5.59	ng/ul	98

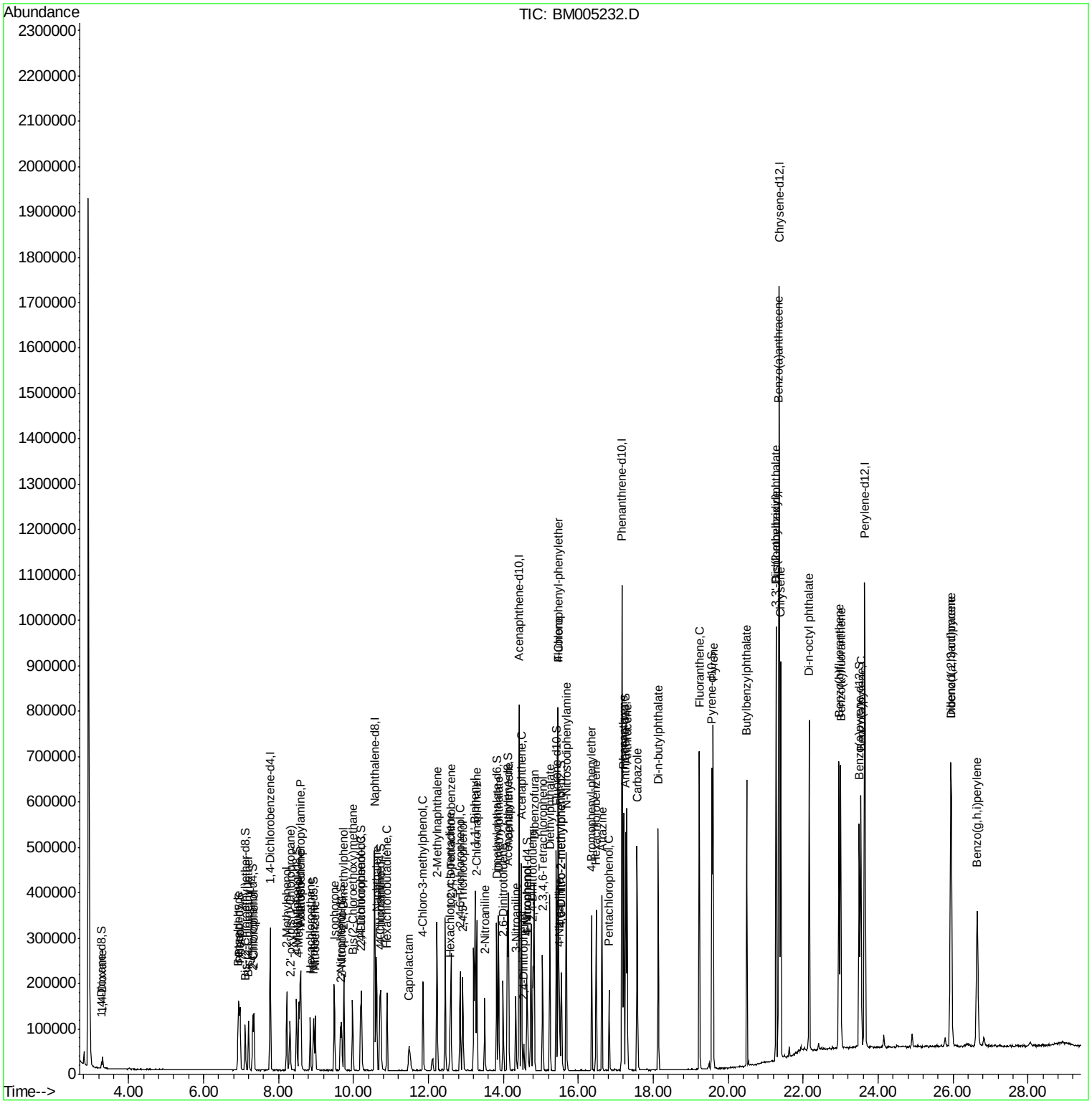
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005232.D
Acq On : 05 May 2016 11:45
Operator : UM/SJ
Sample : SSTD01041
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD01041

Quant Time: May 05 13:41:57 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005232.D
Acq On : 05 May 2016 11:45
Operator : UM/SJ
Sample : SSTD01041
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD01041

Quant Time: May 05 13:41:57 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	83684	20.00	ng/ul	0.00
18) Naphthalene-d8	10.56	136	405734	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	262777	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.16	188	633818	20.00	ng/ul	0.00
75) Chrysene-d12	21.36	240	746308	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	730021	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.27	96	7315	4.47	ng/uL	0.00
5) Phenol-d5	6.95	99	72946	10.38	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.11	67	45177	11.23	ng/ul	0.00
9) 2-Chlorophenol-d4	7.31	132	55564	10.13	ng/ul	0.00
13) 4-Methylphenol-d8	8.48	113	60250	10.11	ng/ul	0.00
19) Nitrobenzene-d5	8.93	128	27391	10.04	ng/ul	0.00
22) 2-Nitrophenol-d4	9.65	143	30695	10.16	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.19	165	59213	10.12	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	77621	11.04	ng/ul	0.00
43) Dimethylphthalate-d6	13.82	166	213325	10.31	ng/ul	0.00
46) Acenaphthylene-d8	14.11	160	251940	10.31	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	33435	9.23	ng/ul	0.00
57) Fluorene-d10	15.41	176	188975	10.30	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.54	200	30123	8.66	ng/ul	0.00
70) Anthracene-d10	17.26	188	295453	10.40	ng/ul	0.00
76) Pyrene-d10	19.56	212	348652	10.56	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.49	264	330187	10.18	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.30	88	13212	4.35	ng/uL#	92
4) Benzaldehyde	6.92	77	45744	13.32	ng/ul	99
6) Phenol	6.97	94	77047	10.37	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.20	93	61411	10.91	ng/ul	99
10) 2-Chlorophenol	7.34	128	57858	10.19	ng/ul	98
11) 2-Methylphenol	8.22	108	58339	10.24	ng/ul	94
12) 2,2'-oxybis(1-Chloropropan	8.30	45	84980	11.55	ng/ul	99
14) Acetophenone	8.59	105	100927	11.12	ng/ul	98
15) N-Nitroso-di-n-propylamine	8.57	70	50947	11.44	ng/ul	100
16) 4-Methylphenol	8.54	108	66958	10.46	ng/ul	97
17) Hexachloroethane	8.85	117	21904	9.88	ng/ul	95
20) Nitrobenzene	8.97	77	71804	10.48	ng/ul	98
21) Isophorone	9.49	82	138221	10.64	ng/ul	99
23) 2-Nitrophenol	9.68	139	34272	10.36	ng/ul	99
24) 2,4-Dimethylphenol	9.74	107	75276	10.27	ng/ul	99
25) Bis(2-Chloroethoxy)methane	9.97	93	89304	10.93	ng/ul	99
27) 2,4-Dichlorophenol	10.21	162	61093	10.12	ng/ul	99
28) Naphthalene	10.61	128	207795	10.12	ng/ul	99
30) 4-Chloroaniline	10.73	127	80963	11.15	ng/ul	97
31) Hexachlorobutadiene	10.89	225	37051	9.42	ng/ul	98
32) Caprolactam	11.48	113	19669	9.33	ng/ul	91
33) 4-Chloro-3-methylphenol	11.85	107	73880	10.48	ng/ul	99
34) 2-Methylnaphthalene	12.23	142	158715	10.41	ng/ul	99

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005232.D
Acq On : 05 May 2016 11:45
Operator : UM/SJ
Sample : SSTD01041
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD01041

Quant Time: May 05 13:41:57 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.60	216	80018	10.01 ng/ul	99
37) Hexachlorocyclopentadiene	12.57	237	31151	7.03 ng/ul	97
38) 2,4,6-Trichlorophenol	12.85	196	51267	10.19 ng/ul	94
39) 2,4,5-Trichlorophenol	12.92	196	57810	10.22 ng/ul	99
40) 1,1'-Biphenyl	13.25	154	215901	10.51 ng/ul	99
41) 2-Chloronaphthalene	13.29	162	159289	10.15 ng/ul	99
42) 2-Nitroaniline	13.50	65	44638	10.63 ng/ul	92
44) Dimethylphthalate	13.87	163	215050	10.32 ng/ul	99
45) 2,6-Dinitrotoluene	14.00	165	38538	9.89 ng/ul	93
47) Acenaphthylene	14.13	152	273373	10.48 ng/ul	99
48) 3-Nitroaniline	14.33	138	40021	9.83 ng/ul	91
49) Acenaphthene	14.48	153	180502	10.46 ng/ul	99
50) 2,4-Dinitrophenol	14.55	184	13948	6.39 ng/ul	91
52) 4-Nitrophenol	14.64	109	28996	8.91 ng/ul	100
53) Dibenzofuran	14.82	168	261146	10.23 ng/ul	99
54) 2,4-Dinitrotoluene	14.79	165	60850	9.99 ng/ul	98
55) 2,3,4,6-Tetrachlorophenol	15.04	232	48553	9.79 ng/ul#	96
56) Diethylphthalate	15.24	149	214890	10.20 ng/ul	99
58) Fluorene	15.47	166	211993	10.56 ng/ul	99
59) 4-Chlorophenyl-phenylether	15.46	204	104411	10.45 ng/ul	98
60) 4-Nitroaniline	15.49	138	44321	9.79 ng/ul	98
63) 4,6-Dinitro-2-methylphenol	15.55	198	32627	8.90 ng/ul#	91
64) N-Nitrosodiphenylamine	15.67	169	183981	10.68 ng/ul	100
65) 4-Bromophenyl-phenylether	16.36	248	62681	10.37 ng/ul	97
66) Hexachlorobenzene	16.47	284	70449	10.21 ng/ul	96
67) Atrazine	16.63	200	65970	10.50 ng/ul	97
68) Pentachlorophenol	16.82	266	31979	8.44 ng/ul	97
69) Phenanthrene	17.20	178	351982	10.35 ng/ul	100
71) Anthracene	17.30	178	354434	10.37 ng/ul	99
72) Carbazole	17.57	167	325779	10.96 ng/ul	100
73) Di-n-butylphthalate	18.13	149	365342	10.87 ng/ul	100
74) Fluoranthene	19.23	202	426671	11.23 ng/ul	100
77) Pyrene	19.59	202	445024	10.57 ng/ul	100
78) Butylbenzylphthalate	20.49	149	168630	10.66 ng/ul	99
79) 3,3'-Dichlorobenzidine	21.28	252	129782	9.86 ng/ul	99
80) Benzo(a)anthracene	21.34	228	438607	10.31 ng/ul	100
81) Bis(2-ethylhexyl)phthalate	21.27	149	248130	11.01 ng/ul	98
82) Chrysene	21.40	228	412472	10.08 ng/ul	99
84) Di-n-octyl phthalate	22.16	149	438661	10.14 ng/ul	99
85) Benzo(b)fluoranthene	22.95	252	437833	10.14 ng/ul	99
86) Benzo(k)fluoranthene	23.00	252	420405	10.00 ng/ul	100
88) Benzo(a)pyrene	23.54	252	419087	10.27 ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.94	276	449896	10.96 ng/ul	99
90) Dibenzo(a,h)anthracene	25.94	278	381529	11.10 ng/ul	99
91) Benzo(g,h,i)perylene	26.64	276	372189	10.97 ng/ul	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005233.D
Acq On : 05 May 2016 12:21
Operator : UM/SJ
Sample : SSTD02042
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 05 13:53:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02042

Manual Integrations APPROVED
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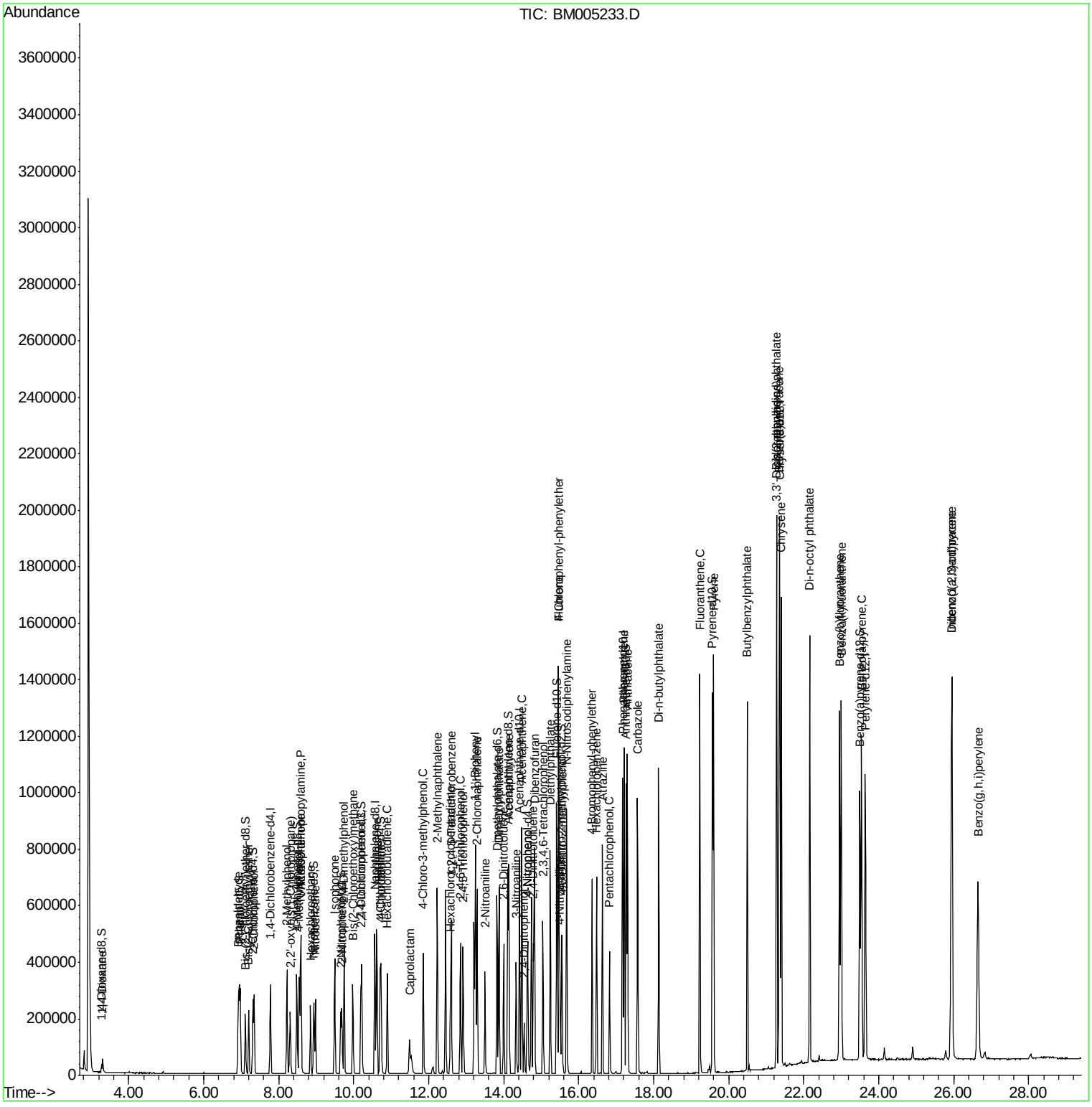

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005233.D
Acq On : 05 May 2016 12:21
Operator : UM/SJ
Sample : SSTD02042
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 05 13:53:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02042

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	85340	20.00	ng/ul	0.00
18) Naphthalene-d8	10.56	136	410502	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	259664	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	638987	20.00	ng/ul	0.00
75) Chrysene-d12	21.36	240	725743	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	742303	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.27	96	14937	8.95	ng/uL	0.00
5) Phenol-d5	6.95	99	159033	22.19	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.11	67	94416	23.02	ng/ul	0.00
9) 2-Chlorophenol-d4	7.31	132	121697	21.76	ng/ul	0.00
13) 4-Methylphenol-d8	8.48	113	131095	21.57	ng/ul	0.00
19) Nitrobenzene-d5	8.93	128	60545	21.92	ng/ul	0.00
22) 2-Nitrophenol-d4	9.65	143	69418	22.71	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.19	165	128474	21.71	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	175012	24.61	ng/ul	0.00
43) Dimethylphthalate-d6	13.83	166	435081	21.29	ng/ul	0.00
46) Acenaphthylene-d8	14.11	160	512945	21.24	ng/ul	0.00
51) 4-Nitrophenol-d4	14.63	143	78607	21.96	ng/ul	0.00
57) Fluorene-d10	15.41	176	371068	20.47	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.54	200	71168	20.29	ng/ul	0.00
70) Anthracene-d10	17.26	188	584211	20.39	ng/ul	0.00
76) Pyrene-d10	19.56	212	692650	21.58	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.49	264	674114	20.45	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.30	88	28273	9.12	ng/uL	98
4) Benzaldehyde	6.92	77	98828	28.22	ng/ul	97
6) Phenol	6.97	94	166572	21.98	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.20	93	128185	22.34	ng/ul	97
10) 2-Chlorophenol	7.34	128	125006	21.60	ng/ul	98
11) 2-Methylphenol	8.22	108	127313	21.90	ng/ul	99
12) 2,2'-oxybis(1-Chloropropan	8.30	45	173188	23.08	ng/ul	99
14) Acetophenone	8.59	105	206418	22.31	ng/ul	100
15) N-Nitroso-di-n-propylamine	8.57	70	104699	23.05	ng/ul	99
16) 4-Methylphenol	8.55	108	144160	22.09	ng/ul	96
17) Hexachloroethane	8.85	117	46148	20.40	ng/ul	99
20) Nitrobenzene	8.97	77	151589	21.86	ng/ul	97
21) Isophorone	9.49	82	296803	22.59	ng/ul	99
23) 2-Nitrophenol	9.68	139	74467	22.26	ng/ul	99
24) 2,4-Dimethylphenol	9.74	107	156683	21.12	ng/ul	97
25) Bis(2-Chloroethoxy)methane	9.97	93	182804	22.11	ng/ul	99
27) 2,4-Dichlorophenol	10.21	162	131526	21.54	ng/ul	99
28) Naphthalene	10.61	128	423115	20.37	ng/ul	99
30) 4-Chloroaniline	10.73	127	176934	24.08	ng/ul	98
31) Hexachlorobutadiene	10.89	225	75992	19.11	ng/ul	99
32) Caprolactam	11.48	113	46902m	22.00	ng/ul	
33) 4-Chloro-3-methylphenol	11.85	107	157685	22.10	ng/ul	98
34) 2-Methylnaphthalene	12.23	142	318952	20.67	ng/ul	100

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005233.D
Acq On : 05 May 2016 12:21
Operator : UM/SJ
Sample : SSTD02042
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 05 13:53:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02042

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.60	216	164451	20.82 ng/ul	99
37) Hexachlorocyclopentadiene	12.57	237	76874	17.55 ng/ul	93
38) 2,4,6-Trichlorophenol	12.84	196	109648	22.05 ng/ul	94
39) 2,4,5-Trichlorophenol	12.92	196	120034	21.48 ng/ul	100
40) 1,1'-Biphenyl	13.24	154	426795	21.03 ng/ul	100
41) 2-Chloronaphthalene	13.29	162	322157	20.78 ng/ul	99
42) 2-Nitroaniline	13.50	65	101733	24.51 ng/ul	95
44) Dimethylphthalate	13.87	163	434026	21.07 ng/ul	99
45) 2,6-Dinitrotoluene	14.00	165	87306	22.68 ng/ul	91
47) Acenaphthylene	14.14	152	540693	20.98 ng/ul	100
48) 3-Nitroaniline	14.33	138	96063	23.88 ng/ul	97
49) Acenaphthene	14.48	153	348839	20.46 ng/ul	98
50) 2,4-Dinitrophenol	14.54	184	40323	18.69 ng/ul	95
52) 4-Nitrophenol	14.64	109	63917	19.87 ng/ul	99
53) Dibenzofuran	14.82	168	513939	20.38 ng/ul	99
54) 2,4-Dinitrotoluene	14.79	165	129322	21.49 ng/ul	94
55) 2,3,4,6-Tetrachlorophenol	15.04	232	103385	21.09 ng/ul#	93
56) Diethylphthalate	15.24	149	437479	21.02 ng/ul	99
58) Fluorene	15.47	166	396021	19.96 ng/ul	99
59) 4-Chlorophenyl-phenylether	15.46	204	196258	19.88 ng/ul	99
60) 4-Nitroaniline	15.50	138	97225	21.74 ng/ul	98
63) 4,6-Dinitro-2-methylphenol	15.56	198	76247	20.64 ng/ul#	88
64) N-Nitrosodiphenylamine	15.67	169	359924	20.72 ng/ul	99
65) 4-Bromophenyl-phenylether	16.36	248	126984	20.85 ng/ul	96
66) Hexachlorobenzene	16.47	284	142418	20.47 ng/ul	98
67) Atrazine	16.63	200	139465	22.03 ng/ul	99
68) Pentachlorophenol	16.82	266	75332	19.72 ng/ul	98
69) Phenanthrene	17.21	178	699634	20.40 ng/ul	99
71) Anthracene	17.30	178	692458	20.10 ng/ul	99
72) Carbazole	17.57	167	656169	21.91 ng/ul	99
73) Di-n-butylphthalate	18.13	149	766300	22.62 ng/ul	100
74) Fluoranthene	19.23	202	855338	22.33 ng/ul	100
77) Pyrene	19.59	202	871228	21.28 ng/ul	99
78) Butylbenzylphthalate	20.49	149	364649	23.71 ng/ul	99
79) 3,3'-Dichlorobenzidine	21.28	252	292510	22.85 ng/ul	98
80) Benzo(a)anthracene	21.34	228	866329	20.93 ng/ul	100
81) Bis(2-ethylhexyl)phthalate	21.27	149	528146	24.10 ng/ul	98
82) Chrysene	21.40	228	826013	20.76 ng/ul	99
84) Di-n-octyl phthalate	22.16	149	943740	21.45 ng/ul	100
85) Benzo(b)fluoranthene	22.96	252	876542	19.96 ng/ul	99
86) Benzo(k)fluoranthene	23.00	252	862599	20.18 ng/ul	100
88) Benzo(a)pyrene	23.54	252	849948	20.48 ng/ul	100
89) Indeno(1,2,3-cd)pyrene	25.94	276	934142	22.37 ng/ul	98
90) Dibenzo(a,h)anthracene	25.95	278	785969	22.48 ng/ul	99
91) Benzo(g,h,i)perylene	26.64	276	779275	22.59 ng/ul	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005233.D
Acq On : 05 May 2016 12:21
Operator : UM/SJ
Sample : SSTD02042
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 05 13:53:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02042

Manual Integrations APPROVED
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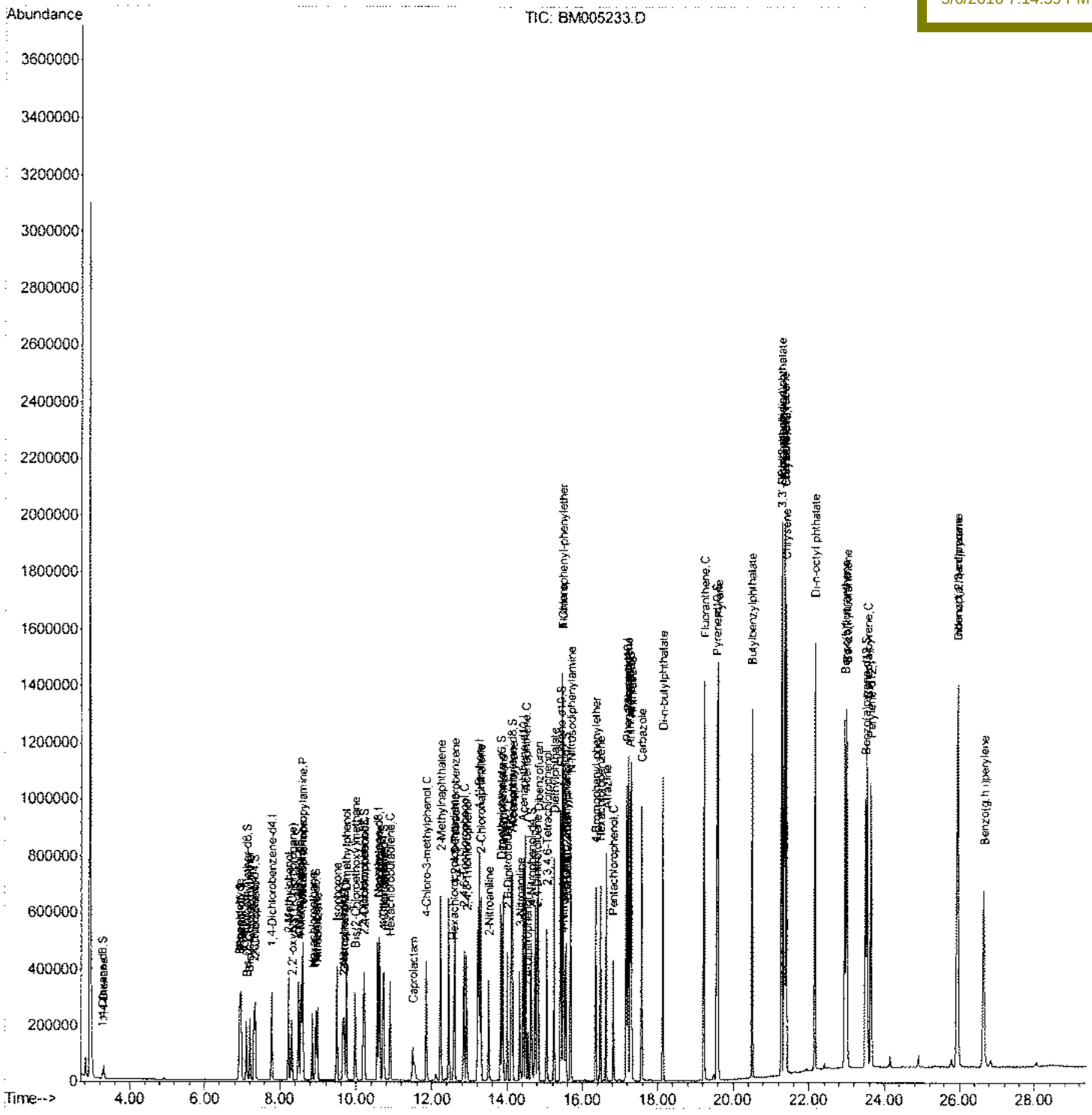

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005233.D
Acq On : 05 May 2016 12:21
Operator : UM/SJ
Sample : SSTD02042
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 05 13:42:18 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02042

Manual Integrations APPROVED
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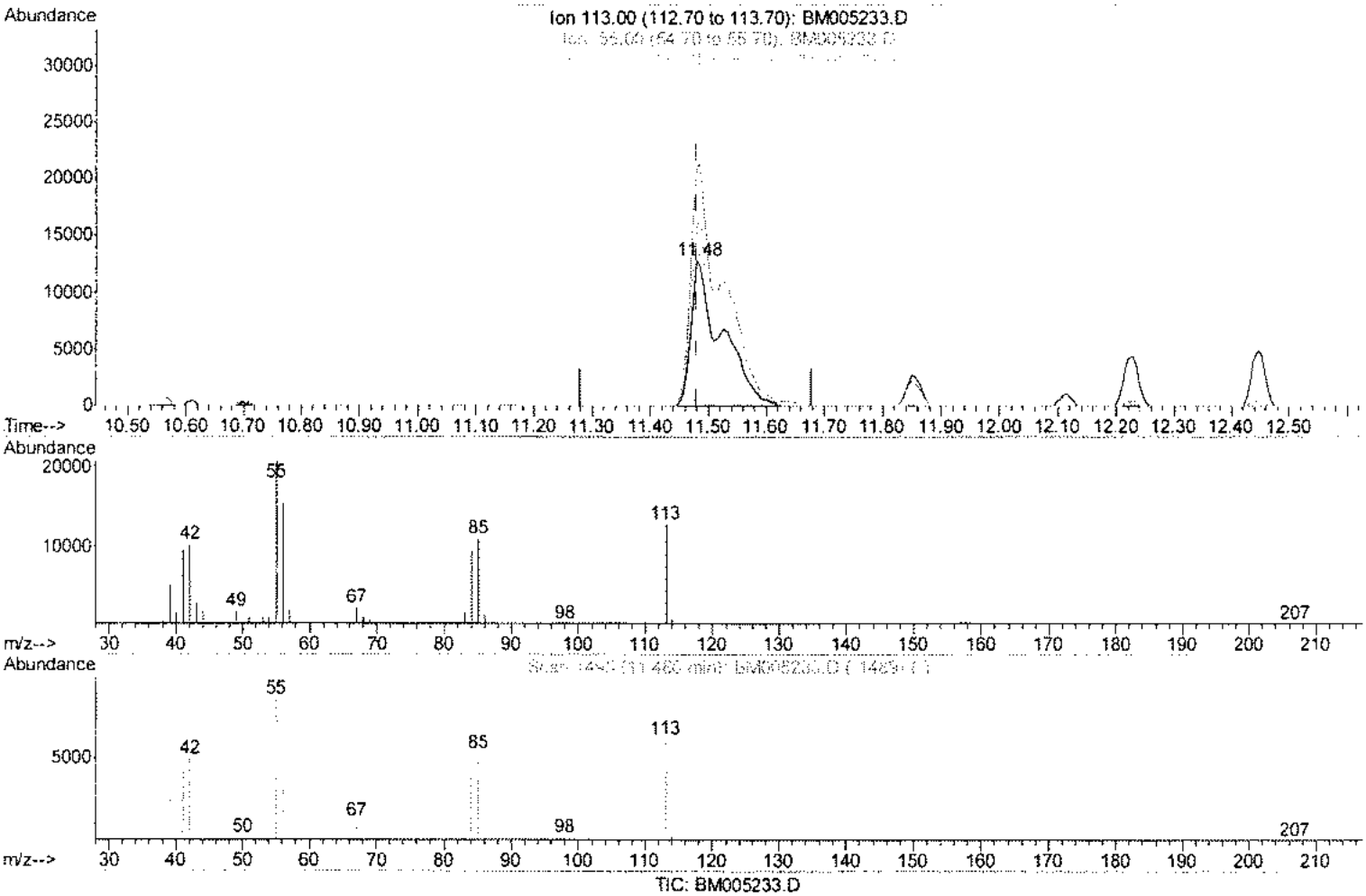

(32) Caprolactam

11.480min (0.000) 22.00ng/ul m UM 05/07/16

response 46902

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	161.31
56.00	120.80	120.84
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005233.D
Acq On : 05 May 2016 12:21
Operator : UM/SJ
Sample : SSTD02042
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 05 13:42:18 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02042

Manual Integrations APPROVED
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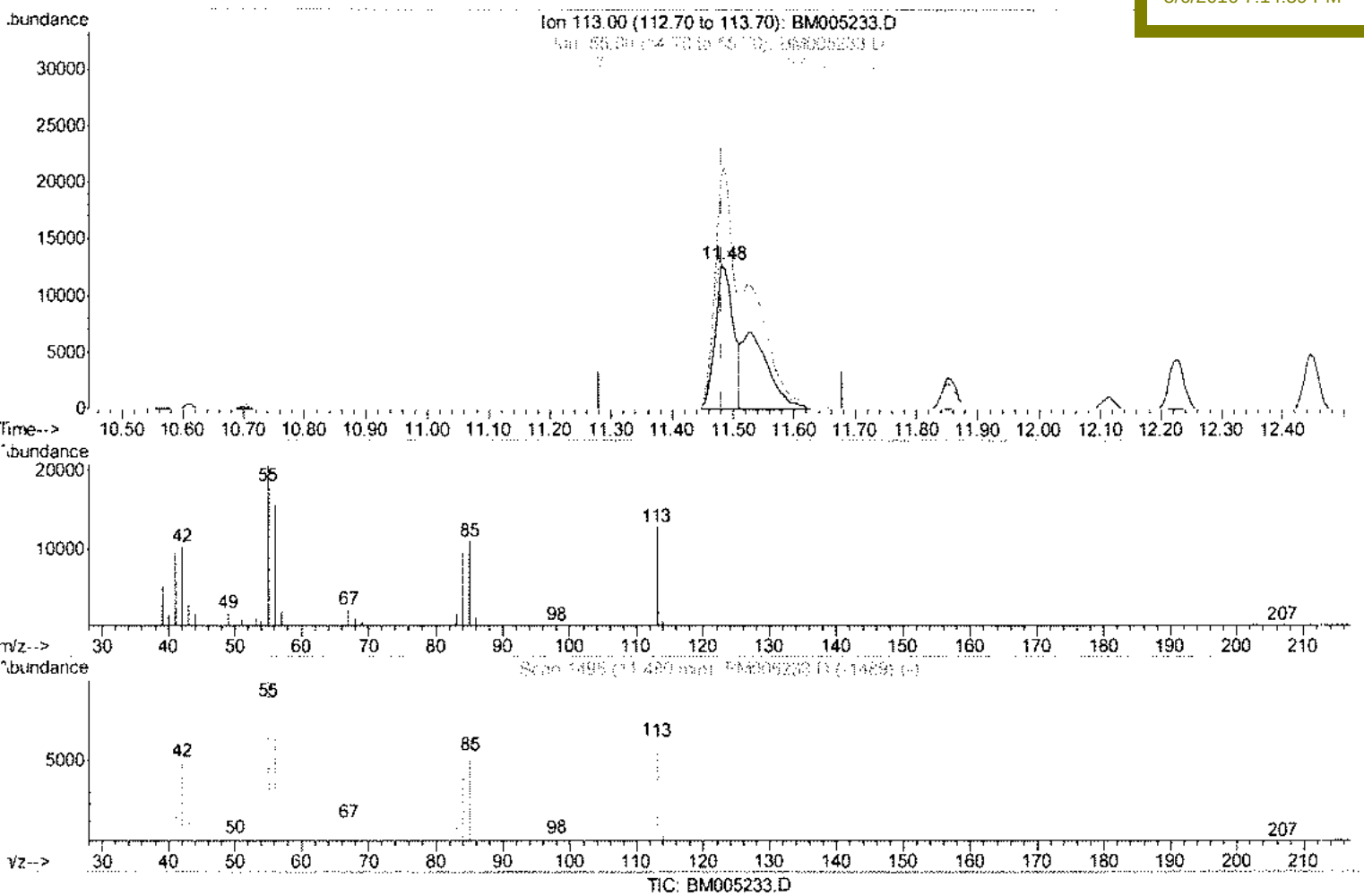

(32) Caprolactam

11.480min (0.000) 12.53ng/ul

response 26716

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	161.31
56.00	120.80	120.84
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005233.D
Acq On : 05 May 2016 12:21
Operator : UM/SJ
Sample : SSTD02042
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 05 13:53:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02042

Manual Integrations APPROVED
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5/6/2016 7:14:59 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	85340	20.00	ng/ul	0.00
18) Naphthalene-d8	10.56	136	410502	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	259664	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	638987	20.00	ng/ul	0.00
75) Chrysene-d12	21.36	240	725743	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	742303	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.27	96	14937	8.95	ng/uL	0.00
5) Phenol-d5	6.95	99	159033	22.19	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.11	67	94416	23.02	ng/ul	0.00
9) 2-Chlorophenol-d4	7.31	132	121697	21.76	ng/ul	0.00
13) 4-Methylphenol-d8	8.48	113	131095	21.57	ng/ul	0.00
19) Nitrobenzene-d5	8.93	128	60545	21.92	ng/ul	0.00
22) 2-Nitrophenol-d4	9.65	143	69418	22.71	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.19	165	128474	21.71	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	175012	24.61	ng/ul	0.00
43) Dimethylphthalate-d6	13.83	166	435081	21.29	ng/ul	0.00
46) Acenaphthylene-d8	14.11	160	512945	21.24	ng/ul	0.00
51) 4-Nitrophenol-d4	14.63	143	78607	21.96	ng/ul	0.00
57) Fluorene-d10	15.41	176	371068	20.47	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.54	200	71168	20.29	ng/ul	0.00
70) Anthracene-d10	17.26	188	584211	20.39	ng/ul	0.00
76) Pyrene-d10	19.56	212	692650	21.58	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.49	264	674114	20.45	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.30	88	28273	9.12	ng/uL	98
4) Benzaldehyde	6.92	77	98828	28.22	ng/ul	97
6) Phenol	6.97	94	166572	21.98	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.20	93	128185	22.34	ng/ul	97
10) 2-Chlorophenol	7.34	128	125006	21.60	ng/ul	98
11) 2-Methylphenol	8.22	108	127313	21.90	ng/ul	99
12) 2,2'-oxybis(1-Chloropropan	8.30	45	173188	23.08	ng/ul	99
14) Acetophenone	8.59	105	206418	22.31	ng/ul	100
15) N-Nitroso-di-n-propylamine	8.57	70	104699	23.05	ng/ul	99
16) 4-Methylphenol	8.55	108	144160	22.09	ng/ul	96
17) Hexachloroethane	8.85	117	46148	20.40	ng/ul	99
20) Nitrobenzene	8.97	77	151589	21.86	ng/ul	97
21) Isophorone	9.49	82	296803	22.59	ng/ul	99
23) 2-Nitrophenol	9.68	139	74467	22.26	ng/ul	99
24) 2,4-Dimethylphenol	9.74	107	156683	21.12	ng/ul	97
25) Bis(2-Chloroethoxy)methane	9.97	93	182804	22.11	ng/ul	99
27) 2,4-Dichlorophenol	10.21	162	131526	21.54	ng/ul	99
28) Naphthalene	10.61	128	423115	20.37	ng/ul	99
30) 4-Chloroaniline	10.73	127	176934	24.08	ng/ul	98
31) Hexachlorobutadiene	10.89	225	75992	19.11	ng/ul	99
32) Caprolactam	11.48	113	46902m	22.00	ng/ul	
33) 4-Chloro-3-methylphenol	11.85	107	157685	22.10	ng/ul	98
34) 2-Methylnaphthalene	12.23	142	318952	20.67	ng/ul	100

U.M 05/07/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005233.D
Acq On : 05 May 2016 12:21
Operator : UM/SJ
Sample : SSTD02042
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 05 13:53:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02042

Manual Integrations APPROVED
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5/6/2016 7:14:59 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.60	216	164451	20.82	ng/ul	99
37) Hexachlorocyclopentadiene	12.57	237	76874	17.55	ng/ul	93
38) 2,4,6-Trichlorophenol	12.84	196	109648	22.05	ng/ul	94
39) 2,4,5-Trichlorophenol	12.92	196	120034	21.48	ng/ul	100
40) 1,1'-Biphenyl	13.24	154	426795	21.03	ng/ul	100
41) 2-Chloronaphthalene	13.29	162	322157	20.78	ng/ul	99
42) 2-Nitroaniline	13.50	65	101733	24.51	ng/ul	95
44) Dimethylphthalate	13.87	163	434026	21.07	ng/ul	99
45) 2,6-Dinitrotoluene	14.00	165	87306	22.68	ng/ul	91
47) Acenaphthylene	14.14	152	540693	20.98	ng/ul	100
48) 3-Nitroaniline	14.33	138	96063	23.88	ng/ul	97
49) Acenaphthene	14.48	153	348839	20.46	ng/ul	98
50) 2,4-Dinitrophenol	14.54	184	40323	18.69	ng/ul	95
52) 4-Nitrophenol	14.64	109	63917	19.87	ng/ul	99
53) Dibenzofuran	14.82	168	513939	20.38	ng/ul	99
54) 2,4-Dinitrotoluene	14.79	165	129322	21.49	ng/ul	94
55) 2,3,4,6-Tetrachlorophenol	15.04	232	103385	21.09	ng/ul#	93
56) Diethylphthalate	15.24	149	437479	21.02	ng/ul	99
58) Fluorene	15.47	166	396021	19.96	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.46	204	196258	19.88	ng/ul	99
60) 4-Nitroaniline	15.50	138	97225	21.74	ng/ul	98
63) 4,6-Dinitro-2-methylphenol	15.56	198	76247	20.64	ng/ul#	88
64) N-Nitrosodiphenylamine	15.67	169	359924	20.72	ng/ul	99
65) 4-Bromophenyl-phenylether	16.36	248	126984	20.85	ng/ul	96
66) Hexachlorobenzene	16.47	284	142418	20.47	ng/ul	98
67) Atrazine	16.63	200	139465	22.03	ng/ul	99
68) Pentachlorophenol	16.82	266	75332	19.72	ng/ul	98
69) Phenanthrene	17.21	178	699634	20.40	ng/ul	99
71) Anthracene	17.30	178	692458	20.10	ng/ul	99
72) Carbazole	17.57	167	656169	21.91	ng/ul	99
73) Di-n-butylphthalate	18.13	149	766300	22.62	ng/ul	100
74) Fluoranthene	19.23	202	855338	22.33	ng/ul	100
77) Pyrene	19.59	202	871228	21.28	ng/ul	99
78) Butylbenzylphthalate	20.49	149	364649	23.71	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.28	252	292510	22.85	ng/ul	98
80) Benzo(a)anthracene	21.34	228	866329	20.93	ng/ul	100
81) Bis(2-ethylhexyl)phthalate	21.27	149	528146	24.10	ng/ul	98
82) Chrysene	21.40	228	826013	20.76	ng/ul	99
84) Di-n-octyl phthalate	22.16	149	943740	21.45	ng/ul	100
85) Benzo(b)fluoranthene	22.96	252	876542	19.96	ng/ul	99
86) Benzo(k)fluoranthene	23.00	252	862599	20.18	ng/ul	100
88) Benzo(a)pyrene	23.54	252	849948	20.48	ng/ul	100
89) Indeno(1,2,3-cd)pyrene	25.94	276	934142	22.37	ng/ul	98
90) Dibenzo(a,h)anthracene	25.95	278	785969	22.48	ng/ul	99
91) Benzo(g,h,i)perylene	26.64	276	779275	22.59	ng/ul	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005234.D
Acq On : 05 May 2016 12:57
Operator : UM/SJ
Sample : SSTD04043
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 05 13:58:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04043

Manual Integrations APPROVED
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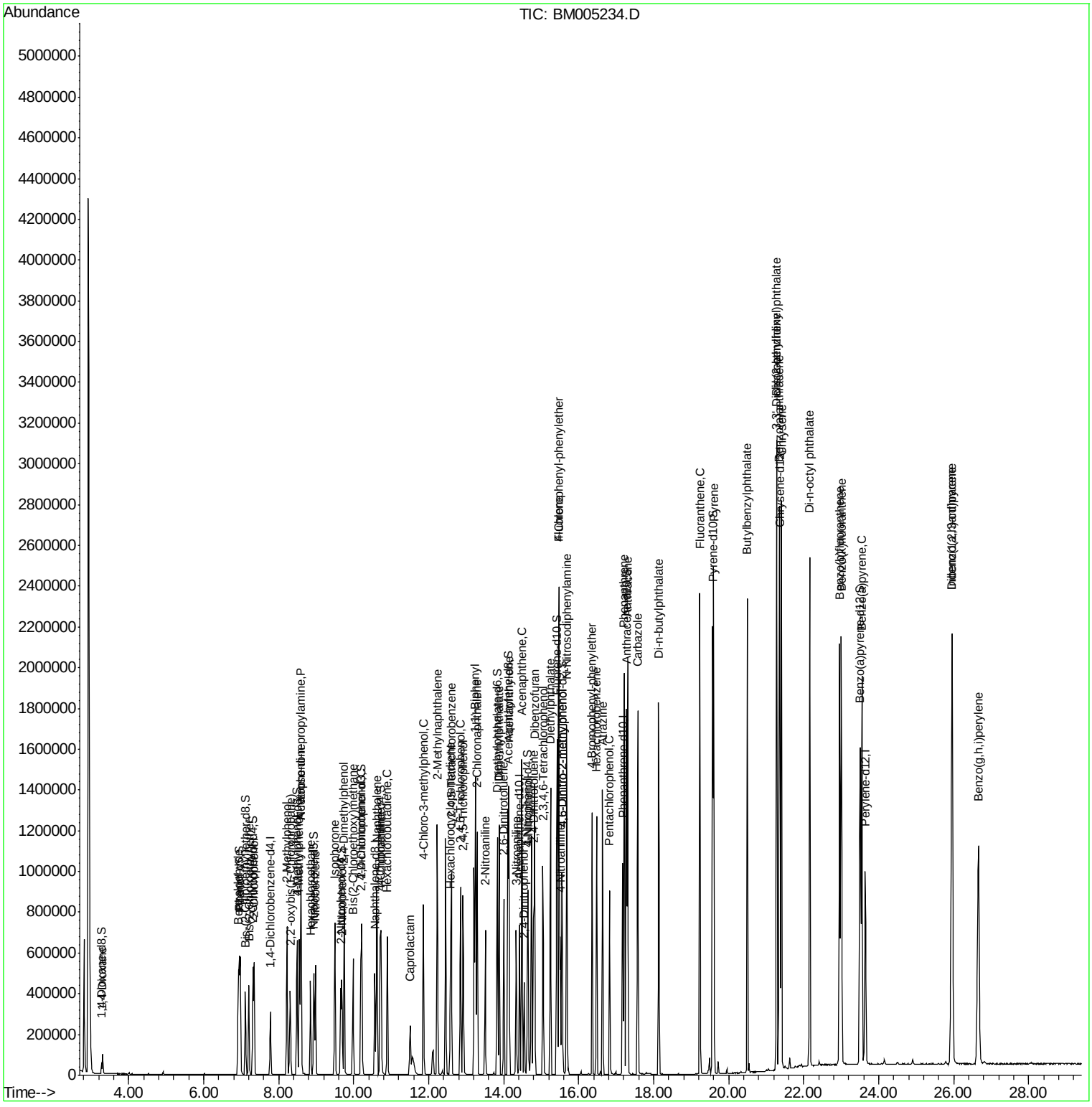

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005234.D
Acq On : 05 May 2016 12:57
Operator : UM/SJ
Sample : SSTD04043
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 05 13:58:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04043

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.78	152	84562	20.00	ng/ul	0.00
18) Naphthalene-d8	10.56	136	403635	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	251460	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	619996	20.00	ng/ul	0.00
75) Chrysene-d12	21.36	240	654734	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	679108	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.27	96	27933	16.90	ng/uL	0.00
5) Phenol-d5	6.95	99	311622	43.88	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.11	67	176761	43.50	ng/ul	0.00
9) 2-Chlorophenol-d4	7.31	132	238066	42.96	ng/ul	0.00
13) 4-Methylphenol-d8	8.49	113	258926	43.00	ng/ul	0.00
19) Nitrobenzene-d5	8.93	128	122067	44.96	ng/ul	0.00
22) 2-Nitrophenol-d4	9.65	143	139600	46.44	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.19	165	251376	43.20	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	319946	45.75	ng/ul	0.00
43) Dimethylphthalate-d6	13.83	166	810084	40.93	ng/ul	0.00
46) Acenaphthylene-d8	14.11	160	949365	40.60	ng/ul	0.00
51) 4-Nitrophenol-d4	14.63	143	154681	44.63	ng/ul	0.00
57) Fluorene-d10	15.42	176	679698	38.71	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.55	200	149006	43.78	ng/ul	0.00
70) Anthracene-d10	17.27	188	1063154	38.25	ng/ul	0.00
76) Pyrene-d10	19.57	212	1216425	42.00	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.50	264	1202409	39.87	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.30	88	50901	16.57	ng/uL	99
4) Benzaldehyde	6.92	77	169654	48.90	ng/ul	98
6) Phenol	6.98	94	319063	42.50	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.20	93	241856	42.53	ng/ul	99
10) 2-Chlorophenol	7.34	128	240670	41.96	ng/ul	97
11) 2-Methylphenol	8.22	108	250854	43.56	ng/ul	97
12) 2,2'-oxybis(1-Chloropropan	8.31	45	330391	44.43	ng/ul	98
14) Acetophenone	8.60	105	370892	40.45	ng/ul	100
15) N-Nitroso-di-n-propylamine	8.59	70	193546	43.00	ng/ul	97
16) 4-Methylphenol	8.55	108	273782	42.33	ng/ul	99
17) Hexachloroethane	8.85	117	89667	40.01	ng/ul	97
20) Nitrobenzene	8.97	77	291849	42.80	ng/ul	97
21) Isophorone	9.50	82	577750	44.71	ng/ul	99
23) 2-Nitrophenol	9.68	139	146919	44.66	ng/ul	99
24) 2,4-Dimethylphenol	9.74	107	297922	40.85	ng/ul	100
25) Bis(2-Chloroethoxy)methane	9.98	93	343635	42.27	ng/ul	99
27) 2,4-Dichlorophenol	10.22	162	254999	42.46	ng/ul	98
28) Naphthalene	10.62	128	792956	38.83	ng/ul	99
30) 4-Chloroaniline	10.73	127	320811	44.41	ng/ul	99
31) Hexachlorobutadiene	10.89	225	145369	37.17	ng/ul	99
32) Caprolactam	11.50	113	97338m	46.44	ng/ul	
33) 4-Chloro-3-methylphenol	11.86	107	305943	43.61	ng/ul	99
34) 2-Methylnaphthalene	12.23	142	590164	38.89	ng/ul	99

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005234.D
Acq On : 05 May 2016 12:57
Operator : UM/SJ
Sample : SSTD04043
Misc :
ALS Vial : 6 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SSTD04043

Manual Integrations APPROVED
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5/6/2016 7:15:02 PM

Quant Time: May 05 13:58:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.60	216	308575	40.34	ng/ul	98
37) Hexachlorocyclopentadiene	12.57	237	165875	39.11	ng/ul	96
38) 2,4,6-Trichlorophenol	12.85	196	214651	44.57	ng/ul	95
39) 2,4,5-Trichlorophenol	12.92	196	239902	44.34	ng/ul	98
40) 1,1'-Biphenyl	13.25	154	790207	40.21	ng/ul	99
41) 2-Chloronaphthalene	13.29	162	607593	40.47	ng/ul	98
42) 2-Nitroaniline	13.50	65	205060	51.01	ng/ul	96
44) Dimethylphthalate	13.87	163	793709	39.79	ng/ul	99
45) 2,6-Dinitrotoluene	14.00	165	174443	46.79	ng/ul#	88
47) Acenaphthylene	14.14	152	979969	39.27	ng/ul	99
48) 3-Nitroaniline	14.33	138	181153	46.50	ng/ul	98
49) Acenaphthene	14.48	153	638866	38.70	ng/ul	99
50) 2,4-Dinitrophenol	14.54	184	96796	46.32	ng/ul	94
52) 4-Nitrophenol	14.65	109	126938	40.75	ng/ul	97
53) Dibenzofuran	14.82	168	930477	38.11	ng/ul	99
54) 2,4-Dinitrotoluene	14.79	165	255030	43.76	ng/ul	97
55) 2,3,4,6-Tetrachlorophenol	15.05	232	202175	42.59	ng/ul#	100
56) Diethylphthalate	15.25	149	817513	40.56	ng/ul	99
58) Fluorene	15.47	166	709743	36.94	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.46	204	352607	36.88	ng/ul	99
60) 4-Nitroaniline	15.50	138	186037	42.96	ng/ul	97
63) 4,6-Dinitro-2-methylphenol	15.56	198	156691	43.71	ng/ul#	92
64) N-Nitrosodiphenylamine	15.68	169	662167	39.28	ng/ul	99
65) 4-Bromophenyl-phenylether	16.36	248	235524	39.85	ng/ul	98
66) Hexachlorobenzene	16.47	284	263031	38.96	ng/ul	99
67) Atrazine	16.63	200	260164	42.35	ng/ul	97
68) Pentachlorophenol	16.82	266	155897	42.07	ng/ul	98
69) Phenanthrene	17.21	178	1254576	37.70	ng/ul	99
71) Anthracene	17.30	178	1252211	37.46	ng/ul	100
72) Carbazole	17.57	167	1181972	40.67	ng/ul	100
73) Di-n-butylphthalate	18.13	149	1409761	42.89	ng/ul	100
74) Fluoranthene	19.23	202	1504599	40.49	ng/ul	99
77) Pyrene	19.60	202	1495200	40.49	ng/ul	99
78) Butylbenzylphthalate	20.49	149	685781	49.43	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.28	252	492093	42.60	ng/ul	99
80) Benzo(a)anthracene	21.35	228	1482911	39.72	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.27	149	913304	46.20	ng/ul	97
82) Chrysene	21.40	228	1409938	39.28	ng/ul	99
84) Di-n-octyl phthalate	22.16	149	1717400	42.67	ng/ul	98
85) Benzo(b)fluoranthene	22.96	252	1595664	39.71	ng/ul	99
86) Benzo(k)fluoranthene	23.00	252	1451729	37.12	ng/ul	99
88) Benzo(a)pyrene	23.54	252	1471288	38.75	ng/ul	100
89) Indeno(1,2,3-cd)pyrene	25.95	276	1617052	42.34	ng/ul	99
90) Dibenzo(a,h)anthracene	25.96	278	1346332	42.09	ng/ul	99
91) Benzo(g,h,i)perylene	26.66	276	1401939	44.41	ng/ul	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005234.D
Acq On : 05 May 2016 12:57
Operator : UM/SJ
Sample : SSTD04043
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 05 13:58:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04043

Manual Integrations APPROVED
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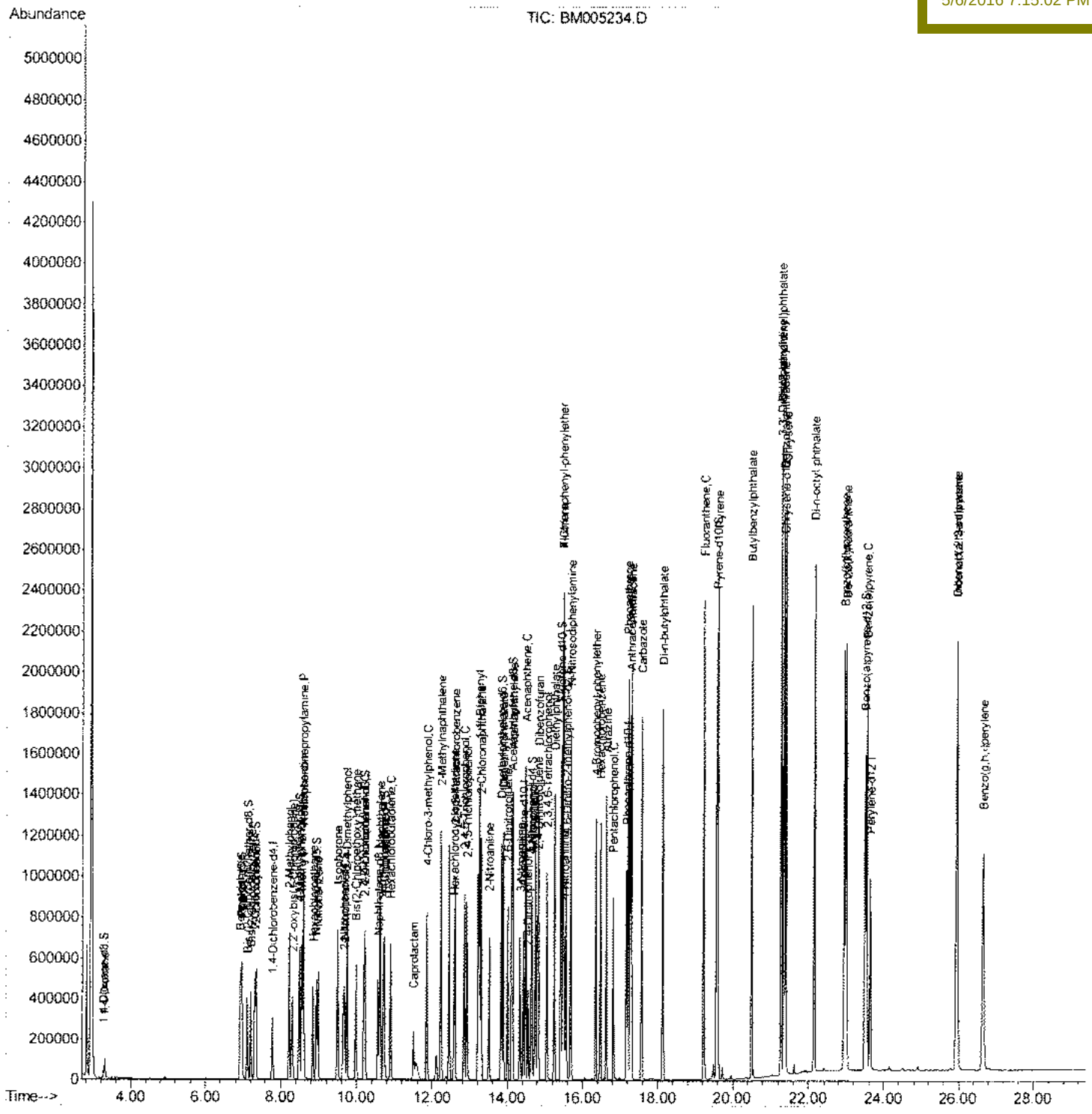
5/6/2016 7:15:02 PM



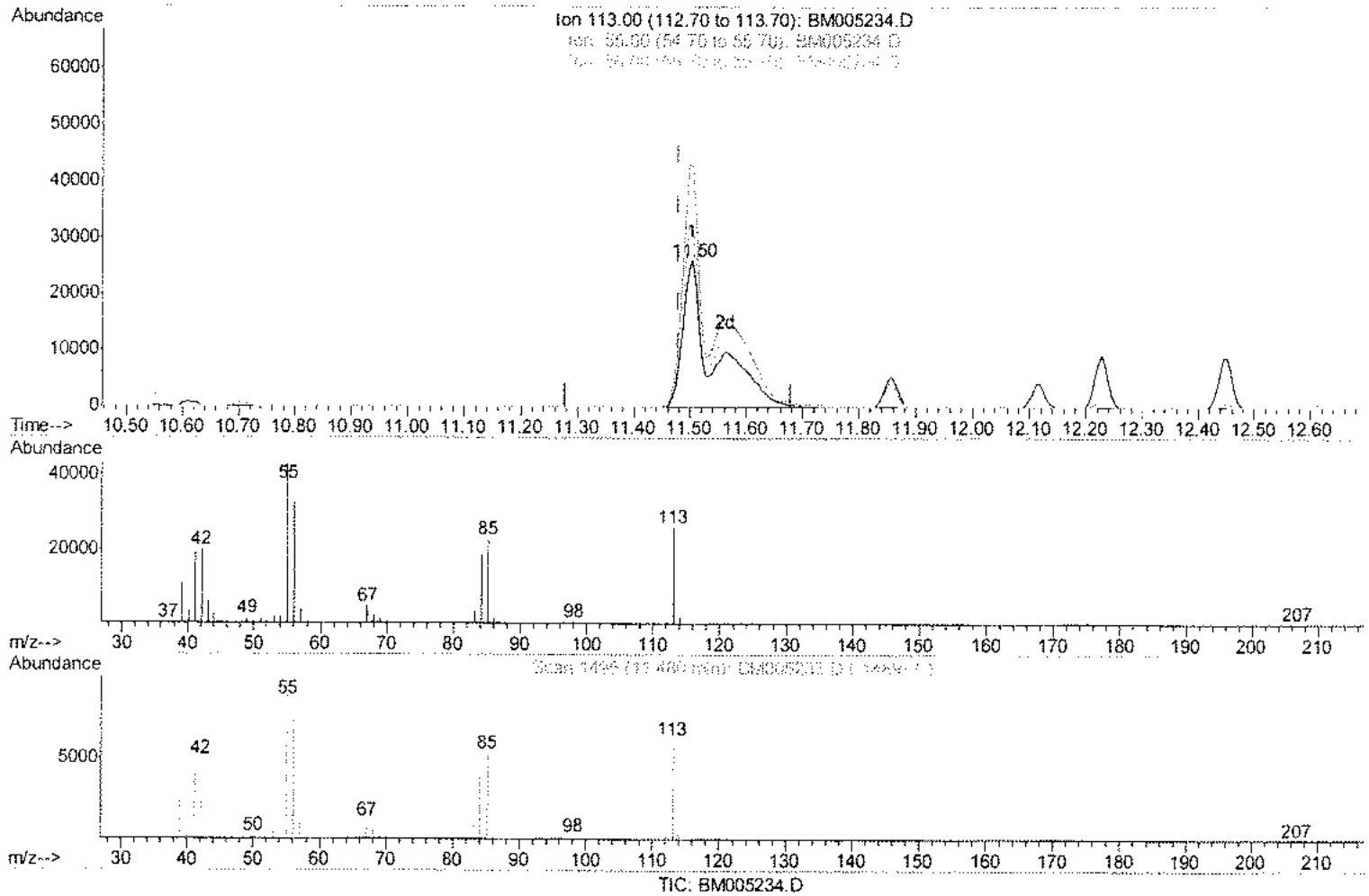
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005234.D
Acq On : 05 May 2016 12:57
Operator : UM/SJ
Sample : SSTD04043
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 05 13:42:38 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04043

Manual Integrations APPROVED
sohil
5/6/2016 7:15:02 PM



(32) Caprolactam

11.504min (+0.024) 46.44ng/ul m U.M 05/07/16

response 97338

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	165.66
56.00	120.80	125.31
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005234.D
Acq On : 05 May 2016 12:57
Operator : UM/SJ
Sample : SSTD04043
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 05 13:42:38 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04043

Manual Integrations APPROVED
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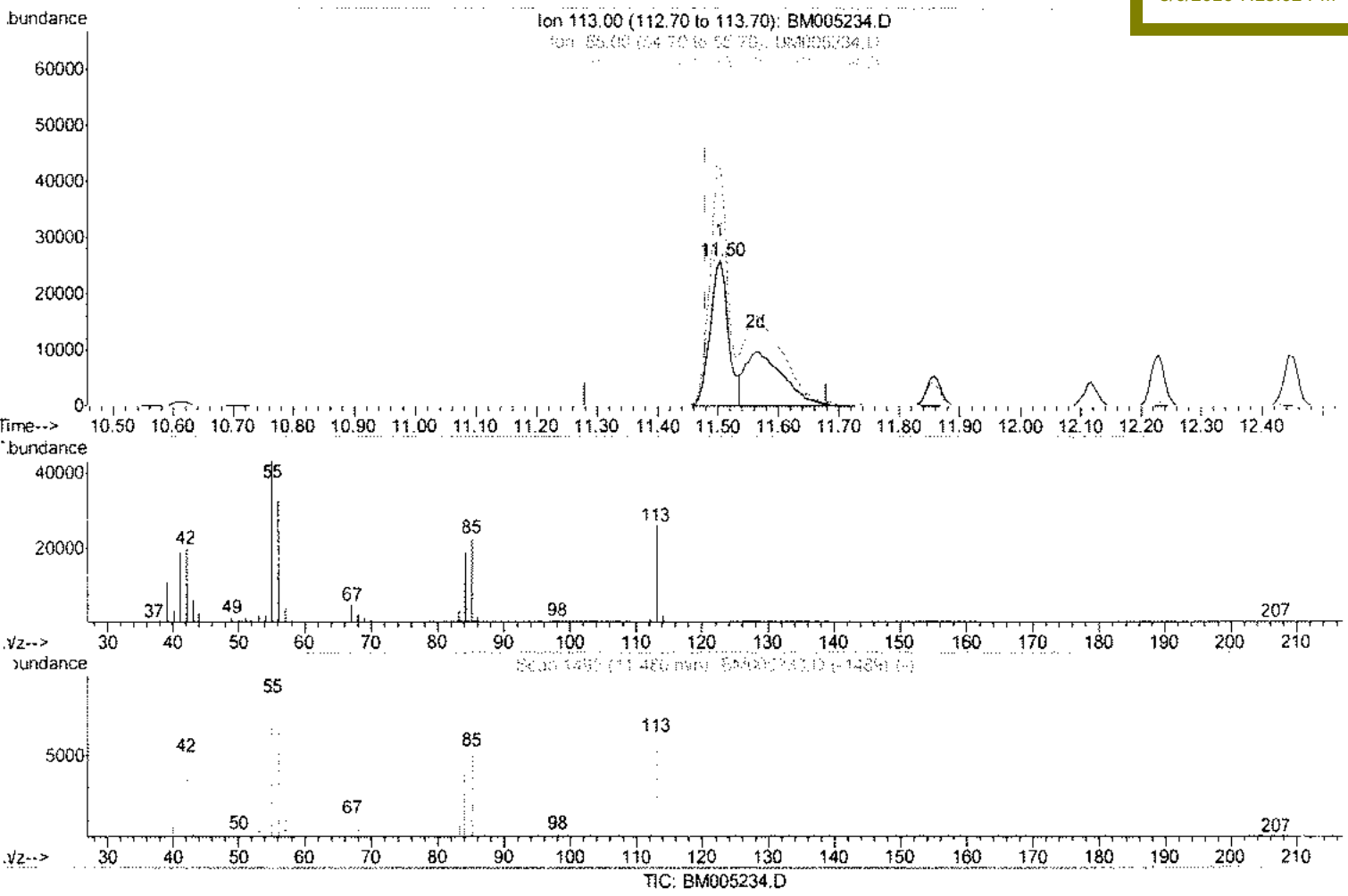
5/6/2016 7:15:02 PM



TIC: BM005234.D

(32) Caprolactam

11.504min (+0.024) 25.82ng/ul

response 54124

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	165.66
56.00	120.80	125.31
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005234.D
Acq On : 05 May 2016 12:57
Operator : UM/SJ
Sample : SSTD04043
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 05 13:58:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD04043

Manual Integrations APPROVED
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5/6/2016 7:15:02 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.78	152	84562	20.00	ng/ul	0.00
18) Naphthalene-d8	10.56	136	403635	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	251460	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	619996	20.00	ng/ul	0.00
75) Chrysene-d12	21.36	240	654734	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	679108	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.27	96	27933	16.90	ng/uL	0.00
5) Phenol-d5	6.95	99	311622	43.88	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.11	67	176761	43.50	ng/ul	0.00
9) 2-Chlorophenol-d4	7.31	132	238066	42.96	ng/ul	0.00
13) 4-Methylphenol-d8	8.49	113	258926	43.00	ng/ul	0.00
19) Nitrobenzene-d5	8.93	128	122067	44.96	ng/ul	0.00
22) 2-Nitrophenol-d4	9.65	143	139600	46.44	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.19	165	251376	43.20	ng/ul	0.00
29) 4-Chloroaniline-d4	10.70	131	319946	45.75	ng/ul	0.00
43) Dimethylphthalate-d6	13.83	166	810084	40.93	ng/ul	0.00
46) Acenaphthylene-d8	14.11	160	949365	40.60	ng/ul	0.00
51) 4-Nitrophenol-d4	14.63	143	154681	44.63	ng/ul	0.00
57) Fluorene-d10	15.42	176	679698	38.71	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.55	200	149006	43.78	ng/ul	0.00
70) Anthracene-d10	17.27	188	1063154	38.25	ng/ul	0.00
76) Pyrene-d10	19.57	212	1216425	42.00	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.50	264	1202409	39.87	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.30	88	50901	16.57	ng/uL	99
4) Benzaldehyde	6.92	77	169654	48.90	ng/ul	98
6) Phenol	6.98	94	319063	42.50	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.20	93	241856	42.53	ng/ul	99
10) 2-Chlorophenol	7.34	128	240670	41.96	ng/ul	97
11) 2-Methylphenol	8.22	108	250854	43.56	ng/ul	97
12) 2,2'-oxybis(1-Chloropropan	8.31	45	330391	44.43	ng/ul	98
14) Acetophenone	8.60	105	370892	40.45	ng/ul	100
15) N-Nitroso-di-n-propylamine	8.59	70	193546	43.00	ng/ul	97
16) 4-Methylphenol	8.55	108	273782	42.33	ng/ul	99
17) Hexachloroethane	8.85	117	89667	40.01	ng/ul	97
20) Nitrobenzene	8.97	77	291849	42.80	ng/ul	97
21) Isophorone	9.50	82	577750	44.71	ng/ul	99
23) 2-Nitrophenol	9.68	139	146919	44.66	ng/ul	99
24) 2,4-Dimethylphenol	9.74	107	297922	40.85	ng/ul	100
25) Bis(2-Chloroethoxy)methane	9.98	93	343635	42.27	ng/ul	99
27) 2,4-Dichlorophenol	10.22	162	254999	42.46	ng/ul	98
28) Naphthalene	10.62	128	792956	38.83	ng/ul	99
30) 4-Chloroaniline	10.73	127	320811	44.41	ng/ul	99
31) Hexachlorobutadiene	10.89	225	145369	37.17	ng/ul	99
32) Caprolactam	11.50	113	97338m	46.44	ng/ul	
33) 4-Chloro-3-methylphenol	11.86	107	305943	43.61	ng/ul	99
34) 2-Methylnaphthalene	12.23	142	590164	38.89	ng/ul	99

U.M 05/07/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005234.D
Acq On : 05 May 2016 12:57
Operator : UM/SJ
Sample : SSTD04043
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 05 13:58:17 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:39:01 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD04043

Manual Integrations APPROVED
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5/6/2016 7:15:02 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.60	216	308575	40.34	ng/ul	98
37) Hexachlorocyclopentadiene	12.57	237	165875	39.11	ng/ul	96
38) 2,4,6-Trichlorophenol	12.85	196	214651	44.57	ng/ul	95
39) 2,4,5-Trichlorophenol	12.92	196	239902	44.34	ng/ul	98
40) 1,1'-Biphenyl	13.25	154	790207	40.21	ng/ul	99
41) 2-Chloronaphthalene	13.29	162	607593	40.47	ng/ul	98
42) 2-Nitroaniline	13.50	65	205060	51.01	ng/ul	96
44) Dimethylphthalate	13.87	163	793709	39.79	ng/ul	99
45) 2,6-Dinitrotoluene	14.00	165	174443	46.79	ng/ul#	88
47) Acenaphthylene	14.14	152	979969	39.27	ng/ul	99
48) 3-Nitroaniline	14.33	138	181153	46.50	ng/ul	98
49) Acenaphthene	14.48	153	638866	38.70	ng/ul	99
50) 2,4-Dinitrophenol	14.54	184	96796	46.32	ng/ul	94
52) 4-Nitrophenol	14.65	109	126938	40.75	ng/ul	97
53) Dibenzofuran	14.82	168	930477	38.11	ng/ul	99
54) 2,4-Dinitrotoluene	14.79	165	255030	43.76	ng/ul	97
55) 2,3,4,6-Tetrachlorophenol	15.05	232	202175	42.59	ng/ul#	100
56) Diethylphthalate	15.25	149	817513	40.56	ng/ul	99
58) Fluorene	15.47	166	709743	36.94	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.46	204	352607	36.88	ng/ul	99
60) 4-Nitroaniline	15.50	138	186037	42.96	ng/ul	97
63) 4,6-Dinitro-2-methylphenol	15.56	198	156691	43.71	ng/ul#	92
64) N-Nitrosodiphenylamine	15.68	169	662167	39.28	ng/ul	99
65) 4-Bromophenyl-phenylether	16.36	248	235524	39.85	ng/ul	98
66) Hexachlorobenzene	16.47	284	263031	38.96	ng/ul	99
67) Atrazine	16.63	200	260164	42.35	ng/ul	97
68) Pentachlorophenol	16.82	266	155897	42.07	ng/ul	98
69) Phenanthrene	17.21	178	1254576	37.70	ng/ul	99
71) Anthracene	17.30	178	1252211	37.46	ng/ul	100
72) Carbazole	17.57	167	1181972	40.67	ng/ul	100
73) Di-n-butylphthalate	18.13	149	1409761	42.89	ng/ul	100
74) Fluoranthene	19.23	202	1504599	40.49	ng/ul	99
77) Pyrene	19.60	202	1495200	40.49	ng/ul	99
78) Butylbenzylphthalate	20.49	149	685781	49.43	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.28	252	492093	42.60	ng/ul	99
80) Benzo(a)anthracene	21.35	228	1482911	39.72	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.27	149	913304	46.20	ng/ul	97
82) Chrysene	21.40	228	1409938	39.28	ng/ul	99
84) Di-n-octyl phthalate	22.16	149	1717400	42.67	ng/ul	98
85) Benzo(b)fluoranthene	22.96	252	1595664	39.71	ng/ul	99
86) Benzo(k)fluoranthene	23.00	252	1451729	37.12	ng/ul	99
88) Benzo(a)pyrene	23.54	252	1471288	38.75	ng/ul	100
89) Indeno(1,2,3-cd)pyrene	25.95	276	1617052	42.34	ng/ul	99
90) Dibenzo(a,h)anthracene	25.96	278	1346332	42.09	ng/ul	99
91) Benzo(g,h,i)perylene	26.66	276	1401939	44.41	ng/ul	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

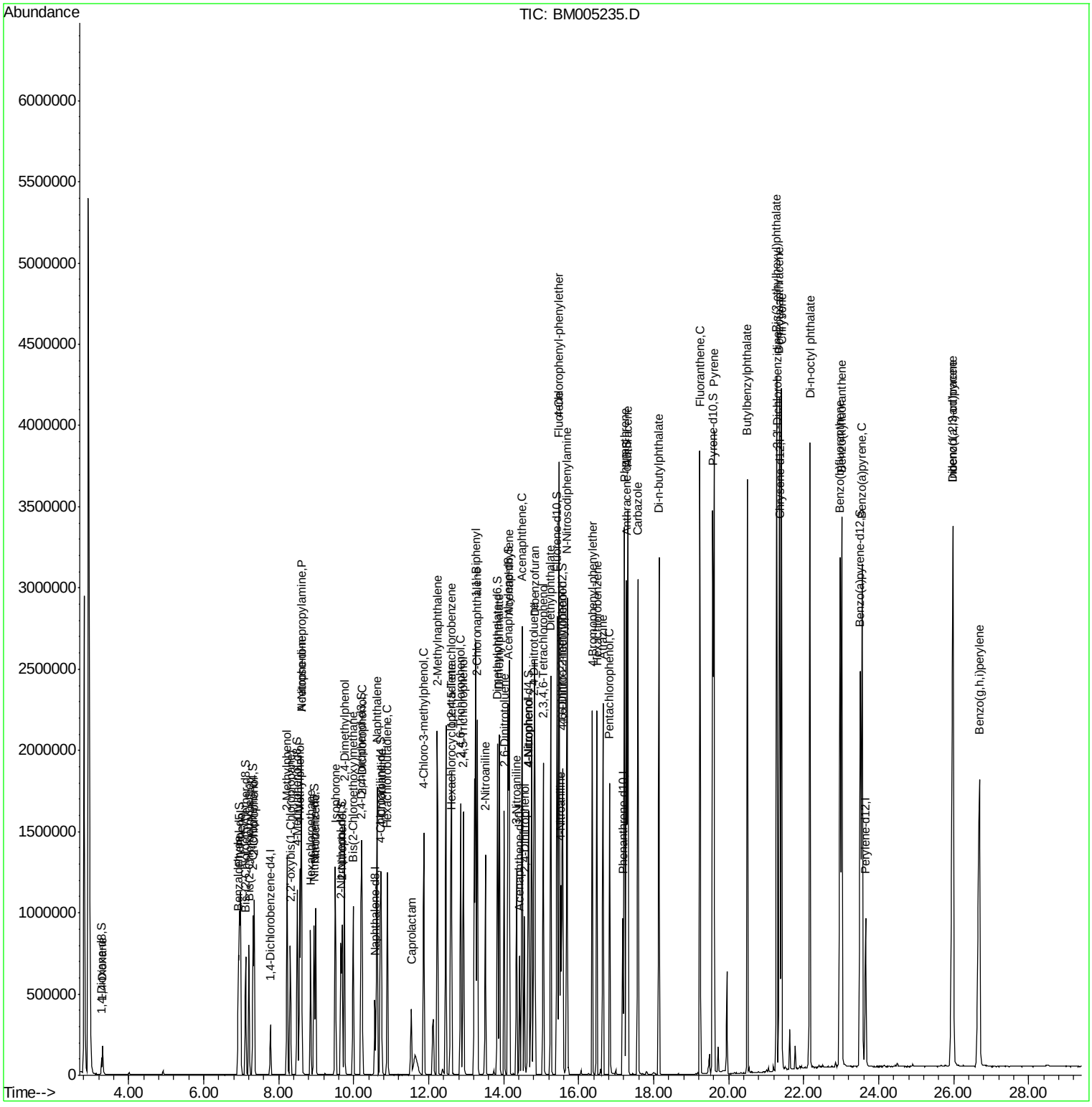
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005235.D
Acq On : 05 May 2016 13:33
Operator : UM/SJ
Sample : SSTD08044
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 05 14:14:06 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:37:36 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08044

Manual Integrations APPROVED
sohil
5/6/2016 7:15:03 PM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005235.D
Acq On : 05 May 2016 13:33
Operator : UM/SJ
Sample : SSTD08044
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 05 14:14:06 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:37:36 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08044

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	83048	20.00	ng/ul	0.00
18) Naphthalene-d8	10.56	136	393148	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	246950	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	615677	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	600527	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	644546	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.27	96	52514	32.35	ng/uL	0.00
5) Phenol-d5	6.95	99	607880	87.16	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.12	67	331598	83.08	ng/ul	0.00
9) 2-Chlorophenol-d4	7.31	132	469486	86.27	ng/ul	0.00
13) 4-Methylphenol-d8	8.49	113	502580	84.98	ng/ul	0.01
19) Nitrobenzene-d5	8.94	128	242925	91.85	ng/ul	0.00
22) 2-Nitrophenol-d4	9.66	143	278426	95.09	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.19	165	488977	86.28	ng/ul	0.00
29) 4-Chloroaniline-d4	10.71	131	552060	81.05	ng/ul	0.00
43) Dimethylphthalate-d6	13.83	166	1505300	77.44	ng/ul	0.00
46) Acenaphthylene-d8	14.12	160	1773448	77.23	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	307075	90.22	ng/ul	0.02
57) Fluorene-d10	15.42	176	1239568	71.89	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.56	200	301685	89.26	ng/ul	0.02
70) Anthracene-d10	17.27	188	1938659	70.24	ng/ul	0.01
76) Pyrene-d10	19.57	212	2129410	80.16	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.51	264	2154188	75.25	ng/ul	0.02
Target Compounds						Qvalue
2) 1,4-Dioxane	3.30	88	94388	31.29	ng/uL	97
4) Benzaldehyde	6.92	77	253162	74.29	ng/ul	98
6) Phenol	6.98	94	626822	85.01	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.20	93	457552	81.93	ng/ul	99
10) 2-Chlorophenol	7.35	128	471091	83.63	ng/ul	99
11) 2-Methylphenol	8.22	108	489878	86.61	ng/ul	98
12) 2,2'-oxybis(1-Chloropropan	8.31	45	613586	84.03	ng/ul	99
14) Acetophenone	8.60	105	705900	78.40	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.60	70	358888	81.20	ng/ul	97
16) 4-Methylphenol	8.56	108	529578	83.38	ng/ul	95
17) Hexachloroethane	8.85	117	174404	79.24	ng/ul	96
20) Nitrobenzene	8.98	77	570370	85.88	ng/ul	96
21) Isophorone	9.51	82	1113543	88.47	ng/ul	98
23) 2-Nitrophenol	9.69	139	288558	90.06	ng/ul	99
24) 2,4-Dimethylphenol	9.75	107	582268	81.96	ng/ul	98
25) Bis(2-Chloroethoxy)methane	9.98	93	648690	81.93	ng/ul	99
27) 2,4-Dichlorophenol	10.22	162	489833	83.75	ng/ul	97
28) Naphthalene	10.62	128	1504056	75.61	ng/ul	99
30) 4-Chloroaniline	10.73	127	560036	79.59	ng/ul	98
31) Hexachlorobutadiene	10.90	225	283788	74.50	ng/ul	98
32) Caprolactam	11.54	113	191776m	93.93	ng/ul	
33) 4-Chloro-3-methylphenol	11.87	107	583313	85.36	ng/ul	99
34) 2-Methylnaphthalene	12.23	142	1092687	73.93	ng/ul	99

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005235.D
Acq On : 05 May 2016 13:33
Operator : UM/SJ
Sample : SSTD08044
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 05 14:14:06 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:37:36 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08044

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.60	216	578806	77.06	ng/ul	99
37) Hexachlorocyclopentadiene	12.58	237	351379	84.35	ng/ul	96
38) 2,4,6-Trichlorophenol	12.84	196	414809	87.70	ng/ul	95
39) 2,4,5-Trichlorophenol	12.93	196	455075	85.64	ng/ul	98
40) 1,1'-Biphenyl	13.25	154	1427149	73.94	ng/ul	99
41) 2-Chloronaphthalene	13.29	162	1126850	76.42	ng/ul	98
42) 2-Nitroaniline	13.51	65	400709	101.51	ng/ul	95
44) Dimethylphthalate	13.88	163	1488978	76.01	ng/ul	99
45) 2,6-Dinitrotoluene	14.01	165	341823	93.36	ng/ul#	88
47) Acenaphthylene	14.14	152	1809814	73.85	ng/ul	100
48) 3-Nitroaniline	14.34	138	339864	88.83	ng/ul	98
49) Acenaphthene	14.49	153	1191285	73.48	ng/ul	99
50) 2,4-Dinitrophenol	14.55	184	222750	108.54	ng/ul	92
52) 4-Nitrophenol	14.66	109	255508	83.53	ng/ul	96
53) Dibenzofuran	14.82	168	1680618	70.09	ng/ul	97
54) 2,4-Dinitrotoluene	14.80	165	484206	84.61	ng/ul	97
55) 2,3,4,6-Tetrachlorophenol	15.05	232	390197	83.71	ng/ul#	94
56) Diethylphthalate	15.25	149	1526647	77.12	ng/ul	99
58) Fluorene	15.48	166	1228930	65.13	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.46	204	618031	65.82	ng/ul	97
60) 4-Nitroaniline	15.52	138	356295	83.78	ng/ul	97
63) 4,6-Dinitro-2-methylphenol	15.57	198	310835	87.32	ng/ul#	86
64) N-Nitrosodiphenylamine	15.69	169	1205367	72.01	ng/ul	99
65) 4-Bromophenyl-phenylether	16.36	248	439906	74.95	ng/ul	97
66) Hexachlorobenzene	16.48	284	490128	73.10	ng/ul	97
67) Atrazine	16.64	200	478348	78.41	ng/ul	98
68) Pentachlorophenol	16.82	266	317223	86.20	ng/ul	98
69) Phenanthrene	17.22	178	2242657	67.87	ng/ul	99
71) Anthracene	17.31	178	2210378	66.58	ng/ul	100
72) Carbazole	17.58	167	2134031	73.94	ng/ul	99
73) Di-n-butylphthalate	18.13	149	2560656	78.45	ng/ul	100
74) Fluoranthene	19.23	202	2608839	70.70	ng/ul	98
77) Pyrene	19.60	202	2557222	75.49	ng/ul	98
78) Butylbenzylphthalate	20.49	149	1229136	96.59	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.29	252	833999	78.72	ng/ul	99
80) Benzo(a)anthracene	21.35	228	2552213	74.53	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.27	149	1530144	84.40	ng/ul#	98
82) Chrysene	21.41	228	2381747	72.34	ng/ul	98
84) Di-n-octyl phthalate	22.16	149	2946352	77.13	ng/ul#	96
85) Benzo(b)fluoranthene	22.97	252	2764613	72.49	ng/ul	99
86) Benzo(k)fluoranthene	23.01	252	2568479	69.20	ng/ul	99
88) Benzo(a)pyrene	23.56	252	2599043	72.13	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.97	276	2842888	78.42	ng/ul	97
90) Dibenzo(a,h)anthracene	25.98	278	2315960	76.29	ng/ul	98
91) Benzo(g,h,i)perylene	26.68	276	2494535	83.27	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005235.D
Acq On : 05 May 2016 13:33
Operator : UM/SJ
Sample : SSTD08044
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 05 14:14:06 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:37:36 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08044

Manual Integrations APPROVED
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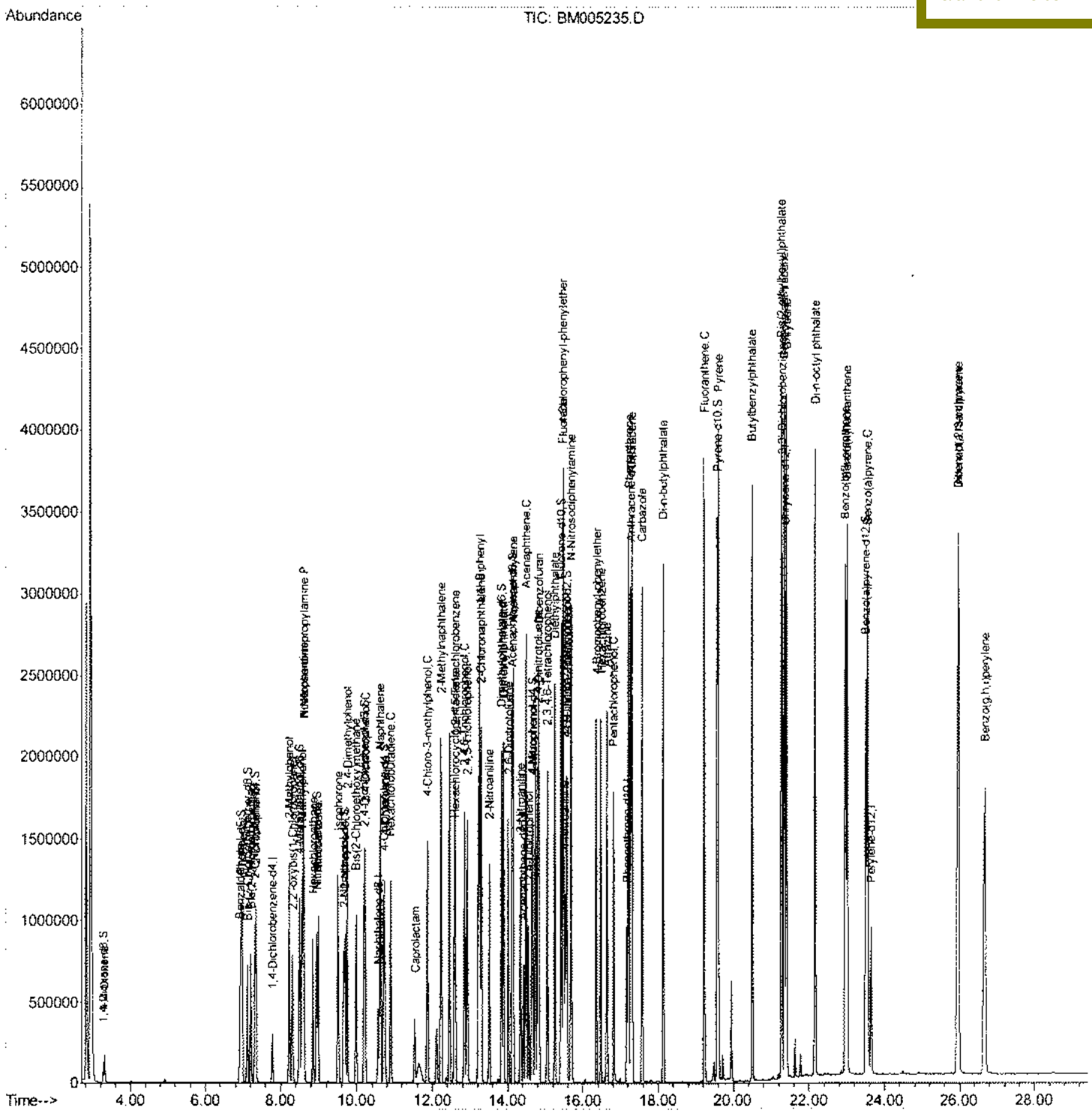
5/6/2016 7:15:03 PM



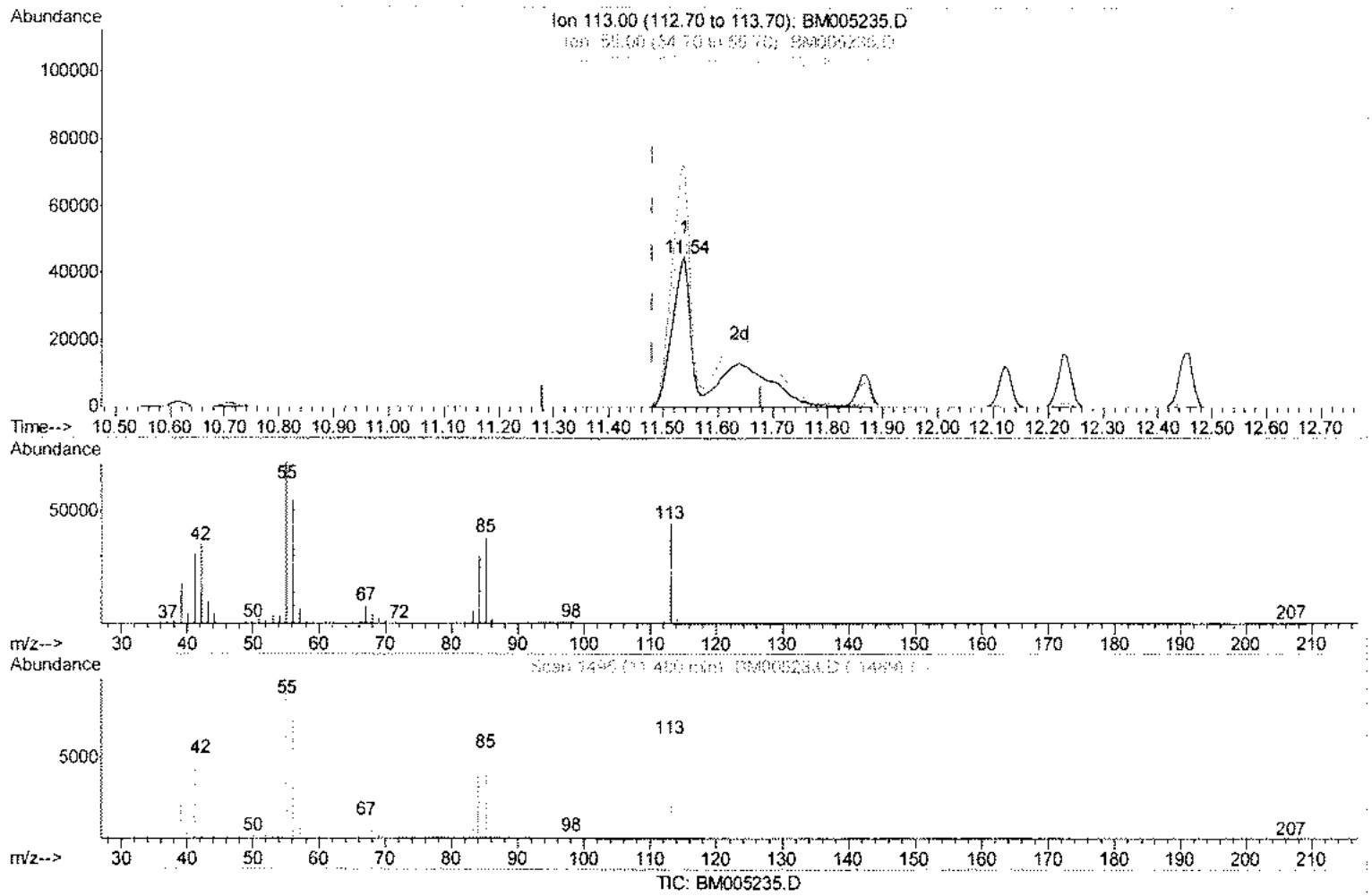
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005235.D
Acq On : 05 May 2016 13:33
Operator : UM/SJ
Sample : SSTD08044
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 05 14:12:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:37:36 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08044

Manual Integrations APPROVED
sohil
5/6/2016 7:15:03 PM



TIC: BM005235.D

(32) Caprolactam

11.539min (+0.059) 93.93ng/ul m U.M 05/07/16

response 191776

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	160.35
56.00	120.80	123.22
0.00	0.00	0.00

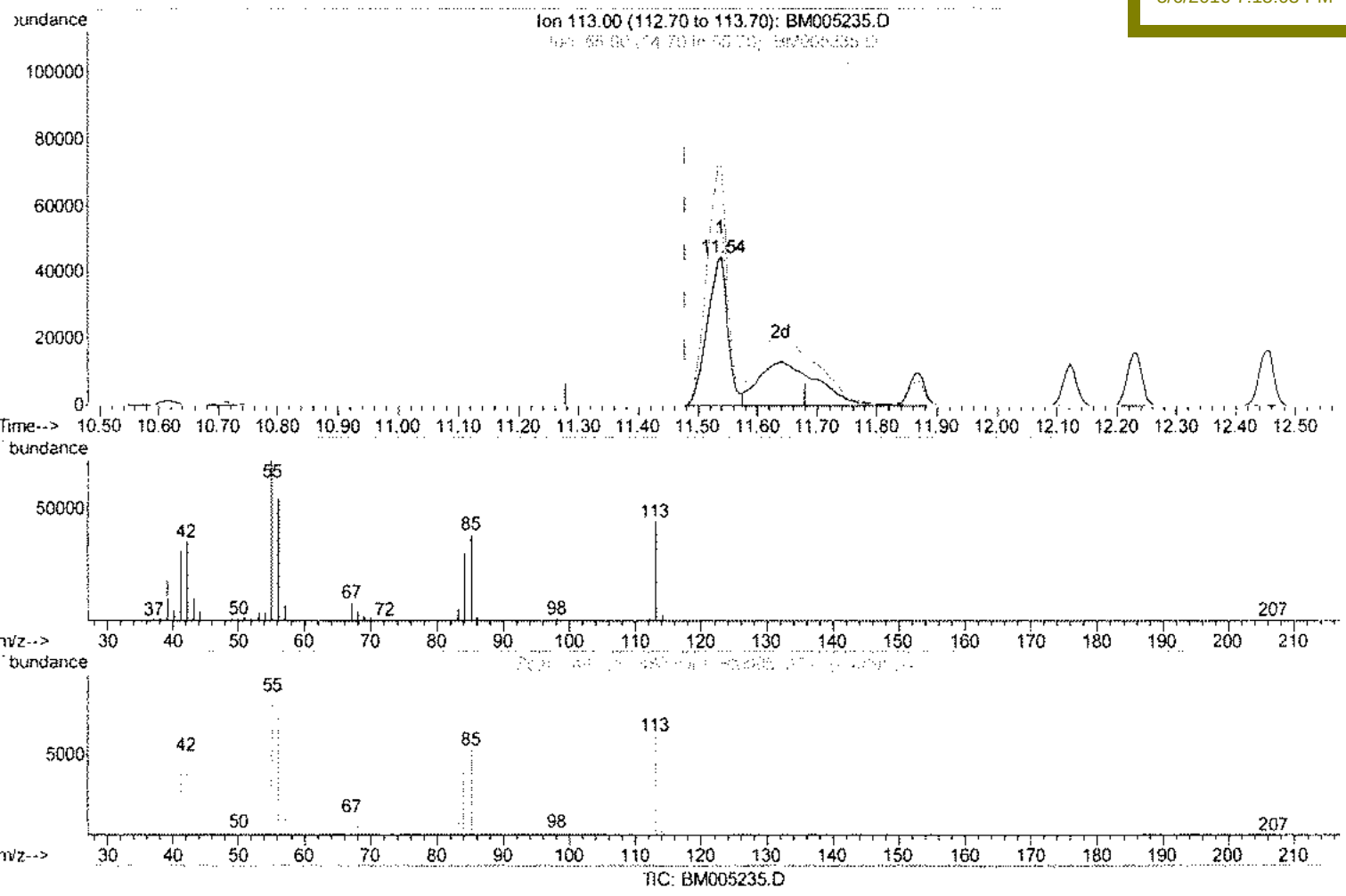
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005235.D
Acq On : 05 May 2016 13:33
Operator : UM/SJ
Sample : SSTD08044
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 05 14:12:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:37:36 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08044

Manual Integrations APPROVED
sohil
5/6/2016 7:15:03 PM



(32) Caprolactam

11.539min (+0.059) 51.75ng/ul

response 105649

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	160.35
56.00	120.80	123.22
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005235.D
Acq On : 05 May 2016 13:33
Operator : UM/SJ
Sample : SSTD08044
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 05 14:14:06 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:37:36 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD08044

Manual Integrations APPROVED
sohil
5/6/2016 7:15:03 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	83048	20.00	ng/ul	0.00
18) Naphthalene-d8	10.56	136	393148	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	246950	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	615677	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	600527	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	644546	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.27	96	52514	32.35	ng/uL	0.00
5) Phenol-d5	6.95	99	607880	87.16	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.12	67	331598	83.08	ng/ul	0.00
9) 2-Chlorophenol-d4	7.31	132	469486	86.27	ng/ul	0.00
13) 4-Methylphenol-d8	8.49	113	502580	84.98	ng/ul	0.01
19) Nitrobenzene-d5	8.94	128	242925	91.85	ng/ul	0.00
22) 2-Nitrophenol-d4	9.66	143	278426	95.09	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.19	165	488977	86.28	ng/ul	0.00
29) 4-Chloroaniline-d4	10.71	131	552060	81.05	ng/ul	0.00
43) Dimethylphthalate-d6	13.83	166	1505300	77.44	ng/ul	0.00
46) Acenaphthylene-d8	14.12	160	1773448	77.23	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	307075	90.22	ng/ul	0.02
57) Fluorene-d10	15.42	176	1239568	71.89	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.56	200	301685	89.26	ng/ul	0.02
70) Anthracene-d10	17.27	188	1938659	70.24	ng/ul	0.01
76) Pyrene-d10	19.57	212	2129410	80.16	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.51	264	2154188	75.25	ng/ul	0.02
Target Compounds						Qvalue
2) 1,4-Dioxane	3.30	88	94388	31.29	ng/uL	97
4) Benzaldehyde	6.92	77	253162	74.29	ng/ul	98
6) Phenol	6.98	94	626822	85.01	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.20	93	457552	81.93	ng/ul	99
10) 2-Chlorophenol	7.35	128	471091	83.63	ng/ul	99
11) 2-Methylphenol	8.22	108	489878	86.61	ng/ul	98
12) 2,2'-oxybis(1-Chloropropan	8.31	45	613586	84.03	ng/ul	99
14) Acetophenone	8.60	105	705900	78.40	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.60	70	358888	81.20	ng/ul	97
16) 4-Methylphenol	8.56	108	529578	83.38	ng/ul	95
17) Hexachloroethane	8.85	117	174404	79.24	ng/ul	96
20) Nitrobenzene	8.98	77	570370	85.88	ng/ul	96
21) Isophorone	9.51	82	1113543	88.47	ng/ul	98
23) 2-Nitrophenol	9.69	139	288558	90.06	ng/ul	99
24) 2,4-Dimethylphenol	9.75	107	582268	81.96	ng/ul	98
25) Bis(2-Chloroethoxy)methane	9.98	93	648690	81.93	ng/ul	99
27) 2,4-Dichlorophenol	10.22	162	489833	83.75	ng/ul	97
28) Naphthalene	10.62	128	1504056	75.61	ng/ul	99
30) 4-Chloroaniline	10.73	127	560036	79.59	ng/ul	98
31) Hexachlorobutadiene	10.90	225	283788	74.50	ng/ul	98
32) Caprolactam	11.54	113	191776m	93.93	ng/ul	
33) 4-Chloro-3-methylphenol	11.87	107	583313	85.36	ng/ul	99
34) 2-Methylnaphthalene	12.23	142	1092687	73.93	ng/ul	99

U.M 05/07/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005235.D
Acq On : 05 May 2016 13:33
Operator : UM/SJ
Sample : SSTD08044
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 05 14:14:06 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 13:37:36 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD08044

Manual Integrations APPROVED
sohil
5/6/2016 7:15:03 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.60	216	578806	77.06	ng/ul	99
37) Hexachlorocyclopentadiene	12.58	237	351379	84.35	ng/ul	96
38) 2,4,6-Trichlorophenol	12.84	196	414809	87.70	ng/ul	95
39) 2,4,5-Trichlorophenol	12.93	196	455075	85.64	ng/ul	98
40) 1,1'-Biphenyl	13.25	154	1427149	73.94	ng/ul	99
41) 2-Chloronaphthalene	13.29	162	1126850	76.42	ng/ul	98
42) 2-Nitroaniline	13.51	65	400709	101.51	ng/ul	95
44) Dimethylphthalate	13.88	163	1488978	76.01	ng/ul	99
45) 2,6-Dinitrotoluene	14.01	165	341823	93.36	ng/ul#	88
47) Acenaphthylene	14.14	152	1809814	73.85	ng/ul	100
48) 3-Nitroaniline	14.34	138	339864	88.83	ng/ul	98
49) Acenaphthene	14.49	153	1191285	73.48	ng/ul	99
50) 2,4-Dinitrophenol	14.55	184	222750	108.54	ng/ul	92
52) 4-Nitrophenol	14.66	109	255508	83.53	ng/ul	96
53) Dibenzofuran	14.82	168	1680618	70.09	ng/ul	97
54) 2,4-Dinitrotoluene	14.80	165	484206	84.61	ng/ul	97
55) 2,3,4,6-Tetrachlorophenol	15.05	232	390197	83.71	ng/ul#	94
56) Diethylphthalate	15.25	149	1526647	77.12	ng/ul	99
58) Fluorene	15.48	166	1228930	65.13	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.46	204	618031	65.82	ng/ul	97
60) 4-Nitroaniline	15.52	138	356295	83.78	ng/ul	97
63) 4,6-Dinitro-2-methylphenol	15.57	198	310835	87.32	ng/ul#	86
64) N-Nitrosodiphenylamine	15.69	169	1205367	72.01	ng/ul	99
65) 4-Bromophenyl-phenylether	16.36	248	439906	74.95	ng/ul	97
66) Hexachlorobenzene	16.48	284	490128	73.10	ng/ul	97
67) Atrazine	16.64	200	478348	78.41	ng/ul	98
68) Pentachlorophenol	16.82	266	317223	86.20	ng/ul	98
69) Phenanthrene	17.22	178	2242657	67.87	ng/ul	99
71) Anthracene	17.31	178	2210378	66.58	ng/ul	100
72) Carbazole	17.58	167	2134031	73.94	ng/ul	99
73) Di-n-butylphthalate	18.13	149	2560656	78.45	ng/ul	100
74) Fluoranthene	19.23	202	2608839	70.70	ng/ul	98
77) Pyrene	19.60	202	2557222	75.49	ng/ul	98
78) Butylbenzylphthalate	20.49	149	1229136	96.59	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.29	252	833999	78.72	ng/ul	99
80) Benzo(a)anthracene	21.35	228	2552213	74.53	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.27	149	1530144	84.40	ng/ul#	98
82) Chrysene	21.41	228	2381747	72.34	ng/ul	98
84) Di-n-octyl phthalate	22.16	149	2946352	77.13	ng/ul#	96
85) Benzo(b)fluoranthene	22.97	252	2764613	72.49	ng/ul	99
86) Benzo(k)fluoranthene	23.01	252	2568479	69.20	ng/ul	99
88) Benzo(a)pyrene	23.56	252	2599043	72.13	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.97	276	2842888	78.42	ng/ul	97
90) Dibenzo(a,h)anthracene	25.98	278	2315960	76.29	ng/ul	98
91) Benzo(g,h,i)perylene	26.68	276	2494535	83.27	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

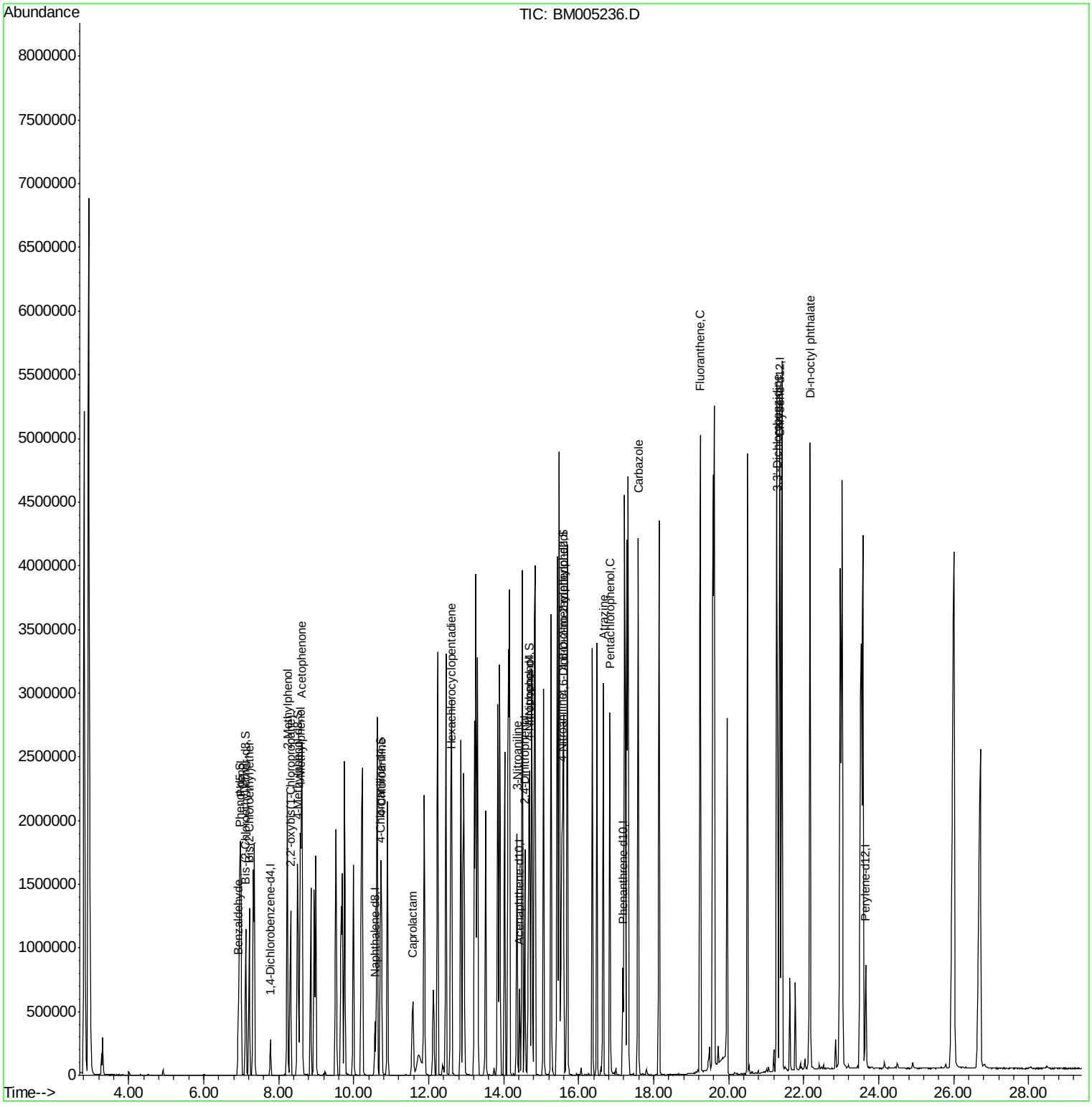
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:34:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16045

Manual Integrations APPROVED
sohil
5/6/2016 7:15:04 PM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:34:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16045

Manual Integrations APPROVED
sohil
5/6/2016 7:15:04 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	75056	20.00	ng/ul	0.00
18) Naphthalene-d8	10.57	136	363283	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	233509	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	561822	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	497720	20.00	ng/ul	0.01
83) Perylene-d12	23.65	264	563686	20.00	ng/ul	0.01
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0d	0.00	ng/uL	
5) Phenol-d5	6.96	99	1075165	158.15	ng/ul	0.01
7) Bis-(2-Chloroethyl)ether-d	7.12	67	567293	146.18	ng/ul	0.01
9) 2-Chlorophenol-d4	0.00	132	0d	0.00	ng/ul	
13) 4-Methylphenol-d8	8.50	113	886525	157.84	ng/ul	0.02
19) Nitrobenzene-d5	0.00	128	0d	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0d	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0d	0.00	ng/ul	
29) 4-Chloroaniline-d4	10.71	131	732409	111.84	ng/ul	0.00
43) Dimethylphthalate-d6	0.00	166	0d	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0d	0.00	ng/ul	
51) 4-Nitrophenol-d4	14.67	143	537109	157.83	ng/ul	0.04
57) Fluorene-d10	0.00	176	0d	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	15.57	200	509862	162.21	ng/ul	0.03
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0d	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	
Target Compounds						Qvalue
4) Benzaldehyde	6.92	77	226824m	70.51	ng/ul	
6) Phenol	6.99	94	1085067	154.48	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.22	93	768562	145.00	ng/ul	98
11) 2-Methylphenol	8.23	108	841458	155.00	ng/ul	97
12) 2,2'-oxybis(1-Chloropropan	8.32	45	1027856	143.11	ng/ul	98
14) Acetophenone	8.61	105	1175531	141.43	ng/ul	99
16) 4-Methylphenol	8.58	108	923518	153.36	ng/ul	94
30) 4-Chloroaniline	10.74	127	757005	113.61	ng/ul	98
32) Caprolactam	11.58	113	347344m	163.70	ng/ul	
37) Hexachlorocyclopentadiene	12.58	237	626609	173.01	ng/ul	95
48) 3-Nitroaniline	14.36	138	569448	145.96	ng/ul	99
50) 2,4-Dinitrophenol	14.56	184	428328	202.75	ng/ul	93
52) 4-Nitrophenol	14.69	109	445714	157.24	ng/ul	92
60) 4-Nitroaniline	15.54	138	639334	154.35	ng/ul	93
63) 4,6-Dinitro-2-methylphenol	15.59	198	522473	157.93	ng/ul#	87
67) Atrazine	16.66	200	758834	135.68	ng/ul	99
68) Pentachlorophenol	16.83	266	558124	166.98	ng/ul	97
72) Carbazole	17.59	167	3315288	128.31	ng/ul	98
74) Fluoranthene	19.24	202	3900552	119.85	ng/ul	96
79) 3,3'-Dichlorobenzidine	21.29	252	1289339	144.50	ng/ul	98
84) Di-n-octyl phthalate	22.17	149	4331133	131.76	ng/ul#	94

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:34:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16045

Manual Integrations APPROVED
sohil
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:34:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16045

Manual Integrations APPROVED
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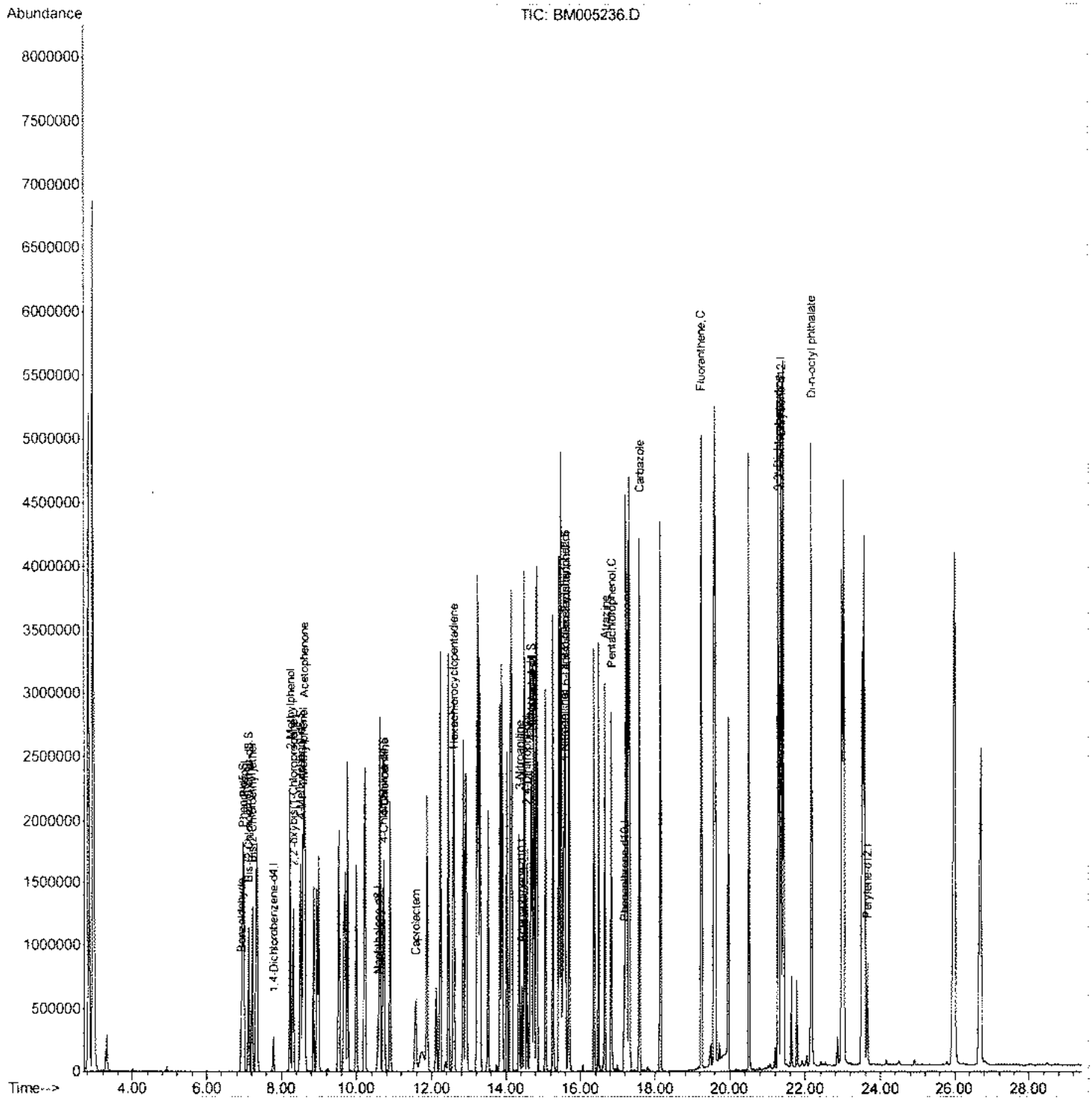


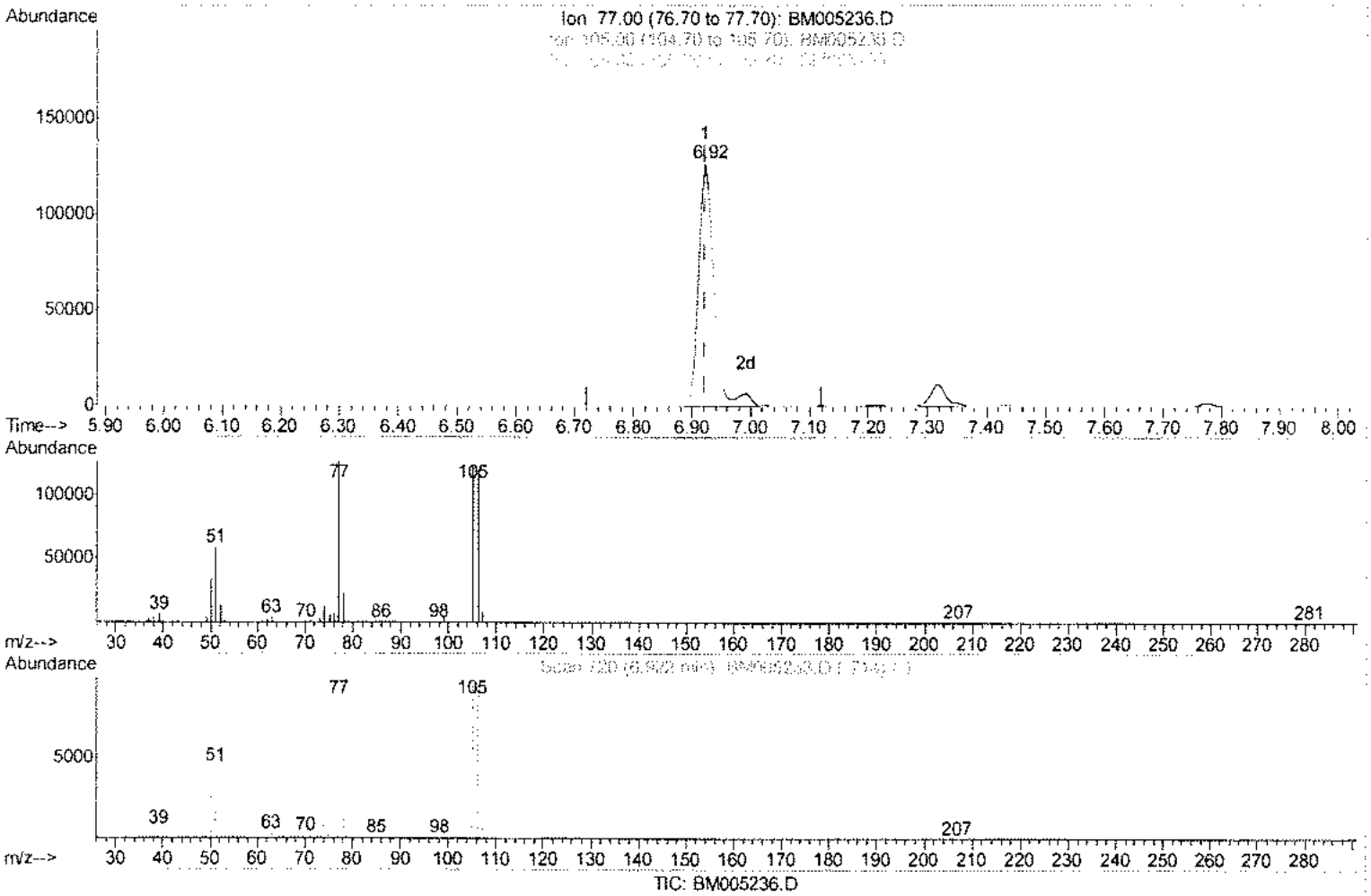
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:30:47 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16045

Manual Integrations APPROVED
sohil
5/6/2016 7:15:04 PM



TIC: BM005236.D

(4) Benzaldehyde

6.922min (+0.000) 70.51ng/ul m U.M 05/07/16

response 226824

Ion	Exp%	Act%
77.00	100	100
105.00	97.00	97.33
106.00	97.40	94.23
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:30:47 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16045

Manual Integrations APPROVED
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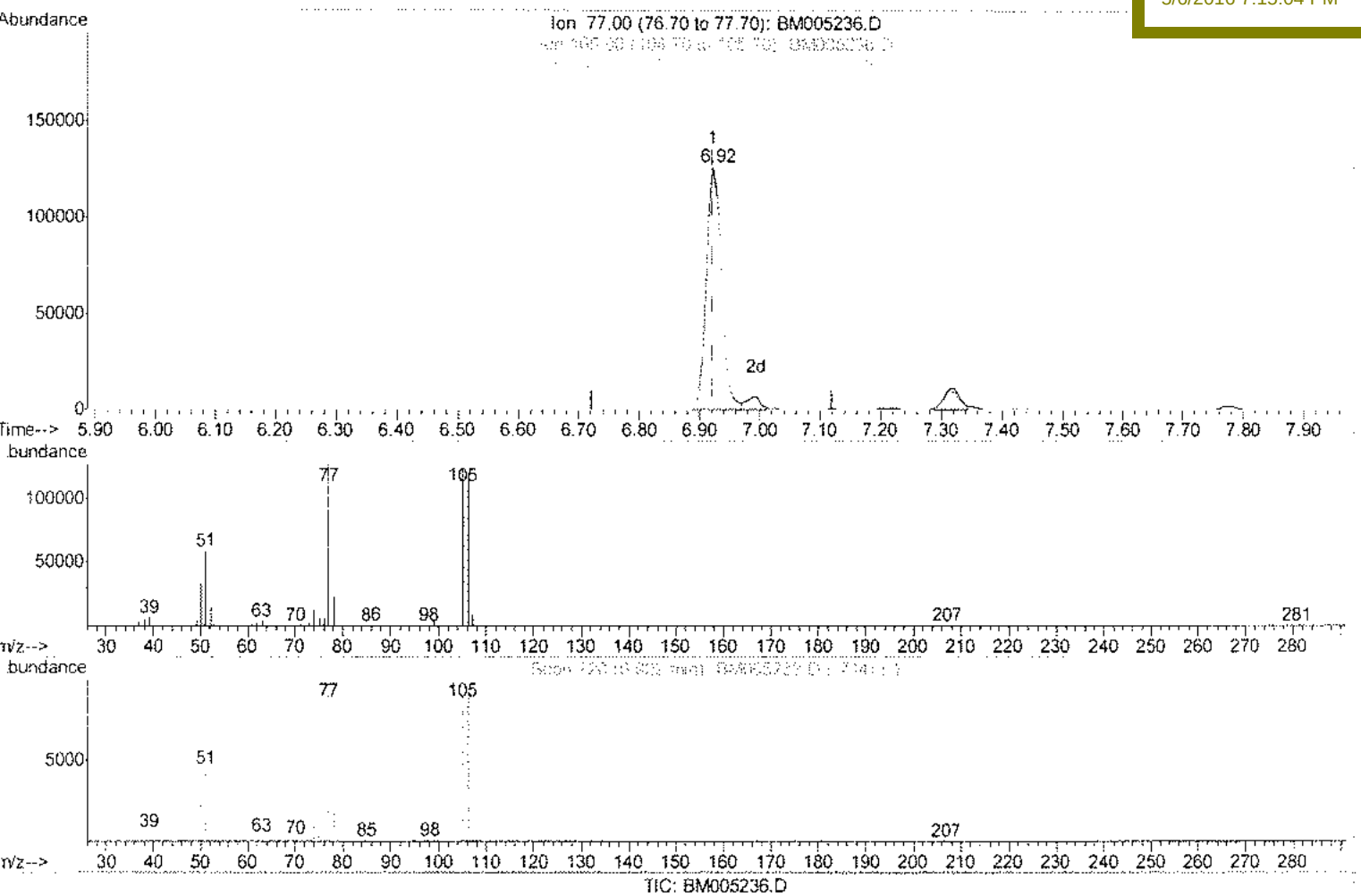

TIC: BM005236.D

(4) Benzaldehyde

6.922min (+0.000) 66.89ng/ul

response 215195

Ion	Exp%	Act%
77.00	100	100
105.00	97.00	97.33
106.00	97.40	94.23
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:30:47 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16045

Manual Integrations APPROVED
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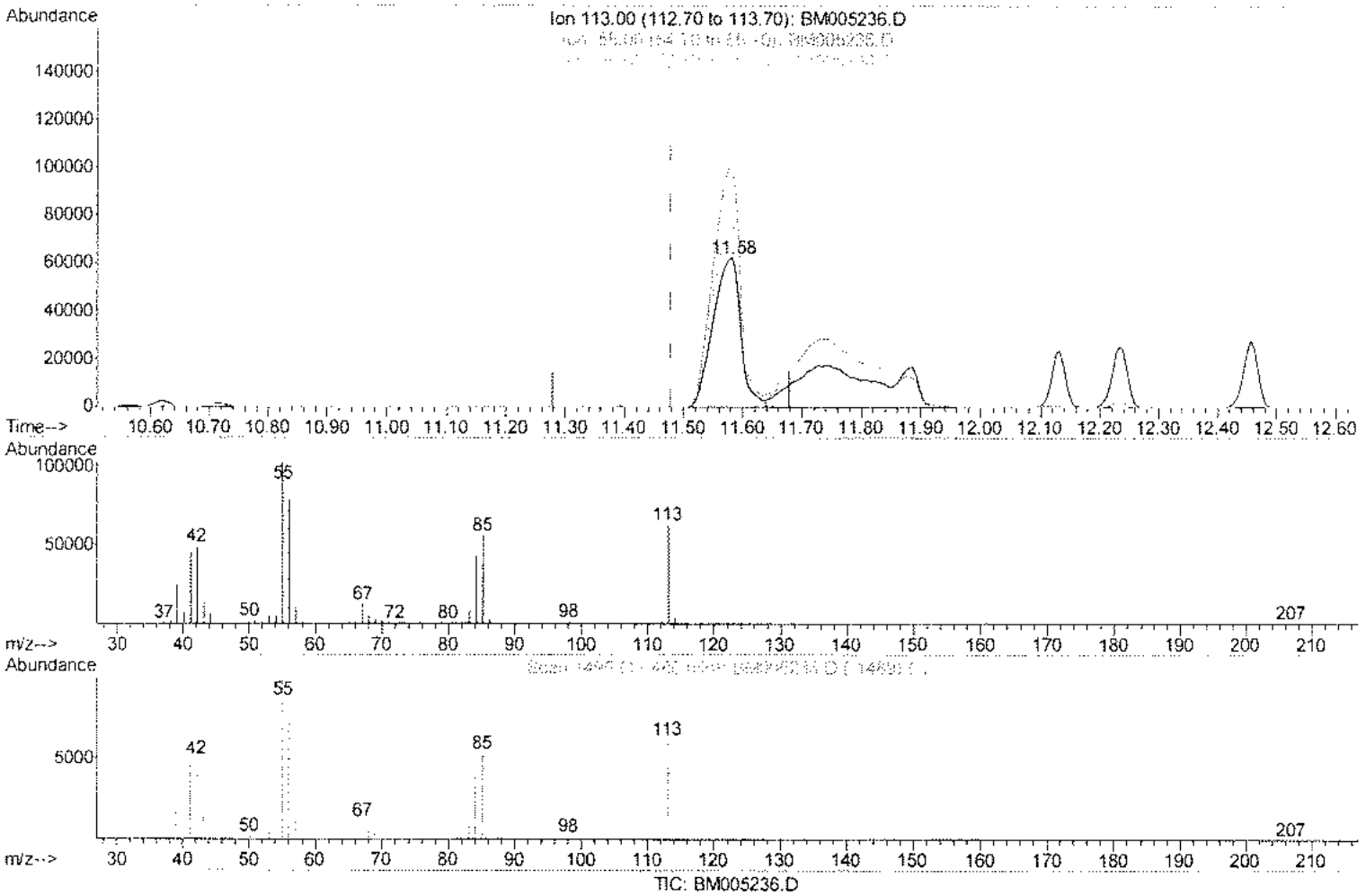

TIC: BM005236.D

(32) Caprolactam

11.581min (+0 100) 94.71ng/ul

response 200962

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	163.17
56.00	120.80	124.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:30:47 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16045

Manual Integrations APPROVED
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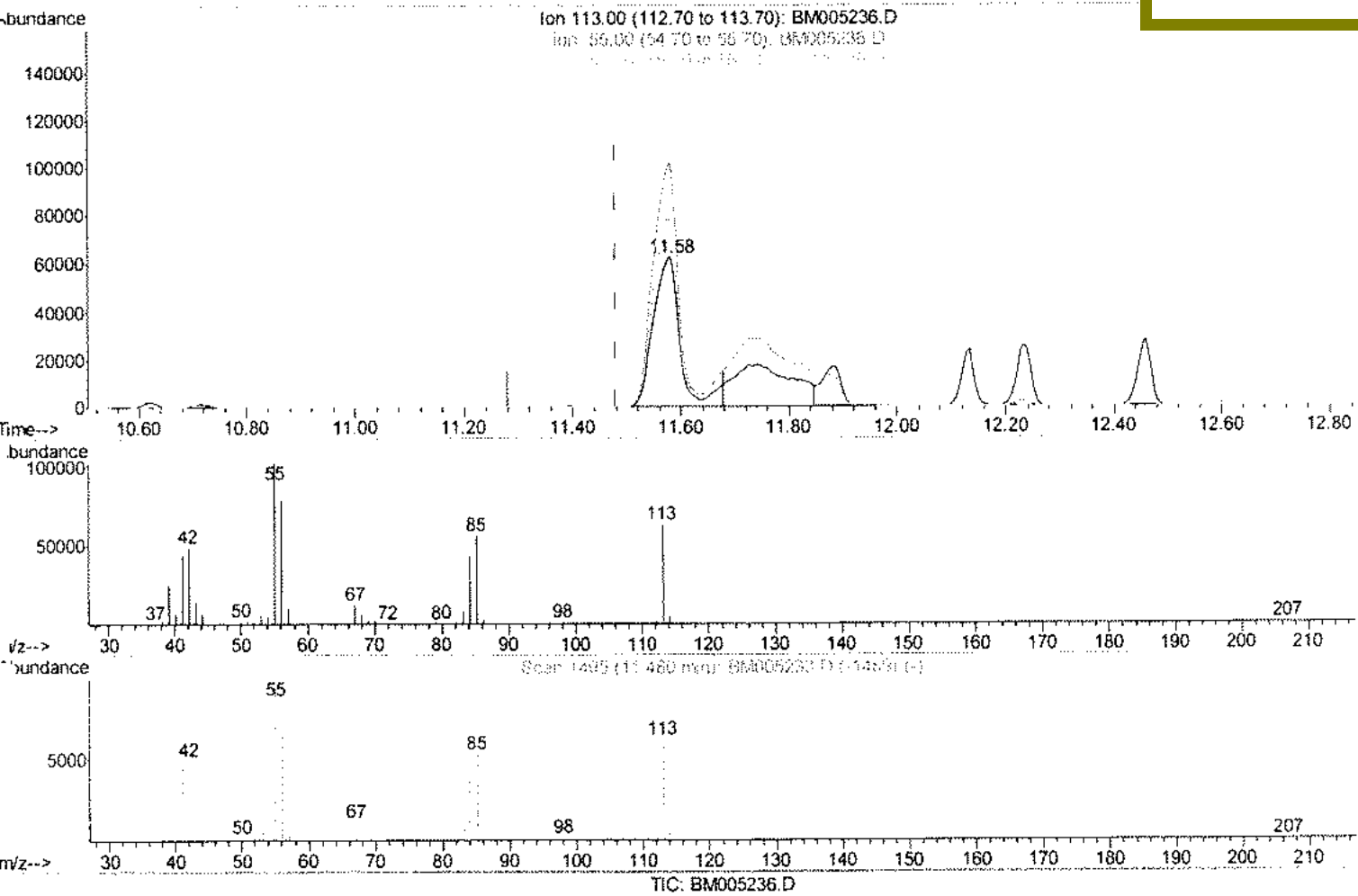

(32) Caprolactam

11.581min (+0.100) 163.70ng/ul m U.M 05/07/16

response 347344

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	163.17
56.00	120.80	124.86
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:34:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD16045

Manual Integrations APPROVED
sohil
5/6/2016 7:15:04 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	75056	20.00	ng/ul	0.00
18) Naphthalene-d8	10.57	136	363283	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.42	164	233509	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	561822	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	497720	20.00	ng/ul	0.01
83) Perylene-d12	23.65	264	563686	20.00	ng/ul	0.01
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0d	0.00	ng/uL	
5) Phenol-d5	6.96	99	1075165	158.15	ng/ul	0.01
7) Bis-(2-Chloroethyl)ether-d	7.12	67	567293	146.18	ng/ul	0.01
9) 2-Chlorophenol-d4	0.00	132	0d	0.00	ng/ul	
13) 4-Methylphenol-d8	8.50	113	886525	157.84	ng/ul	0.02
19) Nitrobenzene-d5	0.00	128	0d	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0d	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0d	0.00	ng/ul	
29) 4-Chloroaniline-d4	10.71	131	732409	111.84	ng/ul	0.00
43) Dimethylphthalate-d6	0.00	166	0d	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0d	0.00	ng/ul	
51) 4-Nitrophenol-d4	14.67	143	537109	157.83	ng/ul	0.04
57) Fluorene-d10	0.00	176	0d	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	15.57	200	509862	162.21	ng/ul	0.03
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0d	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	
Target Compounds						Qvalue
4) Benzaldehyde	6.92	77	226824m	70.51	ng/ul	
6) Phenol	6.99	94	1085067	154.48	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.22	93	768562	145.00	ng/ul	98
11) 2-Methylphenol	8.23	108	841458	155.00	ng/ul	97
12) 2,2'-oxybis(1-Chloropropan	8.32	45	1027856	143.11	ng/ul	98
14) Acetophenone	8.61	105	1175531	141.43	ng/ul	99
16) 4-Methylphenol	8.58	108	923518	153.36	ng/ul	94
30) 4-Chloroaniline	10.74	127	757005	113.61	ng/ul	98
32) Caprolactam	11.58	113	347344m	163.70	ng/ul	
37) Hexachlorocyclopentadiene	12.58	237	626609	173.01	ng/ul	95
48) 3-Nitroaniline	14.36	138	569448	145.96	ng/ul	99
50) 2,4-Dinitrophenol	14.56	184	428328	202.75	ng/ul	93
52) 4-Nitrophenol	14.69	109	445714	157.24	ng/ul	92
60) 4-Nitroaniline	15.54	138	639334	154.35	ng/ul	93
63) 4,6-Dinitro-2-methylphenol	15.59	198	522473	157.93	ng/ul#	87
67) Atrazine	16.66	200	758834	135.68	ng/ul	99
68) Pentachlorophenol	16.83	266	558124	166.98	ng/ul	97
72) Carbazole	17.59	167	3315288	128.31	ng/ul	98
74) Fluoranthene	19.24	202	3900552	119.85	ng/ul	96
79) 3,3'-Dichlorobenzidine	21.29	252	1289339	144.50	ng/ul	98
84) Di-n-octyl phthalate	22.17	149	4331133	131.76	ng/ul#	94

U.M 05/07/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005236.D
Acq On : 05 May 2016 15:53
Operator : UM/SJ
Sample : SSTD16045
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 05 16:34:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 05 14:34:52 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Instrument :
BNA_M
ClientSampleId :
SSTD16045

Manual Integrations APPROVED
sohil
5/6/2016 7:15:04 PM

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/11/2016 Time: 09:01

Lab File ID: BM005380.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02061 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
1,4-Dioxane	0.776	0.723	0.01	-6.8	± 40.0
Benzaldehyde	0.879	1.149	0.10	30.7	± 40.0
Phenol	1.875	1.946	0.08	3.8	± 20.0
Bis(2-Chloroethyl)ether	1.411	1.412	0.10	0.1	± 20.0
2-Chlorophenol	1.401	1.431	0.20	2.1	± 20.0
2-Methylphenol	1.449	1.485	0.01	2.5	± 20.0
2,2-oxybis(1-Chloropropane)	1.915	1.953	0.01	2.0	± 25.0
Acetophenone	2.221	2.371	0.06	6.8	± 20.0
4-Methylphenol	1.608	1.650	0.01	2.6	± 20.0
N-Nitroso-di-n-propylamine	1.161	1.209	0.08	4.1	± 25.0
Hexachloroethane	0.527	0.553	0.10	4.9	± 20.0
Nitrobenzene	0.357	0.377	0.09	5.6	± 20.0
Isophorone	0.694	0.736	0.10	6.1	± 20.0
2-Nitrophenol	0.174	0.190	0.06	9.2	± 20.0
2,4-Dimethylphenol	0.370	0.398	0.05	7.6	± 25.0
Bis(2-Chloroethoxy)methane	0.432	0.428	0.08	-0.9	± 20.0
2,4-Dichlorophenol	0.308	0.325	0.06	5.5	± 20.0
Naphthalene	1.006	1.021	0.20	1.5	± 20.0
4-Chloroaniline	0.369	0.437	0.01	18.4	± 40.0
Hexachlorobutadiene	0.183	0.198	0.04	8.2	± 20.0
Caprolactam	0.115	0.118	0.01	2.6	± 30.0
4-Chloro-3-methylphenol	0.369	0.394	0.04	6.8	± 20.0
2-Methylnaphthalene	0.753	0.759	0.10	0.8	± 20.0
Hexachlorocyclopentadiene	0.311	0.304	0.01	-2.3	± 40.0
2,4,6-Trichlorophenol	0.405	0.426	0.09	5.2	± 20.0
2,4,5-Trichlorophenol	0.450	0.471	0.10	4.7	± 20.0
1,1-Biphenyl	1.584	1.580	0.20	-0.3	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/11/2016 Time: 09:01

Lab File ID: BM005380.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02061 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
2-Chloronaphthalene	1.198	1.222	0.30	2.0	± 20.0
2-Nitroaniline	0.369	0.413	0.06	11.9	± 25.0
Dimethylphthalate	1.602	1.650	0.30	3.0	± 20.0
2,6-Dinitrotoluene	0.316	0.354	0.08	12.0	± 20.0
Acenaphthylene	1.989	2.058	0.40	3.5	± 20.0
3-Nitroaniline	0.337	0.384	0.01	13.9	± 25.0
Acenaphthene	1.311	1.341	0.20	2.3	± 20.0
2,4-Dinitrophenol	0.182	0.168	0.01	-7.7	± 50.0
4-Nitrophenol	0.243	0.267	0.01	9.9	± 40.0
Dibenzofuran	1.902	1.956	0.30	2.8	± 20.0
2,4-Dinitrotoluene	0.471	0.528	0.07	12.1	± 20.0
Diethylphthalate	1.618	1.685	0.30	4.1	± 20.0
Fluorene	1.487	1.517	0.20	2.0	± 20.0
4-Chlorophenyl-phenylether	0.737	0.755	0.10	2.4	± 20.0
4-Nitroaniline	0.357	0.408	0.01	14.3	± 40.0
4,6-Dinitro-2-methylphenol	0.118	0.129	0.01	9.3	± 30.0
N-Nitrosodiphenylamine	0.548	0.580	0.10	5.8	± 20.0
4-Bromophenyl-phenylether	0.192	0.208	0.07	8.3	± 20.0
1,2,4,5-Tetrachlorobenzene	0.608	0.633	0.10	4.1	± 20.0
Hexachlorobenzene	0.215	0.234	0.05	8.8	± 20.0
Atrazine	0.200	0.231	0.01	15.5	± 25.0
Pentachlorophenol	0.120	0.128	0.01	6.7	± 40.0
Phenanthrene	1.052	1.089	0.20	3.5	± 20.0
Anthracene	1.048	1.107	0.20	5.6	± 20.0
Carbazole	0.922	1.022	0.05	10.8	± 20.0
Di-n-butylphthalate	1.125	1.224	0.50	8.8	± 20.0
Fluoranthene	1.165	1.320	0.10	13.3	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/11/2016 Time: 09:01

Lab File ID: BM005380.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02061 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
Pyrene	1.160	1.207	0.40	4.1	± 25.0
Butylbenzylphthalate	0.482	0.548	0.10	13.7	± 25.0
3,3-Dichlorobenzidine	0.360	0.397	0.01	10.3	± 40.0
Benzo(a)anthracene	1.150	1.202	0.30	4.5	± 20.0
Chrysene	1.091	1.159	0.20	6.2	± 20.0
Bis(2-ethylhexyl)phthalate	0.669	0.754	0.20	12.7	± 25.0
Di-n-octyl phthalate	1.168	1.355	0.01	16.0	± 40.0
Benzo(b)fluoranthene	1.169	1.204	0.01	3.0	± 25.0
Benzo(k)fluoranthene	1.101	1.187	0.01	7.8	± 25.0
Benzo(a)pyrene	1.106	1.153	0.01	4.3	± 20.0
Indeno(1,2,3-cd)pyrene	1.206	1.148	0.01	-4.8	± 25.0
Dibenzo(a,h)anthracene	1.010	0.964	0.01	-4.6	± 25.0
Benzo(g,h,i)perylene	1.022	0.944	0.01	-7.6	± 30.0
2,3,4,6-Tetrachlorophenol	0.382	0.416	0.04	8.9	± 20.0
1,4-Dioxane-d8	0.425	0.403	0.01	-5.2	± 25.0
Phenol-d5	1.814	1.855	0.01	2.3	± 25.0
Bis-(2-Chloroethyl)ether-d8	1.035	1.040	0.10	0.5	± 20.0
2-Chlorophenol-d4	1.370	1.426	0.20	4.1	± 20.0
4-Methylphenol-d8	1.499	1.546	0.01	3.1	± 20.0
Nitrobenzene-d5	0.143	0.155	0.05	8.4	± 20.0
2-Nitrophenol-d4	0.162	0.178	0.05	9.9	± 20.0
2,4-Dichlorophenol-d3	0.300	0.324	0.06	8.0	± 20.0
4-Chloroaniline-d4	0.362	0.434	0.01	19.9	± 40.0
Dimethylphthalate-d6	1.603	1.646	0.30	2.7	± 20.0
Acenaphthylene-d8	1.880	1.951	0.40	3.8	± 20.0
4-Nitrophenol-d4	0.293	0.298	0.01	1.7	± 40.0
Fluorene-d10	1.384	1.414	0.10	2.2	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/11/2016 Time: 09:01

Lab File ID: BM005380.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02061 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
4,6-Dinitro-2-methylphenol-d2	0.113	0.124	0.01	9.7	± 30.0
Anthracene-d10	0.884	0.940	0.30	6.3	± 20.0
Pyrene-d10	0.923	0.970	0.30	5.1	± 25.0
Benzo(a)pyrene-d12	0.885	0.928	0.01	4.9	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/11/2016 Time: 18:52

Lab File ID: BM005393.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02062 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
1,4-Dioxane	0.776	0.700	0.01	-9.8	± 50.0
Benzaldehyde	0.879	1.153	0.10	31.2	± 50.0
Phenol	1.875	1.906	0.08	1.7	± 25.0
Bis(2-Chloroethyl)ether	1.411	1.415	0.10	0.3	± 25.0
2-Chlorophenol	1.401	1.433	0.20	2.3	± 25.0
2-Methylphenol	1.449	1.478	0.01	2.0	± 25.0
2,2-oxybis(1-Chloropropane)	1.915	1.955	0.01	2.1	± 50.0
Acetophenone	2.221	2.353	0.06	5.9	± 25.0
4-Methylphenol	1.608	1.651	0.01	2.7	± 25.0
N-Nitroso-di-n-propylamine	1.161	1.229	0.08	5.9	± 25.0
Hexachloroethane	0.527	0.561	0.10	6.5	± 25.0
Nitrobenzene	0.357	0.378	0.09	5.9	± 25.0
Isophorone	0.694	0.752	0.10	8.4	± 25.0
2-Nitrophenol	0.174	0.193	0.06	10.9	± 25.0
2,4-Dimethylphenol	0.370	0.396	0.05	7.0	± 50.0
Bis(2-Chloroethoxy)methane	0.432	0.433	0.08	0.2	± 25.0
2,4-Dichlorophenol	0.308	0.328	0.06	6.5	± 25.0
Naphthalene	1.006	1.028	0.20	2.2	± 25.0
4-Chloroaniline	0.369	0.442	0.01	19.8	± 50.0
Hexachlorobutadiene	0.183	0.203	0.04	10.9	± 25.0
Caprolactam	0.115	0.125	0.01	8.7	± 50.0
4-Chloro-3-methylphenol	0.369	0.406	0.04	10.0	± 25.0
2-Methylnaphthalene	0.753	0.776	0.10	3.1	± 25.0
Hexachlorocyclopentadiene	0.311	0.308	0.01	-1.0	± 50.0
2,4,6-Trichlorophenol	0.405	0.449	0.09	10.9	± 25.0
2,4,5-Trichlorophenol	0.450	0.497	0.10	10.4	± 25.0
1,1-Biphenyl	1.584	1.615	0.20	2.0	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/11/2016 Time: 18:52

Lab File ID: BM005393.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02062 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
2-Chloronaphthalene	1.198	1.248	0.30	4.2	± 25.0
2-Nitroaniline	0.369	0.427	0.06	15.7	± 25.0
Dimethylphthalate	1.602	1.674	0.30	4.5	± 25.0
2,6-Dinitrotoluene	0.316	0.366	0.08	15.8	± 25.0
Acenaphthylene	1.989	2.085	0.40	4.8	± 25.0
3-Nitroaniline	0.337	0.394	0.01	16.9	± 50.0
Acenaphthene	1.311	1.351	0.20	3.1	± 25.0
2,4-Dinitrophenol	0.182	0.201	0.01	10.4	± 50.0
4-Nitrophenol	0.243	0.267	0.01	9.9	± 50.0
Dibenzofuran	1.902	1.956	0.30	2.8	± 25.0
2,4-Dinitrotoluene	0.471	0.526	0.07	11.7	± 25.0
Diethylphthalate	1.618	1.700	0.30	5.1	± 25.0
Fluorene	1.487	1.504	0.20	1.1	± 25.0
4-Chlorophenyl-phenylether	0.737	0.761	0.10	3.3	± 25.0
4-Nitroaniline	0.357	0.409	0.01	14.6	± 50.0
4,6-Dinitro-2-methylphenol	0.118	0.139	0.01	17.8	± 50.0
N-Nitrosodiphenylamine	0.548	0.588	0.10	7.3	± 25.0
4-Bromophenyl-phenylether	0.192	0.212	0.07	10.4	± 25.0
1,2,4,5-Tetrachlorobenzene	0.608	0.642	0.10	5.6	± 25.0
Hexachlorobenzene	0.215	0.238	0.05	10.7	± 25.0
Atrazine	0.200	0.235	0.01	17.5	± 50.0
Pentachlorophenol	0.120	0.141	0.01	17.5	± 50.0
Phenanthrene	1.052	1.088	0.20	3.4	± 25.0
Anthracene	1.048	1.102	0.20	5.2	± 25.0
Carbazole	0.922	1.014	0.05	10.0	± 25.0
Di-n-butylphthalate	1.125	1.242	0.50	10.4	± 25.0
Fluoranthene	1.165	1.245	0.10	6.9	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/11/2016 Time: 18:52

Lab File ID: BM005393.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02062 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
Pyrene	1.160	1.378	0.40	18.8	± 50.0
Butylbenzylphthalate	0.482	0.630	0.10	30.7	± 50.0
3,3-Dichlorobenzidine	0.360	0.396	0.01	10.0	± 50.0
Benzo(a)anthracene	1.150	1.207	0.30	5.0	± 25.0
Chrysene	1.091	1.151	0.20	5.5	± 50.0
Bis(2-ethylhexyl)phthalate	0.669	0.827	0.20	23.6	± 50.0
Di-n-octyl phthalate	1.168	1.614	0.01	38.2	± 50.0
Benzo(b)fluoranthene	1.169	1.305	0.01	11.6	± 50.0
Benzo(k)fluoranthene	1.101	1.161	0.01	5.4	± 50.0
Benzo(a)pyrene	1.106	1.162	0.01	5.1	± 50.0
Indeno(1,2,3-cd)pyrene	1.206	1.209	0.01	0.2	± 50.0
Dibenzo(a,h)anthracene	1.010	1.025	0.01	1.5	± 50.0
Benzo(g,h,i)perylene	1.022	1.023	0.01	0.1	± 50.0
2,3,4,6-Tetrachlorophenol	0.382	0.431	0.04	12.8	± 50.0
1,4-Dioxane-d8	0.425	0.382	0.01	-10.1	± 50.0
Phenol-d5	1.814	1.834	0.01	1.1	± 25.0
Bis-(2-Chloroethyl)ether-d8	1.035	1.034	0.10	-0.1	± 25.0
2-Chlorophenol-d4	1.370	1.421	0.20	3.7	± 25.0
4-Methylphenol-d8	1.499	1.554	0.01	3.7	± 25.0
Nitrobenzene-d5	0.143	0.157	0.05	9.8	± 25.0
2-Nitrophenol-d4	0.162	0.184	0.05	13.6	± 25.0
2,4-Dichlorophenol-d3	0.300	0.326	0.06	8.7	± 25.0
4-Chloroaniline-d4	0.362	0.441	0.01	21.8	± 50.0
Dimethylphthalate-d6	1.603	1.679	0.30	4.7	± 25.0
Acenaphthylene-d8	1.880	1.988	0.40	5.7	± 25.0
4-Nitrophenol-d4	0.293	0.303	0.01	3.4	± 50.0
Fluorene-d10	1.384	1.420	0.10	2.6	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/11/2016 Time: 18:52

Lab File ID: BM005393.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02062 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
4,6-Dinitro-2-methylphenol-d2	0.113	0.133	0.01	17.7	± 50.0
Anthracene-d10	0.884	0.937	0.30	6.0	± 25.0
Pyrene-d10	0.923	1.097	0.30	18.9	± 50.0
Benzo(a)pyrene-d12	0.885	0.935	0.01	5.7	± 50.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/13/2016 Time: 11:46

Lab File ID: BM005427.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02066 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
1,4-Dioxane	0.776	0.769	0.01	-0.9	± 40.0
Benzaldehyde	0.879	1.137	0.10	29.4	± 40.0
Phenol	1.875	1.893	0.08	1.0	± 20.0
Bis(2-Chloroethyl)ether	1.411	1.427	0.10	1.1	± 20.0
2-Chlorophenol	1.401	1.429	0.20	2.0	± 20.0
2-Methylphenol	1.449	1.474	0.01	1.7	± 20.0
2,2-oxybis(1-Chloropropane)	1.915	1.992	0.01	4.0	± 25.0
Acetophenone	2.221	2.421	0.06	9.0	± 20.0
4-Methylphenol	1.608	1.627	0.01	1.2	± 20.0
N-Nitroso-di-n-propylamine	1.161	1.245	0.08	7.2	± 25.0
Hexachloroethane	0.527	0.567	0.10	7.6	± 20.0
Nitrobenzene	0.357	0.374	0.09	4.8	± 20.0
Isophorone	0.694	0.741	0.10	6.8	± 20.0
2-Nitrophenol	0.174	0.187	0.06	7.5	± 20.0
2,4-Dimethylphenol	0.370	0.388	0.05	4.9	± 25.0
Bis(2-Chloroethoxy)methane	0.432	0.437	0.08	1.2	± 20.0
2,4-Dichlorophenol	0.308	0.326	0.06	5.8	± 20.0
Naphthalene	1.006	1.036	0.20	3.0	± 20.0
4-Chloroaniline	0.369	0.418	0.01	13.3	± 40.0
Hexachlorobutadiene	0.183	0.204	0.04	11.5	± 20.0
Caprolactam	0.115	0.123	0.01	7.0	± 30.0
4-Chloro-3-methylphenol	0.369	0.401	0.04	8.7	± 20.0
2-Methylnaphthalene	0.753	0.783	0.10	4.0	± 20.0
Hexachlorocyclopentadiene	0.311	0.194	0.01	-37.6	± 40.0
2,4,6-Trichlorophenol	0.405	0.429	0.09	5.9	± 20.0
2,4,5-Trichlorophenol	0.450	0.448	0.10	-0.4	± 20.0
1,1-Biphenyl	1.584	1.618	0.20	2.1	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/13/2016 Time: 11:46

Lab File ID: BM005427.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02066 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
2-Chloronaphthalene	1.198	1.229	0.30	2.6	± 20.0
2-Nitroaniline	0.369	0.412	0.06	11.7	± 25.0
Dimethylphthalate	1.602	1.668	0.30	4.1	± 20.0
2,6-Dinitrotoluene	0.316	0.342	0.08	8.2	± 20.0
Acenaphthylene	1.989	2.072	0.40	4.2	± 20.0
3-Nitroaniline	0.337	0.370	0.01	9.8	± 25.0
Acenaphthene	1.311	1.355	0.20	3.4	± 20.0
2,4-Dinitrophenol	0.182	0.141	0.01	-22.5	± 50.0
4-Nitrophenol	0.243	0.238	0.01	-2.1	± 40.0
Dibenzofuran	1.902	1.960	0.30	3.0	± 20.0
2,4-Dinitrotoluene	0.471	0.510	0.07	8.3	± 20.0
Diethylphthalate	1.618	1.722	0.30	6.4	± 20.0
Fluorene	1.487	1.587	0.20	6.7	± 20.0
4-Chlorophenyl-phenylether	0.737	0.793	0.10	7.6	± 20.0
4-Nitroaniline	0.357	0.377	0.01	5.6	± 40.0
4,6-Dinitro-2-methylphenol	0.118	0.120	0.01	1.7	± 30.0
N-Nitrosodiphenylamine	0.548	0.586	0.10	6.9	± 20.0
4-Bromophenyl-phenylether	0.192	0.213	0.07	10.9	± 20.0
1,2,4,5-Tetrachlorobenzene	0.608	0.635	0.10	4.4	± 20.0
Hexachlorobenzene	0.215	0.235	0.05	9.3	± 20.0
Atrazine	0.200	0.234	0.01	17.0	± 25.0
Pentachlorophenol	0.120	0.110	0.01	-8.3	± 40.0
Phenanthrene	1.052	1.109	0.20	5.4	± 20.0
Anthracene	1.048	1.131	0.20	7.9	± 20.0
Carbazole	0.922	1.051	0.05	14.0	± 20.0
Di-n-butylphthalate	1.125	1.321	0.50	17.4	± 20.0
Fluoranthene	1.165	1.367	0.10	17.3	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/13/2016 Time: 11:46

Lab File ID: BM005427.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02066 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
Pyrene	1.160	1.200	0.40	3.4	± 25.0
Butylbenzylphthalate	0.482	0.543	0.10	12.7	± 25.0
3,3-Dichlorobenzidine	0.360	0.390	0.01	8.3	± 40.0
Benzo(a)anthracene	1.150	1.201	0.30	4.4	± 20.0
Chrysene	1.091	1.145	0.20	4.9	± 20.0
Bis(2-ethylhexyl)phthalate	0.669	0.780	0.20	16.6	± 25.0
Di-n-octyl phthalate	1.168	1.515	0.01	29.7	± 40.0
Benzo(b)fluoranthene	1.169	1.298	0.01	11.0	± 25.0
Benzo(k)fluoranthene	1.101	1.205	0.01	9.4	± 25.0
Benzo(a)pyrene	1.106	1.173	0.01	6.1	± 20.0
Indeno(1,2,3-cd)pyrene	1.206	1.074	0.01	-10.9	± 25.0
Dibenzo(a,h)anthracene	1.010	0.900	0.01	-10.9	± 25.0
Benzo(g,h,i)perylene	1.022	0.867	0.01	-15.2	± 30.0
2,3,4,6-Tetrachlorophenol	0.382	0.392	0.04	2.6	± 20.0
1,4-Dioxane-d8	0.425	0.415	0.01	-2.4	± 25.0
Phenol-d5	1.814	1.808	0.01	-0.3	± 25.0
Bis-(2-Chloroethyl)ether-d8	1.035	1.053	0.10	1.7	± 20.0
2-Chlorophenol-d4	1.370	1.426	0.20	4.1	± 20.0
4-Methylphenol-d8	1.499	1.518	0.01	1.3	± 20.0
Nitrobenzene-d5	0.143	0.152	0.05	6.3	± 20.0
2-Nitrophenol-d4	0.162	0.177	0.05	9.3	± 20.0
2,4-Dichlorophenol-d3	0.300	0.319	0.06	6.3	± 20.0
4-Chloroaniline-d4	0.362	0.414	0.01	14.4	± 40.0
Dimethylphthalate-d6	1.603	1.678	0.30	4.7	± 20.0
Acenaphthylene-d8	1.880	1.961	0.40	4.3	± 20.0
4-Nitrophenol-d4	0.293	0.278	0.01	-5.1	± 40.0
Fluorene-d10	1.384	1.434	0.10	3.6	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/13/2016 Time: 11:46

Lab File ID: BM005427.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02066 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
4,6-Dinitro-2-methylphenol-d2	0.113	0.116	0.01	2.7	± 30.0
Anthracene-d10	0.884	0.951	0.30	7.6	± 20.0
Pyrene-d10	0.923	0.950	0.30	2.9	± 25.0
Benzo(a)pyrene-d12	0.885	0.939	0.01	6.1	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/13/2016 Time: 17:05

Lab File ID: BM005435.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02034 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
1,4-Dioxane	0.776	0.786	0.01	1.3	± 40.0
Benzaldehyde	0.879	1.146	0.10	30.4	± 40.0
Phenol	1.875	1.906	0.08	1.7	± 20.0
Bis(2-Chloroethyl)ether	1.411	1.435	0.10	1.7	± 20.0
2-Chlorophenol	1.401	1.432	0.20	2.2	± 20.0
2-Methylphenol	1.449	1.437	0.01	-0.8	± 20.0
2,2-oxybis(1-Chloropropane)	1.915	2.033	0.01	6.2	± 25.0
Acetophenone	2.221	2.338	0.06	5.3	± 20.0
4-Methylphenol	1.608	1.576	0.01	-2.0	± 20.0
N-Nitroso-di-n-propylamine	1.161	1.205	0.08	3.8	± 25.0
Hexachloroethane	0.527	0.555	0.10	5.3	± 20.0
Nitrobenzene	0.357	0.375	0.09	5.0	± 20.0
Isophorone	0.694	0.724	0.10	4.3	± 20.0
2-Nitrophenol	0.174	0.186	0.06	6.9	± 20.0
2,4-Dimethylphenol	0.370	0.385	0.05	4.1	± 25.0
Bis(2-Chloroethoxy)methane	0.432	0.434	0.08	0.5	± 20.0
2,4-Dichlorophenol	0.308	0.320	0.06	3.9	± 20.0
Naphthalene	1.006	1.034	0.20	2.8	± 20.0
4-Chloroaniline	0.369	0.409	0.01	10.8	± 40.0
Hexachlorobutadiene	0.183	0.204	0.04	11.5	± 20.0
Caprolactam	0.115	0.115	0.01	0.0	± 30.0
4-Chloro-3-methylphenol	0.369	0.388	0.04	5.1	± 20.0
2-Methylnaphthalene	0.753	0.777	0.10	3.2	± 20.0
Hexachlorocyclopentadiene	0.311	0.247	0.01	-20.6	± 40.0
2,4,6-Trichlorophenol	0.405	0.429	0.09	5.9	± 20.0
2,4,5-Trichlorophenol	0.450	0.477	0.10	6.0	± 20.0
1,1-Biphenyl	1.584	1.643	0.20	3.7	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/13/2016 Time: 17:05

Lab File ID: BM005435.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02034 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
2-Chloronaphthalene	1.198	1.244	0.30	3.8	± 20.0
2-Nitroaniline	0.369	0.405	0.06	9.8	± 25.0
Dimethylphthalate	1.602	1.660	0.30	3.6	± 20.0
2,6-Dinitrotoluene	0.316	0.340	0.08	7.6	± 20.0
Acenaphthylene	1.989	2.072	0.40	4.2	± 20.0
3-Nitroaniline	0.337	0.368	0.01	9.2	± 25.0
Acenaphthene	1.311	1.358	0.20	3.6	± 20.0
2,4-Dinitrophenol	0.182	0.137	0.01	-24.7	± 50.0
4-Nitrophenol	0.243	0.229	0.01	-5.8	± 40.0
Dibenzofuran	1.902	1.966	0.30	3.4	± 20.0
2,4-Dinitrotoluene	0.471	0.509	0.07	8.1	± 20.0
Diethylphthalate	1.618	1.703	0.30	5.3	± 20.0
Fluorene	1.487	1.576	0.20	6.0	± 20.0
4-Chlorophenyl-phenylether	0.737	0.795	0.10	7.9	± 20.0
4-Nitroaniline	0.357	0.375	0.01	5.0	± 40.0
4,6-Dinitro-2-methylphenol	0.118	0.116	0.01	-1.7	± 30.0
N-Nitrosodiphenylamine	0.548	0.581	0.10	6.0	± 20.0
4-Bromophenyl-phenylether	0.192	0.212	0.07	10.4	± 20.0
1,2,4,5-Tetrachlorobenzene	0.608	0.646	0.10	6.3	± 20.0
Hexachlorobenzene	0.215	0.237	0.05	10.2	± 20.0
Atrazine	0.200	0.230	0.01	15.0	± 25.0
Pentachlorophenol	0.120	0.104	0.01	-13.3	± 40.0
Phenanthrene	1.052	1.105	0.20	5.0	± 20.0
Anthracene	1.048	1.113	0.20	6.2	± 20.0
Carbazole	0.922	1.038	0.05	12.6	± 20.0
Di-n-butylphthalate	1.125	1.246	0.50	10.8	± 20.0
Fluoranthene	1.165	1.357	0.10	16.5	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/13/2016 Time: 17:05

Lab File ID: BM005435.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02034 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
Pyrene	1.160	1.227	0.40	5.8	± 25.0
Butylbenzylphthalate	0.482	0.540	0.10	12.0	± 25.0
3,3-Dichlorobenzidine	0.360	0.399	0.01	10.8	± 40.0
Benzo(a)anthracene	1.150	1.203	0.30	4.6	± 20.0
Chrysene	1.091	1.144	0.20	4.9	± 20.0
Bis(2-ethylhexyl)phthalate	0.669	0.765	0.20	14.4	± 25.0
Di-n-octyl phthalate	1.168	1.493	0.01	27.8	± 40.0
Benzo(b)fluoranthene	1.169	1.286	0.01	10.0	± 25.0
Benzo(k)fluoranthene	1.101	1.201	0.01	9.1	± 25.0
Benzo(a)pyrene	1.106	1.174	0.01	6.1	± 20.0
Indeno(1,2,3-cd)pyrene	1.206	1.079	0.01	-10.5	± 25.0
Dibenzo(a,h)anthracene	1.010	0.906	0.01	-10.3	± 25.0
Benzo(g,h,i)perylene	1.022	0.875	0.01	-14.4	± 30.0
2,3,4,6-Tetrachlorophenol	0.382	0.385	0.04	0.8	± 20.0
1,4-Dioxane-d8	0.425	0.438	0.01	3.1	± 25.0
Phenol-d5	1.814	1.819	0.01	0.3	± 25.0
Bis-(2-Chloroethyl)ether-d8	1.035	1.072	0.10	3.6	± 20.0
2-Chlorophenol-d4	1.370	1.402	0.20	2.3	± 20.0
4-Methylphenol-d8	1.499	1.475	0.01	-1.6	± 20.0
Nitrobenzene-d5	0.143	0.150	0.05	4.9	± 20.0
2-Nitrophenol-d4	0.162	0.175	0.05	8.0	± 20.0
2,4-Dichlorophenol-d3	0.300	0.320	0.06	6.7	± 20.0
4-Chloroaniline-d4	0.362	0.409	0.01	13.0	± 40.0
Dimethylphthalate-d6	1.603	1.675	0.30	4.5	± 20.0
Acenaphthylene-d8	1.880	1.970	0.40	4.8	± 20.0
4-Nitrophenol-d4	0.293	0.261	0.01	-10.9	± 40.0
Fluorene-d10	1.384	1.423	0.10	2.8	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/13/2016 Time: 17:05

Lab File ID: BM005435.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02034 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
4,6-Dinitro-2-methylphenol-d2	0.113	0.111	0.01	-1.8	± 30.0
Anthracene-d10	0.884	0.941	0.30	6.4	± 20.0
Pyrene-d10	0.923	0.973	0.30	5.4	± 25.0
Benzo(a)pyrene-d12	0.885	0.940	0.01	6.2	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/14/2016 Time: 04:32

Lab File ID: BM005449.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02035 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
1,4-Dioxane	0.776	0.836	0.01	7.7	± 40.0
Benzaldehyde	0.879	1.119	0.10	27.3	± 40.0
Phenol	1.875	1.857	0.08	-1.0	± 20.0
Bis(2-Chloroethyl)ether	1.411	1.404	0.10	-0.5	± 20.0
2-Chlorophenol	1.401	1.419	0.20	1.3	± 20.0
2-Methylphenol	1.449	1.387	0.01	-4.3	± 20.0
2,2-oxybis(1-Chloropropane)	1.915	1.969	0.01	2.8	± 25.0
Acetophenone	2.221	2.300	0.06	3.6	± 20.0
4-Methylphenol	1.608	1.529	0.01	-4.9	± 20.0
N-Nitroso-di-n-propylamine	1.161	1.154	0.08	-0.6	± 25.0
Hexachloroethane	0.527	0.547	0.10	3.8	± 20.0
Nitrobenzene	0.357	0.373	0.09	4.5	± 20.0
Isophorone	0.694	0.710	0.10	2.3	± 20.0
2-Nitrophenol	0.174	0.184	0.06	5.7	± 20.0
2,4-Dimethylphenol	0.370	0.383	0.05	3.5	± 25.0
Bis(2-Chloroethoxy)methane	0.432	0.428	0.08	-0.9	± 20.0
2,4-Dichlorophenol	0.308	0.318	0.06	3.2	± 20.0
Naphthalene	1.006	1.031	0.20	2.5	± 20.0
4-Chloroaniline	0.369	0.412	0.01	11.7	± 40.0
Hexachlorobutadiene	0.183	0.203	0.04	10.9	± 20.0
Caprolactam	0.115	0.110	0.01	-4.3	± 30.0
4-Chloro-3-methylphenol	0.369	0.380	0.04	3.0	± 20.0
2-Methylnaphthalene	0.753	0.770	0.10	2.3	± 20.0
Hexachlorocyclopentadiene	0.311	0.198	0.01	-36.3	± 40.0
2,4,6-Trichlorophenol	0.405	0.413	0.09	2.0	± 20.0
2,4,5-Trichlorophenol	0.450	0.444	0.10	-1.3	± 20.0
1,1-Biphenyl	1.584	1.628	0.20	2.8	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/14/2016 Time: 04:32

Lab File ID: BM005449.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02035 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
2-Chloronaphthalene	1.198	1.240	0.30	3.5	± 20.0
2-Nitroaniline	0.369	0.397	0.06	7.6	± 25.0
Dimethylphthalate	1.602	1.668	0.30	4.1	± 20.0
2,6-Dinitrotoluene	0.316	0.340	0.08	7.6	± 20.0
Acenaphthylene	1.989	2.041	0.40	2.6	± 20.0
3-Nitroaniline	0.337	0.360	0.01	6.8	± 25.0
Acenaphthene	1.311	1.357	0.20	3.5	± 20.0
2,4-Dinitrophenol	0.182	0.111	0.01	-39.0	± 50.0
4-Nitrophenol	0.243	0.200	0.01	-17.7	± 40.0
Dibenzofuran	1.902	1.973	0.30	3.7	± 20.0
2,4-Dinitrotoluene	0.471	0.521	0.07	10.6	± 20.0
Diethylphthalate	1.618	1.699	0.30	5.0	± 20.0
Fluorene	1.487	1.581	0.20	6.3	± 20.0
4-Chlorophenyl-phenylether	0.737	0.790	0.10	7.2	± 20.0
4-Nitroaniline	0.357	0.382	0.01	7.0	± 40.0
4,6-Dinitro-2-methylphenol	0.118	0.109	0.01	-7.6	± 30.0
N-Nitrosodiphenylamine	0.548	0.568	0.10	3.7	± 20.0
4-Bromophenyl-phenylether	0.192	0.206	0.07	7.3	± 20.0
1,2,4,5-Tetrachlorobenzene	0.608	0.649	0.10	6.7	± 20.0
Hexachlorobenzene	0.215	0.232	0.05	7.9	± 20.0
Atrazine	0.200	0.225	0.01	12.5	± 25.0
Pentachlorophenol	0.120	0.085	0.01	-29.2	± 40.0
Phenanthrene	1.052	1.091	0.20	3.7	± 20.0
Anthracene	1.048	1.102	0.20	5.2	± 20.0
Carbazole	0.922	1.045	0.05	13.3	± 20.0
Di-n-butylphthalate	1.125	1.238	0.50	10.0	± 20.0
Fluoranthene	1.165	1.387	0.10	19.1	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/14/2016 Time: 04:32

Lab File ID: BM005449.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02035 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
Pyrene	1.160	1.161	0.40	0.1	± 25.0
Butylbenzylphthalate	0.482	0.512	0.10	6.2	± 25.0
3,3-Dichlorobenzidine	0.360	0.398	0.01	10.6	± 40.0
Benzo(a)anthracene	1.150	1.195	0.30	3.9	± 20.0
Chrysene	1.091	1.134	0.20	3.9	± 20.0
Bis(2-ethylhexyl)phthalate	0.669	0.756	0.20	13.0	± 25.0
Di-n-octyl phthalate	1.168	1.475	0.01	26.3	± 40.0
Benzo(b)fluoranthene	1.169	1.286	0.01	10.0	± 25.0
Benzo(k)fluoranthene	1.101	1.236	0.01	12.3	± 25.0
Benzo(a)pyrene	1.106	1.180	0.01	6.7	± 20.0
Indeno(1,2,3-cd)pyrene	1.206	1.130	0.01	-6.3	± 25.0
Dibenzo(a,h)anthracene	1.010	0.961	0.01	-4.9	± 25.0
Benzo(g,h,i)perylene	1.022	0.917	0.01	-10.3	± 30.0
2,3,4,6-Tetrachlorophenol	0.382	0.357	0.04	-6.5	± 20.0
1,4-Dioxane-d8	0.425	0.472	0.01	11.1	± 25.0
Phenol-d5	1.814	1.778	0.01	-2.0	± 25.0
Bis-(2-Chloroethyl)ether-d8	1.035	1.053	0.10	1.7	± 20.0
2-Chlorophenol-d4	1.370	1.382	0.20	0.9	± 20.0
4-Methylphenol-d8	1.499	1.401	0.01	-6.5	± 20.0
Nitrobenzene-d5	0.143	0.149	0.05	4.2	± 20.0
2-Nitrophenol-d4	0.162	0.172	0.05	6.2	± 20.0
2,4-Dichlorophenol-d3	0.300	0.314	0.06	4.7	± 20.0
4-Chloroaniline-d4	0.362	0.398	0.01	9.9	± 40.0
Dimethylphthalate-d6	1.603	1.662	0.30	3.7	± 20.0
Acenaphthylene-d8	1.880	1.950	0.40	3.7	± 20.0
4-Nitrophenol-d4	0.293	0.225	0.01	-23.2	± 40.0
Fluorene-d10	1.384	1.458	0.10	5.3	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/14/2016 Time: 04:32

Lab File ID: BM005449.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02035 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
4,6-Dinitro-2-methylphenol-d2	0.113	0.107	0.01	-5.3	± 30.0
Anthracene-d10	0.884	0.938	0.30	6.1	± 20.0
Pyrene-d10	0.923	0.920	0.30	-0.3	± 25.0
Benzo(a)pyrene-d12	0.885	0.941	0.01	6.3	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/14/2016 Time: 13:09

Lab File ID: BM005461.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02036 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
1,4-Dioxane	0.776	0.795	0.01	2.4	± 50.0
Benzaldehyde	0.879	1.099	0.10	25.0	± 50.0
Phenol	1.875	1.870	0.08	-0.3	± 25.0
Bis(2-Chloroethyl)ether	1.411	1.384	0.10	-1.9	± 25.0
2-Chlorophenol	1.401	1.411	0.20	0.7	± 25.0
2-Methylphenol	1.449	1.387	0.01	-4.3	± 25.0
2,2-oxybis(1-Chloropropane)	1.915	1.964	0.01	2.6	± 50.0
Acetophenone	2.221	2.291	0.06	3.2	± 25.0
4-Methylphenol	1.608	1.545	0.01	-3.9	± 25.0
N-Nitroso-di-n-propylamine	1.161	1.171	0.08	0.9	± 25.0
Hexachloroethane	0.527	0.542	0.10	2.8	± 25.0
Nitrobenzene	0.357	0.376	0.09	5.3	± 25.0
Isophorone	0.694	0.709	0.10	2.2	± 25.0
2-Nitrophenol	0.174	0.183	0.06	5.2	± 25.0
2,4-Dimethylphenol	0.370	0.387	0.05	4.6	± 50.0
Bis(2-Chloroethoxy)methane	0.432	0.422	0.08	-2.3	± 25.0
2,4-Dichlorophenol	0.308	0.316	0.06	2.6	± 25.0
Naphthalene	1.006	1.037	0.20	3.1	± 25.0
4-Chloroaniline	0.369	0.421	0.01	14.1	± 50.0
Hexachlorobutadiene	0.183	0.203	0.04	10.9	± 25.0
Caprolactam	0.115	0.110	0.01	-4.3	± 50.0
4-Chloro-3-methylphenol	0.369	0.380	0.04	3.0	± 25.0
2-Methylnaphthalene	0.753	0.764	0.10	1.5	± 25.0
Hexachlorocyclopentadiene	0.311	0.101	0.01	-67.5	± 50.0
2,4,6-Trichlorophenol	0.405	0.404	0.09	-0.2	± 25.0
2,4,5-Trichlorophenol	0.450	0.425	0.10	-5.6	± 25.0
1,1-Biphenyl	1.584	1.597	0.20	0.8	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/14/2016 Time: 13:09

Lab File ID: BM005461.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02036 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
2-Chloronaphthalene	1.198	1.219	0.30	1.8	± 25.0
2-Nitroaniline	0.369	0.392	0.06	6.2	± 25.0
Dimethylphthalate	1.602	1.643	0.30	2.6	± 25.0
2,6-Dinitrotoluene	0.316	0.338	0.08	7.0	± 25.0
Acenaphthylene	1.989	2.068	0.40	4.0	± 25.0
3-Nitroaniline	0.337	0.366	0.01	8.6	± 50.0
Acenaphthene	1.311	1.360	0.20	3.7	± 25.0
2,4-Dinitrophenol	0.182	0.117	0.01	-35.7	± 50.0
4-Nitrophenol	0.243	0.206	0.01	-15.2	± 50.0
Dibenzofuran	1.902	1.981	0.30	4.2	± 25.0
2,4-Dinitrotoluene	0.471	0.516	0.07	9.6	± 25.0
Diethylphthalate	1.618	1.689	0.30	4.4	± 25.0
Fluorene	1.487	1.620	0.20	8.9	± 25.0
4-Chlorophenyl-phenylether	0.737	0.804	0.10	9.1	± 25.0
4-Nitroaniline	0.357	0.363	0.01	1.7	± 50.0
4,6-Dinitro-2-methylphenol	0.118	0.113	0.01	-4.2	± 50.0
N-Nitrosodiphenylamine	0.548	0.571	0.10	4.2	± 25.0
4-Bromophenyl-phenylether	0.192	0.204	0.07	6.3	± 25.0
1,2,4,5-Tetrachlorobenzene	0.608	0.632	0.10	3.9	± 25.0
Hexachlorobenzene	0.215	0.230	0.05	7.0	± 25.0
Atrazine	0.200	0.225	0.01	12.5	± 50.0
Pentachlorophenol	0.120	0.087	0.01	-27.5	± 50.0
Phenanthrene	1.052	1.116	0.20	6.1	± 25.0
Anthracene	1.048	1.147	0.20	9.4	± 25.0
Carbazole	0.922	1.082	0.05	17.4	± 25.0
Di-n-butylphthalate	1.125	1.291	0.50	14.8	± 25.0
Fluoranthene	1.165	1.442	0.10	23.8	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/14/2016 Time: 13:09

Lab File ID: BM005461.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02036 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
Pyrene	1.160	1.114	0.40	-4.0	± 50.0
Butylbenzylphthalate	0.482	0.488	0.10	1.2	± 50.0
3,3-Dichlorobenzidine	0.360	0.408	0.01	13.3	± 50.0
Benzo(a)anthracene	1.150	1.171	0.30	1.8	± 25.0
Chrysene	1.091	1.133	0.20	3.8	± 50.0
Bis(2-ethylhexyl)phthalate	0.669	0.724	0.20	8.2	± 50.0
Di-n-octyl phthalate	1.168	1.332	0.01	14.0	± 50.0
Benzo(b)fluoranthene	1.169	1.229	0.01	5.1	± 50.0
Benzo(k)fluoranthene	1.101	1.172	0.01	6.4	± 50.0
Benzo(a)pyrene	1.106	1.169	0.01	5.7	± 50.0
Indeno(1,2,3-cd)pyrene	1.206	1.196	0.01	-0.8	± 50.0
Dibenzo(a,h)anthracene	1.010	1.016	0.01	0.6	± 50.0
Benzo(g,h,i)perylene	1.022	0.983	0.01	-3.8	± 50.0
2,3,4,6-Tetrachlorophenol	0.382	0.372	0.04	-2.6	± 50.0
1,4-Dioxane-d8	0.425	0.434	0.01	2.1	± 50.0
Phenol-d5	1.814	1.745	0.01	-3.8	± 25.0
Bis-(2-Chloroethyl)ether-d8	1.035	1.037	0.10	0.2	± 25.0
2-Chlorophenol-d4	1.370	1.373	0.20	0.2	± 25.0
4-Methylphenol-d8	1.499	1.414	0.01	-5.7	± 25.0
Nitrobenzene-d5	0.143	0.152	0.05	6.3	± 25.0
2-Nitrophenol-d4	0.162	0.166	0.05	2.5	± 25.0
2,4-Dichlorophenol-d3	0.300	0.313	0.06	4.3	± 25.0
4-Chloroaniline-d4	0.362	0.411	0.01	13.5	± 50.0
Dimethylphthalate-d6	1.603	1.639	0.30	2.2	± 25.0
Acenaphthylene-d8	1.880	1.942	0.40	3.3	± 25.0
4-Nitrophenol-d4	0.293	0.229	0.01	-21.8	± 50.0
Fluorene-d10	1.384	1.450	0.10	4.8	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4002

Analytical Method: SVOA Level:

Instrument ID: BNA_M Date Analyzed: 05/14/2016 Time: 13:09

Lab File ID: BM005461.D Init. Calib Date(s): 05/05/2016 05/05/2016

EPA Sample No.: SSTD02036 Init. Calib Time(s): 11:09 15:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
4,6-Dinitro-2-methylphenol-d2	0.113	0.109	0.01	-3.5	± 50.0
Anthracene-d10	0.884	0.952	0.30	7.7	± 25.0
Pyrene-d10	0.923	0.875	0.30	-5.2	± 50.0
Benzo(a)pyrene-d12	0.885	0.931	0.01	5.2	± 50.0

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005380.D
Acq On : 11 May 2016 09:01
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:29:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02061

Manual Integrations APPROVED
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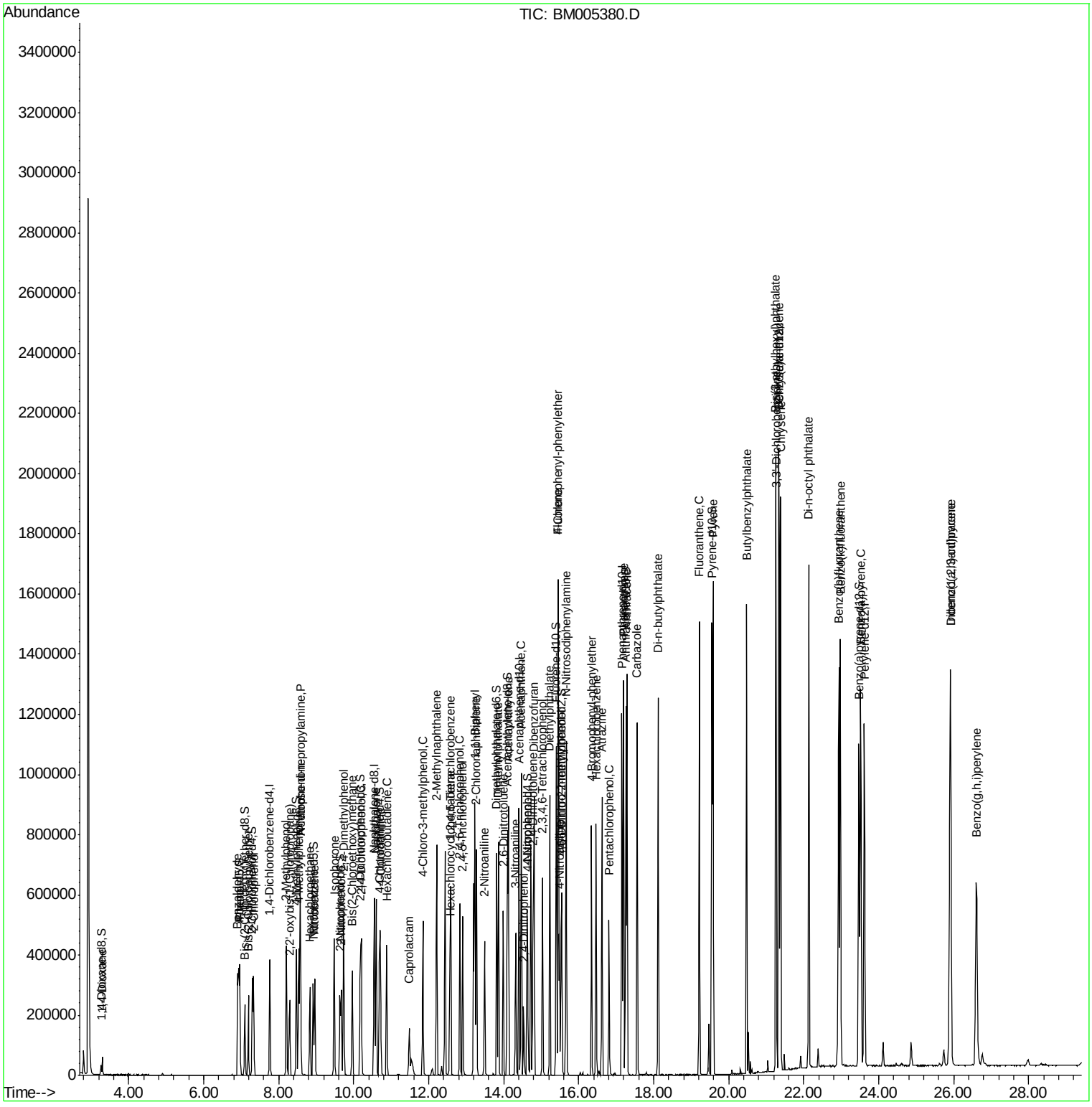
5/12/2016 7:01:17 PM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005380.D
Acq On : 11 May 2016 09:01
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:29:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02061

Manual Integrations APPROVED
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5/12/2016 7:01:17 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	100625	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	477106	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	305317	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.15	188	736650	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	814700	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	832126	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.26	96	16215	7.58	ng/uL	0.00
5) Phenol-d5	6.93	99	186678	20.45	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	104693	20.11	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	143532	20.82	ng/ul	0.00
13) 4-Methylphenol-d8	8.47	113	155546	20.62	ng/ul	0.00
19) Nitrobenzene-d5	8.92	128	74037	21.74	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	85005	22.04	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	154380	21.54	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	207264	24.02	ng/ul	0.00
43) Dimethylphthalate-d6	13.81	166	502473	20.53	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	595621	20.75	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	90855	20.34	ng/ul	0.00
57) Fluorene-d10	15.40	176	431674	20.43	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	91455	22.07	ng/ul	0.00
70) Anthracene-d10	17.25	188	692797	21.28	ng/ul	0.00
76) Pyrene-d10	19.55	212	790515	21.02	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	772408	20.97	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	29090	7.46	ng/uL	95
4) Benzaldehyde	6.90	77	115615	26.15	ng/ul	98
6) Phenol	6.96	94	195767	20.75	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.19	93	142070	20.01	ng/ul	97
10) 2-Chlorophenol	7.33	128	144028	20.43	ng/ul	98
11) 2-Methylphenol	8.20	108	149383	20.49	ng/ul	99
12) 2,2'-oxybis(1-Chloropropan	8.29	45	196505	20.40	ng/ul	99
14) Acetophenone	8.58	105	238597	21.35	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.57	70	121666	20.84	ng/ul	98
16) 4-Methylphenol	8.53	108	166073	20.53	ng/ul	96
17) Hexachloroethane	8.83	117	55655	20.98	ng/ul	95
20) Nitrobenzene	8.96	77	179794	21.08	ng/ul	98
21) Isophorone	9.48	82	350989	21.20	ng/ul	99
23) 2-Nitrophenol	9.67	139	90715	21.83	ng/ul	97
24) 2,4-Dimethylphenol	9.73	107	189843	21.54	ng/ul	97
25) Bis(2-Chloroethoxy)methane	9.96	93	204117	19.79	ng/ul	99
27) 2,4-Dichlorophenol	10.20	162	155060	21.12	ng/ul	99
28) Naphthalene	10.60	128	487040	20.29	ng/ul	100
30) 4-Chloroaniline	10.71	127	208281	23.67	ng/ul	97
31) Hexachlorobutadiene	10.87	225	94273	21.61	ng/ul	98
32) Caprolactam	11.48	113	56270m	20.57	ng/ul	
33) 4-Chloro-3-methylphenol	11.84	107	187778	21.33	ng/ul	98
34) 2-Methylnaphthalene	12.21	142	362143	20.17	ng/ul	99

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005380.D
Acq On : 11 May 2016 09:01
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:29:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02061

Manual Integrations APPROVED
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5/12/2016 7:01:17 PM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.59	216	193304	20.81 ng/ul	98
37) Hexachlorocyclopentadiene	12.56	237	92798	19.56 ng/ul	95
38) 2,4,6-Trichlorophenol	12.83	196	130050	21.02 ng/ul	94
39) 2,4,5-Trichlorophenol	12.90	196	143782	20.95 ng/ul	97
40) 1,1'-Biphenyl	13.23	154	482410	19.95 ng/ul	99
41) 2-Chloronaphthalene	13.27	162	373119	20.40 ng/ul	98
42) 2-Nitroaniline	13.49	65	126152	22.41 ng/ul	97
44) Dimethylphthalate	13.86	163	503915	20.61 ng/ul	99
45) 2,6-Dinitrotoluene	13.99	165	107981	22.39 ng/ul#	90
47) Acenaphthylene	14.12	152	628221	20.69 ng/ul	99
48) 3-Nitroaniline	14.32	138	117243	22.81 ng/ul	96
49) Acenaphthene	14.47	153	409340	20.45 ng/ul	99
50) 2,4-Dinitrophenol	14.53	184	51232	18.47 ng/ul	98
52) 4-Nitrophenol	14.63	109	81532	21.95 ng/ul	92
53) Dibenzofuran	14.80	168	597341	20.57 ng/ul	98
54) 2,4-Dinitrotoluene	14.78	165	161123	22.41 ng/ul	97
55) 2,3,4,6-Tetrachlorophenol	15.03	232	127003	21.77 ng/ul#	96
56) Diethylphthalate	15.23	149	514402	20.82 ng/ul	99
58) Fluorene	15.46	166	463176	20.40 ng/ul	100
59) 4-Chlorophenyl-phenylether	15.44	204	230521	20.49 ng/ul	97
60) 4-Nitroaniline	15.49	138	124597	22.87 ng/ul	94
63) 4,6-Dinitro-2-methylphenol	15.54	198	95203	21.86 ng/ul#	92
64) N-Nitrosodiphenylamine	15.66	169	427204	21.18 ng/ul	100
65) 4-Bromophenyl-phenylether	16.34	248	153425	21.72 ng/ul	98
66) Hexachlorobenzene	16.46	284	172269	21.75 ng/ul	100
67) Atrazine	16.62	200	169843	23.07 ng/ul	99
68) Pentachlorophenol	16.80	266	94299	21.42 ng/ul	97
69) Phenanthrene	17.19	178	801884	20.70 ng/ul	100
71) Anthracene	17.29	178	815155	21.11 ng/ul	99
72) Carbazole	17.56	167	752941	22.16 ng/ul	99
73) Di-n-butylphthalate	18.12	149	901317	21.75 ng/ul	100
74) Fluoranthene	19.22	202	972076	22.65 ng/ul	97
77) Pyrene	19.58	202	983485	20.81 ng/ul	98
78) Butylbenzylphthalate	20.47	149	446440	22.75 ng/ul	99
79) 3,3'-Dichlorobenzidine	21.26	252	323120	22.06 ng/ul	99
80) Benzo(a)anthracene	21.33	228	979327	20.90 ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.25	149	614678	22.55 ng/ul#	97
82) Chrysene	21.38	228	943969	21.23 ng/ul	99
84) Di-n-octyl phthalate	22.13	149	1127624	23.20 ng/ul	98
85) Benzo(b)fluoranthene	22.93	252	1001915	20.60 ng/ul	99
86) Benzo(k)fluoranthene	22.97	252	987950	21.57 ng/ul	99
88) Benzo(a)pyrene	23.51	252	959835	20.86 ng/ul	100
89) Indeno(1,2,3-cd)pyrene	25.90	276	955291	19.03 ng/ul	97
90) Dibenzo(a,h)anthracene	25.91	278	802160	19.10 ng/ul	98
91) Benzo(g,h,i)perylene	26.60	276	785553	18.48 ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051116\
Data File : BM005380.D
Acq On : 11 May 2016 09:01
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:29:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02061

Manual Integrations APPROVED
sohil
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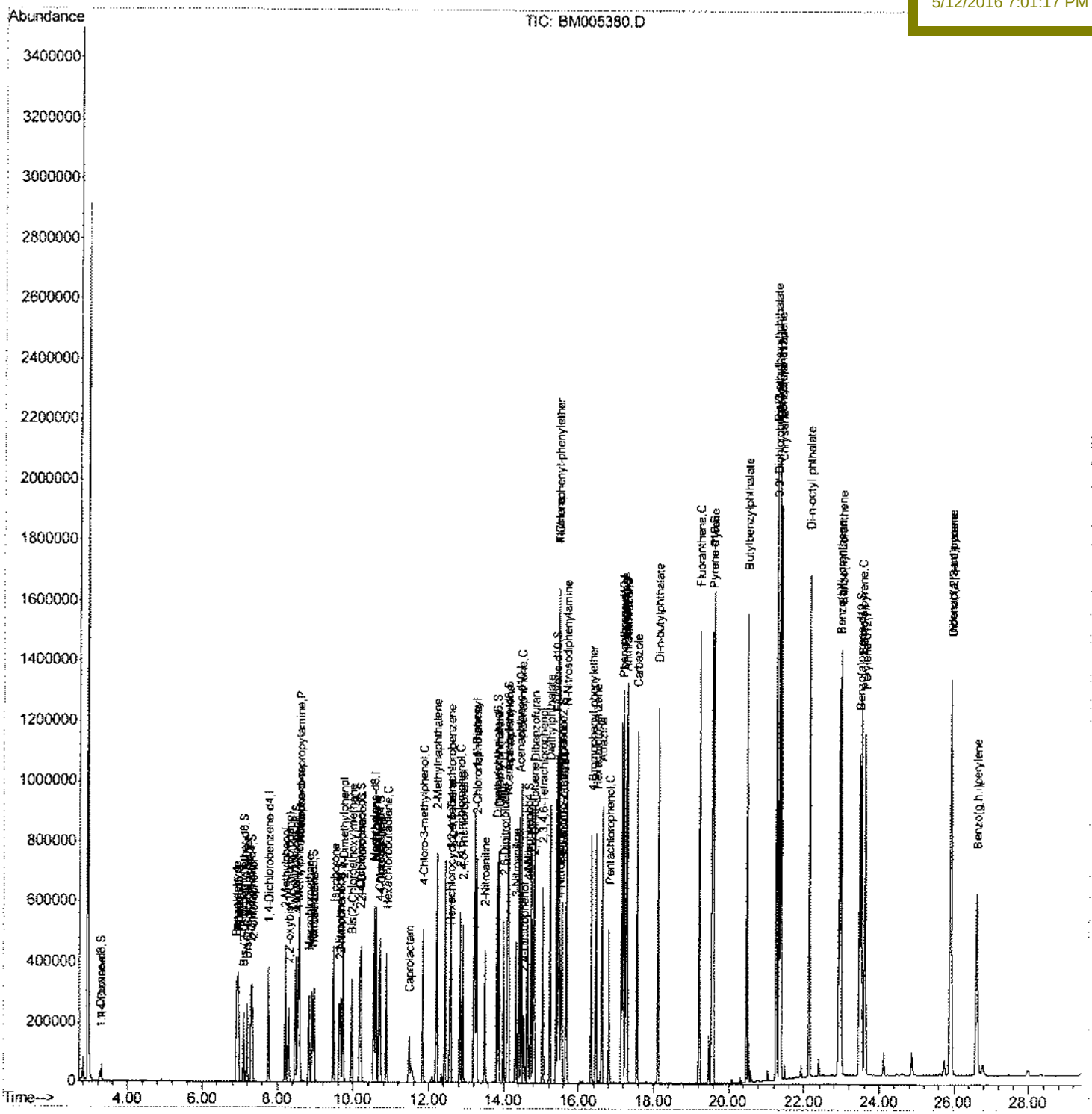

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051116\
Data File : BM005380.D
Acq On : 11 May 2016 09:01
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:27:23 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02061

Manual Integrations APPROVED
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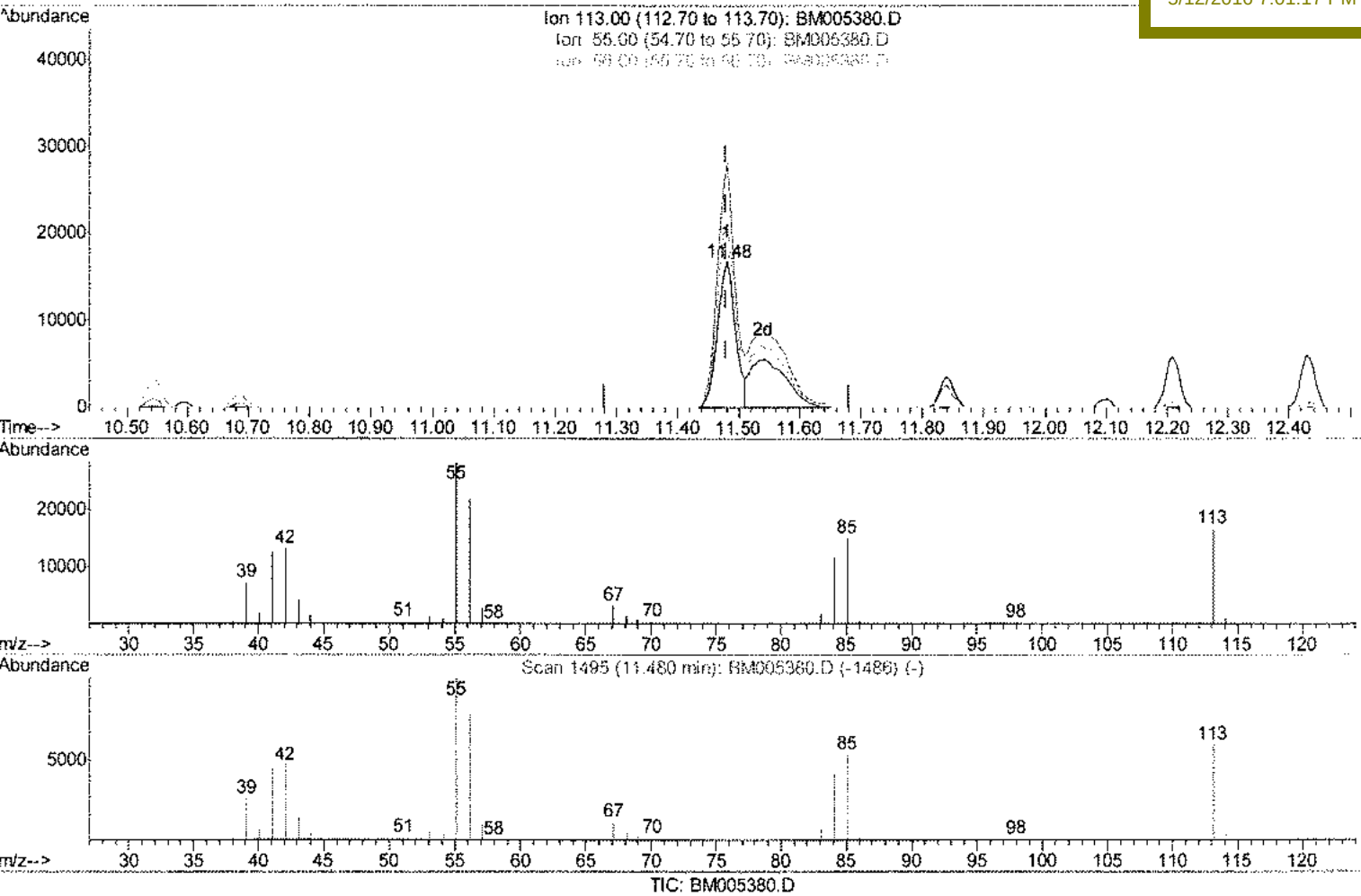
5/12/2016 7:01:17 PM



TIC: BM005380.D

(32) Caprolactam

11.480min (0.000) 12.36ng/ul

response 33808

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	168.01
56.00	120.80	130.03
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051116\
Data File : BM005380.D
Acq On : 11 May 2016 09:01
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:27:23 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02061

Manual Integrations APPROVED
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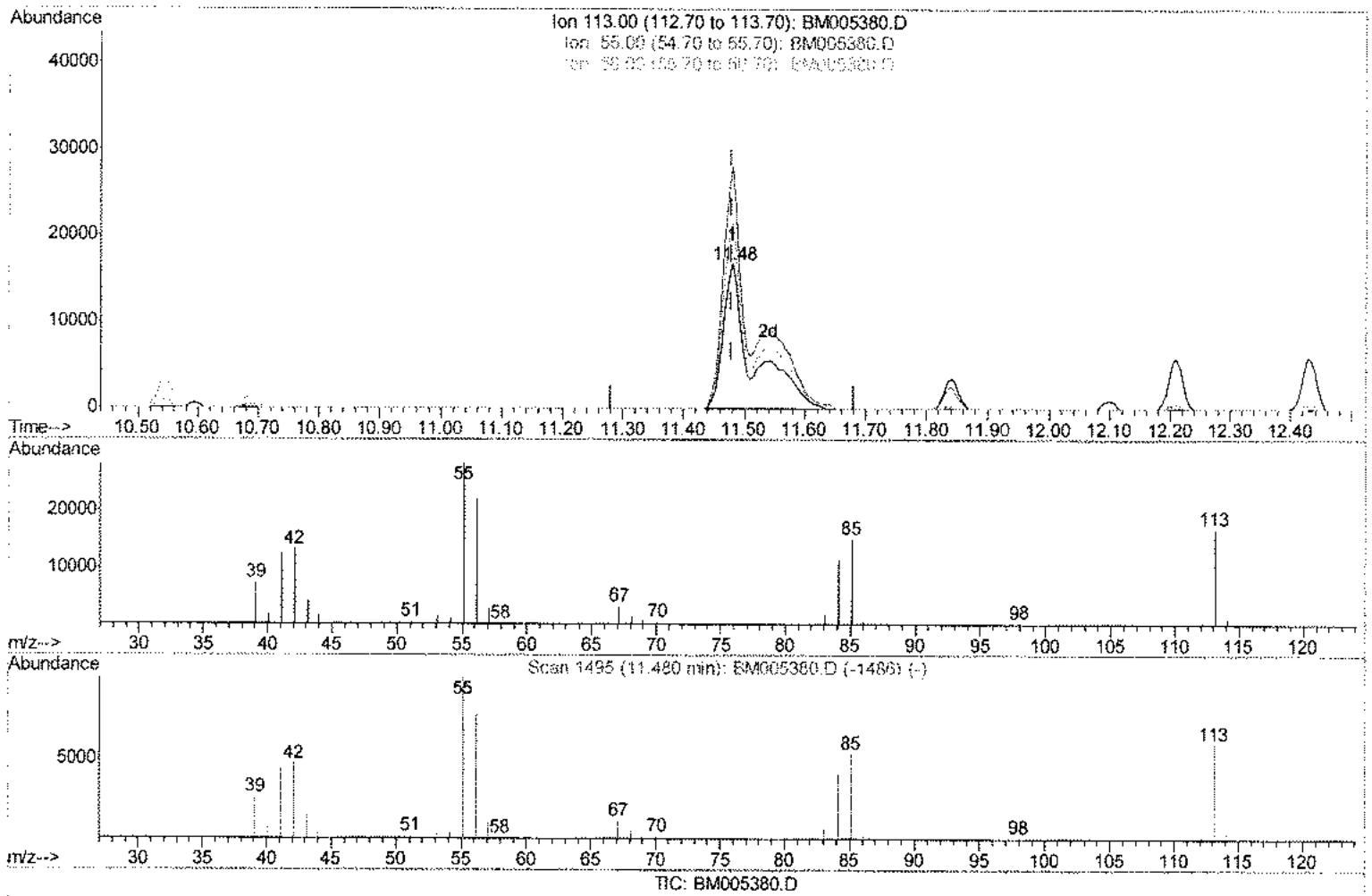
5/12/2016 7:01:17 PM



TIC: BM005380.D

(32) Caprolactam

11.480min (0.000) 20.57ng/ul m

response 56270

U.M 05/16/16

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	168.01
56.00	120.80	130.03
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051116\
Data File : BM005380.D
Acq On : 11 May 2016 09:01
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:29:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02061

Manual Integrations APPROVED
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5/12/2016 7:01:17 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	100625	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	477106	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	305317	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.15	188	736650	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	814700	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	832126	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.26	96	16215	7.58	ng/uL	0.00
5) Phenol-d5	6.93	99	186678	20.45	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	104693	20.11	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	143532	20.82	ng/ul	0.00
13) 4-Methylphenol-d8	8.47	113	155546	20.62	ng/ul	0.00
19) Nitrobenzene-d5	8.92	128	74037	21.74	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	85005	22.04	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	154380	21.54	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	207264	24.02	ng/ul	0.00
43) Dimethylphthalate-d6	13.81	166	502473	20.53	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	595621	20.75	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	90855	20.34	ng/ul	0.00
57) Fluorene-d10	15.40	176	431674	20.43	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	91455	22.07	ng/ul	0.00
70) Anthracene-d10	17.25	188	692797	21.28	ng/ul	0.00
76) Pyrene-d10	19.55	212	790515	21.02	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	772408	20.97	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	29090	7.46	ng/uL	95
4) Benzaldehyde	6.90	77	115615	26.15	ng/ul	98
6) Phenol	6.96	94	195767	20.75	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.19	93	142070	20.01	ng/ul	97
10) 2-Chlorophenol	7.33	128	144028	20.43	ng/ul	98
11) 2-Methylphenol	8.20	108	149383	20.49	ng/ul	99
12) 2,2'-oxybis(1-Chloropropan	8.29	45	196505	20.40	ng/ul	99
14) Acetophenone	8.58	105	238597	21.35	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.57	70	121666	20.84	ng/ul	98
16) 4-Methylphenol	8.53	108	166073	20.53	ng/ul	96
17) Hexachloroethane	8.83	117	55655	20.98	ng/ul	95
20) Nitrobenzene	8.96	77	179794	21.08	ng/ul	98
21) Isophorone	9.48	82	350989	21.20	ng/ul	99
23) 2-Nitrophenol	9.67	139	90715	21.83	ng/ul	97
24) 2,4-Dimethylphenol	9.73	107	189843	21.54	ng/ul	97
25) Bis(2-Chloroethoxy)methane	9.96	93	204117	19.79	ng/ul	99
27) 2,4-Dichlorophenol	10.20	162	155060	21.12	ng/ul	99
28) Naphthalene	10.60	128	487040	20.29	ng/ul	100
30) 4-Chloroaniline	10.71	127	208281	23.67	ng/ul	97
31) Hexachlorobutadiene	10.87	225	94273	21.61	ng/ul	98
32) Caprolactam	11.48	113	56270m	20.57	ng/ul	
33) 4-Chloro-3-methylphenol	11.84	107	187778	21.33	ng/ul	98
34) 2-Methylnaphthalene	12.21	142	362143	20.17	ng/ul	99

U. M
05/16/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051116\
Data File : BM005380.D
Acq On : 11 May 2016 09:01
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:29:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02061

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.59	216	193304	20.81	ng/ul	98
37) Hexachlorocyclopentadiene	12.56	237	92798	19.56	ng/ul	95
38) 2,4,6-Trichlorophenol	12.83	196	130050	21.02	ng/ul	94
39) 2,4,5-Trichlorophenol	12.90	196	143782	20.95	ng/ul	97
40) 1,1'-Biphenyl	13.23	154	482410	19.95	ng/ul	99
41) 2-Chloronaphthalene	13.27	162	373119	20.40	ng/ul	98
42) 2-Nitroaniline	13.49	65	126152	22.41	ng/ul	97
44) Dimethylphthalate	13.86	163	503915	20.61	ng/ul	99
45) 2,6-Dinitrotoluene	13.99	165	107981	22.39	ng/ul#	90
47) Acenaphthylene	14.12	152	628221	20.69	ng/ul	99
48) 3-Nitroaniline	14.32	138	117243	22.81	ng/ul	96
49) Acenaphthene	14.47	153	409340	20.45	ng/ul	99
50) 2,4-Dinitrophenol	14.53	184	51232	18.47	ng/ul	98
52) 4-Nitrophenol	14.63	109	81532	21.95	ng/ul	92
53) Dibenzofuran	14.80	168	597341	20.57	ng/ul	98
54) 2,4-Dinitrotoluene	14.78	165	161123	22.41	ng/ul	97
55) 2,3,4,6-Tetrachlorophenol	15.03	232	127003	21.77	ng/ul#	96
56) Diethylphthalate	15.23	149	514402	20.82	ng/ul	99
58) Fluorene	15.46	166	463176	20.40	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.44	204	230521	20.49	ng/ul	97
60) 4-Nitroaniline	15.49	138	124597	22.87	ng/ul	94
63) 4,6-Dinitro-2-methylphenol	15.54	198	95203	21.86	ng/ul#	92
64) N-Nitrosodiphenylamine	15.66	169	427204	21.18	ng/ul	100
65) 4-Bromophenyl-phenylether	16.34	248	153425	21.72	ng/ul	98
66) Hexachlorobenzene	16.46	284	172269	21.75	ng/ul	100
67) Atrazine	16.62	200	169843	23.07	ng/ul	99
68) Pentachlorophenol	16.80	266	94299	21.42	ng/ul	97
69) Phenanthrene	17.19	178	801884	20.70	ng/ul	100
71) Anthracene	17.29	178	815155	21.11	ng/ul	99
72) Carbazole	17.56	167	752941	22.16	ng/ul	99
73) Di-n-butylphthalate	18.12	149	901317	21.75	ng/ul	100
74) Fluoranthene	19.22	202	972076	22.65	ng/ul	97
77) Pyrene	19.58	202	983485	20.81	ng/ul	98
78) Butylbenzylphthalate	20.47	149	446440	22.75	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.26	252	323120	22.06	ng/ul	99
80) Benzo(a)anthracene	21.33	228	979327	20.90	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.25	149	614678	22.55	ng/ul#	97
82) Chrysene	21.38	228	943969	21.23	ng/ul	99
84) Di-n-octyl phthalate	22.13	149	1127624	23.20	ng/ul	98
85) Benzo(b)fluoranthene	22.93	252	1001915	20.60	ng/ul	99
86) Benzo(k)fluoranthene	22.97	252	987950	21.57	ng/ul	99
88) Benzo(a)pyrene	23.51	252	959835	20.86	ng/ul	100
89) Indeno(1,2,3-cd)pyrene	25.90	276	955291	19.03	ng/ul	97
90) Dibenzo(a,h)anthracene	25.91	278	802160	19.10	ng/ul	98
91) Benzo(g,h,i)perylene	26.60	276	785553	18.48	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC

Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 04:21:27 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02062

Manual Integrations APPROVED
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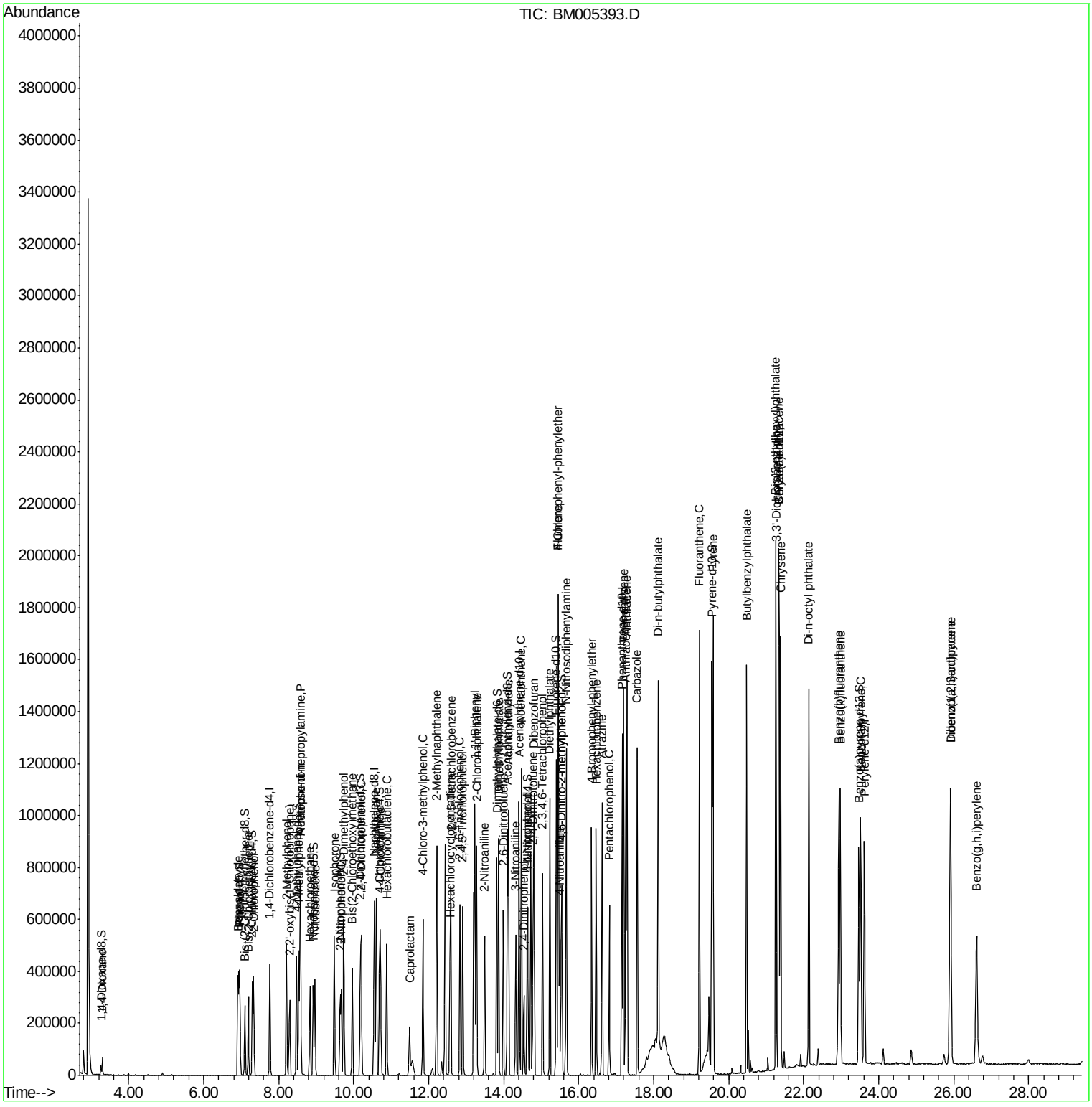
5/12/2016 7:07:51 PM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC

Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 04:21:27 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02062

Manual Integrations APPROVED
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5/12/2016 7:07:51 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	115496	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	551013	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	351891	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.16	188	834042	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	747722	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	612165	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.26	96	17639	7.18	ng/uL	0.00
5) Phenol-d5	6.93	99	211837	20.22	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	119408	19.98	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	164153	20.75	ng/ul	0.00
13) 4-Methylphenol-d8	8.47	113	179457	20.73	ng/ul	0.00
19) Nitrobenzene-d5	8.92	128	86578	22.01	ng/ul	0.00
22) 2-Nitrophenol-d4	9.64	143	101628	22.82	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	179566	21.69	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	243116	24.40	ng/ul	0.00
43) Dimethylphthalate-d6	13.82	166	590999	20.95	ng/ul	0.00
46) Acenaphthylene-d8	14.10	160	699462	21.14	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	106522	20.69	ng/ul	0.00
57) Fluorene-d10	15.40	176	499714	20.52	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	111144	23.69	ng/ul	0.00
70) Anthracene-d10	17.25	188	781450	21.20	ng/ul	0.00
76) Pyrene-d10	19.55	212	819982	23.76	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	572408	21.12	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	32355	7.22	ng/uL	96
4) Benzaldehyde	6.90	77	133177	26.24	ng/ul	97
6) Phenol	6.96	94	220123	20.33	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.19	93	163401	20.05	ng/ul	98
10) 2-Chlorophenol	7.33	128	165457	20.45	ng/ul	98
11) 2-Methylphenol	8.20	108	170695	20.40	ng/ul	100
12) 2,2'-oxybis(1-Chloropropan	8.29	45	225840	20.43	ng/ul	99
14) Acetophenone	8.58	105	271815	21.19	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.57	70	141949	21.18	ng/ul	99
16) 4-Methylphenol	8.53	108	190667	20.53	ng/ul	98
17) Hexachloroethane	8.83	117	64846	21.29	ng/ul	95
20) Nitrobenzene	8.96	77	208054	21.12	ng/ul	96
21) Isophorone	9.48	82	414298	21.66	ng/ul	99
23) 2-Nitrophenol	9.67	139	106338	22.16	ng/ul	98
24) 2,4-Dimethylphenol	9.73	107	218114	21.42	ng/ul	98
25) Bis(2-Chloroethoxy)methane	9.96	93	238500	20.02	ng/ul	98
27) 2,4-Dichlorophenol	10.20	162	180937	21.34	ng/ul	99
28) Naphthalene	10.60	128	566276	20.43	ng/ul	99
30) 4-Chloroaniline	10.71	127	243797	23.99	ng/ul	99
31) Hexachlorobutadiene	10.87	225	111638	22.16	ng/ul	99
32) Caprolactam	11.49	113	68690m	21.75	ng/ul	
33) 4-Chloro-3-methylphenol	11.85	107	223786	22.02	ng/ul	98
34) 2-Methylnaphthalene	12.21	142	427632	20.62	ng/ul	97

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC

Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 04:21:27 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02062

Manual Integrations APPROVED
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5/12/2016 7:07:51 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.59	216	225772	21.09	ng/ul	99
37) Hexachlorocyclopentadiene	12.56	237	108491	19.84	ng/ul	95
38) 2,4,6-Trichlorophenol	12.83	196	157938	22.15	ng/ul	98
39) 2,4,5-Trichlorophenol	12.90	196	174804	22.10	ng/ul	98
40) 1,1'-Biphenyl	13.23	154	568347	20.39	ng/ul	99
41) 2-Chloronaphthalene	13.27	162	439321	20.84	ng/ul	98
42) 2-Nitroaniline	13.49	65	150308	23.16	ng/ul	97
44) Dimethylphthalate	13.86	163	589092	20.90	ng/ul	100
45) 2,6-Dinitrotoluene	13.99	165	128863	23.19	ng/ul#	91
47) Acenaphthylene	14.13	152	733838	20.97	ng/ul	100
48) 3-Nitroaniline	14.32	138	138540	23.38	ng/ul	100
49) Acenaphthene	14.47	153	475546	20.62	ng/ul	98
50) 2,4-Dinitrophenol	14.53	184	70755	22.13	ng/ul	94
52) 4-Nitrophenol	14.64	109	94059	21.97	ng/ul	92
53) Dibenzofuran	14.80	168	688234	20.56	ng/ul	99
54) 2,4-Dinitrotoluene	14.78	165	185080	22.33	ng/ul	98
55) 2,3,4,6-Tetrachlorophenol	15.03	232	151808	22.57	ng/ul#	96
56) Diethylphthalate	15.23	149	598250	21.01	ng/ul	99
58) Fluorene	15.46	166	529313	20.23	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.44	204	267712	20.65	ng/ul	97
60) 4-Nitroaniline	15.49	138	143799m	22.90	ng/ul	
63) 4,6-Dinitro-2-methylphenol	15.54	198	115843	23.50	ng/ul#	93
64) N-Nitrosodiphenylamine	15.66	169	490433	21.47	ng/ul	99
65) 4-Bromophenyl-phenylether	16.34	248	176874	22.12	ng/ul	97
66) Hexachlorobenzene	16.46	284	198623	22.15	ng/ul	97
67) Atrazine	16.62	200	195995	23.52	ng/ul	99
68) Pentachlorophenol	16.81	266	117927	23.66	ng/ul	98
69) Phenanthrene	17.20	178	907451	20.69	ng/ul	99
71) Anthracene	17.29	178	918853	21.02	ng/ul	100
72) Carbazole	17.56	167	845738	21.99	ng/ul	99
73) Di-n-butylphthalate	18.12	149	1035602	22.07	ng/ul	100
74) Fluoranthene	19.22	202	1038053	21.36	ng/ul	97
77) Pyrene	19.58	202	1030507	23.76	ng/ul	98
78) Butylbenzylphthalate	20.47	149	471289	26.17	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.26	252	296423	22.05	ng/ul	100
80) Benzo(a)anthracene	21.33	228	902530	20.98	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.25	149	618650	24.73	ng/ul#	98
82) Chrysene	21.39	228	860567	21.09	ng/ul	100
84) Di-n-octyl phthalate	22.13	149	988141	27.64	ng/ul	99
85) Benzo(b)fluoranthene	22.93	252	799128	22.33	ng/ul	99
86) Benzo(k)fluoranthene	22.98	252	710948	21.10	ng/ul	99
88) Benzo(a)pyrene	23.51	252	711425	21.02	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.91	276	740127	20.04	ng/ul	97
90) Dibenzo(a,h)anthracene	25.91	278	627545	20.31	ng/ul	97
91) Benzo(g,h,i)perylene	26.61	276	626457	20.03	ng/ul	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

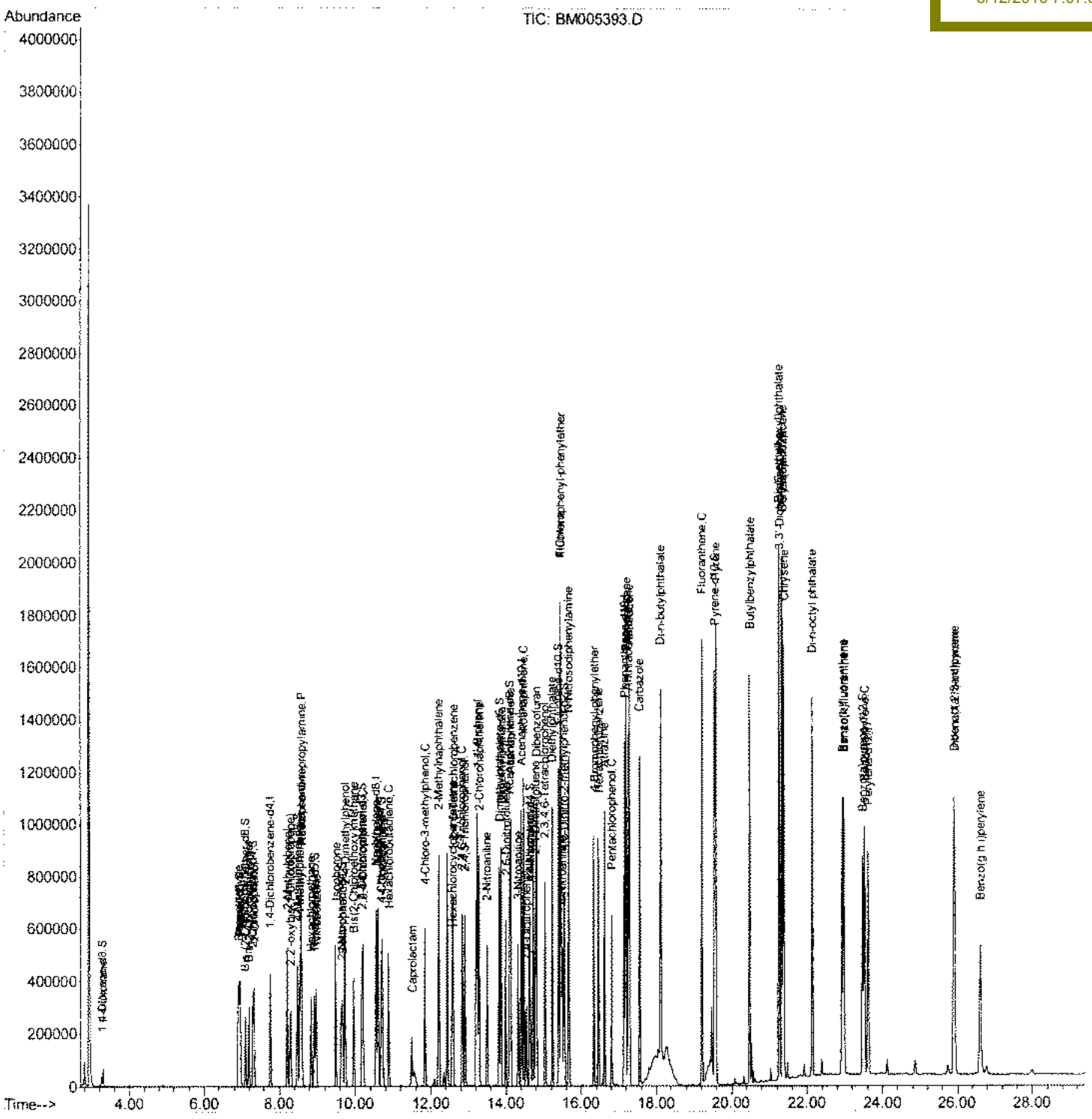
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC

Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 04:21:27 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId:
SSTD02062

Manual Integrations APPROVED
sohil
5/12/2016 7:07:51 PM



Quantitation Report (Qedit)

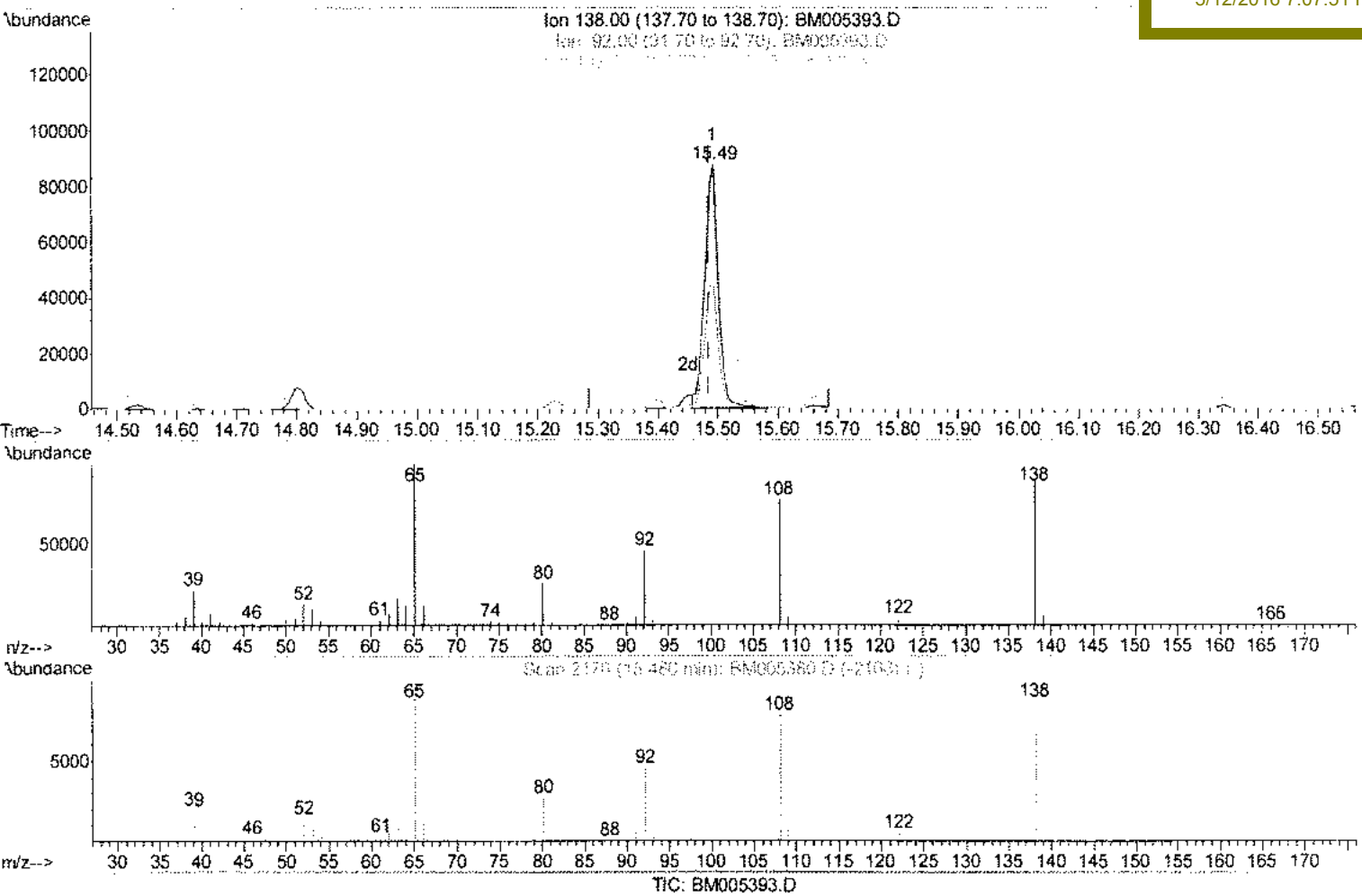
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC

Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:33:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02062

Manual Integrations APPROVED
sohil
5/12/2016 7:07:51 PM



(60) 4-Nitroaniline

15.492min (+0.006) 21.56ng/ul

response 135421

Ion	Exp%	Act%
138.00	100	100
92.00	55.40	52.22
108.00	82.90	87.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC

Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:33:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02062

Manual Integrations APPROVED
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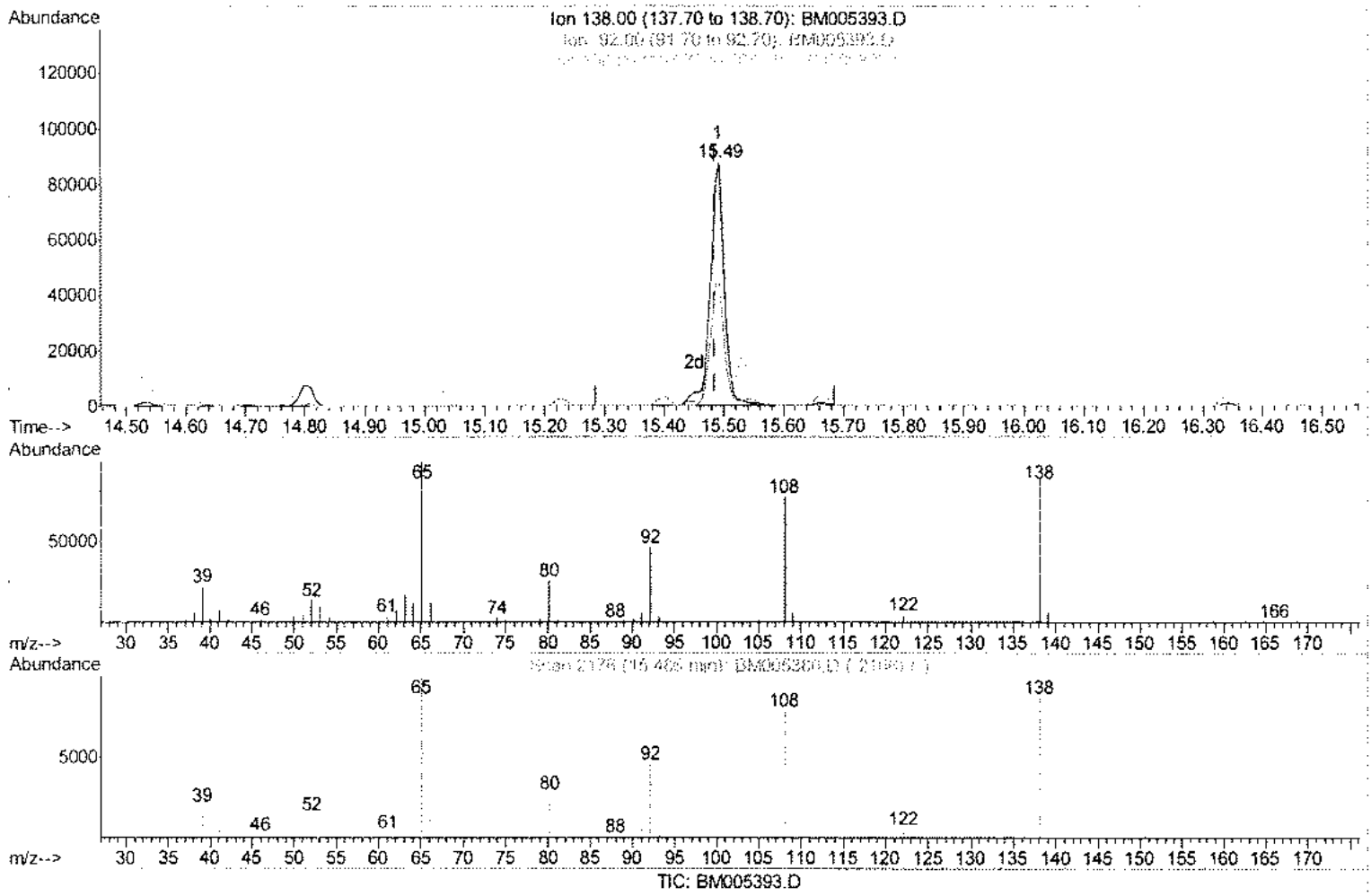

(60) 4-Nitroaniline

15.492min (+0.006) 22.90ng/ul m

U. M.
05/13/2016

response 143799

Ion	Exp%	Act%
138.00	100	100
92.00	55.40	52.22
108.00	82.90	87.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC

Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:33:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02062

Manual Integrations APPROVED
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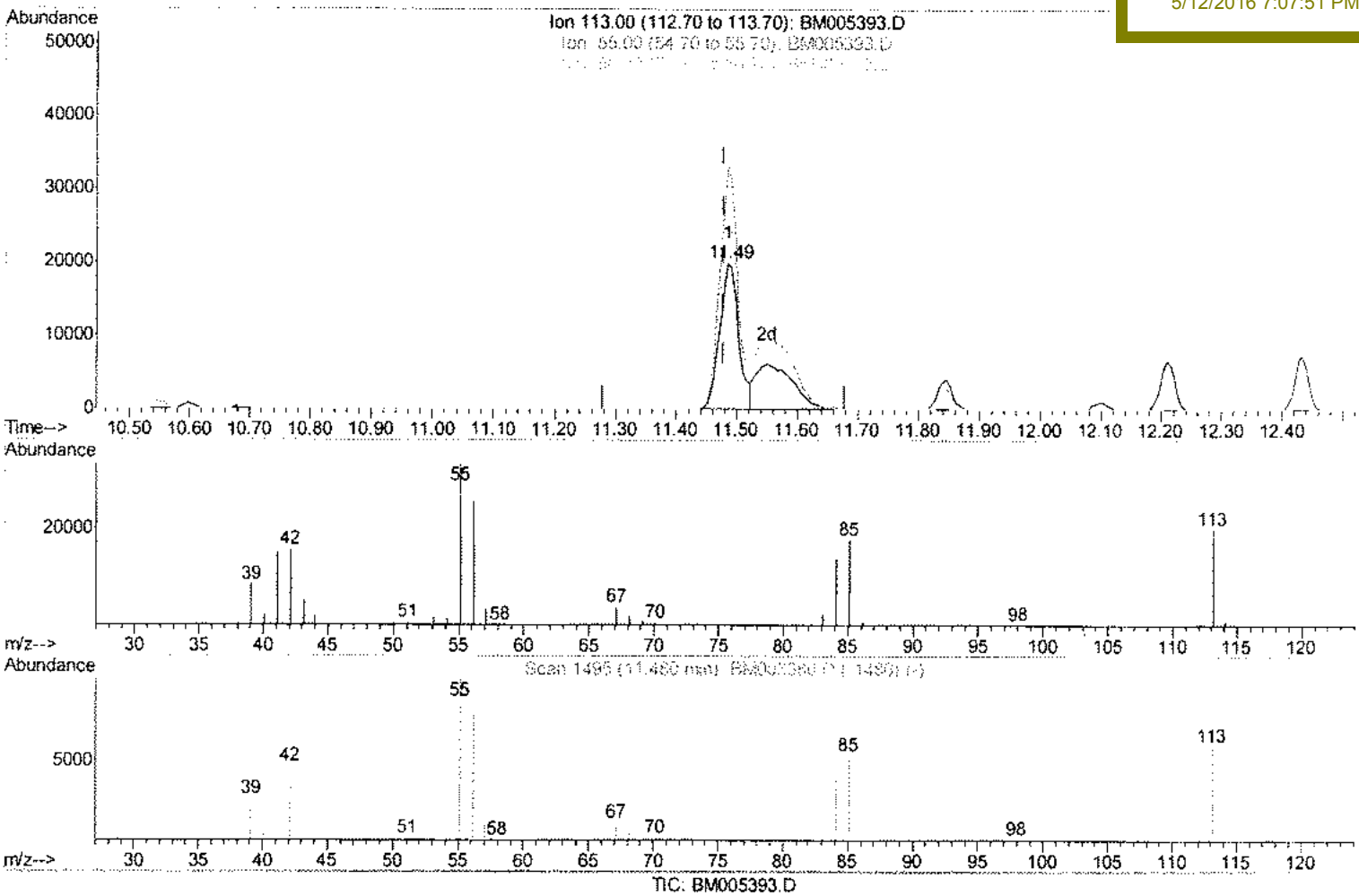
5/12/2016 7:07:51 PM



(32) Caprolactam

11.486min (+0.006) 13.49ng/ul

response 42617

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	166.04
56.00	120.80	127.79
0.00	0.00	0.00

Quantitation Report (Qedit)

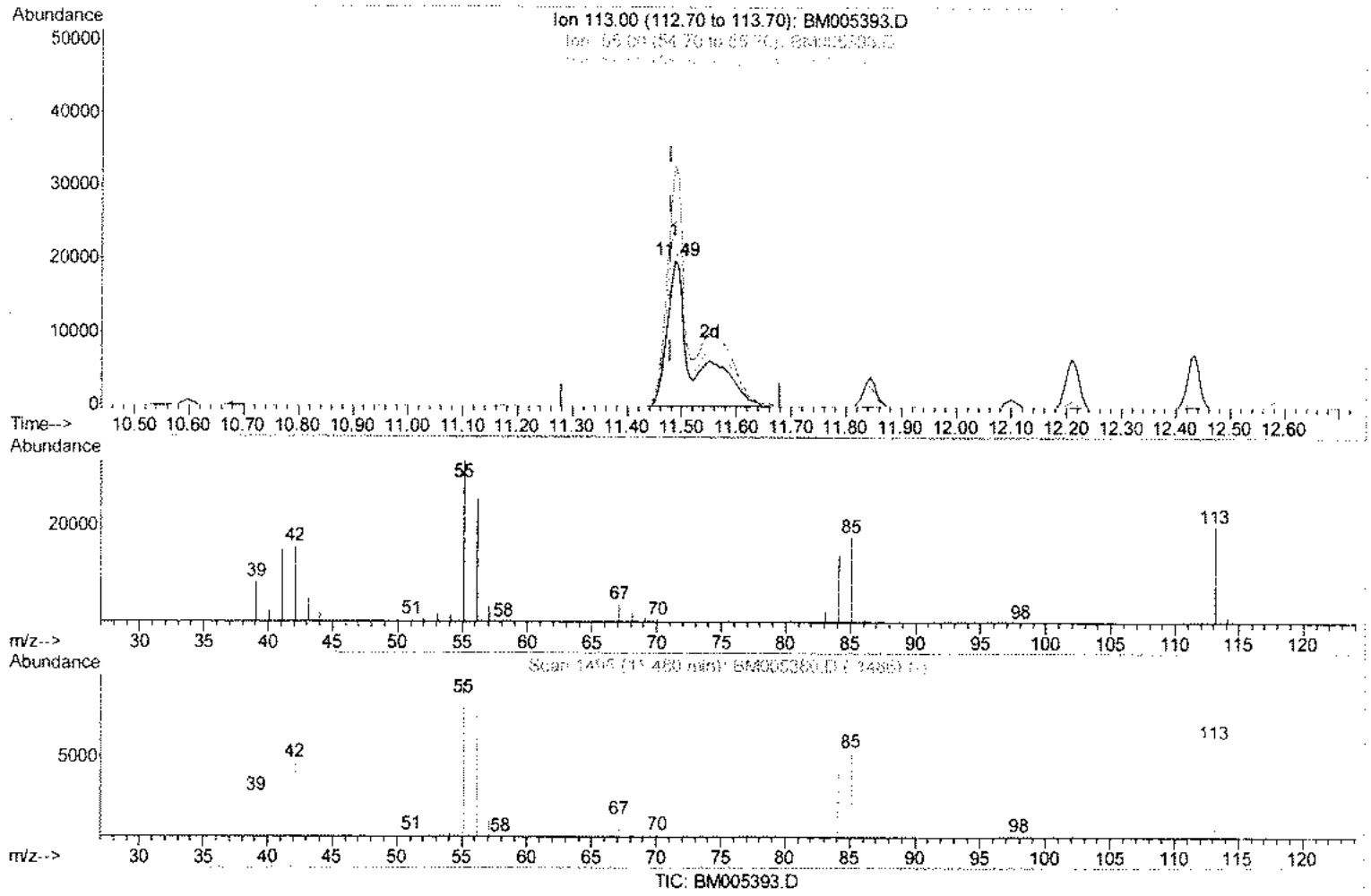
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC

Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 03:33:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02062

Manual Integrations APPROVED
sohil
5/12/2016 7:07:51 PM



(32) Caprolactam

11.486min (+0.006) 21.75ng/ul m

response 68690

U.M. 05/13/2016

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	166.04
56.00	120.80	127.79
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC

Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 04:21:27 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02062

Manual Integrations APPROVED
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5/12/2016 7:07:51 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	115496	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	551013	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	351891	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.16	188	834042	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	747722	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	612165	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.26	96	17639	7.18	ng/uL	0.00
5) Phenol-d5	6.93	99	211837	20.22	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	119408	19.98	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	164153	20.75	ng/ul	0.00
13) 4-Methylphenol-d8	8.47	113	179457	20.73	ng/ul	0.00
19) Nitrobenzene-d5	8.92	128	86578	22.01	ng/ul	0.00
22) 2-Nitrophenol-d4	9.64	143	101628	22.82	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	179566	21.69	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	243116	24.40	ng/ul	0.00
43) Dimethylphthalate-d6	13.82	166	590999	20.95	ng/ul	0.00
46) Acenaphthylene-d8	14.10	160	699462	21.14	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	106522	20.69	ng/ul	0.00
57) Fluorene-d10	15.40	176	499714	20.52	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	111144	23.69	ng/ul	0.00
70) Anthracene-d10	17.25	188	781450	21.20	ng/ul	0.00
76) Pyrene-d10	19.55	212	819982	23.76	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	572408	21.12	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	32355	7.22	ng/uL	96
4) Benzaldehyde	6.90	77	133177	26.24	ng/ul	97
6) Phenol	6.96	94	220123	20.33	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.19	93	163401	20.05	ng/ul	98
10) 2-Chlorophenol	7.33	128	165457	20.45	ng/ul	98
11) 2-Methylphenol	8.20	108	170695	20.40	ng/ul	100
12) 2,2'-oxybis(1-Chloropropan	8.29	45	225840	20.43	ng/ul	99
14) Acetophenone	8.58	105	271815	21.19	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.57	70	141949	21.18	ng/ul	99
16) 4-Methylphenol	8.53	108	190667	20.53	ng/ul	98
17) Hexachloroethane	8.83	117	64846	21.29	ng/ul	95
20) Nitrobenzene	8.96	77	208054	21.12	ng/ul	96
21) Isophorone	9.48	82	414298	21.66	ng/ul	99
23) 2-Nitrophenol	9.67	139	106338	22.16	ng/ul	98
24) 2,4-Dimethylphenol	9.73	107	218114	21.42	ng/ul	98
25) Bis(2-Chloroethoxy)methane	9.96	93	238500	20.02	ng/ul	98
27) 2,4-Dichlorophenol	10.20	162	180937	21.34	ng/ul	99
28) Naphthalene	10.60	128	566276	20.43	ng/ul	99
30) 4-Chloroaniline	10.71	127	243797	23.99	ng/ul	99
31) Hexachlorobutadiene	10.87	225	111638	22.16	ng/ul	99
32) Caprolactam	11.49	113	68690m	21.75	ng/ul	
33) 4-Chloro-3-methylphenol	11.85	107	223786	22.02	ng/ul	98
34) 2-Methylnaphthalene	12.21	142	427632	20.62	ng/ul	97

U.M. 5/13/2016

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005393.D
Acq On : 11 May 2016 18:52
Operator : UM/SJ
Sample : SSTDCCC020EC
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 04:21:27 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02062

Manual Integrations APPROVED
sohil
5/12/2016 7:07:51 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.59	216	225772	21.09	ng/ul	99
37) Hexachlorocyclopentadiene	12.56	237	108491	19.84	ng/ul	95
38) 2,4,6-Trichlorophenol	12.83	196	157938	22.15	ng/ul	98
39) 2,4,5-Trichlorophenol	12.90	196	174804	22.10	ng/ul	98
40) 1,1'-Biphenyl	13.23	154	568347	20.39	ng/ul	99
41) 2-Chloronaphthalene	13.27	162	439321	20.84	ng/ul	98
42) 2-Nitroaniline	13.49	65	150308	23.16	ng/ul	97
44) Dimethylphthalate	13.86	163	589092	20.90	ng/ul	100
45) 2,6-Dinitrotoluene	13.99	165	128863	23.19	ng/ul#	91
47) Acenaphthylene	14.13	152	733838	20.97	ng/ul	100
48) 3-Nitroaniline	14.32	138	138540	23.38	ng/ul	100
49) Acenaphthene	14.47	153	475546	20.62	ng/ul	98
50) 2,4-Dinitrophenol	14.53	184	70755	22.13	ng/ul	94
52) 4-Nitrophenol	14.64	109	94059	21.97	ng/ul	92
53) Dibenzofuran	14.80	168	688234	20.56	ng/ul	99
54) 2,4-Dinitrotoluene	14.78	165	185080	22.33	ng/ul	98
55) 2,3,4,6-Tetrachlorophenol	15.03	232	151808	22.57	ng/ul#	96
56) Diethylphthalate	15.23	149	598250	21.01	ng/ul	99
58) Fluorene	15.46	166	529313	20.23	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.44	204	267712	20.65	ng/ul	97
60) 4-Nitroaniline	15.49	138	143799m	22.90	ng/ul	
63) 4,6-Dinitro-2-methylphenol	15.54	198	115843	23.50	ng/ul#	93
64) N-Nitrosodiphenylamine	15.66	169	490433	21.47	ng/ul	99
65) 4-Bromophenyl-phenylether	16.34	248	176874	22.12	ng/ul	97
66) Hexachlorobenzene	16.46	284	198623	22.15	ng/ul	97
67) Atrazine	16.62	200	195995	23.52	ng/ul	99
68) Pentachlorophenol	16.81	266	117927	23.66	ng/ul	98
69) Phenanthrene	17.20	178	907451	20.69	ng/ul	99
71) Anthracene	17.29	178	918853	21.02	ng/ul	100
72) Carbazole	17.56	167	845738	21.99	ng/ul	99
73) Di-n-butylphthalate	18.12	149	1035602	22.07	ng/ul	100
74) Fluoranthene	19.22	202	1038053	21.36	ng/ul	97
77) Pyrene	19.58	202	1030507	23.76	ng/ul	98
78) Butylbenzylphthalate	20.47	149	471289	26.17	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.26	252	296423	22.05	ng/ul	100
80) Benzo(a)anthracene	21.33	228	902530	20.98	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.25	149	618650	24.73	ng/ul#	98
82) Chrysene	21.39	228	860567	21.09	ng/ul	100
84) Di-n-octyl phthalate	22.13	149	988141	27.64	ng/ul	99
85) Benzo(b)fluoranthene	22.93	252	799128	22.33	ng/ul	99
86) Benzo(k)fluoranthene	22.98	252	710948	21.10	ng/ul	99
88) Benzo(a)pyrene	23.51	252	711425	21.02	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.91	276	740127	20.04	ng/ul	97
90) Dibenzo(a,h)anthracene	25.91	278	627545	20.31	ng/ul	97
91) Benzo(g,h,i)perylene	26.61	276	626457	20.03	ng/ul	98

U.M. 05/13/2016

(#) = qualifier out of range (m) = manual integration (+) = signals summed

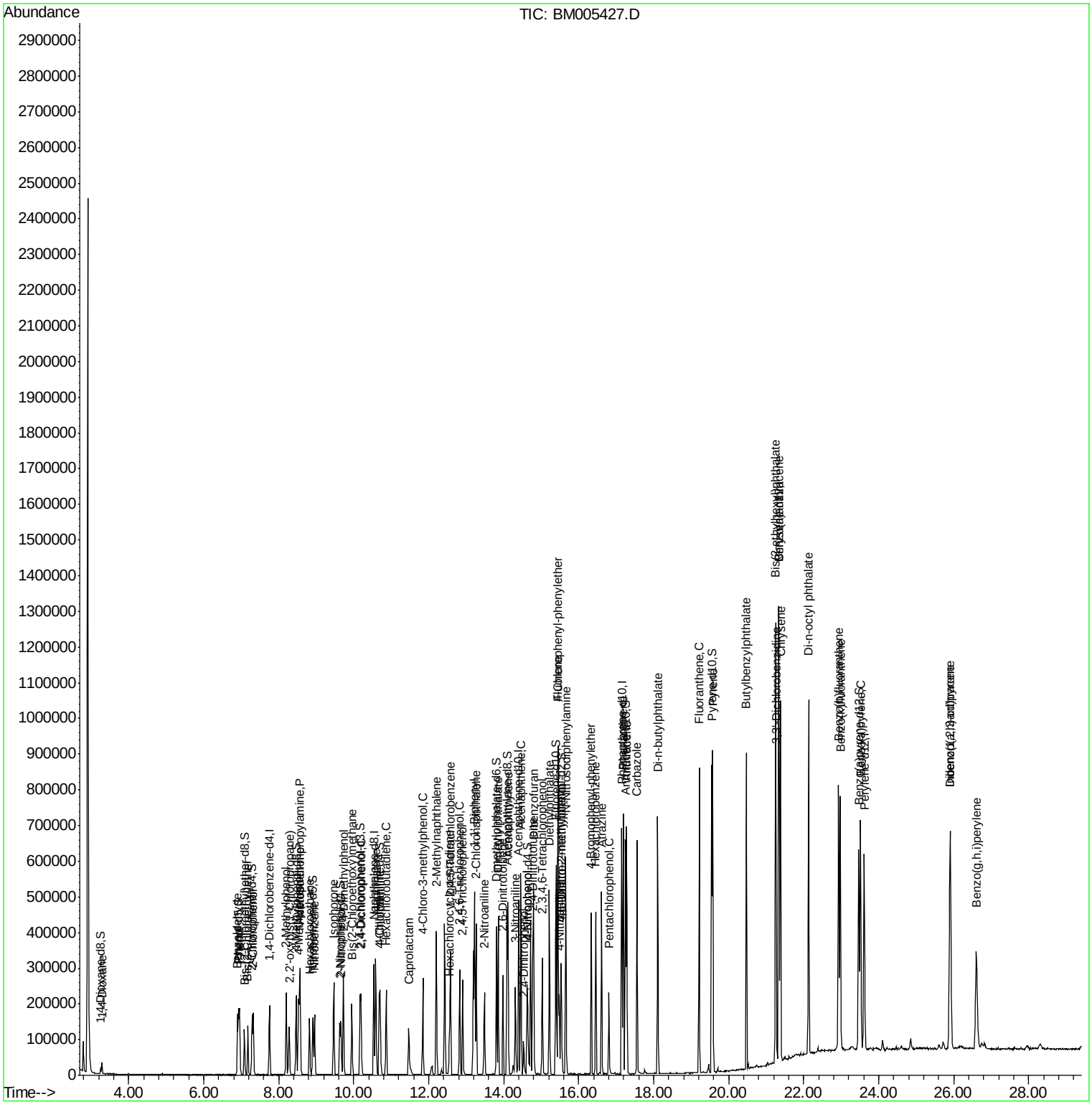
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:02:31 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02066

Manual Integrations APPROVED
sohil
5/14/2016 9:58:31 AM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:02:31 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02066

Manual Integrations APPROVED
sohil
5/14/2016 9:58:31 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	53315	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	252436	20.00	ng/ul	-0.01
35) Acenaphthene-d10	14.39	164	164238	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	396308	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	463039	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	411120	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	8859	7.81	ng/uL	0.00
5) Phenol-d5	6.93	99	96416	19.94	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	56125	20.35	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	76028	20.82	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	80945	20.25	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	38325	21.26	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	44679	21.89	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.16	165	80502	21.23	ng/ul	-0.01
29) 4-Chloroaniline-d4	10.68	131	104530	22.90	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	275564	20.93	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	322080	20.86	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	45699	19.02	ng/ul	0.00
57) Fluorene-d10	15.39	176	235590	20.72	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	46090	20.67	ng/ul	0.00
70) Anthracene-d10	17.24	188	376801	21.51	ng/ul	0.00
76) Pyrene-d10	19.54	212	439732	20.57	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	386140	21.22	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	16393	7.93	ng/uL	96
4) Benzaldehyde	6.90	77	60593	25.86	ng/ul	95
6) Phenol	6.96	94	100902	20.19	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.17	93	76091	20.22	ng/ul	99
10) 2-Chlorophenol	7.32	128	76161	20.39	ng/ul	97
11) 2-Methylphenol	8.20	108	78560	20.34	ng/ul	96
12) 2,2'-oxybis(1-Chloropropan	8.28	45	106184	20.81	ng/ul	98
14) Acetophenone	8.57	105	129101	21.80	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.55	70	66378	21.45	ng/ul	98
16) 4-Methylphenol	8.53	108	86735	20.23	ng/ul	96
17) Hexachloroethane	8.82	117	30204	21.49	ng/ul	93
20) Nitrobenzene	8.95	77	94401	20.92	ng/ul	97
21) Isophorone	9.47	82	187130	21.36	ng/ul#	97
23) 2-Nitrophenol	9.66	139	47326	21.52	ng/ul	95
24) 2,4-Dimethylphenol	9.72	107	97856	20.98	ng/ul	98
25) Bis(2-Chloroethoxy)methane	9.95	93	110363	20.23	ng/ul	98
27) 2,4-Dichlorophenol	10.19	162	82338	21.20	ng/ul	99
28) Naphthalene	10.59	128	261410	20.58	ng/ul	99
30) 4-Chloroaniline	10.70	127	105636	22.69	ng/ul	100
31) Hexachlorobutadiene	10.86	225	51505	22.31	ng/ul	99
32) Caprolactam	11.47	113	30960m	21.39	ng/ul	
33) 4-Chloro-3-methylphenol	11.84	107	101149	21.72	ng/ul	100
34) 2-Methylnaphthalene	12.20	142	197741	20.82	ng/ul	99

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:02:31 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02066

Manual Integrations APPROVED
sohil
5/14/2016 9:58:31 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.57	216	104290	20.87	ng/ul	98
37) Hexachlorocyclopentadiene	12.55	237	31825	12.47	ng/ul	92
38) 2,4,6-Trichlorophenol	12.82	196	70456	21.17	ng/ul	97
39) 2,4,5-Trichlorophenol	12.90	196	73505	19.91	ng/ul	99
40) 1,1'-Biphenyl	13.22	154	265690	20.42	ng/ul	99
41) 2-Chloronaphthalene	13.26	162	201899	20.52	ng/ul	98
42) 2-Nitroaniline	13.48	65	67716	22.36	ng/ul	95
44) Dimethylphthalate	13.85	163	274000	20.83	ng/ul	100
45) 2,6-Dinitrotoluene	13.98	165	56243	21.68	ng/ul	93
47) Acenaphthylene	14.12	152	340260	20.83	ng/ul	100
48) 3-Nitroaniline	14.31	138	60765	21.97	ng/ul	98
49) Acenaphthene	14.46	153	222463	20.66	ng/ul	98
50) 2,4-Dinitrophenol	14.53	184	23173	15.53	ng/ul	96
52) 4-Nitrophenol	14.63	109	39155	19.60	ng/ul	94
53) Dibenzofuran	14.79	168	321854	20.61	ng/ul	98
54) 2,4-Dinitrotoluene	14.77	165	83698	21.64	ng/ul	98
55) 2,3,4,6-Tetrachlorophenol	15.03	232	64451	20.53	ng/ul#	97
56) Diethylphthalate	15.22	149	282821	21.28	ng/ul	100
58) Fluorene	15.44	166	260580	21.34	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.44	204	130170	21.51	ng/ul	98
60) 4-Nitroaniline	15.48	138	61854m	21.10	ng/ul	
63) 4,6-Dinitro-2-methylphenol	15.54	198	47551	20.30	ng/ul#	91
64) N-Nitrosodiphenylamine	15.66	169	232091	21.39	ng/ul	100
65) 4-Bromophenyl-phenylether	16.33	248	84237	22.17	ng/ul	97
66) Hexachlorobenzene	16.45	284	92988	21.82	ng/ul	98
67) Atrazine	16.61	200	92726	23.41	ng/ul	99
68) Pentachlorophenol	16.80	266	43748	18.47	ng/ul	95
69) Phenanthrene	17.19	178	439349	21.08	ng/ul	100
71) Anthracene	17.28	178	448327	21.58	ng/ul	100
72) Carbazole	17.55	167	416601	22.79	ng/ul	99
73) Di-n-butylphthalate	18.10	149	523702	23.49	ng/ul	100
74) Fluoranthene	19.21	202	541768	23.47	ng/ul	98
77) Pyrene	19.57	202	555431	20.68	ng/ul	98
78) Butylbenzylphthalate	20.47	149	251558	22.56	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.26	252	180426	21.68	ng/ul	98
80) Benzo(a)anthracene	21.33	228	555983	20.87	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.24	149	361347	23.33	ng/ul#	98
82) Chrysene	21.38	228	530087	20.98	ng/ul	100
84) Di-n-octyl phthalate	22.13	149	623019	25.95	ng/ul	100
85) Benzo(b)fluoranthene	22.93	252	533455	22.20	ng/ul	99
86) Benzo(k)fluoranthene	22.97	252	495326	21.89	ng/ul	99
88) Benzo(a)pyrene	23.51	252	482051	21.21	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.90	276	441555	17.81	ng/ul	97
90) Dibenzo(a,h)anthracene	25.90	278	370123	17.83	ng/ul	98
91) Benzo(g,h,i)perylene	26.60	276	356314	16.96	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

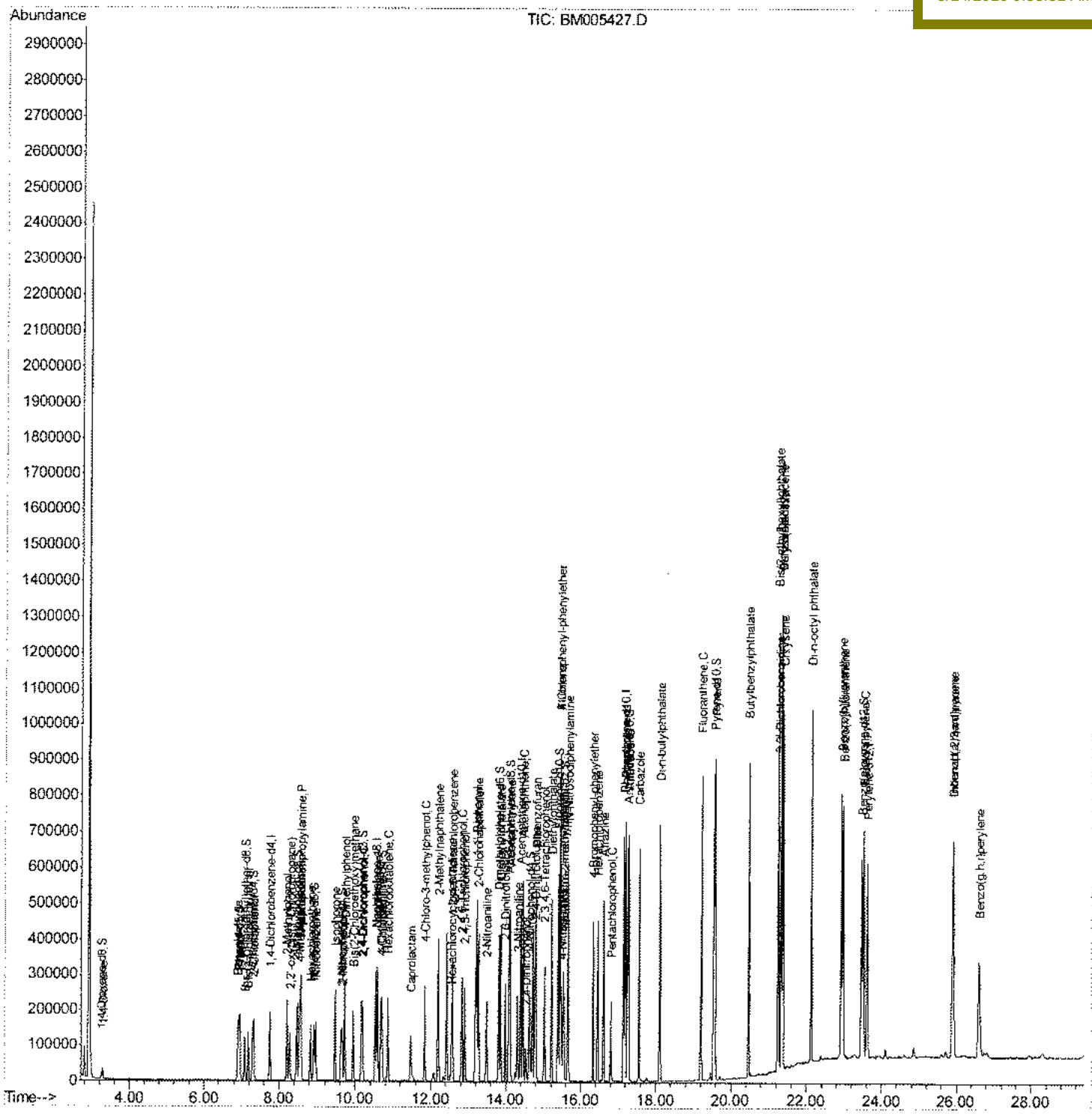
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:02:31 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02066

Manual Integrations APPROVED
sohil
5/14/2016 9:58:31 AM



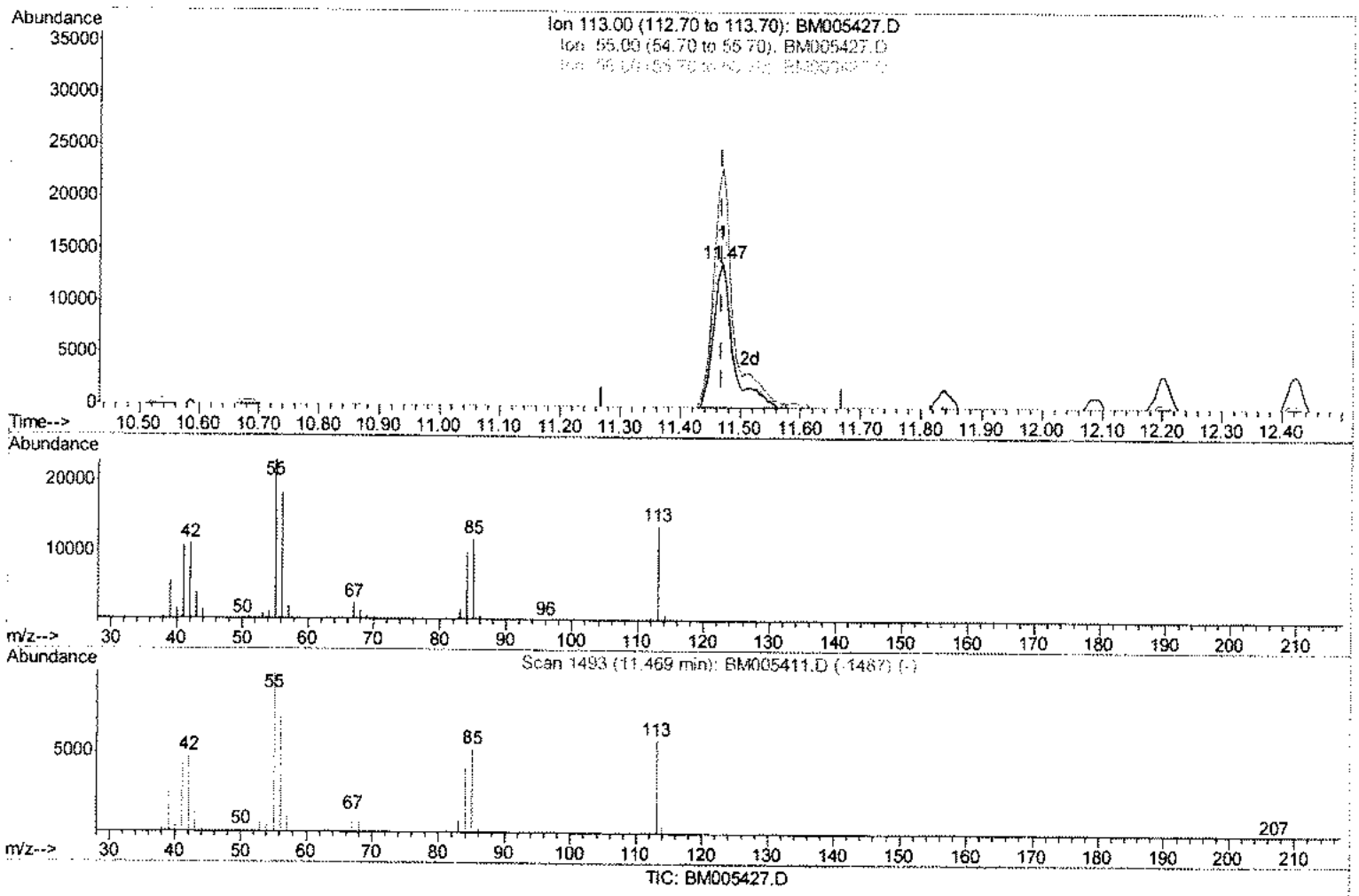
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:57:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02066

Manual Integrations APPROVED
sohil
5/14/2016 9:58:31 AM



TIC: BM005427.D

(32) Caprolactam

11.469min (-0.000) 21.39ng/ul m U.M 05/17/16

response 30960

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	165.88
56.00	120.80	131.29
0.00	0.00	0.00

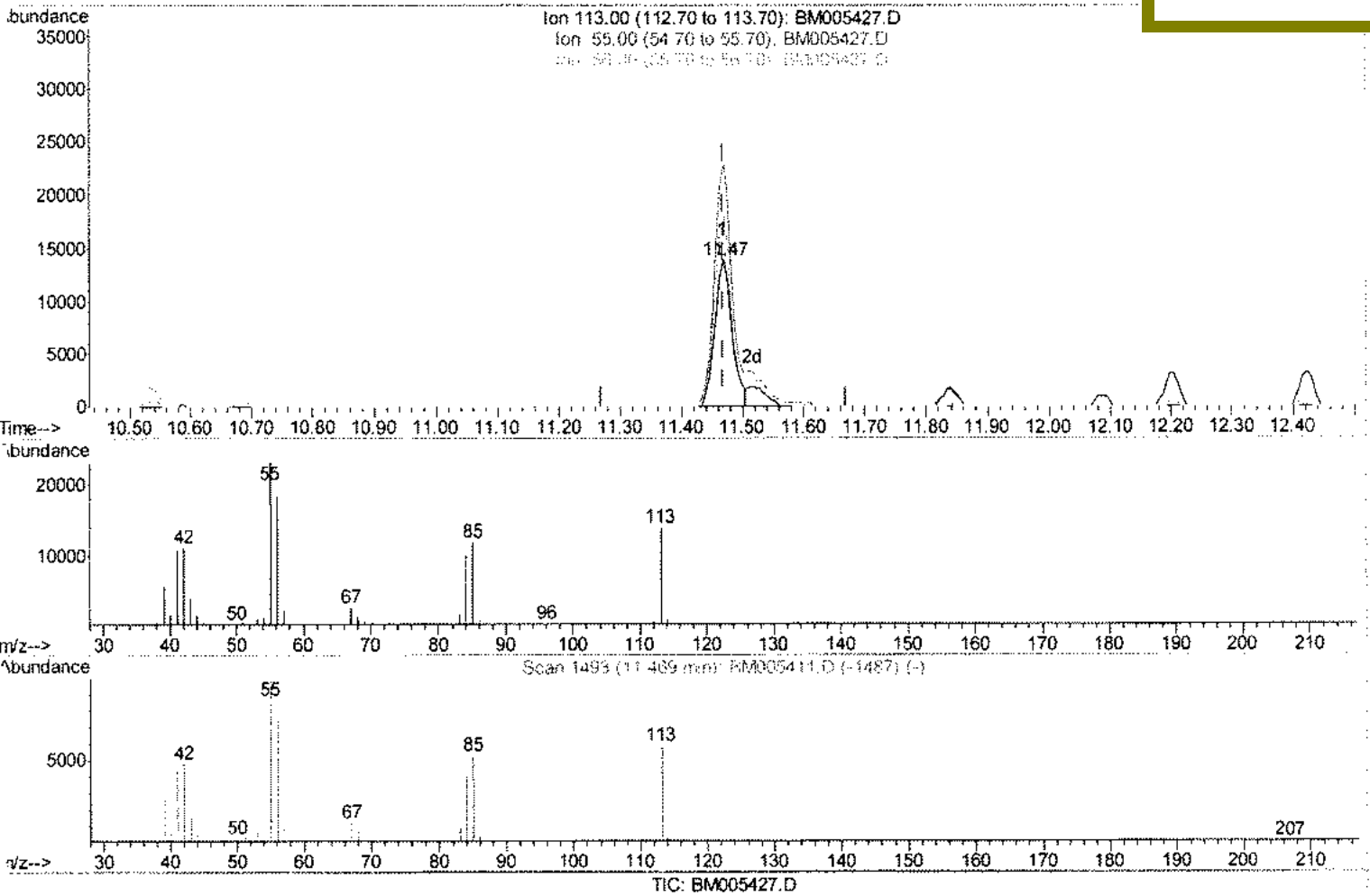
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:57:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02066

Manual Integrations APPROVED
sohil
5/14/2016 9:58:31 AM



TIC: BM005427.D

(32) Caprolactam

11.469min (-0.000) 18.77ng/ul

response 27162

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	165.88
56.00	120.80	131.29
0.00	0.00	0.00

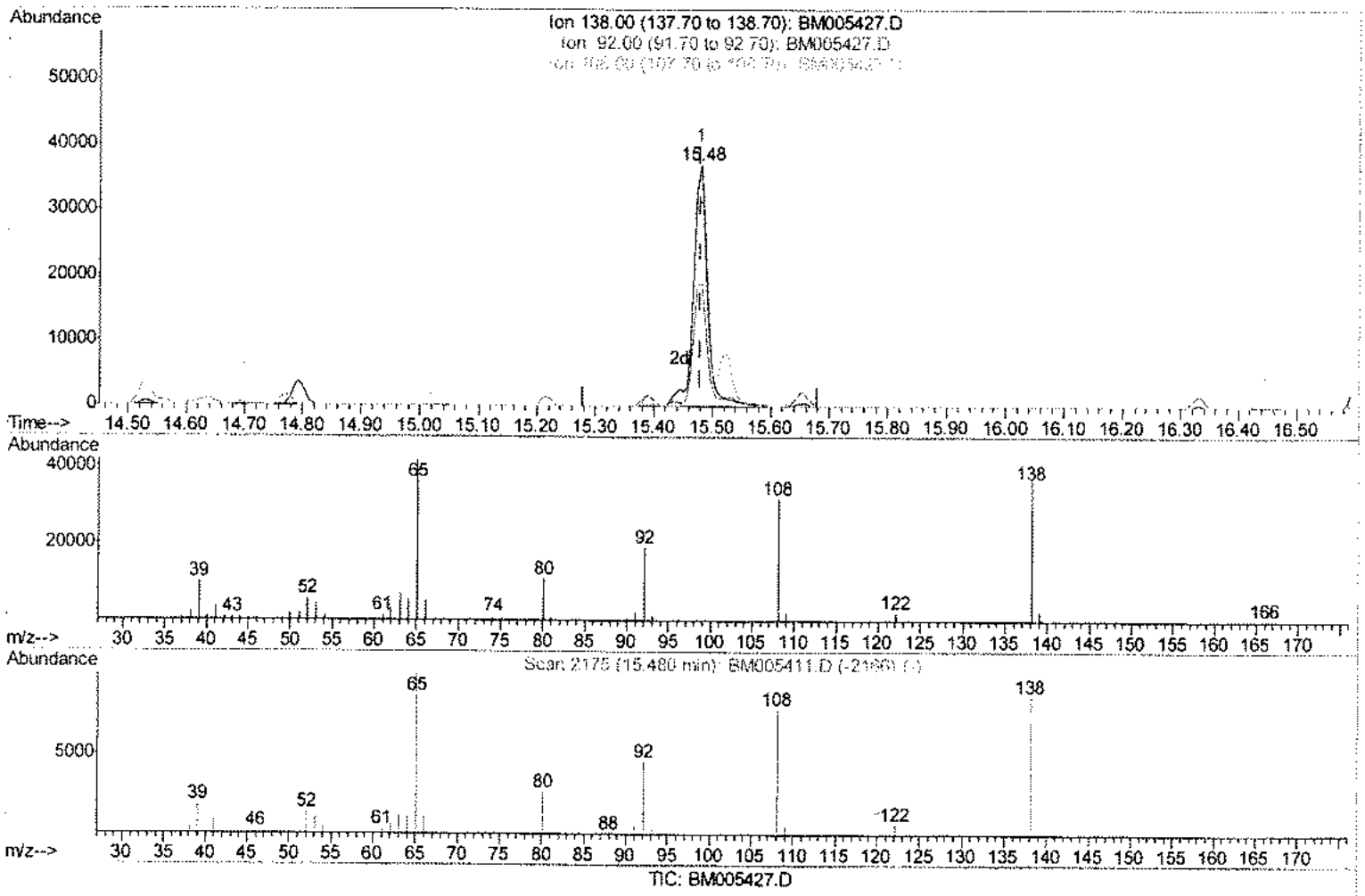
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:57:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02066

Manual Integrations APPROVED
sohil
5/14/2016 9:58:31 AM



TIC: BM005427.D

(60) 4-Nitroaniline

15.480min (-0.000) 21.10ng/ul m U.M 05/17/16

response 61854

Ion	Exp%	Act%
138.00	100	100
92.00	55.40	51.94
108.00	82.90	86.01
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:57:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02066

Manual Integrations APPROVED
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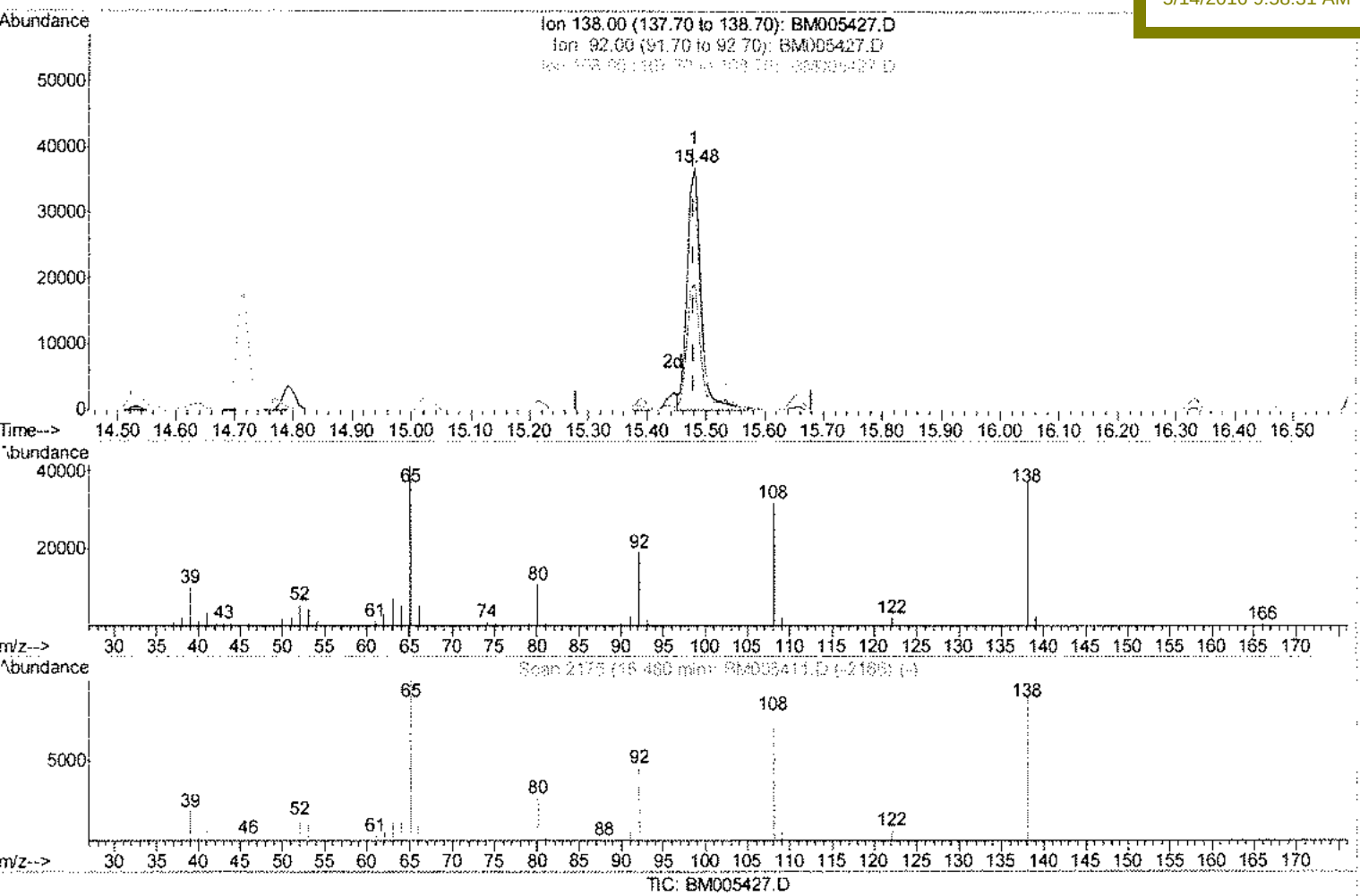
5/14/2016 9:58:31 AM



(60) 4-Nitroaniline

15.480min (-0.000) 20.07ng/ul

response 58821

Ion	Exp%	Act%
138.00	100	100
92.00	55.40	51.94
108.00	82.90	86.01
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:02:31 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02066

Manual Integrations APPROVED
sohil
5/14/2016 9:58:31 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.57	216	104290	20.87	ng/ul	98
37) Hexachlorocyclopentadiene	12.55	237	31825	12.47	ng/ul	92
38) 2,4,6-Trichlorophenol	12.82	196	70456	21.17	ng/ul	97
39) 2,4,5-Trichlorophenol	12.90	196	73505	19.91	ng/ul	99
40) 1,1'-Biphenyl	13.22	154	265690	20.42	ng/ul	99
41) 2-Chloronaphthalene	13.26	162	201899	20.52	ng/ul	98
42) 2-Nitroaniline	13.48	65	67716	22.36	ng/ul	95
44) Dimethylphthalate	13.85	163	274000	20.83	ng/ul	100
45) 2,6-Dinitrotoluene	13.98	165	56243	21.68	ng/ul	93
47) Acenaphthylene	14.12	152	340260	20.83	ng/ul	100
48) 3-Nitroaniline	14.31	138	60765	21.97	ng/ul	98
49) Acenaphthene	14.46	153	222463	20.66	ng/ul	98
50) 2,4-Dinitrophenol	14.53	184	23173	15.53	ng/ul	96
52) 4-Nitrophenol	14.63	109	39155	19.60	ng/ul	94
53) Dibenzofuran	14.79	168	321854	20.61	ng/ul	98
54) 2,4-Dinitrotoluene	14.77	165	83698	21.64	ng/ul	98
55) 2,3,4,6-Tetrachlorophenol	15.03	232	64451	20.53	ng/ul#	97
56) Diethylphthalate	15.22	149	282821	21.28	ng/ul	100
58) Fluorene	15.44	166	260580	21.34	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.44	204	130170	21.51	ng/ul	98
60) 4-Nitroaniline	15.48	138	61854m	21.10	ng/ul	
63) 4,6-Dinitro-2-methylphenol	15.54	198	47551	20.30	ng/ul#	91
64) N-Nitrosodiphenylamine	15.66	169	232091	21.39	ng/ul	100
65) 4-Bromophenyl-phenylether	16.33	248	84237	22.17	ng/ul	97
66) Hexachlorobenzene	16.45	284	92988	21.82	ng/ul	98
67) Atrazine	16.61	200	92726	23.41	ng/ul	99
68) Pentachlorophenol	16.80	266	43748	18.47	ng/ul	95
69) Phenanthrene	17.19	178	439349	21.08	ng/ul	100
71) Anthracene	17.28	178	448327	21.58	ng/ul	100
72) Carbazole	17.55	167	416601	22.79	ng/ul	99
73) Di-n-butylphthalate	18.10	149	523702	23.49	ng/ul	100
74) Fluoranthene	19.21	202	541768	23.47	ng/ul	98
77) Pyrene	19.57	202	555431	20.68	ng/ul	98
78) Butylbenzylphthalate	20.47	149	251558	22.56	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.26	252	180426	21.68	ng/ul	98
80) Benzo(a)anthracene	21.33	228	555983	20.87	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.24	149	361347	23.33	ng/ul#	98
82) Chrysene	21.38	228	530087	20.98	ng/ul	100
84) Di-n-octyl phthalate	22.13	149	623019	25.95	ng/ul	100
85) Benzo(b)fluoranthene	22.93	252	533455	22.20	ng/ul	99
86) Benzo(k)fluoranthene	22.97	252	495326	21.89	ng/ul	99
88) Benzo(a)pyrene	23.51	252	482051	21.21	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.90	276	441555	17.81	ng/ul	97
90) Dibenzo(a,h)anthracene	25.90	278	370123	17.83	ng/ul	98
91) Benzo(g,h,i)perylene	26.60	276	356314	16.96	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

U.M 05/17/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005427.D
Acq On : 13 May 2016 11:46
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:02:31 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02066

Manual Integrations APPROVED
sohil
5/14/2016 9:58:31 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	53315	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	252436	20.00	ng/ul	-0.01
35) Acenaphthene-d10	14.39	164	164238	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	396308	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	463039	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	411120	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	8859	7.81	ng/uL	0.00
5) Phenol-d5	6.93	99	96416	19.94	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	56125	20.35	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	76028	20.82	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	80945	20.25	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	38325	21.26	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	44679	21.89	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.16	165	80502	21.23	ng/ul	-0.01
29) 4-Chloroaniline-d4	10.68	131	104530	22.90	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	275564	20.93	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	322080	20.86	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	45699	19.02	ng/ul	0.00
57) Fluorene-d10	15.39	176	235590	20.72	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	46090	20.67	ng/ul	0.00
70) Anthracene-d10	17.24	188	376801	21.51	ng/ul	0.00
76) Pyrene-d10	19.54	212	439732	20.57	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	386140	21.22	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	16393	7.93	ng/uL	96
4) Benzaldehyde	6.90	77	60593	25.86	ng/ul	95
6) Phenol	6.96	94	100902	20.19	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.17	93	76091	20.22	ng/ul	99
10) 2-Chlorophenol	7.32	128	76161	20.39	ng/ul	97
11) 2-Methylphenol	8.20	108	78560	20.34	ng/ul	96
12) 2,2'-oxybis(1-Chloropropan	8.28	45	106184	20.81	ng/ul	98
14) Acetophenone	8.57	105	129101	21.80	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.55	70	66378	21.45	ng/ul	98
16) 4-Methylphenol	8.53	108	86735	20.23	ng/ul	96
17) Hexachloroethane	8.82	117	30204	21.49	ng/ul	93
20) Nitrobenzene	8.95	77	94401	20.92	ng/ul	97
21) Isophorone	9.47	82	187130	21.36	ng/ul#	97
23) 2-Nitrophenol	9.66	139	47326	21.52	ng/ul	95
24) 2,4-Dimethylphenol	9.72	107	97856	20.98	ng/ul	98
25) Bis(2-Chloroethoxy)methane	9.95	93	110363	20.23	ng/ul	98
27) 2,4-Dichlorophenol	10.19	162	82338	21.20	ng/ul	99
28) Naphthalene	10.59	128	261410	20.58	ng/ul	99
30) 4-Chloroaniline	10.70	127	105636	22.69	ng/ul	100
31) Hexachlorobutadiene	10.86	225	51505	22.31	ng/ul	99
32) Caprolactam	11.47	113	30960m	21.39	ng/ul	
33) 4-Chloro-3-methylphenol	11.84	107	101149	21.72	ng/ul	100
34) 2-Methylnaphthalene	12.20	142	197741	20.82	ng/ul	99

U.M 05/17/16

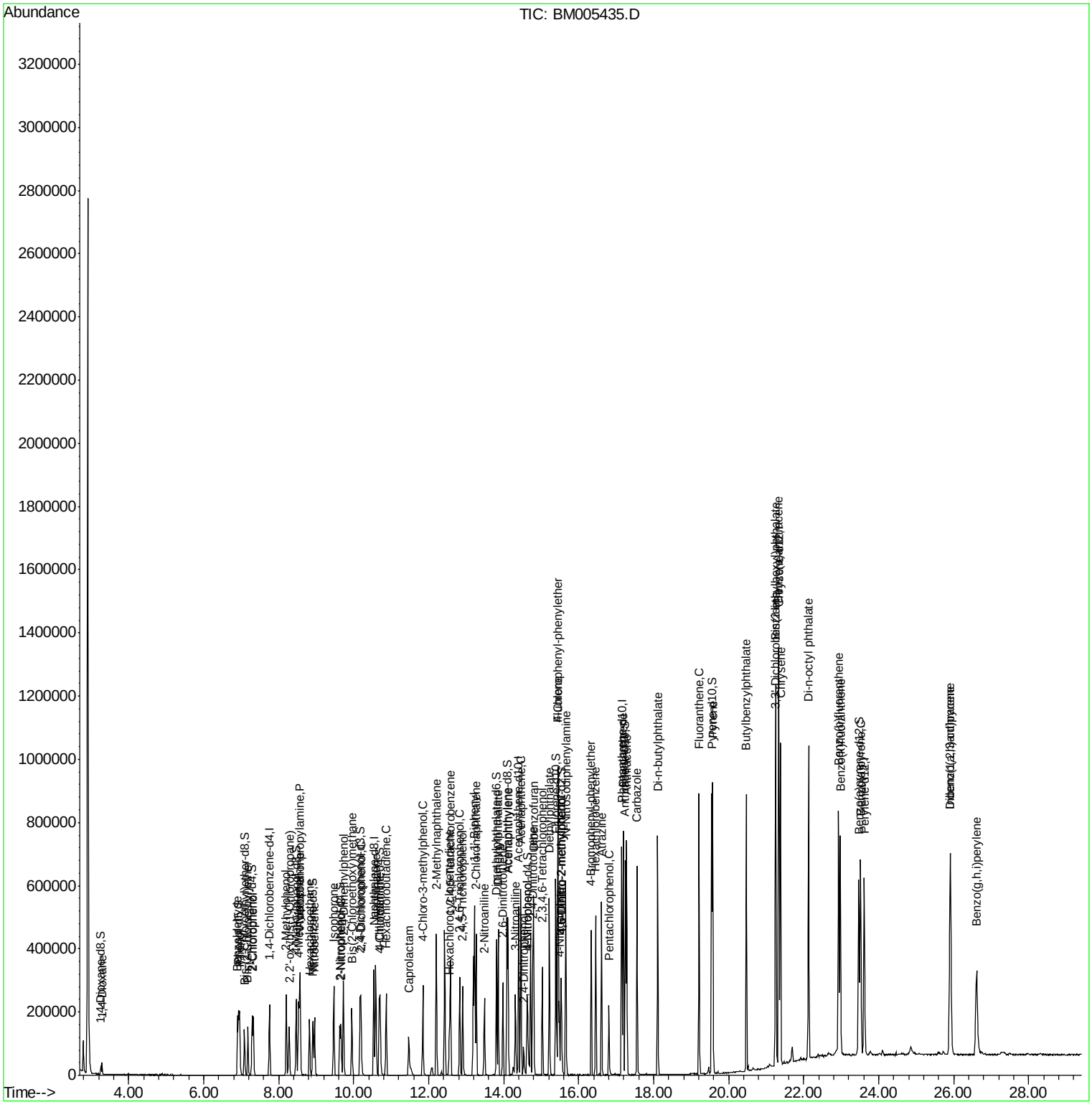
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:47:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:47:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	59500	20.00	ng/ul	0.00
18) Naphthalene-d8	10.54	136	277888	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	174095	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	417314	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	470014	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	415334	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	10424	8.24	ng/uL	0.00
5) Phenol-d5	6.93	99	108211	20.05	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	63812	20.73	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	83431	20.47	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	87757	19.67	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	41680	21.01	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	48702	21.68	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	88800	21.27	ng/ul	0.00
29) 4-Chloroaniline-d4	10.68	131	113736	22.63	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	291682	20.90	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	342929	20.95	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	45520	17.87	ng/ul	0.00
57) Fluorene-d10	15.39	176	247746	20.56	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	46141	19.66	ng/ul	0.00
70) Anthracene-d10	17.24	188	392585	21.28	ng/ul	0.00
76) Pyrene-d10	19.54	212	457296	21.08	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	390208	21.22	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	18702	8.11	ng/uL#	93
4) Benzaldehyde	6.90	77	68199	26.08	ng/ul	97
6) Phenol	6.96	94	113435	20.34	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.17	93	85379	20.33	ng/ul	97
10) 2-Chlorophenol	7.32	128	85207	20.44	ng/ul	98
11) 2-Methylphenol	8.20	108	85497	19.83	ng/ul	100
12) 2,2'-oxybis(1-Chloropropan	8.28	45	120976	21.24	ng/ul	98
14) Acetophenone	8.57	105	139141	21.06	ng/ul	96
15) N-Nitroso-di-n-propylamine	8.55	70	71706	20.77	ng/ul	100
16) 4-Methylphenol	8.53	108	93794	19.61	ng/ul	100
17) Hexachloroethane	8.82	117	32996	21.03	ng/ul	94
20) Nitrobenzene	8.95	77	104295	21.00	ng/ul	96
21) Isophorone	9.47	82	201145	20.86	ng/ul	99
23) 2-Nitrophenol	9.66	139	51674	21.35	ng/ul	96
24) 2,4-Dimethylphenol	9.72	107	106957	20.83	ng/ul	97
25) Bis(2-Chloroethoxy)methane	9.95	93	120688	20.09	ng/ul	98
27) 2,4-Dichlorophenol	10.19	162	88930	20.80	ng/ul	100
28) Naphthalene	10.59	128	287252	20.54	ng/ul	99
30) 4-Chloroaniline	10.70	127	113782	22.20	ng/ul	99
31) Hexachlorobutadiene	10.86	225	56755	22.33	ng/ul	98
32) Caprolactam	11.47	113	31987m	20.08	ng/ul	
33) 4-Chloro-3-methylphenol	11.84	107	107902	21.05	ng/ul	98
34) 2-Methylnaphthalene	12.20	142	215843	20.64	ng/ul	98

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM

Quant Time: May 14 00:47:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.57	216	112506	21.24	ng/ul	98
37) Hexachlorocyclopentadiene	12.55	237	42927	15.87	ng/ul	98
38) 2,4,6-Trichlorophenol	12.82	196	74688	21.17	ng/ul	95
39) 2,4,5-Trichlorophenol	12.90	196	82983	21.20	ng/ul	97
40) 1,1'-Biphenyl	13.22	154	285955	20.73	ng/ul	99
41) 2-Chloronaphthalene	13.26	162	216607	20.77	ng/ul	99
42) 2-Nitroaniline	13.48	65	70564	21.98	ng/ul	95
44) Dimethylphthalate	13.85	163	289065	20.73	ng/ul	100
45) 2,6-Dinitrotoluene	13.98	165	59180	21.52	ng/ul#	88
47) Acenaphthylene	14.12	152	360748	20.83	ng/ul	100
48) 3-Nitroaniline	14.31	138	63989	21.83	ng/ul	93
49) Acenaphthene	14.46	153	236335	20.71	ng/ul	99
50) 2,4-Dinitrophenol	14.53	184	23933	15.13	ng/ul	99
52) 4-Nitrophenol	14.63	109	39795	18.79	ng/ul	97
53) Dibenzofuran	14.79	168	342310	20.67	ng/ul	100
54) 2,4-Dinitrotoluene	14.77	165	88569	21.60	ng/ul	99
55) 2,3,4,6-Tetrachlorophenol	15.03	232	67080	20.16	ng/ul#	96
56) Diethylphthalate	15.22	149	296405	21.04	ng/ul	99
58) Fluorene	15.44	166	274397	21.20	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.44	204	138348	21.57	ng/ul	98
60) 4-Nitroaniline	15.48	138	65233m	21.00	ng/ul	
63) 4,6-Dinitro-2-methylphenol	15.54	198	48563	19.69	ng/ul#	93
64) N-Nitrosodiphenylamine	15.66	169	242600	21.23	ng/ul	99
65) 4-Bromophenyl-phenylether	16.33	248	88368	22.09	ng/ul	96
66) Hexachlorobenzene	16.45	284	98745	22.00	ng/ul	96
67) Atrazine	16.60	200	96006	23.02	ng/ul	100
68) Pentachlorophenol	16.80	266	43436	17.42	ng/ul	99
69) Phenanthrene	17.19	178	461069	21.01	ng/ul	99
71) Anthracene	17.27	178	464292	21.22	ng/ul	99
72) Carbazole	17.55	167	433371	22.52	ng/ul	99
73) Di-n-butylphthalate	18.10	149	520162	22.16	ng/ul	100
74) Fluoranthene	19.21	202	566127	23.29	ng/ul	96
77) Pyrene	19.57	202	576547	21.15	ng/ul	97
78) Butylbenzylphthalate	20.47	149	253618	22.41	ng/ul	97
79) 3,3'-Dichlorobenzidine	21.26	252	187330	22.17	ng/ul	98
80) Benzo(a)anthracene	21.33	228	565341	20.91	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.24	149	359721	22.88	ng/ul#	97
82) Chrysene	21.38	228	537694	20.96	ng/ul	100
84) Di-n-octyl phthalate	22.13	149	619924	25.55	ng/ul	99
85) Benzo(b)fluoranthene	22.93	252	533943	21.99	ng/ul	98
86) Benzo(k)fluoranthene	22.97	252	498813	21.82	ng/ul	99
88) Benzo(a)pyrene	23.51	252	487738	21.24	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.90	276	447971	17.88	ng/ul	97
90) Dibenzo(a,h)anthracene	25.91	278	376136	17.94	ng/ul	98
91) Benzo(g,h,i)perylene	26.61	276	363228	17.12	ng/ul	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

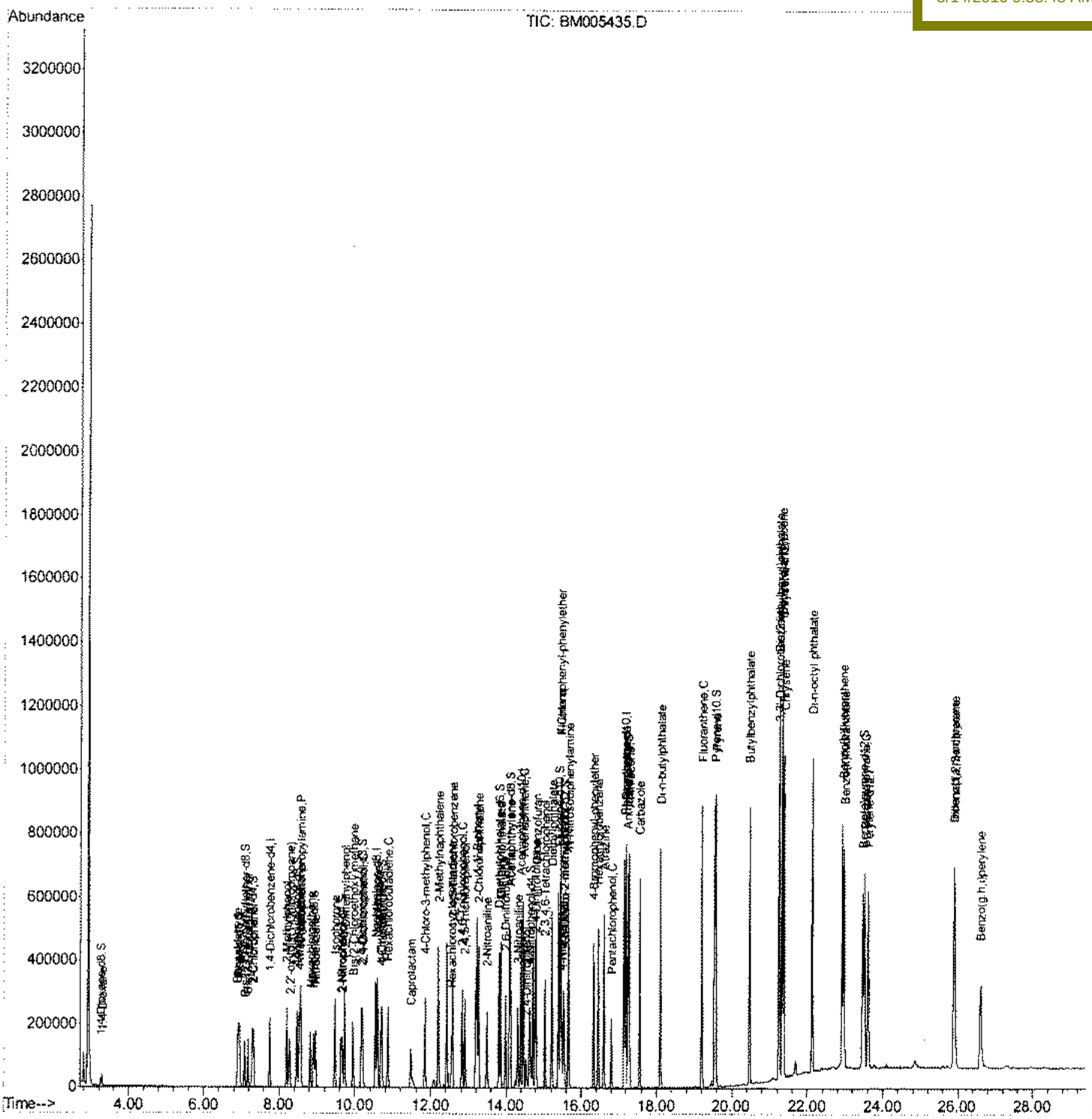
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:47:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM



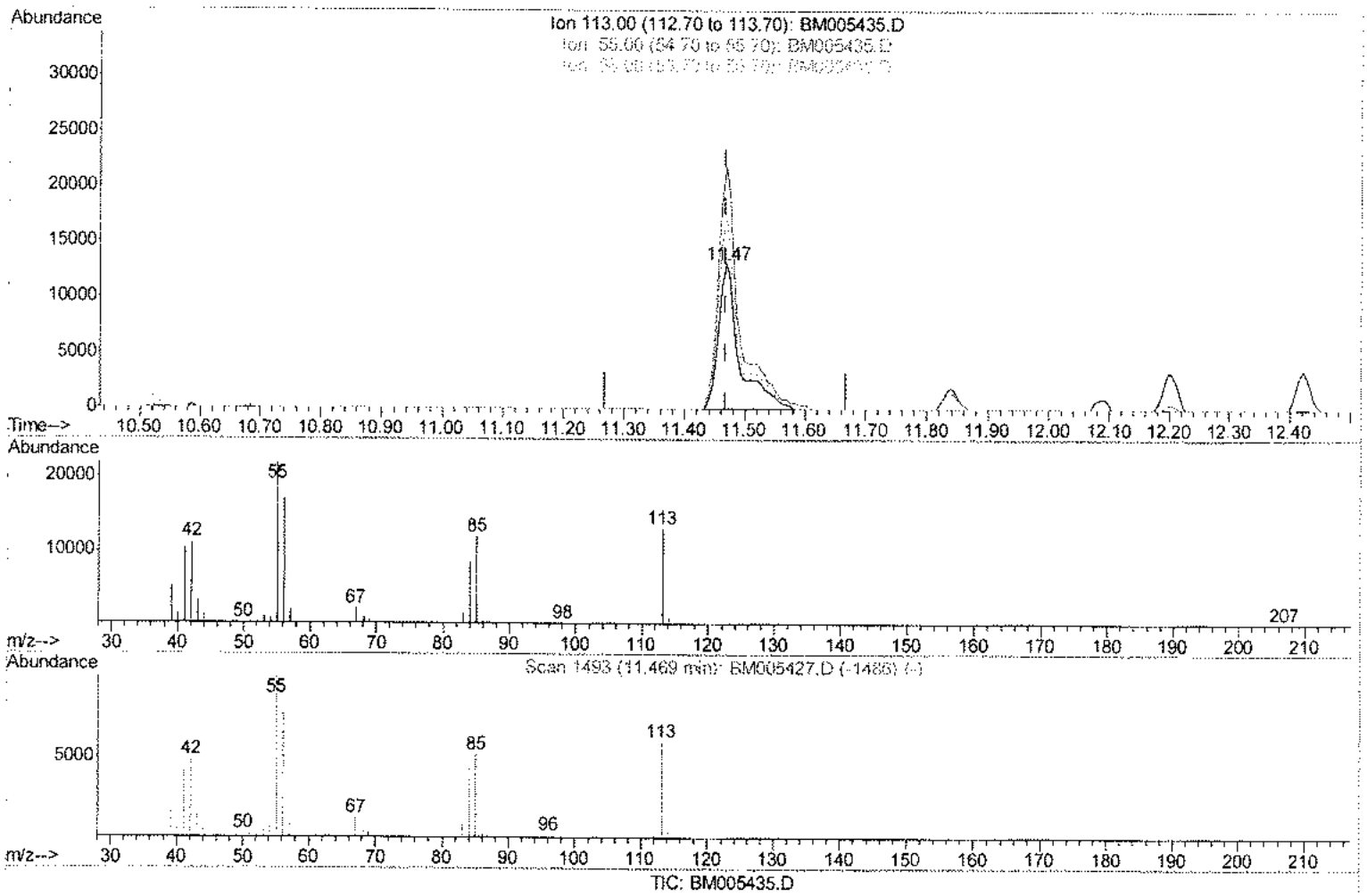
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:21:13 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM



TIC: BM005435.D

(32) Caprolactam

11.469min (+0.000) 20.08ng/ul m U.M 05/17/16

response 31987

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	167.14
56.00	120.80	130.40
0.00	0.00	0.00

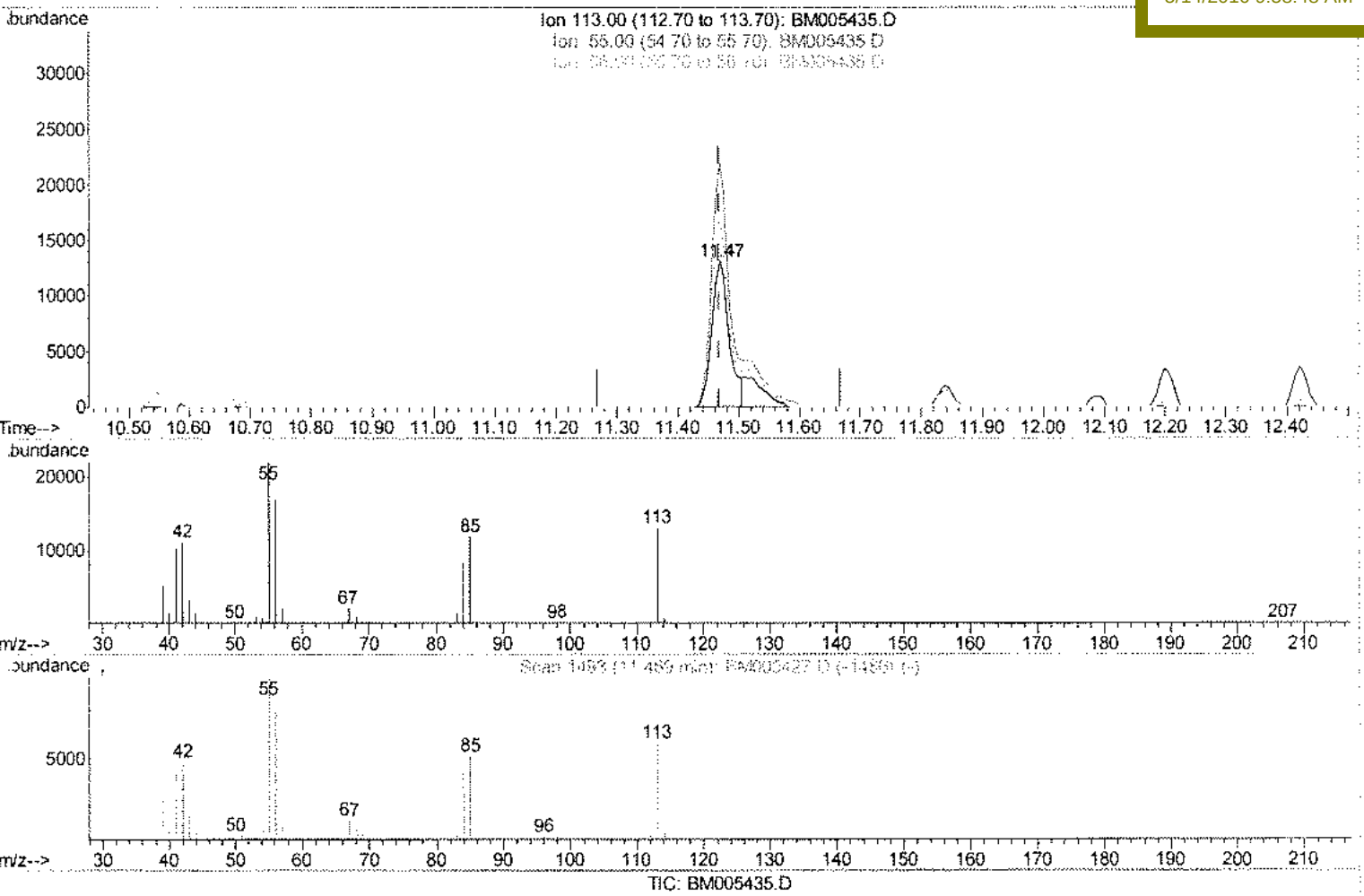
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:21:13 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM



(32) Caprolactam

11.469min (+0.000) 16.17ng/ul

response 25766

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	167.14
56.00	120.80	130.40
0.00	0.00	0.00

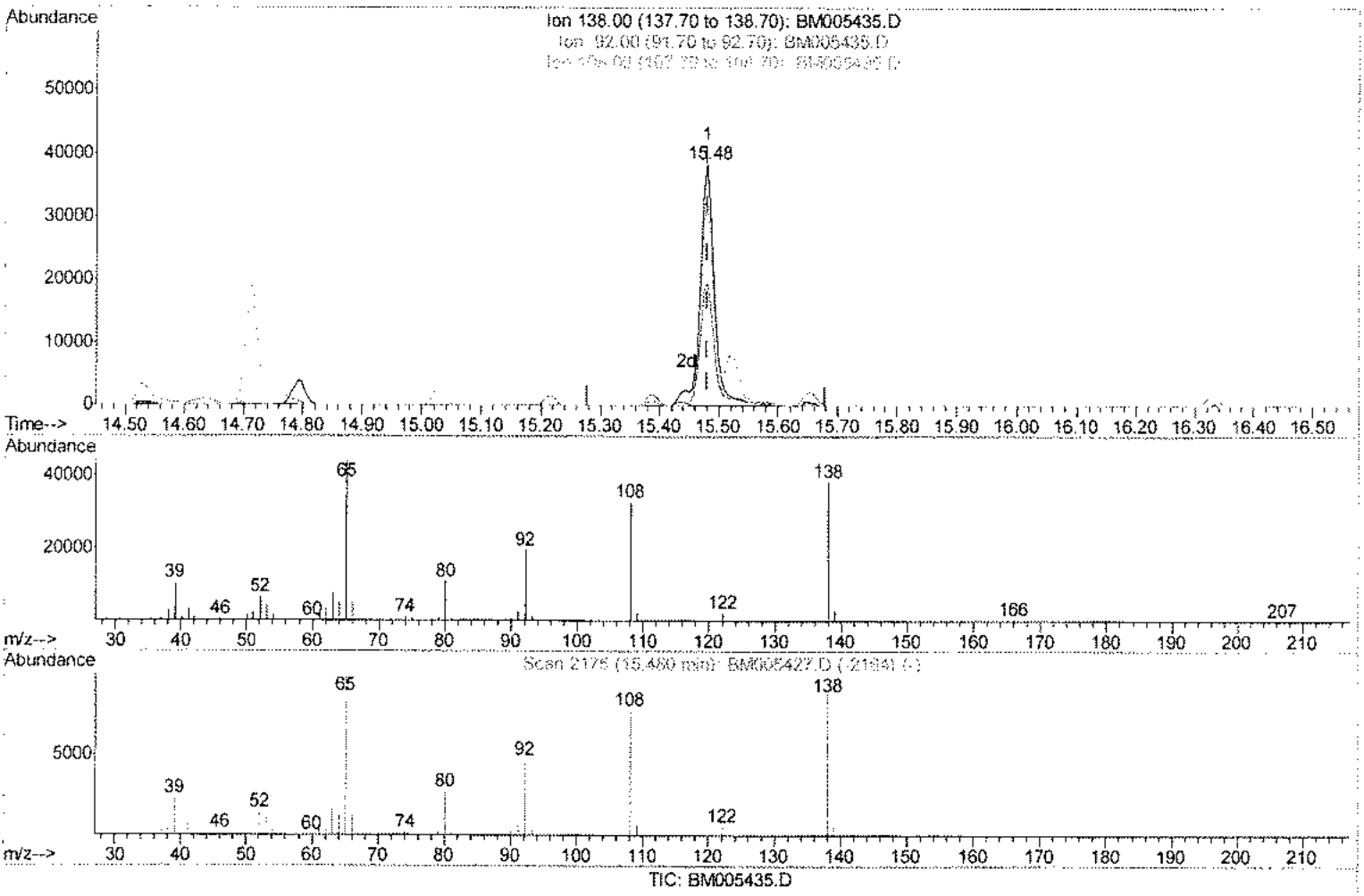
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:21:13 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM



(60) 4-Nitroaniline

15.480min (+0.000) 21.00ng/ul m U.M 05/17/16

response 65233

Ion	Exp%	Act%
138.00	100	100
92.00	55.40	51.50
108.00	82.90	85.22
0.00	0.00	0.00

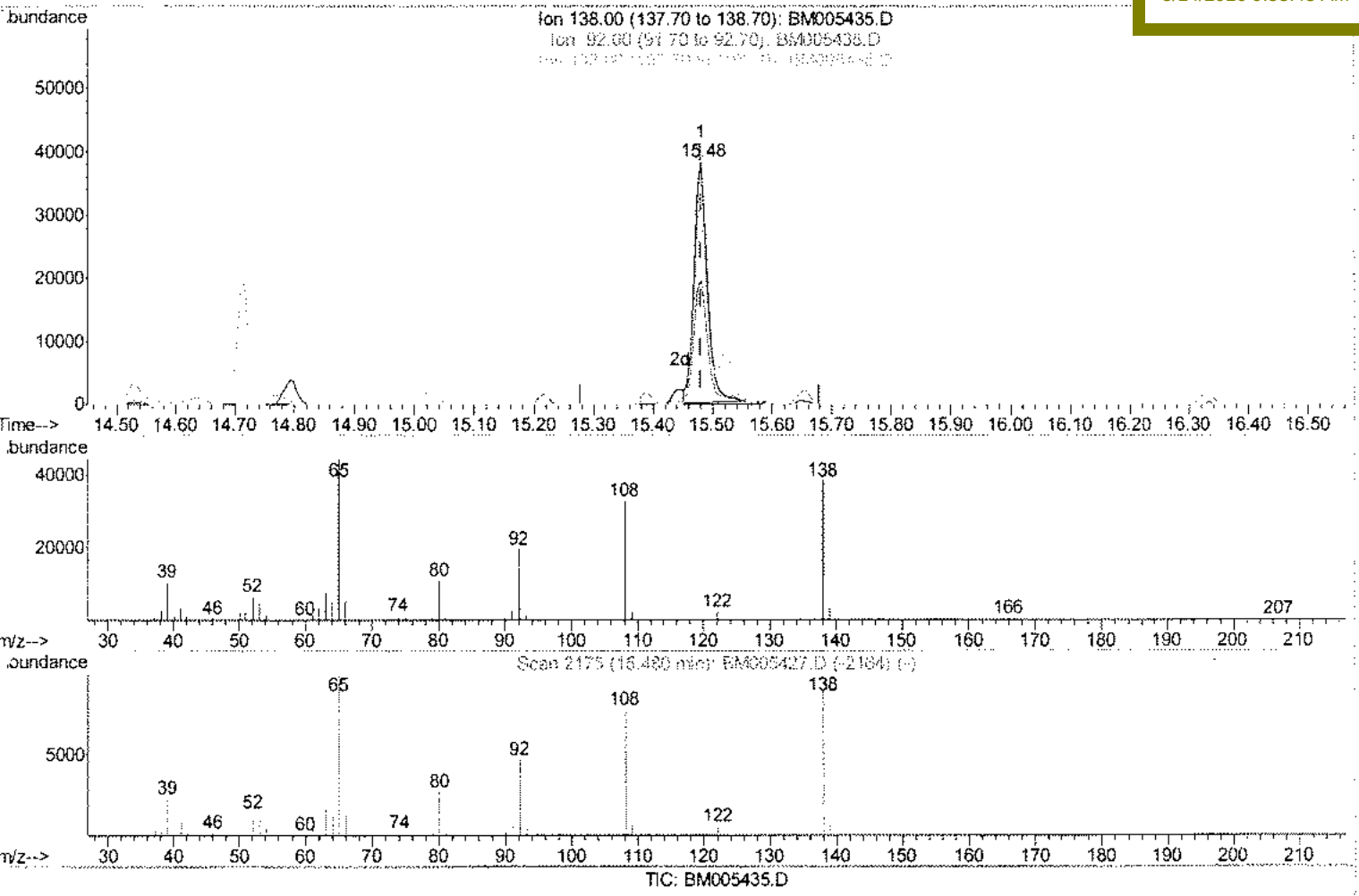
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:21:13 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM



TIC: BM005435.D

(60) 4-Nitroaniline

15.480min (+0.000) 19.11ng/ul

response 59387

Ion	Exp%	Act%
138.00	100	100
92.00	55.40	51.50
108.00	82.90	85.22
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:47:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.57	216	112506	21.24	ng/ul	98
37) Hexachlorocyclopentadiene	12.55	237	42927	15.87	ng/ul	98
38) 2,4,6-Trichlorophenol	12.82	196	74688	21.17	ng/ul	95
39) 2,4,5-Trichlorophenol	12.90	196	82983	21.20	ng/ul	97
40) 1,1'-Biphenyl	13.22	154	285955	20.73	ng/ul	99
41) 2-Chloronaphthalene	13.26	162	216607	20.77	ng/ul	99
42) 2-Nitroaniline	13.48	65	70564	21.98	ng/ul	95
44) Dimethylphthalate	13.85	163	289065	20.73	ng/ul	100
45) 2,6-Dinitrotoluene	13.98	165	59180	21.52	ng/ul#	88
47) Acenaphthylene	14.12	152	360748	20.83	ng/ul	100
48) 3-Nitroaniline	14.31	138	63989	21.83	ng/ul	93
49) Acenaphthene	14.46	153	236335	20.71	ng/ul	99
50) 2,4-Dinitrophenol	14.53	184	23933	15.13	ng/ul	99
52) 4-Nitrophenol	14.63	109	39795	18.79	ng/ul	97
53) Dibenzofuran	14.79	168	342310	20.67	ng/ul	100
54) 2,4-Dinitrotoluene	14.77	165	88569	21.60	ng/ul	99
55) 2,3,4,6-Tetrachlorophenol	15.03	232	67080	20.16	ng/ul#	96
56) Diethylphthalate	15.22	149	296405	21.04	ng/ul	99
58) Fluorene	15.44	166	274397	21.20	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.44	204	138348	21.57	ng/ul	98
60) 4-Nitroaniline	15.48	138	65233m	21.00	ng/ul	
63) 4,6-Dinitro-2-methylphenol	15.54	198	48563	19.69	ng/ul#	93
64) N-Nitrosodiphenylamine	15.66	169	242600	21.23	ng/ul	99
65) 4-Bromophenyl-phenylether	16.33	248	88368	22.09	ng/ul	96
66) Hexachlorobenzene	16.45	284	98745	22.00	ng/ul	96
67) Atrazine	16.60	200	96006	23.02	ng/ul	100
68) Pentachlorophenol	16.80	266	43436	17.42	ng/ul	99
69) Phenanthrene	17.19	178	461069	21.01	ng/ul	99
71) Anthracene	17.27	178	464292	21.22	ng/ul	99
72) Carbazole	17.55	167	433371	22.52	ng/ul	99
73) Di-n-butylphthalate	18.10	149	520162	22.16	ng/ul	100
74) Fluoranthene	19.21	202	566127	23.29	ng/ul	96
77) Pyrene	19.57	202	576547	21.15	ng/ul	97
78) Butylbenzylphthalate	20.47	149	253618	22.41	ng/ul	97
79) 3,3'-Dichlorobenzidine	21.26	252	187330	22.17	ng/ul	98
80) Benzo(a)anthracene	21.33	228	565341	20.91	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.24	149	359721	22.88	ng/ul#	97
82) Chrysene	21.38	228	537694	20.96	ng/ul	100
84) Di-n-octyl phthalate	22.13	149	619924	25.55	ng/ul	99
85) Benzo(b)fluoranthene	22.93	252	533943	21.99	ng/ul	98
86) Benzo(k)fluoranthene	22.97	252	498813	21.82	ng/ul	99
88) Benzo(a)pyrene	23.51	252	487738	21.24	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.90	276	447971	17.88	ng/ul	97
90) Dibenzo(a,h)anthracene	25.91	278	376136	17.94	ng/ul	98
91) Benzo(g,h,i)perylene	26.61	276	363228	17.12	ng/ul	98

U.M 05/17/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005435.D
Acq On : 13 May 2016 17:05
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 00:47:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02034

Manual Integrations APPROVED
sohil
5/14/2016 9:58:48 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	59500	20.00	ng/ul	0.00
18) Naphthalene-d8	10.54	136	277888	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	174095	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	417314	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	470014	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	415334	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	10424	8.24	ng/uL	0.00
5) Phenol-d5	6.93	99	108211	20.05	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	63812	20.73	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	83431	20.47	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	87757	19.67	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	41680	21.01	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	48702	21.68	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	88800	21.27	ng/ul	0.00
29) 4-Chloroaniline-d4	10.68	131	113736	22.63	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	291682	20.90	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	342929	20.95	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	45520	17.87	ng/ul	0.00
57) Fluorene-d10	15.39	176	247746	20.56	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	46141	19.66	ng/ul	0.00
70) Anthracene-d10	17.24	188	392585	21.28	ng/ul	0.00
76) Pyrene-d10	19.54	212	457296	21.08	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	390208	21.22	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	18702	8.11	ng/uL#	93
4) Benzaldehyde	6.90	77	68199	26.08	ng/ul	97
6) Phenol	6.96	94	113435	20.34	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.17	93	85379	20.33	ng/ul	97
10) 2-Chlorophenol	7.32	128	85207	20.44	ng/ul	98
11) 2-Methylphenol	8.20	108	85497	19.83	ng/ul	100
12) 2,2'-oxybis(1-Chloropropan	8.28	45	120976	21.24	ng/ul	98
14) Acetophenone	8.57	105	139141	21.06	ng/ul	96
15) N-Nitroso-di-n-propylamine	8.55	70	71706	20.77	ng/ul	100
16) 4-Methylphenol	8.53	108	93794	19.61	ng/ul	100
17) Hexachloroethane	8.82	117	32996	21.03	ng/ul	94
20) Nitrobenzene	8.95	77	104295	21.00	ng/ul	96
21) Isophorone	9.47	82	201145	20.86	ng/ul	99
23) 2-Nitrophenol	9.66	139	51674	21.35	ng/ul	96
24) 2,4-Dimethylphenol	9.72	107	106957	20.83	ng/ul	97
25) Bis(2-Chloroethoxy)methane	9.95	93	120688	20.09	ng/ul	98
27) 2,4-Dichlorophenol	10.19	162	88930	20.80	ng/ul	100
28) Naphthalene	10.59	128	287252	20.54	ng/ul	99
30) 4-Chloroaniline	10.70	127	113782	22.20	ng/ul	99
31) Hexachlorobutadiene	10.86	225	56755	22.33	ng/ul	98
32) Caprolactam	11.47	113	31987m	20.08	ng/ul	
33) 4-Chloro-3-methylphenol	11.84	107	107902	21.05	ng/ul	98
34) 2-Methylnaphthalene	12.20	142	215843	20.64	ng/ul	98

U.M 05/17/16

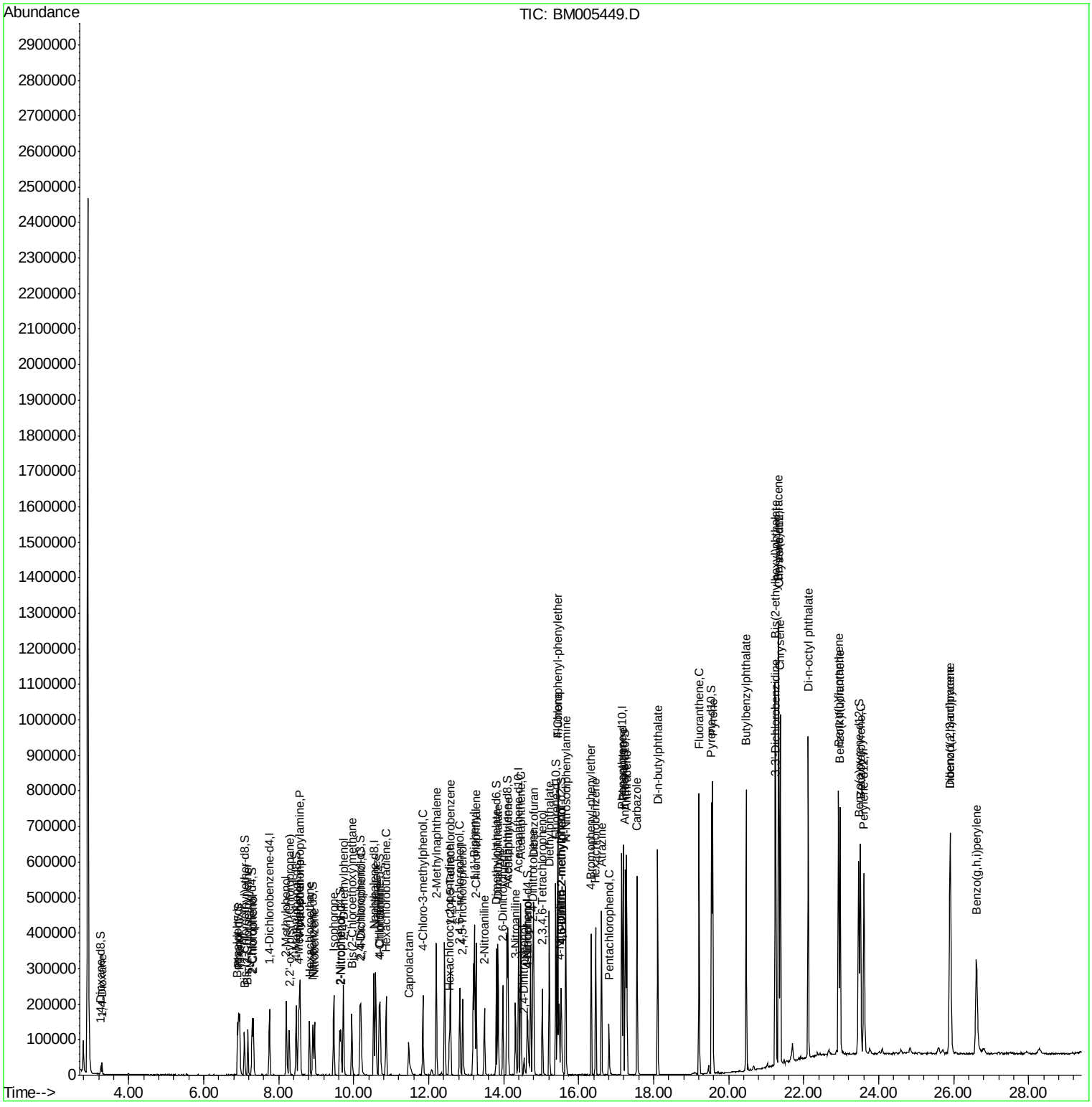
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005449.D
Acq On : 14 May 2016 04:32
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 05:30:42 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02035

Manual Integrations APPROVED
sohil
5/14/2016 9:59:30 AM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005449.D
Acq On : 14 May 2016 04:32
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 05:30:42 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02035

Manual Integrations APPROVED
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5/14/2016 9:59:30 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	51526	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	233474	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	144192	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	357486	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	439148	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	397039	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	9729	8.88	ng/uL	0.00
5) Phenol-d5	6.93	99	91595	19.60	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	54243	20.35	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	71227	20.18	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	72213	18.70	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	34901	20.94	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	40062	21.23	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	73301	20.90	ng/ul	0.00
29) 4-Chloroaniline-d4	10.68	131	93039	22.04	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	239697	20.74	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	281203	20.74	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	32480	15.40	ng/ul	0.00
57) Fluorene-d10	15.39	176	210170	21.06	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	38328	19.06	ng/ul	0.00
70) Anthracene-d10	17.24	188	335191	21.21	ng/ul	0.00
76) Pyrene-d10	19.54	212	404111	19.94	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	373709	21.26	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	17223	8.62	ng/uL#	94
4) Benzaldehyde	6.90	77	57653	25.46	ng/ul	97
6) Phenol	6.96	94	95669	19.81	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.17	93	72332	19.89	ng/ul	97
10) 2-Chlorophenol	7.32	128	73107	20.25	ng/ul	98
11) 2-Methylphenol	8.20	108	71491	19.15	ng/ul	94
12) 2,2'-oxybis(1-Chloropropan	8.28	45	101470	20.57	ng/ul	99
14) Acetophenone	8.57	105	118505	20.71	ng/ul	98
15) N-Nitroso-di-n-propylamine	8.55	70	59470	19.89	ng/ul	98
16) 4-Methylphenol	8.53	108	78761	19.01	ng/ul	100
17) Hexachloroethane	8.82	117	28209	20.76	ng/ul	89
20) Nitrobenzene	8.95	77	86989	20.84	ng/ul	97
21) Isophorone	9.47	82	165741	20.45	ng/ul	98
23) 2-Nitrophenol	9.66	139	43004	21.15	ng/ul	94
24) 2,4-Dimethylphenol	9.72	107	89411	20.73	ng/ul	98
25) Bis(2-Chloroethoxy)methane	9.95	93	99988	19.81	ng/ul	99
27) 2,4-Dichlorophenol	10.19	162	74266	20.67	ng/ul	99
28) Naphthalene	10.59	128	240809	20.50	ng/ul	99
30) 4-Chloroaniline	10.70	127	96075	22.31	ng/ul	97
31) Hexachlorobutadiene	10.86	225	47316	22.16	ng/ul	99
32) Caprolactam	11.47	113	25652	19.17	ng/ul	97
33) 4-Chloro-3-methylphenol	11.84	107	88700	20.59	ng/ul	98
34) 2-Methylnaphthalene	12.20	142	179834	20.47	ng/ul	98

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005449.D
Acq On : 14 May 2016 04:32
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 05:30:42 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02035

Manual Integrations APPROVED
sohil
5/14/2016 9:59:30 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.57	216	93522	21.32	ng/ul	98
37) Hexachlorocyclopentadiene	12.55	237	28620	12.77	ng/ul	94
38) 2,4,6-Trichlorophenol	12.82	196	59537	20.38	ng/ul	96
39) 2,4,5-Trichlorophenol	12.90	196	64047	19.76	ng/ul	96
40) 1,1'-Biphenyl	13.22	154	234764	20.55	ng/ul	99
41) 2-Chloronaphthalene	13.26	162	178858	20.71	ng/ul	98
42) 2-Nitroaniline	13.48	65	57295	21.55	ng/ul	97
44) Dimethylphthalate	13.85	163	240553	20.83	ng/ul	100
45) 2,6-Dinitrotoluene	13.97	165	48992	21.51	ng/ul	92
47) Acenaphthylene	14.12	152	294262	20.52	ng/ul	100
48) 3-Nitroaniline	14.31	138	51867	21.36	ng/ul	92
49) Acenaphthene	14.46	153	195609	20.70	ng/ul	99
50) 2,4-Dinitrophenol	14.53	184	16013	12.22	ng/ul	98
52) 4-Nitrophenol	14.64	109	28840	16.44	ng/ul	97
53) Dibenzofuran	14.79	168	284548	20.75	ng/ul	99
54) 2,4-Dinitrotoluene	14.77	165	75120	22.12	ng/ul	99
55) 2,3,4,6-Tetrachlorophenol	15.03	232	51448	18.67	ng/ul#	93
56) Diethylphthalate	15.22	149	245036	21.00	ng/ul	99
58) Fluorene	15.45	166	227902	21.26	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.43	204	113964	21.45	ng/ul	97
60) 4-Nitroaniline	15.48	138	55023m	21.38	ng/ul	
63) 4,6-Dinitro-2-methylphenol	15.54	198	38851	18.39	ng/ul#	92
64) N-Nitrosodiphenylamine	15.65	169	203081	20.75	ng/ul	99
65) 4-Bromophenyl-phenylether	16.33	248	73526	21.45	ng/ul	96
66) Hexachlorobenzene	16.45	284	82959	21.58	ng/ul	96
67) Atrazine	16.60	200	80488	22.53	ng/ul	99
68) Pentachlorophenol	16.80	266	30436	14.25	ng/ul	95
69) Phenanthrene	17.19	178	390092	20.75	ng/ul	100
71) Anthracene	17.27	178	393919	21.02	ng/ul	99
72) Carbazole	17.55	167	373723	22.67	ng/ul	99
73) Di-n-butylphthalate	18.10	149	442673	22.01	ng/ul	100
74) Fluoranthene	19.20	202	495696	23.80	ng/ul	99
77) Pyrene	19.57	202	509966	20.02	ng/ul	99
78) Butylbenzylphthalate	20.46	149	224692	21.24	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.26	252	174929	22.16	ng/ul	99
80) Benzo(a)anthracene	21.32	228	524901	20.78	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.24	149	331837	22.59	ng/ul#	97
82) Chrysene	21.37	228	498017	20.78	ng/ul	100
84) Di-n-octyl phthalate	22.12	149	585763	25.26	ng/ul	99
85) Benzo(b)fluoranthene	22.92	252	510606	22.00	ng/ul	98
86) Benzo(k)fluoranthene	22.97	252	490820	22.46	ng/ul	99
88) Benzo(a)pyrene	23.51	252	468436	21.34	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.90	276	448822	18.74	ng/ul	97
90) Dibenzo(a,h)anthracene	25.90	278	381581	19.04	ng/ul	98
91) Benzo(g,h,i)perylene	26.60	276	363938	17.94	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

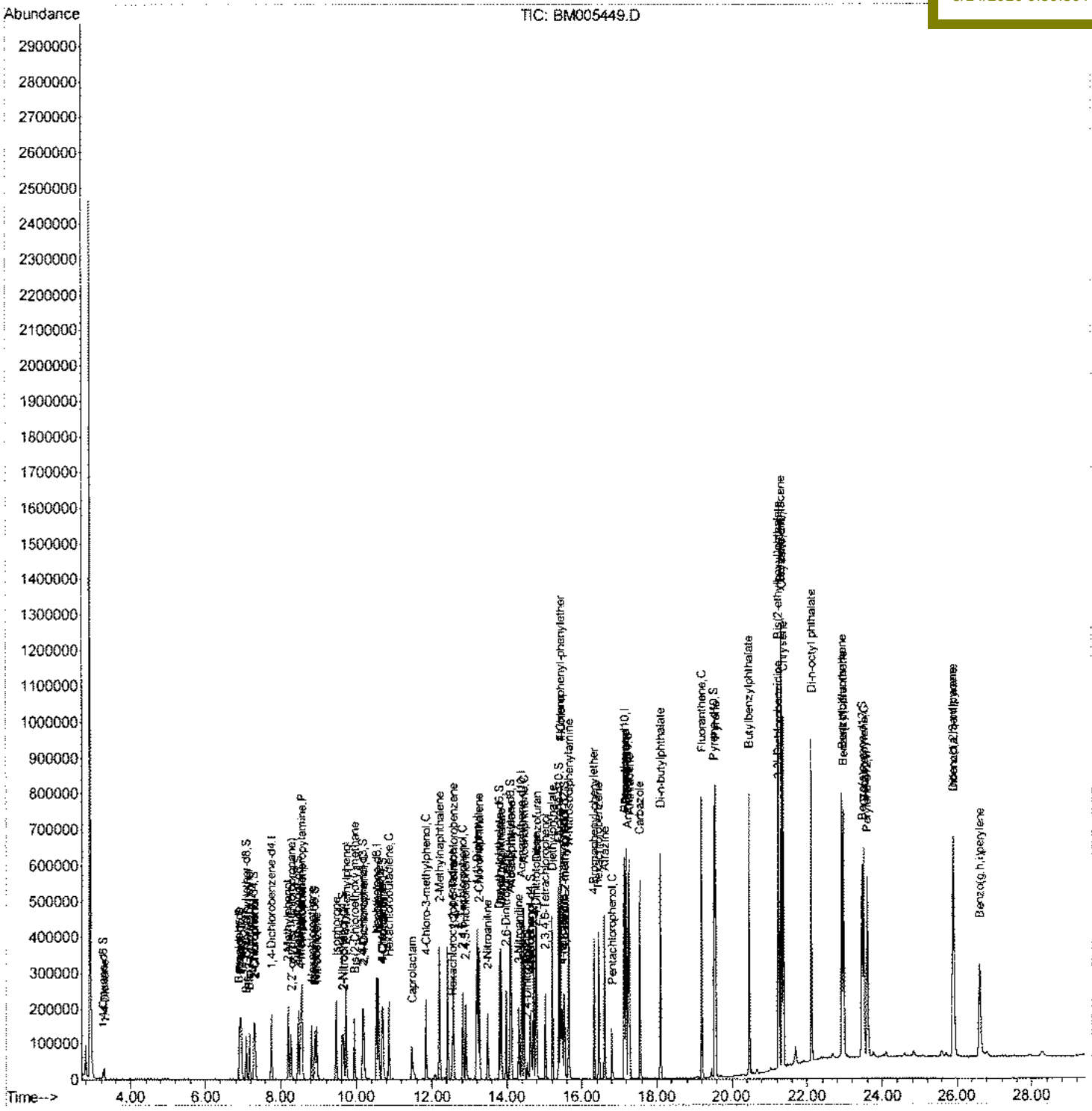
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005449.D
Acq On : 14 May 2016 04:32
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 05:30:42 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02035

Manual Integrations APPROVED
sohil
5/14/2016 9:59:30 AM



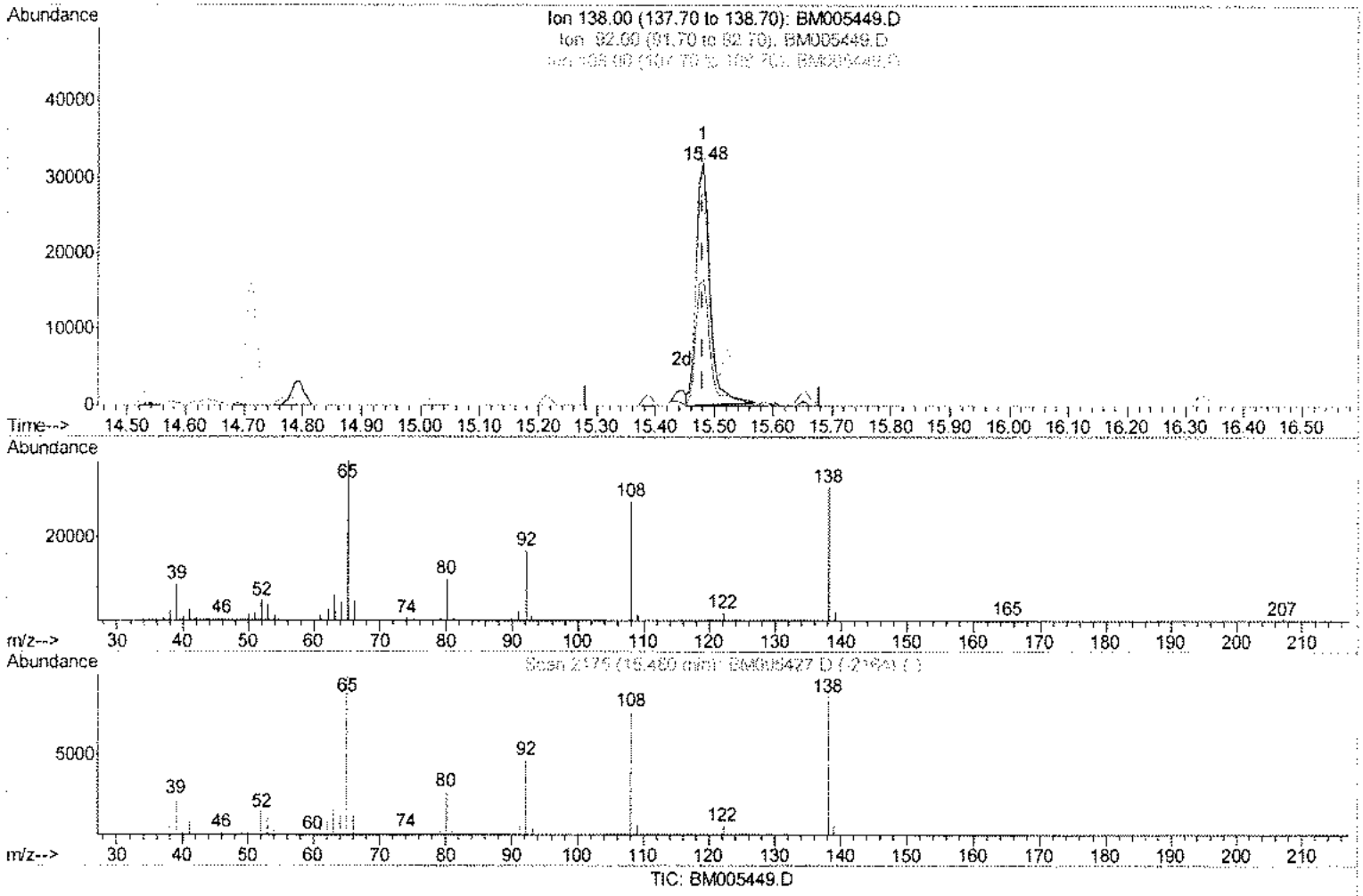
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005449.D
Acq On : 14 May 2016 04:32
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 05:19:30 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02035

Manual Integrations APPROVED
sohil
5/14/2016 9:59:30 AM



(60) 4-Nitroaniline

15.480min (+0.000) 19.58ng/ul

response 50381

Ion	Exp%	Act%
138.00	100	100
92.00	55.40	52.95
108.00	82.90	89.28
0.00	0.00	0.00

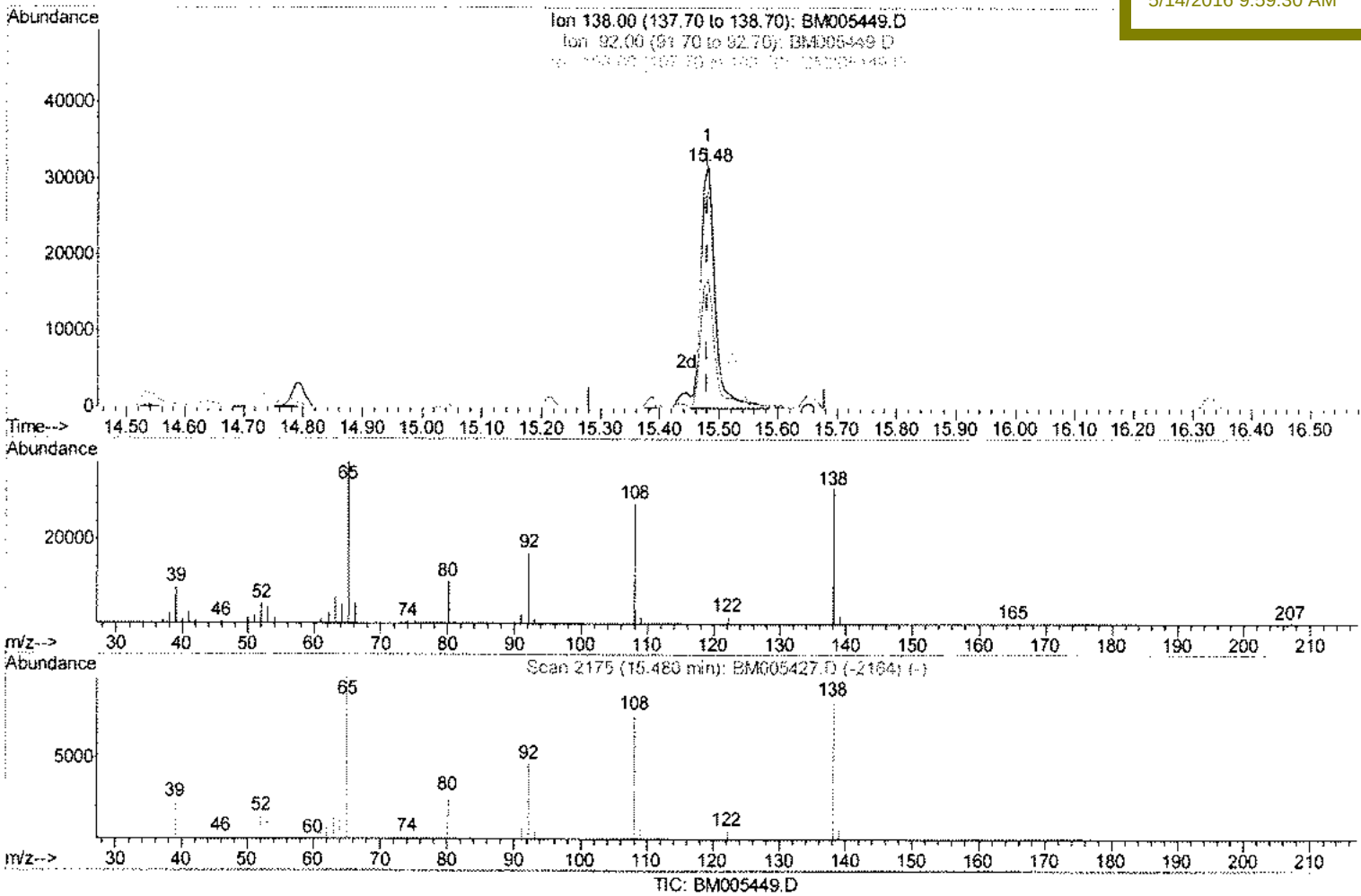
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005449.D
Acq On : 14 May 2016 04:32
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 05:19:30 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD02035

Manual Integrations APPROVED
sohil
5/14/2016 9:59:30 AM



TIC: BM005449.D

(60) 4-Nitroaniline

15.480min (+0.000) 21.38ng/ul m

response 55023

U. M
05/17/16

Ion	Exp%	Act%
138.00	100	100
92.00	55.40	52.95
108.00	82.90	89.28
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005449.D
Acq On : 14 May 2016 04:32
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 05:30:42 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02035

Manual Integrations APPROVED
sohil
5/14/2016 9:59:30 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	51526	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	233474	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	144192	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	357486	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	439148	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	397039	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	9729	8.88	ng/uL	0.00
5) Phenol-d5	6.93	99	91595	19.60	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	54243	20.35	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	71227	20.18	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	72213	18.70	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	34901	20.94	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	40062	21.23	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	73301	20.90	ng/ul	0.00
29) 4-Chloroaniline-d4	10.68	131	93039	22.04	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	239697	20.74	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	281203	20.74	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	32480	15.40	ng/ul	0.00
57) Fluorene-d10	15.39	176	210170	21.06	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	38328	19.06	ng/ul	0.00
70) Anthracene-d10	17.24	188	335191	21.21	ng/ul	0.00
76) Pyrene-d10	19.54	212	404111	19.94	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	373709	21.26	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	17223	8.62	ng/uL#	94
4) Benzaldehyde	6.90	77	57653	25.46	ng/ul	97
6) Phenol	6.96	94	95669	19.81	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.17	93	72332	19.89	ng/ul	97
10) 2-Chlorophenol	7.32	128	73107	20.25	ng/ul	98
11) 2-Methylphenol	8.20	108	71491	19.15	ng/ul	94
12) 2,2'-oxybis(1-Chloropropan	8.28	45	101470	20.57	ng/ul	99
14) Acetophenone	8.57	105	118505	20.71	ng/ul	98
15) N-Nitroso-di-n-propylamine	8.55	70	59470	19.89	ng/ul	98
16) 4-Methylphenol	8.53	108	78761	19.01	ng/ul	100
17) Hexachloroethane	8.82	117	28209	20.76	ng/ul	89
20) Nitrobenzene	8.95	77	86989	20.84	ng/ul	97
21) Isophorone	9.47	82	165741	20.45	ng/ul	98
23) 2-Nitrophenol	9.66	139	43004	21.15	ng/ul	94
24) 2,4-Dimethylphenol	9.72	107	89411	20.73	ng/ul	98
25) Bis(2-Chloroethoxy)methane	9.95	93	99988	19.81	ng/ul	99
27) 2,4-Dichlorophenol	10.19	162	74266	20.67	ng/ul	99
28) Naphthalene	10.59	128	240809	20.50	ng/ul	99
30) 4-Chloroaniline	10.70	127	96075	22.31	ng/ul	97
31) Hexachlorobutadiene	10.86	225	47316	22.16	ng/ul	99
32) Caprolactam	11.47	113	25652	19.17	ng/ul	97
33) 4-Chloro-3-methylphenol	11.84	107	88700	20.59	ng/ul	98
34) 2-Methylnaphthalene	12.20	142	179834	20.47	ng/ul	98

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005449.D
Acq On : 14 May 2016 04:32
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 05:30:42 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD02035

Manual Integrations APPROVED
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5/14/2016 9:59:30 AM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.57	216	93522	21.32	ng/ul	98
37) Hexachlorocyclopentadiene	12.55	237	28620	12.77	ng/ul	94
38) 2,4,6-Trichlorophenol	12.82	196	59537	20.38	ng/ul	96
39) 2,4,5-Trichlorophenol	12.90	196	64047	19.76	ng/ul	96
40) 1,1'-Biphenyl	13.22	154	234764	20.55	ng/ul	99
41) 2-Chloronaphthalene	13.26	162	178858	20.71	ng/ul	98
42) 2-Nitroaniline	13.48	65	57295	21.55	ng/ul	97
44) Dimethylphthalate	13.85	163	240553	20.83	ng/ul	100
45) 2,6-Dinitrotoluene	13.97	165	48992	21.51	ng/ul	92
47) Acenaphthylene	14.12	152	294262	20.52	ng/ul	100
48) 3-Nitroaniline	14.31	138	51867	21.36	ng/ul	92
49) Acenaphthene	14.46	153	195609	20.70	ng/ul	99
50) 2,4-Dinitrophenol	14.53	184	16013	12.22	ng/ul	98
52) 4-Nitrophenol	14.64	109	28840	16.44	ng/ul	97
53) Dibenzofuran	14.79	168	284548	20.75	ng/ul	99
54) 2,4-Dinitrotoluene	14.77	165	75120	22.12	ng/ul	99
55) 2,3,4,6-Tetrachlorophenol	15.03	232	51448	18.67	ng/ul#	93
56) Diethylphthalate	15.22	149	245036	21.00	ng/ul	99
58) Fluorene	15.45	166	227902	21.26	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.43	204	113964	21.45	ng/ul	97
60) 4-Nitroaniline	15.48	138	55023m	21.38	ng/ul	
63) 4,6-Dinitro-2-methylphenol	15.54	198	38851	18.39	ng/ul#	92
64) N-Nitrosodiphenylamine	15.65	169	203081	20.75	ng/ul	99
65) 4-Bromophenyl-phenylether	16.33	248	73526	21.45	ng/ul	96
66) Hexachlorobenzene	16.45	284	82959	21.58	ng/ul	96
67) Atrazine	16.60	200	80488	22.53	ng/ul	99
68) Pentachlorophenol	16.80	266	30436	14.25	ng/ul	95
69) Phenanthrene	17.19	178	390092	20.75	ng/ul	100
71) Anthracene	17.27	178	393919	21.02	ng/ul	99
72) Carbazole	17.55	167	373723	22.67	ng/ul	99
73) Di-n-butylphthalate	18.10	149	442673	22.01	ng/ul	100
74) Fluoranthene	19.20	202	495696	23.80	ng/ul	99
77) Pyrene	19.57	202	509966	20.02	ng/ul	99
78) Butylbenzylphthalate	20.46	149	224692	21.24	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.26	252	174929	22.16	ng/ul	99
80) Benzo(a)anthracene	21.32	228	524901	20.78	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.24	149	331837	22.59	ng/ul#	97
82) Chrysene	21.37	228	498017	20.78	ng/ul	100
84) Di-n-octyl phthalate	22.12	149	585763	25.26	ng/ul	99
85) Benzo(b)fluoranthene	22.92	252	510606	22.00	ng/ul	98
86) Benzo(k)fluoranthene	22.97	252	490820	22.46	ng/ul	99
88) Benzo(a)pyrene	23.51	252	468436	21.34	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.90	276	448822	18.74	ng/ul	97
90) Dibenzo(a,h)anthracene	25.90	278	381581	19.04	ng/ul	98
91) Benzo(g,h,i)perylene	26.60	276	363938	17.94	ng/ul	97

U.M 05/17/16

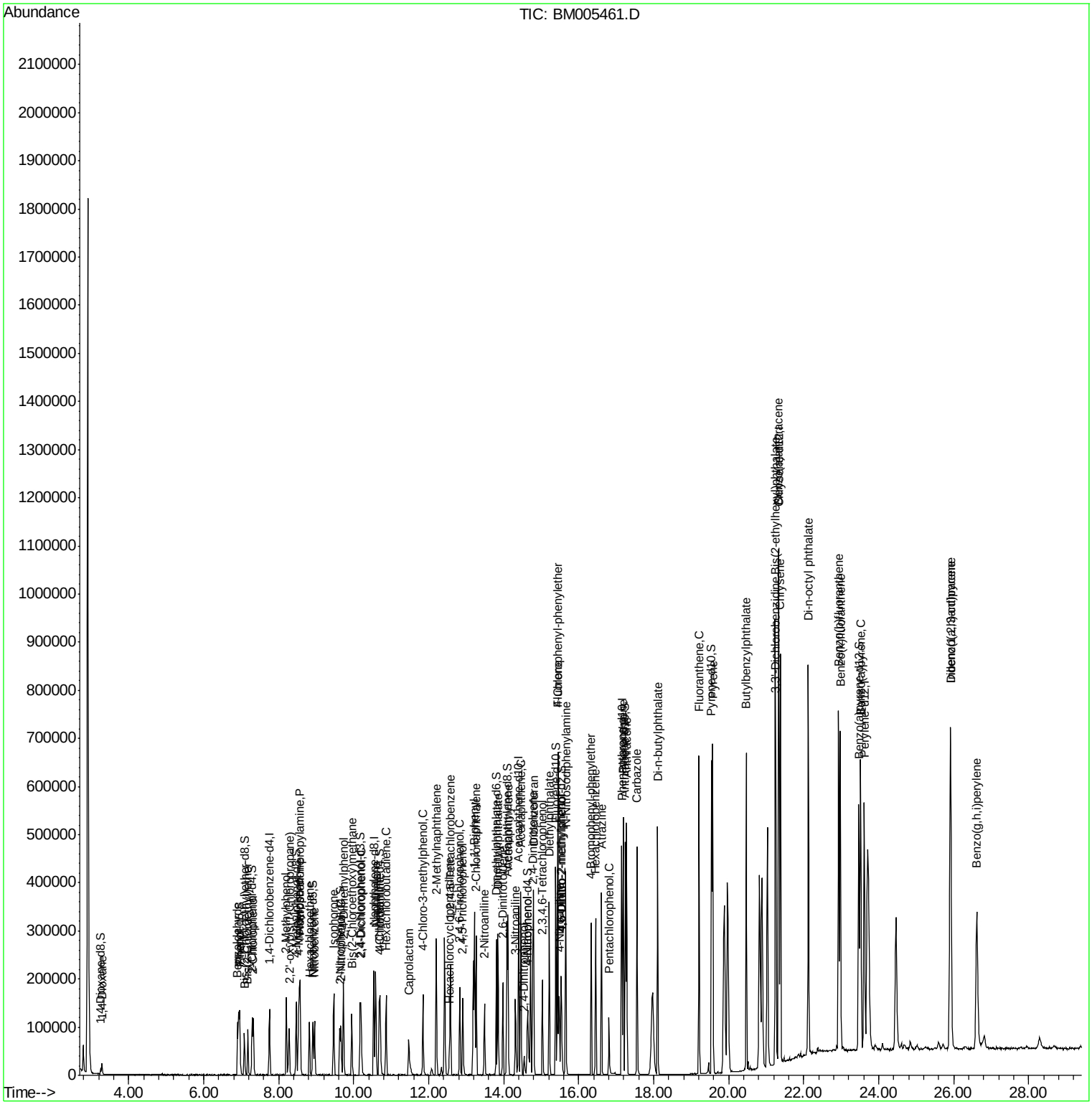
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005461.D
Acq On : 14 May 2016 13:09
Operator : UM/SJ
Sample : SSTDCCC020EC
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SSTD02036

Quant Time: May 16 13:03:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005461.D
Acq On : 14 May 2016 13:09
Operator : UM/SJ
Sample : SSTDCCC020EC
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02036

Quant Time: May 16 13:03:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	39461	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	178282	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	114488	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	286794	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	388346	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	394502	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	6849	8.16	ng/uL	0.00
5) Phenol-d5	6.93	99	68861	19.24	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	40904	20.03	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	54161	20.04	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	55814	18.87	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	27051	21.25	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	29571	20.52	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	55729	20.81	ng/ul	0.00
29) 4-Chloroaniline-d4	10.68	131	73313	22.74	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	187680	20.45	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	222321	20.66	ng/ul	0.00
51) 4-Nitrophenol-d4	14.63	143	26244	15.67	ng/ul	0.00
57) Fluorene-d10	15.39	176	166024	20.95	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	31299	19.40	ng/ul	0.00
70) Anthracene-d10	17.24	188	272923	21.53	ng/ul	0.00
76) Pyrene-d10	19.54	212	339743	18.95	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	367428	21.04	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.29	88	12541	8.20	ng/uL#	92
4) Benzaldehyde	6.90	77	43386	25.02	ng/ul	96
6) Phenol	6.96	94	73789	19.95	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.17	93	54612	19.61	ng/ul	97
10) 2-Chlorophenol	7.32	128	55670	20.13	ng/ul	98
11) 2-Methylphenol	8.20	108	54747	19.15	ng/ul	96
12) 2,2'-oxybis(1-Chloropropan	8.28	45	77504	20.52	ng/ul	99
14) Acetophenone	8.57	105	90396	20.63	ng/ul	95
15) N-Nitroso-di-n-propylamine	8.55	70	46217	20.18	ng/ul	99
16) 4-Methylphenol	8.53	108	60967	19.21	ng/ul	100
17) Hexachloroethane	8.82	117	21388	20.56	ng/ul	91
20) Nitrobenzene	8.95	77	67020	21.03	ng/ul	99
21) Isophorone	9.47	82	126315	20.41	ng/ul	99
23) 2-Nitrophenol	9.66	139	32683	21.05	ng/ul	98
24) 2,4-Dimethylphenol	9.72	107	69034	20.96	ng/ul	97
25) Bis(2-Chloroethoxy)methane	9.95	93	75244	19.53	ng/ul	98
27) 2,4-Dichlorophenol	10.20	162	56390	20.56	ng/ul	98
28) Naphthalene	10.58	128	184865	20.61	ng/ul	99
30) 4-Chloroaniline	10.70	127	75036	22.82	ng/ul	97
31) Hexachlorobutadiene	10.86	225	36252	22.24	ng/ul	98
32) Caprolactam	11.47	113	19574	19.15	ng/ul	90
33) 4-Chloro-3-methylphenol	11.84	107	67682	20.58	ng/ul	98
34) 2-Methylnaphthalene	12.20	142	136233	20.31	ng/ul	100

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005461.D
Acq On : 14 May 2016 13:09
Operator : UM/SJ
Sample : SSTDCCC020EC
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02036

Quant Time: May 16 13:03:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.57	216	72370	20.78	ng/ul	98
37) Hexachlorocyclopentadiene	12.54	237	11562	6.50	ng/ul	99
38) 2,4,6-Trichlorophenol	12.83	196	46210	19.92	ng/ul	97
39) 2,4,5-Trichlorophenol	12.90	196	48656	18.91	ng/ul	97
40) 1,1'-Biphenyl	13.22	154	182851	20.16	ng/ul	100
41) 2-Chloronaphthalene	13.26	162	139615	20.36	ng/ul	99
42) 2-Nitroaniline	13.48	65	44835	21.24	ng/ul	96
44) Dimethylphthalate	13.84	163	188091	20.51	ng/ul	99
45) 2,6-Dinitrotoluene	13.97	165	38664	21.38	ng/ul	93
47) Acenaphthylene	14.11	152	236716	20.79	ng/ul	100
48) 3-Nitroaniline	14.32	138	41887	21.73	ng/ul	100
49) Acenaphthene	14.46	153	155707	20.75	ng/ul	98
50) 2,4-Dinitrophenol	14.54	184	13431	12.91	ng/ul	98
52) 4-Nitrophenol	14.64	109	23543	16.90	ng/ul	91
53) Dibenzofuran	14.79	168	226762	20.83	ng/ul	96
54) 2,4-Dinitrotoluene	14.77	165	59032	21.89	ng/ul	97
55) 2,3,4,6-Tetrachlorophenol	15.03	232	42619	19.48	ng/ul#	96
56) Diethylphthalate	15.22	149	193339	20.87	ng/ul	99
58) Fluorene	15.44	166	185511	21.79	ng/ul	98
59) 4-Chlorophenyl-phenylether	15.43	204	92102	21.84	ng/ul	98
60) 4-Nitroaniline	15.48	138	41503	20.31	ng/ul	96
63) 4,6-Dinitro-2-methylphenol	15.54	198	32460	19.15	ng/ul#	90
64) N-Nitrosodiphenylamine	15.65	169	163837	20.86	ng/ul	99
65) 4-Bromophenyl-phenylether	16.33	248	58456	21.26	ng/ul	97
66) Hexachlorobenzene	16.45	284	65911	21.37	ng/ul	96
67) Atrazine	16.60	200	64450	22.49	ng/ul	99
68) Pentachlorophenol	16.80	266	25003	14.59	ng/ul	96
69) Phenanthrene	17.19	178	319950	21.22	ng/ul	99
71) Anthracene	17.27	178	328914	21.88	ng/ul	100
72) Carbazole	17.55	167	310431	23.47	ng/ul	98
73) Di-n-butylphthalate	18.10	149	370236	22.95	ng/ul	99
74) Fluoranthene	19.20	202	413443	24.75	ng/ul	99
77) Pyrene	19.57	202	432440	19.20	ng/ul	99
78) Butylbenzylphthalate	20.46	149	189630	20.28	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.26	252	158588	22.72	ng/ul	98
80) Benzo(a)anthracene	21.33	228	454809	20.36	ng/ul	100
81) Bis(2-ethylhexyl)phthalate	21.24	149	281181	21.64	ng/ul	99
82) Chrysene	21.38	228	440155	20.77	ng/ul	99
84) Di-n-octyl phthalate	22.12	149	525329	22.80	ng/ul	100
85) Benzo(b)fluoranthene	22.93	252	484835	21.03	ng/ul	99
86) Benzo(k)fluoranthene	22.97	252	462375	21.30	ng/ul	99
88) Benzo(a)pyrene	23.51	252	461299	21.15	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.91	276	471912	19.83	ng/ul	97
90) Dibenzo(a,h)anthracene	25.91	278	400766	20.12	ng/ul	98
91) Benzo(g,h,i)perylene	26.61	276	387727	19.24	ng/ul	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

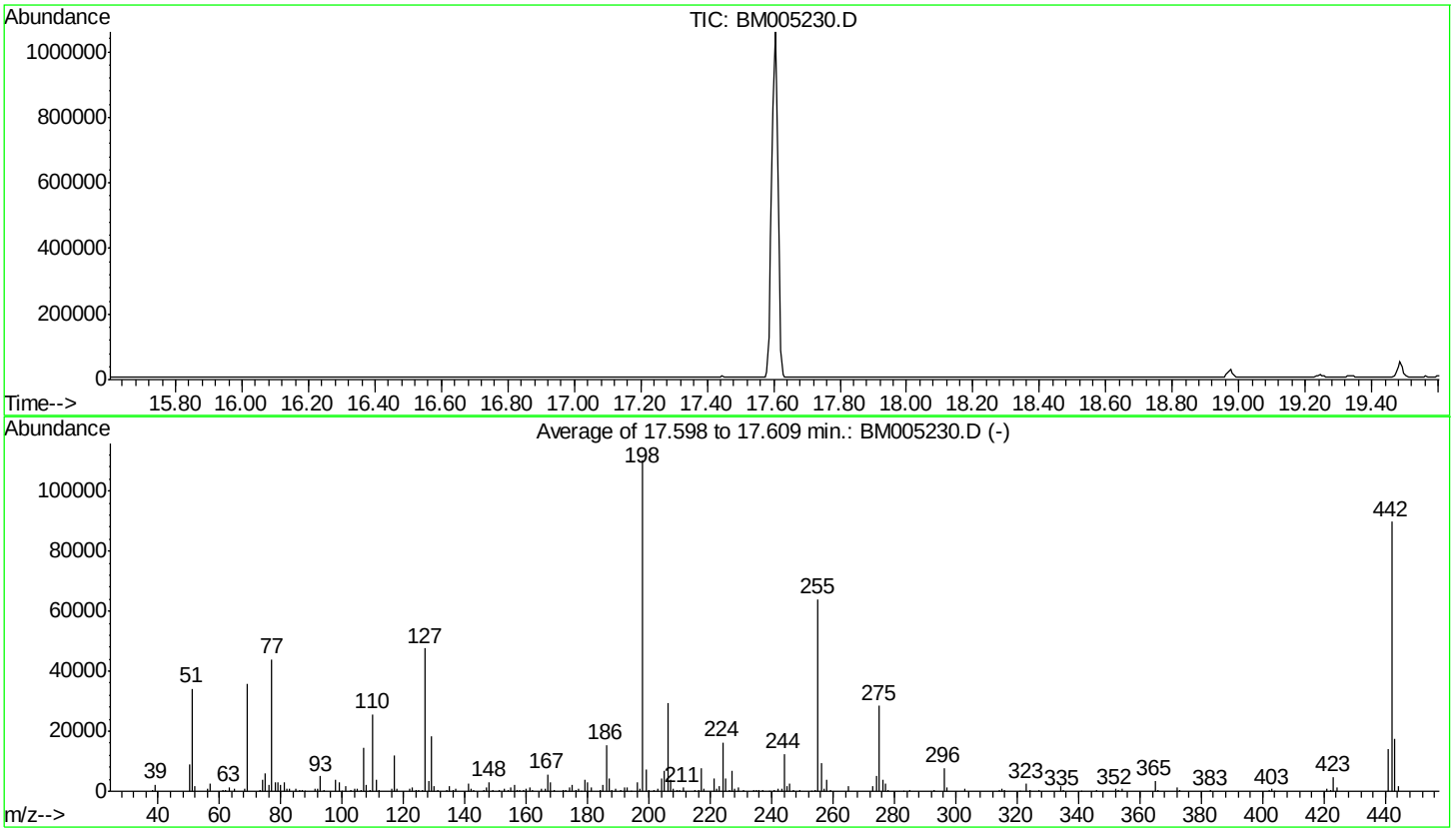
DFTPP

Data Path : Z:\HPCHEM1\BNA_M\Data\BM050516\
Data File : BM005230.D
Acq On : 05 May 2016 10:23
Operator : UM/SJ
Sample : DFTPP64
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : DFTPP64

Integration File: LSCINT.P

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION
Last Update : Sat May 07 07:05:19 2016



AutoFind: Scans 2535, 2536, 2537; Background Corrected with Scan 2530

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	31.0	34217	PASS
68	69	0.00	2	1.8	659	PASS
69	198	0.00	100	32.4	35757	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	43.1	47546	PASS
197	198	0.00	2	0.7	792	PASS
198	198	100	100	100.0	110320	PASS
199	198	5	9	6.7	7441	PASS
275	198	10	60	25.7	28354	PASS
365	198	1	100	3.2	3476	PASS
441	443	0.01	100	79.3	13888	PASS
442	198	50	100	81.3	89733	PASS
443	442	15	24	19.5	17511	PASS

Scan 2530 (17.568 min): BM005230.D
DFTPP64

m/z	Abundance
44.00	519.0
47.00	617.0
49.00	2627.0
51.00	900.0
84.00	2048.0
86.00	1264.0

Instrument :
BNA_M
ClientSampleId :
DFTPP64

Scan 2535 (17.598 min): BM005230.D
DFTPP64

Instrument :
BNA_M
ClientSampleId :
DFTPP64

m/z	Abundance
38.00	406.0
39.10	2380.0
44.00	354.0
47.00	345.0
49.00	2022.0
50.10	9141.0
51.10	36032.0
52.10	1876.0
56.00	1048.0
57.00	2579.0
61.00	451.0
62.00	500.0
63.00	1540.0
65.10	757.0
68.00	668.0
69.00	35840.0
73.00	405.0
74.10	3676.0
75.00	6149.0
76.10	2327.0
77.10	45112.0
78.10	3248.0
79.00	3053.0
80.00	2218.0
81.00	3242.0
82.00	790.0
83.00	823.0
84.00	1527.0
85.00	673.0
86.00	1887.0
87.00	423.0
87.90	327.0
91.00	611.0
92.00	752.0
93.00	5149.0
94.00	321.0
98.00	3964.0
99.00	3167.0
101.00	1833.0
103.00	496.0
104.00	1015.0
105.00	1090.0
106.10	351.0
107.00	13953.0
108.00	2163.0
109.10	387.0
110.00	25256.0
111.00	3942.0
112.00	505.0
116.00	742.0
117.00	11558.0
118.00	927.0
122.00	841.0
123.00	1346.0
124.00	594.0
124.90	662.0
126.20	322.0
127.10	46136.0
128.00	3539.0
129.00	17656.0
130.00	1569.0
134.00	527.0
135.00	1362.0
136.00	598.0
137.10	852.0
141.00	2457.0
142.00	837.0
143.00	495.0
146.00	405.0
147.00	1262.0
148.00	2869.0
149.00	595.0
151.00	303.0
153.00	823.0
154.00	542.0
155.00	1384.0
156.00	2064.0
157.10	395.0
158.00	465.0
159.00	309.0
160.00	736.0
161.00	1172.0
162.00	312.0
165.00	936.0
166.10	725.0
167.00	5242.0
168.00	2705.0
169.00	469.0
172.00	373.0
173.00	607.0
174.00	1029.0

175.10	1947.0
176.10	544.0
177.00	920.0
179.00	3586.0
180.10	2706.0
181.00	1174.0
184.10	331.0
185.00	1711.0
186.10	14171.0
187.00	4055.0
188.00	538.0
189.00	852.0
191.00	395.0
192.00	1174.0
193.00	1409.0
194.10	318.0
196.00	2657.0
197.20	710.0
198.00	101448.0
199.00	7050.0
200.00	595.0
201.50	438.0
203.00	730.0
204.10	3526.0
205.10	6507.0
206.10	26568.0
207.10	3747.0
208.00	887.0
209.00	326.0
210.10	376.0
211.10	1027.0
216.00	613.0
217.00	7204.0
218.00	910.0
221.10	4006.0
221.80	896.0
223.00	1489.0
224.10	14596.0
225.10	3736.0
226.10	419.0
227.00	6253.0
228.00	917.0
229.00	1294.0
231.00	504.0
234.00	349.0
235.00	398.0
236.00	313.0
237.00	675.0
242.00	739.0
243.10	801.0
244.10	10751.0
245.10	1396.0
246.00	2293.0
247.00	419.0
249.00	397.0
254.20	610.0
255.10	55232.0
256.10	8495.0
257.10	608.0
258.00	3267.0
259.00	545.0
265.00	1351.0
273.00	1582.0
274.10	4311.0
275.10	24848.0
276.10	3422.0
277.00	2159.0
278.00	367.0
285.00	384.0
293.00	477.0
296.10	6372.0
297.00	980.0
303.00	795.0
315.00	736.0
316.00	419.0
323.10	2082.0
324.00	383.0
327.00	355.0
334.00	1295.0
335.00	312.0
346.00	470.0
352.00	596.0
353.00	408.0
354.10	694.0
365.00	2620.0
366.00	410.0
372.00	1049.0
402.00	402.0
403.00	595.0
421.00	509.0
422.00	457.0
423.10	3403.0
424.00	1020.0
441.10	9920.0
442.10	65048.0

Instrument :
BNA_M
ClientSampleId :
DFTPP64

443.10 13117.0
444.10 1258.0

Instrument :
BNA_M
ClientSampleId :
DFTPP64

Scan 2536 (17.604 min): BM005230.D
DFTPP64

Instrument :
BNA_M
ClientSampleId :
DFTPP64

m/z	Abundance
38.00	419.0
39.10	2594.0
44.00	336.0
47.00	334.0
49.00	1974.0
50.10	9883.0
51.10	39344.0
52.10	2013.0
56.00	1141.0
57.00	2770.0
61.00	485.0
62.00	650.0
63.10	1559.0
65.10	786.0
68.10	794.0
69.00	41640.0
73.00	414.0
74.10	4578.0
75.00	6712.0
76.10	2430.0
77.10	50088.0
78.10	3595.0
79.00	3328.0
80.00	2425.0
81.00	3377.0
82.00	898.0
83.00	895.0
84.00	1530.0
85.00	747.0
86.00	1848.0
87.00	492.0
88.00	305.0
91.00	839.0
92.00	908.0
93.00	5722.0
94.00	359.0
98.00	4719.0
99.00	3525.0
100.00	344.0
101.00	1980.0
103.00	717.0
104.00	1127.0
105.00	1216.0
106.10	422.0
107.00	16848.0
108.00	2481.0
109.00	470.0
110.00	29520.0
111.00	4312.0
112.00	556.0
116.00	892.0
117.00	13797.0
118.00	1014.0
122.00	1057.0
123.00	1669.0
124.00	772.0
125.00	728.0
126.20	404.0
127.10	54592.0
128.10	4249.0
129.00	20968.0
130.00	1932.0
131.00	342.0
134.00	665.0
135.00	1813.0
136.00	668.0
137.00	929.0
141.00	2953.0
142.00	924.0
143.00	591.0
146.00	531.0
147.00	1549.0
148.00	3527.0
149.00	721.0
151.10	438.0
153.00	1016.0
154.00	704.0
155.00	1868.0
156.10	2431.0
157.10	515.0
158.00	489.0
159.00	380.0
160.00	932.0
161.00	1304.0
162.00	389.0
165.00	1146.0
166.00	923.0
167.00	6343.0
168.00	3390.0
169.10	587.0
171.90	524.0

173.00	671.0
174.00	1420.0
175.10	2581.0
176.00	653.0
177.00	1158.0
178.00	409.0
179.00	4619.0
180.00	3299.0
181.00	1383.0
184.00	361.0
185.10	2457.0
186.10	18096.0
187.10	5077.0
188.00	544.0
189.00	1158.0
191.00	554.0
192.00	1558.0
193.10	1730.0
194.00	359.0
196.10	3377.0
197.10	989.0
198.00	127632.0
199.00	8581.0
200.00	726.0
201.60	531.0
203.00	932.0
204.10	4975.0
205.10	8001.0
206.10	34160.0
207.10	4686.0
208.00	1157.0
209.00	387.0
210.10	484.0
211.00	1270.0
215.00	390.0
216.00	706.0
217.00	8852.0
218.00	1261.0
221.10	4774.0
221.90	1113.0
223.00	2088.0
224.10	18704.0
225.10	5011.0
226.10	515.0
227.10	7957.0
228.00	1073.0
229.00	1580.0
231.00	680.0
234.00	468.0
235.00	573.0
236.00	399.0
237.10	605.0
239.00	302.0
241.00	447.0
242.00	950.0
243.10	1044.0
244.10	14804.0
245.10	1847.0
246.00	2994.0
247.00	590.0
249.00	509.0
253.00	361.0
254.20	748.0
255.10	75072.0
256.10	10580.0
257.00	925.0
258.00	4270.0
259.10	657.0
265.00	1686.0
273.00	2137.0
274.10	5897.0
275.10	32728.0
276.10	4369.0
277.00	2956.0
278.00	569.0
283.00	348.0
285.10	525.0
293.00	678.0
296.10	9230.0
297.00	1238.0
303.00	1116.0
314.10	457.0
315.00	1120.0
316.10	607.0
321.00	333.0
323.10	2972.0
324.00	562.0
326.90	552.0
334.10	1936.0
335.00	476.0
341.00	321.0
346.00	691.0
352.10	843.0
353.00	692.0
354.10	1002.0

Instrument :
BNA_M
ClientSampleId :
DFTPP64

365.00	4035.0
366.00	594.0
372.10	1404.0
373.10	420.0
383.00	408.0
402.00	659.0
403.00	845.0
404.00	350.0
421.10	734.0
422.00	779.0
423.10	5572.0
424.10	1393.0
441.10	15921.0
442.10	103408.0
443.10	20496.0
444.10	1951.0

Instrument :
BNA_M
ClientSampleId :
DFTPP64

Scan 2537 (17.609 min): BM005230.D
DFTPP64

Instrument :
BNA_M
ClientSampleId :
DFTPP64

m/z	Abundance
38.00	319.0
39.10	2000.0
44.00	420.0
46.90	406.0
49.00	2212.0
50.10	7343.0
51.10	29976.0
52.00	1412.0
56.00	885.0
57.00	2082.0
61.00	342.0
62.00	421.0
63.00	1147.0
65.00	647.0
68.00	515.0
69.00	29792.0
73.10	326.0
74.00	3172.0
75.00	4965.0
76.10	1791.0
77.10	36880.0
78.10	2547.0
79.00	2255.0
80.00	1635.0
81.00	2507.0
82.00	672.0
83.00	619.0
84.00	1668.0
85.00	575.0
86.00	1808.0
87.00	402.0
91.00	554.0
92.00	732.0
93.00	4178.0
94.00	311.0
98.00	3409.0
99.00	2683.0
101.00	1587.0
103.00	503.0
104.00	965.0
105.00	888.0
107.00	12040.0
108.00	1880.0
109.10	351.0
110.00	22032.0
111.00	3360.0
112.00	330.0
116.00	663.0
117.00	10030.0
118.00	776.0
122.00	788.0
123.00	1223.0
124.00	555.0
125.00	508.0
127.00	41912.0
128.00	3049.0
129.00	15742.0
130.00	1214.0
131.00	348.0
134.00	466.0
135.00	1384.0
136.00	506.0
137.00	678.0
141.00	2211.0
142.00	631.0
143.00	487.0
146.00	380.0
147.00	1110.0
148.00	2698.0
149.00	505.0
153.00	707.0
154.00	506.0
155.10	1241.0
156.10	1989.0
157.10	372.0
157.90	398.0
160.00	691.0
161.00	1017.0
162.00	334.0
165.00	834.0
166.00	734.0
167.00	5097.0
168.00	2387.0
169.00	372.0
172.00	452.0
173.00	577.0
174.00	980.0
175.10	2055.0
176.00	499.0
177.00	846.0
179.00	3431.0

180.00	2437.0
181.00	1168.0
185.10	1653.0
186.10	14153.0
187.10	3905.0
188.00	431.0
189.00	865.0
190.90	364.0
192.00	1118.0
193.00	1372.0
196.10	2820.0
197.10	677.0
198.00	101880.0
199.00	6692.0
200.00	522.0
201.50	445.0
203.00	697.0
204.10	3922.0
205.10	6423.0
206.10	26904.0
207.10	3684.0
208.00	937.0
209.00	317.0
210.20	378.0
211.10	1021.0
214.90	342.0
216.00	607.0
217.00	6882.0
218.00	975.0
221.10	4335.0
221.80	962.0
223.10	1544.0
224.10	15397.0
225.10	3782.0
226.00	445.0
227.10	6428.0
228.00	786.0
229.00	1347.0
231.00	606.0
234.00	346.0
235.00	475.0
237.00	565.0
241.00	323.0
242.00	726.0
243.10	935.0
244.10	12006.0
245.10	1522.0
246.00	2335.0
247.00	498.0
249.00	435.0
253.10	303.0
254.20	595.0
255.10	61520.0
256.10	8655.0
257.10	663.0
258.10	3496.0
259.00	584.0
265.00	1504.0
273.00	1896.0
274.00	4973.0
275.10	27488.0
276.10	3632.0
277.00	2495.0
278.00	468.0
285.00	421.0
293.00	576.0
296.00	7914.0
297.00	1166.0
303.00	897.0
314.00	392.0
315.00	949.0
316.00	509.0
323.10	2548.0
324.10	534.0
327.00	528.0
334.00	1582.0
335.00	462.0
346.00	571.0
352.00	852.0
353.00	501.0
354.10	862.0
365.00	3775.0
366.00	553.0
372.10	1439.0
373.10	339.0
383.00	351.0
402.00	609.0
403.10	817.0
421.00	779.0
422.00	694.0
423.10	5280.0
424.10	1272.0
441.10	15824.0
442.10	100744.0
443.10	18920.0

Instrument :
BNA_M
ClientSampleId :
DFTPP64

444.10 1722.0

Instrument :
BNA_M
ClientSampleId :
DFTPP64

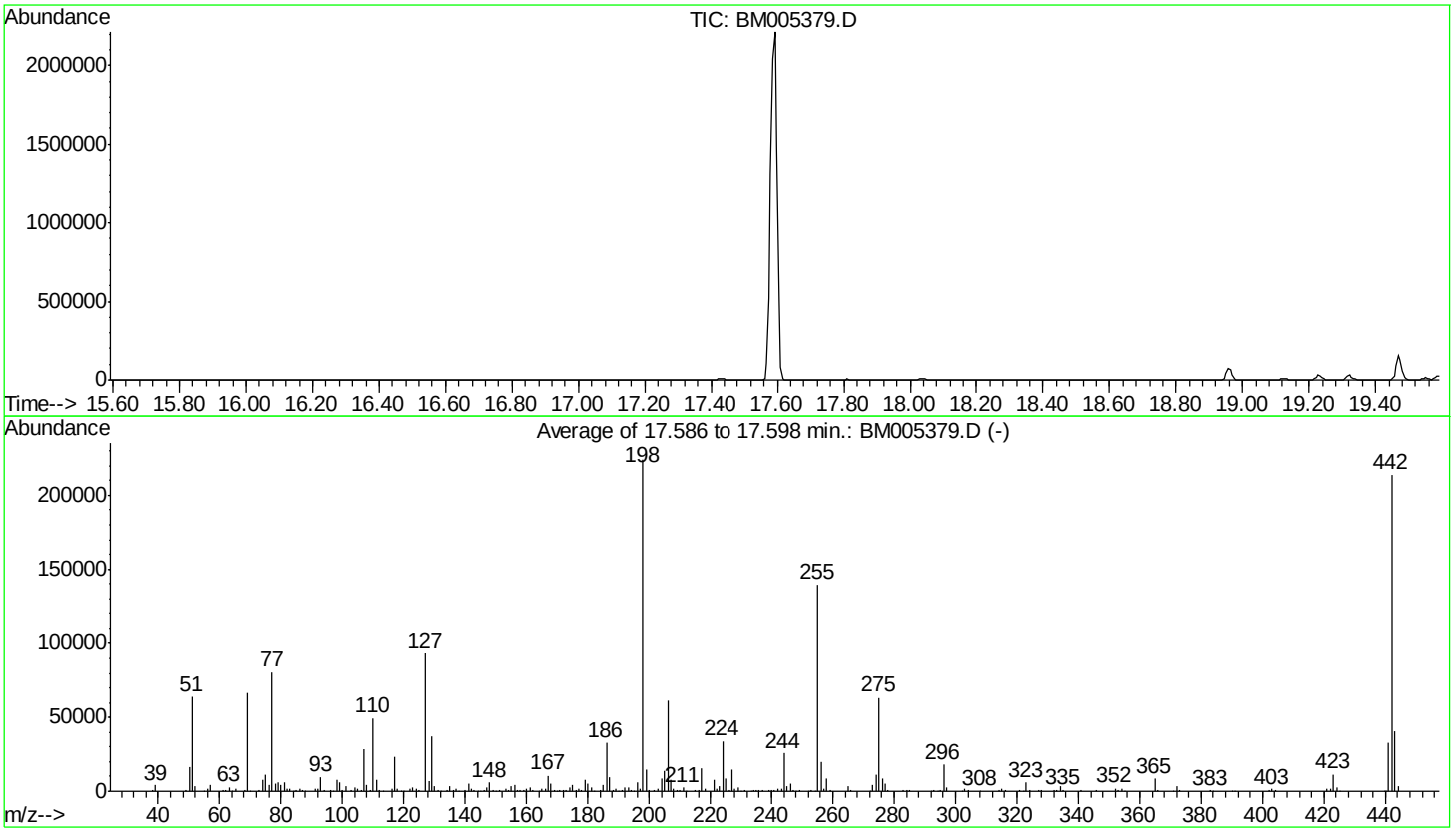
DFTPP

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005379.D
Acq On : 11 May 2016 08:24
Operator : UM/SJ
Sample : DFTPP36
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : DFTPP36

Integration File: LSCINT.P

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION
Last Update : Thu May 12 02:20:05 2016



AutoFind: Scans 2533, 2534, 2535; Background Corrected with Scan 2527

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	28.4	63720	PASS
68	69	0.00	2	1.9	1278	PASS
69	198	0.00	100	29.9	66920	PASS
70	69	0.00	2	0.6	383	PASS
127	198	10	80	41.6	93237	PASS
197	198	0.00	2	0.8	1804	PASS
198	198	100	100	100.0	224170	PASS
199	198	5	9	6.6	14798	PASS
275	198	10	60	28.2	63258	PASS
365	198	1	100	3.7	8385	PASS
441	443	0.01	100	81.0	33034	PASS
442	198	50	100	95.4	213760	PASS
443	442	15	24	19.1	40762	PASS

Scan 2527 (17.551 min): BM005379.D
DFTPP36

m/z	Abundance
39.90	397.0
44.00	615.0
207.10	370.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

Scan 2533 (17.586 min): BM005379.D
DFTPP36

m/z	Abundance
38.00	812.0
39.10	4813.0
40.00	416.0
44.00	302.0
49.10	689.0
50.10	19376.0
51.10	74880.0
52.10	3875.0
55.00	462.0
56.00	2092.0
57.10	5201.0
61.00	1066.0
62.00	1039.0
63.10	3199.0
64.10	405.0
65.10	1720.0
68.10	1544.0
69.00	79752.0
70.00	409.0
73.00	747.0
74.10	8688.0
75.10	13347.0
76.10	4793.0
77.10	94456.0
78.10	6600.0
79.10	6798.0
80.00	4770.0
81.10	7211.0
82.00	1720.0
83.00	1747.0
84.00	314.0
85.00	1465.0
86.00	2255.0
87.00	973.0
91.00	1595.0
92.10	1778.0
93.00	11795.0
94.00	869.0
96.00	559.0
98.10	9353.0
99.00	6942.0
100.00	616.0
101.10	3949.0
103.00	1300.0
104.00	2625.0
105.00	2516.0
106.10	829.0
107.00	32736.0
108.00	4837.0
109.10	989.0
110.00	56576.0
111.10	8563.0
112.00	1059.0
113.10	411.0
116.00	1660.0
117.00	27576.0
118.00	1949.0
120.10	435.0
122.00	2052.0
123.00	3324.0
124.00	1584.0
125.00	1451.0
127.10	106480.0
128.10	7922.0
129.00	41696.0
130.00	3707.0
131.00	672.0
132.00	496.0
134.00	1300.0
135.10	3737.0
136.00	1432.0
137.10	1813.0
137.90	379.0
140.00	571.0
141.00	5789.0
142.00	1805.0
143.00	1353.0
144.00	362.0
145.00	331.0
146.10	1067.0
147.00	3111.0
148.00	7040.0
149.10	1482.0
150.00	371.0
151.00	683.0
152.10	445.0
153.10	1812.0
154.00	1354.0
155.10	3459.0
156.10	4608.0
157.10	837.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

158.00	895.0
159.00	910.0
160.00	1896.0
161.10	2876.0
162.10	742.0
165.00	2156.0
166.00	1736.0
167.10	12226.0
168.10	5907.0
169.10	983.0
170.00	376.0
170.90	505.0
172.00	1051.0
173.10	1386.0
174.10	2681.0
175.10	4731.0
176.00	1266.0
177.00	2363.0
178.10	677.0
179.00	8627.0
180.10	6240.0
181.10	2886.0
182.00	496.0
184.00	839.0
185.10	4401.0
186.10	35504.0
187.10	10083.0
188.10	1164.0
189.00	2189.0
189.90	351.0
191.10	884.0
192.00	2600.0
193.10	3109.0
194.10	936.0
195.10	390.0
196.10	6423.0
197.20	2118.0
198.00	243648.0
199.00	16544.0
200.00	1201.0
201.60	838.0
203.10	1828.0
204.10	9058.0
205.10	15434.0
206.10	65440.0
207.10	9461.0
208.10	2288.0
209.00	934.0
210.20	993.0
211.10	2494.0
211.80	531.0
215.00	752.0
216.10	1430.0
217.00	16960.0
218.10	2374.0
221.10	8270.0
222.00	2168.0
223.00	3744.0
224.10	35984.0
225.10	9973.0
226.10	1117.0
227.10	15859.0
228.00	2409.0
229.00	3024.0
230.00	442.0
231.00	1291.0
234.00	1003.0
235.00	1173.0
236.00	731.0
237.10	1252.0
239.00	685.0
240.10	547.0
241.00	968.0
242.10	1833.0
243.10	1946.0
244.10	26712.0
245.10	3326.0
246.00	5940.0
247.00	1165.0
249.00	934.0
252.10	319.0
253.10	604.0
255.10	145664.0
256.10	21496.0
257.00	1898.0
258.00	8346.0
259.10	1417.0
265.10	3537.0
266.00	510.0
272.10	433.0
273.00	4420.0
274.10	11397.0
275.10	65456.0
276.10	8937.0
277.10	5545.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

278.00	896.0
283.00	552.0
284.00	464.0
285.10	1044.0
293.00	1186.0
294.00	337.0
295.10	495.0
296.10	18120.0
297.10	2374.0
303.10	2153.0
304.10	560.0
314.10	865.0
315.10	2041.0
316.10	1145.0
321.00	541.0
323.10	5940.0
324.10	1044.0
327.00	1111.0
328.00	637.0
332.00	499.0
333.10	615.0
334.10	3612.0
335.00	995.0
341.00	643.0
346.10	1180.0
352.10	1631.0
353.00	1137.0
354.10	1756.0
355.10	423.0
365.00	7924.0
366.00	1147.0
371.00	391.0
372.10	2966.0
373.10	701.0
383.00	652.0
390.00	384.0
402.00	1059.0
403.10	1521.0
404.00	572.0
421.00	1549.0
422.10	1545.0
423.10	10338.0
424.10	2726.0
439.70	337.0
441.10	29200.0
442.10	191872.0
443.10	36688.0
444.10	3564.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

Scan 2534 (17.592 min): BM005379.D
DFTPP36

m/z	Abundance
38.00	802.0
39.10	4720.0
40.00	383.0
49.10	553.0
50.10	18320.0
51.10	72296.0
52.10	3377.0
55.00	510.0
56.00	2162.0
57.10	5177.0
61.00	993.0
62.10	1071.0
63.10	2997.0
64.10	454.0
65.10	1486.0
68.10	1452.0
69.00	75456.0
70.00	417.0
73.00	789.0
74.10	8604.0
75.00	13714.0
76.10	4555.0
77.10	92168.0
78.10	6175.0
79.00	6462.0
80.00	5025.0
81.00	6954.0
82.00	1563.0
83.00	1462.0
85.00	1483.0
86.00	2096.0
87.00	901.0
88.00	306.0
91.00	1591.0
92.00	1855.0
93.00	11419.0
94.00	875.0
96.10	541.0
97.00	310.0
98.00	9461.0
99.00	6740.0
100.00	498.0
101.00	4252.0
103.00	1378.0
104.00	2604.0
105.00	2344.0
106.20	838.0
107.00	32664.0
108.00	5060.0
109.00	998.0
110.00	57000.0
111.00	8708.0
112.00	999.0
113.10	359.0
116.10	1931.0
117.00	27176.0
118.00	1925.0
119.00	313.0
120.00	436.0
122.00	2282.0
123.00	3347.0
124.00	1517.0
125.00	1201.0
127.10	107680.0
128.10	8300.0
129.00	43624.0
130.00	3704.0
131.00	852.0
132.10	443.0
134.00	1305.0
135.00	3674.0
136.10	1464.0
137.10	1887.0
137.90	398.0
140.00	521.0
141.00	5847.0
142.10	1787.0
143.00	1384.0
144.00	327.0
145.00	359.0
146.00	1127.0
147.00	2998.0
148.00	6867.0
149.00	1528.0
150.00	374.0
151.10	708.0
151.80	427.0
153.00	1769.0
154.10	1385.0
155.10	3635.0
156.10	5231.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

157.10	960.0
158.00	1251.0
159.00	702.0
160.10	1917.0
161.10	2652.0
161.90	736.0
164.00	351.0
165.00	2620.0
166.00	1821.0
167.10	12355.0
168.00	6201.0
169.00	935.0
170.10	472.0
171.00	567.0
172.00	1344.0
173.00	1511.0
174.00	2743.0
175.10	5101.0
176.00	1362.0
177.00	2501.0
178.00	955.0
179.00	9263.0
180.10	6621.0
181.10	2981.0
182.10	458.0
184.00	809.0
185.10	4541.0
186.10	37920.0
187.10	10786.0
188.10	1106.0
189.00	2565.0
190.00	437.0
191.00	1044.0
192.10	2954.0
193.10	3643.0
194.10	705.0
195.10	349.0
196.10	6955.0
197.10	2104.0
198.00	257984.0
199.00	17144.0
200.10	1375.0
201.50	769.0
203.10	1957.0
204.10	10004.0
205.10	16568.0
206.10	71104.0
207.10	9650.0
208.00	2669.0
209.10	769.0
210.10	1098.0
211.10	2588.0
215.10	791.0
216.10	1619.0
217.00	18360.0
218.10	2207.0
221.10	9018.0
221.90	2560.0
223.00	4075.0
224.10	39280.0
225.10	10500.0
226.10	1248.0
227.10	17376.0
228.10	2518.0
229.00	3287.0
230.00	456.0
231.10	1448.0
233.10	328.0
234.10	1031.0
235.00	1219.0
236.00	781.0
237.10	1388.0
239.10	669.0
240.10	434.0
241.00	868.0
242.10	2017.0
243.10	2349.0
244.10	30408.0
245.10	3998.0
246.10	6511.0
247.10	1414.0
248.00	325.0
249.00	1091.0
253.10	824.0
255.10	161664.0
256.10	23808.0
257.00	2058.0
258.00	9883.0
259.10	1541.0
265.10	4081.0
266.00	557.0
272.00	369.0
273.00	4639.0
274.10	14039.0
275.10	73552.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

276.10	9861.0
277.10	6820.0
278.00	1220.0
283.00	691.0
284.00	521.0
285.10	1094.0
292.00	341.0
293.10	1442.0
294.10	396.0
295.10	612.0
296.10	21400.0
297.10	3034.0
302.00	390.0
303.10	2159.0
304.10	735.0
308.00	366.0
314.10	1068.0
315.10	2454.0
316.10	1294.0
321.00	792.0
322.10	380.0
323.10	6845.0
324.10	1245.0
327.00	1412.0
328.00	645.0
332.10	484.0
333.00	739.0
334.10	4499.0
335.10	1218.0
341.10	759.0
346.00	1417.0
352.10	2132.0
353.10	1549.0
354.10	2405.0
355.10	487.0
365.00	9775.0
366.10	1461.0
371.10	552.0
372.10	3811.0
373.10	832.0
383.10	987.0
384.00	309.0
390.10	418.0
391.00	324.0
402.10	1436.0
403.00	1998.0
404.00	865.0
421.10	1876.0
422.10	1844.0
423.10	13051.0
424.10	3209.0
425.20	356.0
441.10	39016.0
442.10	246528.0
443.10	47464.0
444.10	4136.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

Scan 2535 (17.598 min): BM005379.D
DFTPP36

m/z	Abundance
38.10	460.0
39.10	2780.0
40.00	344.0
44.00	402.0
49.00	393.0
50.10	10819.0
51.10	43984.0
52.10	2196.0
56.00	1339.0
57.00	3040.0
61.00	604.0
62.00	653.0
63.00	1703.0
65.10	862.0
68.10	840.0
69.00	45552.0
70.00	324.0
73.00	478.0
74.10	4892.0
75.10	7792.0
76.10	2932.0
77.10	55680.0
78.10	3719.0
79.10	3709.0
80.00	2761.0
81.00	3971.0
82.00	1072.0
83.00	925.0
85.00	871.0
86.00	1218.0
87.00	517.0
91.00	918.0
92.00	1078.0
93.00	6503.0
94.00	484.0
96.00	316.0
98.00	5293.0
99.00	4061.0
100.00	386.0
101.00	2668.0
103.00	825.0
104.00	1507.0
105.00	1491.0
106.10	485.0
107.10	19680.0
108.00	2708.0
109.00	542.0
110.00	34592.0
111.00	5249.0
112.00	731.0
116.10	1082.0
117.00	16383.0
118.00	1196.0
122.00	1285.0
123.10	2181.0
124.00	912.0
125.00	861.0
127.10	65552.0
128.10	5180.0
129.00	26200.0
130.00	2353.0
131.00	486.0
132.00	303.0
134.00	689.0
135.00	2290.0
136.00	808.0
137.10	1236.0
139.90	409.0
141.00	3782.0
142.00	991.0
143.10	783.0
146.00	618.0
147.00	1853.0
148.00	4175.0
149.00	781.0
151.00	443.0
151.80	312.0
153.00	1269.0
154.00	874.0
155.00	2241.0
156.10	3313.0
157.00	582.0
158.00	665.0
159.00	540.0
160.00	1202.0
161.00	1687.0
161.90	489.0
164.00	305.0
165.00	1547.0
166.00	1217.0
167.10	7847.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

168.00	3776.0
169.00	705.0
170.00	319.0
171.00	469.0
172.00	683.0
173.00	915.0
174.00	1764.0
175.10	3170.0
176.00	794.0
177.00	1470.0
178.00	472.0
179.00	6255.0
180.10	3950.0
181.10	1825.0
182.10	338.0
184.10	525.0
185.10	2886.0
186.10	24112.0
187.10	6997.0
188.10	811.0
189.10	1594.0
191.00	664.0
192.00	1875.0
193.10	2330.0
194.00	549.0
196.10	4919.0
197.20	1192.0
198.00	170880.0
199.00	10706.0
200.00	894.0
201.40	527.0
203.00	1285.0
204.10	6243.0
205.10	10814.0
206.10	47592.0
207.10	6556.0
208.10	1617.0
209.00	587.0
210.10	751.0
211.10	1818.0
211.90	303.0
215.00	585.0
216.00	870.0
217.00	12798.0
218.00	1499.0
221.10	5864.0
222.00	1623.0
223.10	2702.0
224.10	26272.0
225.10	6042.0
226.10	667.0
227.00	10915.0
228.10	1522.0
229.00	2433.0
230.00	384.0
231.10	788.0
234.00	749.0
235.00	859.0
236.00	499.0
237.00	912.0
239.00	550.0
240.00	419.0
241.00	555.0
242.00	1348.0
243.10	1318.0
244.10	20400.0
245.10	2721.0
246.00	4431.0
247.00	725.0
249.00	783.0
253.00	522.0
254.20	976.0
255.10	111096.0
256.10	15352.0
257.10	1182.0
258.00	6605.0
259.00	923.0
265.00	2680.0
266.00	358.0
273.10	3431.0
274.10	9145.0
275.10	50768.0
276.10	6338.0
277.00	4500.0
278.00	805.0
283.10	420.0
284.00	415.0
285.00	886.0
293.00	1065.0
295.20	374.0
296.10	14358.0
297.00	2056.0
302.00	323.0
303.10	1850.0
304.00	382.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

314.10	830.0
315.00	1741.0
316.10	772.0
321.00	425.0
323.10	5363.0
324.00	1082.0
327.00	912.0
328.00	425.0
332.00	427.0
333.00	454.0
334.10	3488.0
335.00	897.0
341.00	598.0
346.00	1132.0
352.00	1461.0
353.10	955.0
354.10	1619.0
365.00	7456.0
366.00	953.0
371.10	387.0
372.10	2861.0
373.10	602.0
383.10	808.0
390.10	412.0
391.10	330.0
402.10	1187.0
403.10	1583.0
404.10	684.0
421.00	1541.0
422.10	1497.0
423.10	10712.0
424.10	2495.0
425.00	306.0
440.20	551.0
441.10	30888.0
442.10	202880.0
443.10	38136.0
444.10	3356.0

Instrument :
BNA_M
ClientSampleId :
DFTPP36

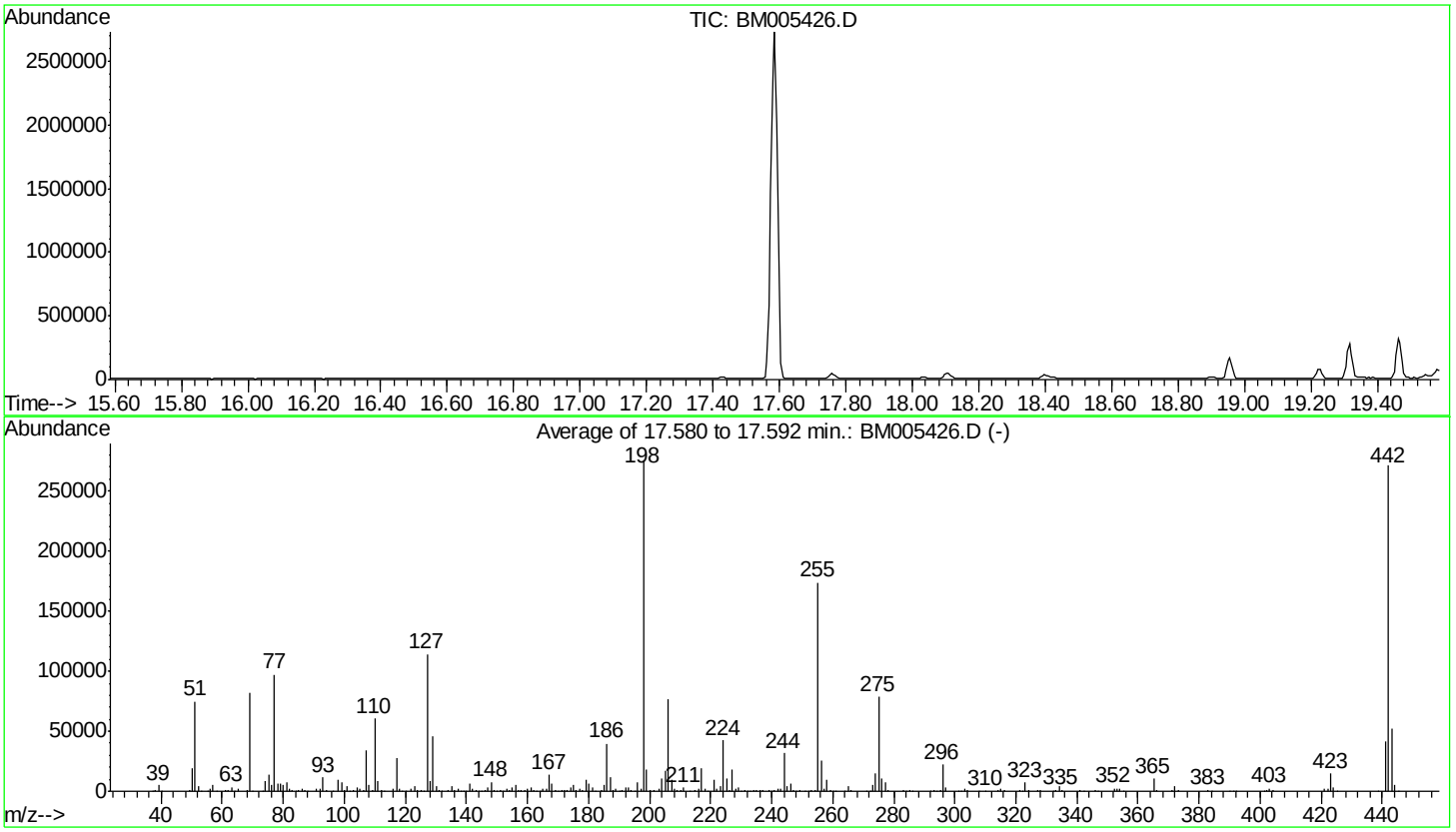
DFTPP

Data Path : Z:\HPCHEM1\BNA_M\Data\BM051316\
Data File : BM005426.D
Acq On : 13 May 2016 11:10
Operator : UM/SJ
Sample : DFTPP38
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : DFTPP38

Integration File: LSCINT.P

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION
Last Update : Sat May 14 00:15:57 2016



AutoFind: Scans 2532, 2533, 2534; Background Corrected with Scan 2526

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	27.0	74578	PASS
68	69	0.00	2	2.0	1627	PASS
69	198	0.00	100	29.9	82349	PASS
70	69	0.00	2	0.6	455	PASS
127	198	10	80	41.5	114381	PASS
197	198	0.00	2	0.9	2348	PASS
198	198	100	100	100.0	275840	PASS
199	198	5	9	6.7	18413	PASS
275	198	10	60	28.4	78309	PASS
365	198	1	100	3.8	10521	PASS
441	443	0.01	100	80.2	42074	PASS
442	198	50	100	98.6	272042	PASS
443	442	15	24	19.3	52474	PASS

Scan 2532 (17.580 min): BM005426.D
DFTPP38

m/z	Abundance
37.00	311.0
38.10	938.0
39.10	5496.0
40.00	430.0
41.10	446.0
43.00	791.0
44.00	520.0
45.00	621.0
49.10	664.0
50.10	21528.0
51.10	82720.0
52.10	4428.0
55.00	723.0
56.00	2506.0
57.00	5756.0
58.00	326.0
60.10	411.0
61.10	1209.0
62.10	1172.0
63.10	3786.0
64.10	555.0
65.10	1812.0
68.10	1831.0
69.00	91176.0
70.00	529.0
73.00	1017.0
74.10	9461.0
75.10	15820.0
76.10	5540.0
77.10	108496.0
78.10	7647.0
79.10	7500.0
80.00	5312.0
81.00	7965.0
82.00	1974.0
83.00	1908.0
85.00	1598.0
86.00	2411.0
87.00	1152.0
88.00	414.0
91.00	2029.0
92.10	2088.0
93.10	12860.0
94.00	909.0
96.00	575.0
97.00	375.0
98.00	10650.0
99.00	7926.0
100.00	763.0
101.00	4767.0
103.00	1503.0
104.00	2746.0
105.00	2801.0
106.10	1017.0
107.10	38048.0
108.10	5597.0
109.10	1200.0
110.00	64864.0
111.00	9712.0
112.00	1371.0
113.10	460.0
116.10	2051.0
117.00	30744.0
118.10	2319.0
119.00	367.0
120.00	459.0
122.00	2573.0
123.10	4133.0
124.00	1670.0
125.00	1493.0
127.10	123600.0
128.10	9725.0
129.00	49984.0
130.00	4228.0
131.00	833.0
132.00	426.0
134.00	1388.0
135.10	4334.0
136.00	1634.0
137.10	2126.0
137.90	387.0
139.00	313.0
140.00	687.0
141.00	6808.0
142.00	2207.0
143.00	1345.0
144.10	406.0
145.00	314.0
146.00	1046.0
147.00	3648.0
148.00	8299.0

Instrument :
BNA_M
ClientSampleId :
DFTPP38

149.00	1619.0
150.00	457.0
151.10	916.0
151.80	572.0
153.00	2173.0
154.00	1695.0
155.10	3595.0
156.10	5598.0
157.00	1100.0
158.00	1237.0
159.00	1095.0
160.00	2328.0
161.10	3295.0
162.00	811.0
163.00	302.0
165.00	2786.0
166.10	2275.0
167.10	14557.0
168.10	6476.0
169.00	1104.0
170.00	399.0
171.00	623.0
172.00	1302.0
173.10	1548.0
174.10	3051.0
175.10	5501.0
176.00	1430.0
177.10	2727.0
178.10	979.0
179.00	10342.0
180.10	7081.0
181.10	3275.0
182.10	564.0
184.00	922.0
185.10	5441.0
186.10	40784.0
187.10	11932.0
188.10	1372.0
189.00	2359.0
190.00	406.0
191.00	1256.0
192.10	3306.0
193.10	3513.0
194.00	893.0
195.00	491.0
196.10	7411.0
197.20	2407.0
198.00	282112.0
199.00	19472.0
200.10	1568.0
201.50	996.0
203.10	1901.0
204.10	10433.0
205.10	17720.0
206.10	76744.0
207.10	10693.0
208.00	2769.0
209.00	865.0
210.20	1060.0
211.10	2971.0
215.00	1068.0
216.00	1843.0
217.00	19696.0
218.00	2445.0
219.00	329.0
221.10	9752.0
222.00	2551.0
223.10	4483.0
224.10	41680.0
225.10	10838.0
226.10	1203.0
227.10	18400.0
228.10	2617.0
229.00	3751.0
230.00	492.0
231.10	1523.0
234.00	1069.0
235.00	1397.0
236.00	902.0
237.10	1522.0
239.00	901.0
240.00	539.0
241.00	913.0
242.00	2012.0
243.10	2393.0
244.10	31112.0
245.10	4416.0
246.10	7058.0
247.00	1502.0
248.10	315.0
249.00	1231.0
253.00	732.0
255.10	168896.0
256.10	24992.0
257.10	2012.0

Instrument :
BNA_M
ClientSampleId :
DFTPP38

258.10	9690.0
259.00	1604.0
260.00	323.0
265.10	3905.0
266.00	687.0
271.00	406.0
272.10	422.0
273.10	4858.0
274.10	13776.0
275.10	74552.0
276.10	10664.0
277.10	6588.0
278.10	1105.0
283.20	733.0
284.10	434.0
285.10	1224.0
293.00	1411.0
294.10	359.0
295.20	525.0
296.10	20784.0
297.10	3105.0
301.00	321.0
302.00	479.0
303.10	2492.0
304.10	885.0
314.00	861.0
315.10	2475.0
316.00	1303.0
321.00	670.0
322.00	413.0
323.10	6470.0
324.10	1051.0
327.00	1146.0
328.00	692.0
332.00	476.0
333.10	609.0
334.10	4191.0
335.00	1124.0
341.10	620.0
346.00	1377.0
352.10	1933.0
353.10	1528.0
354.10	2208.0
355.10	368.0
365.10	9683.0
366.10	1409.0
371.00	574.0
372.10	3525.0
373.10	880.0
383.00	1052.0
390.10	443.0
391.00	341.0
402.00	1364.0
403.10	2043.0
404.00	702.0
421.00	1664.0
422.10	1742.0
423.10	12308.0
424.10	3013.0
425.10	351.0
441.10	33832.0
442.10	224832.0
443.10	44264.0
444.10	4232.0

Instrument :
BNA_M
ClientSampleId :
DFTPP38

Scan 2533 (17.586 min): BM005426.D
DFTPP38

m/z	Abundance
37.00	386.0
38.00	903.0
39.10	5685.0
40.10	410.0
41.00	434.0
43.10	751.0
44.00	497.0
45.00	569.0
49.20	815.0
50.10	22104.0
51.10	83992.0
52.10	4316.0
53.00	307.0
55.00	590.0
56.00	2541.0
57.10	5812.0
58.00	302.0
60.10	526.0
61.00	1247.0
62.00	1440.0
63.10	3896.0
64.00	518.0
65.10	1799.0
68.10	1821.0
69.00	93480.0
70.00	475.0
73.10	1156.0
74.10	10122.0
75.10	15857.0
76.10	5553.0
77.10	109520.0
78.10	7422.0
79.10	7832.0
80.00	5619.0
81.00	8330.0
82.10	1984.0
83.00	1690.0
84.00	344.0
85.10	1431.0
86.00	2459.0
87.10	1281.0
88.00	463.0
91.00	2003.0
92.10	2166.0
93.10	13307.0
94.00	952.0
96.10	677.0
97.20	366.0
98.00	11136.0
99.00	8249.0
100.10	748.0
101.00	4590.0
101.90	309.0
103.00	1630.0
104.00	3150.0
105.00	3157.0
106.10	1066.0
107.10	39352.0
108.00	5899.0
109.20	1091.0
110.00	69072.0
111.00	10095.0
112.10	1340.0
113.00	434.0
116.10	2173.0
117.10	32136.0
118.00	2346.0
120.00	569.0
122.00	2650.0
123.00	4235.0
124.00	1907.0
125.00	1596.0
127.10	131456.0
128.10	10191.0
129.00	52760.0
130.00	4303.0
131.10	889.0
132.00	420.0
134.10	1584.0
135.00	4555.0
136.10	1867.0
137.10	2363.0
138.00	426.0
140.00	604.0
141.00	7212.0
142.00	2238.0
143.00	1521.0
144.00	371.0
145.10	339.0
146.00	1320.0
147.10	3821.0

Instrument :
BNA_M
ClientSampleId :
DFTPP38

148.00	8468.0
149.00	1782.0
150.00	533.0
151.10	912.0
151.80	632.0
153.10	2483.0
154.00	1800.0
155.10	4033.0
156.10	6265.0
157.00	1387.0
158.00	1373.0
159.00	1149.0
160.10	2366.0
161.10	3542.0
162.00	1096.0
164.00	325.0
165.00	2869.0
166.10	2346.0
167.10	15107.0
168.10	6946.0
169.00	1152.0
170.00	532.0
171.10	723.0
172.00	1402.0
173.00	1762.0
174.10	3218.0
175.10	5981.0
176.10	1734.0
177.00	2939.0
178.10	998.0
179.00	11164.0
180.10	8075.0
181.10	3752.0
182.00	670.0
184.00	1026.0
185.10	5694.0
186.10	45208.0
187.10	13296.0
188.10	1320.0
189.00	2919.0
190.00	519.0
191.00	1268.0
192.10	3558.0
193.10	4053.0
194.00	887.0
195.10	393.0
196.10	8349.0
197.20	2797.0
198.00	316864.0
199.00	21000.0
200.10	1752.0
201.50	1359.0
203.00	2269.0
204.10	12076.0
205.10	20456.0
206.10	88992.0
207.10	11618.0
208.10	3094.0
209.10	938.0
210.10	1413.0
211.10	3441.0
213.00	323.0
215.00	1036.0
216.10	1874.0
217.00	22848.0
218.00	3031.0
219.10	300.0
221.10	11535.0
221.90	2685.0
223.10	4905.0
224.10	49440.0
225.10	12684.0
226.10	1293.0
227.10	20696.0
228.10	2923.0
229.10	4297.0
230.00	676.0
231.10	1776.0
232.10	307.0
233.00	474.0
234.00	1203.0
235.00	1478.0
236.10	984.0
237.00	1466.0
239.00	766.0
240.00	596.0
241.00	1280.0
242.10	2446.0
243.10	2765.0
244.10	36760.0
245.10	4586.0
246.10	7560.0
247.10	1419.0
249.00	1256.0
251.00	346.0

Instrument :
BNA_M
ClientSampleId :
DFTPP38

252.00	474.0
253.00	896.0
254.20	2240.0
255.10	202368.0
256.10	29176.0
257.10	2299.0
258.10	11272.0
259.00	1981.0
260.00	423.0
261.00	300.0
264.00	376.0
265.10	4834.0
266.10	824.0
271.10	445.0
272.10	663.0
273.10	6127.0
274.10	16944.0
275.10	91576.0
276.10	12207.0
277.10	8215.0
278.10	1269.0
283.00	883.0
284.10	729.0
285.10	1333.0
286.00	350.0
292.10	356.0
293.00	1792.0
294.00	455.0
295.20	804.0
296.10	25904.0
297.10	3727.0
301.10	366.0
302.00	437.0
303.10	2928.0
304.10	894.0
308.00	345.0
310.10	432.0
314.10	1254.0
315.00	2829.0
316.10	1597.0
321.10	714.0
322.00	510.0
323.10	8622.0
324.10	1584.0
327.00	1586.0
328.10	916.0
332.10	639.0
333.00	943.0
334.10	5616.0
335.10	1361.0
341.00	839.0
346.00	1788.0
346.90	361.0
352.10	2761.0
353.10	1785.0
354.10	2904.0
355.10	543.0
365.00	11955.0
366.00	1736.0
371.10	681.0
372.10	4625.0
373.10	1138.0
383.10	1309.0
384.00	436.0
390.10	556.0
391.00	347.0
392.10	319.0
401.10	321.0
402.10	1950.0
403.10	2681.0
404.10	968.0
421.10	2510.0
422.10	1983.0
423.10	17032.0
424.10	3598.0
425.00	413.0
438.60	331.0
441.10	49448.0
442.10	315200.0
443.10	61040.0
444.10	5528.0
445.10	341.0

Instrument :
BNA_M
ClientSampleId :
DFTPP38

Scan 2534 (17.592 min): BM005426.D
DFTPP38

Instrument :
BNA_M
ClientSampleId :
DFTPP38

m/z	Abundance
38.10	732.0
39.10	3955.0
40.00	354.0
41.00	476.0
43.00	1010.0
44.00	730.0
45.00	691.0
49.10	537.0
50.10	14543.0
51.10	57024.0
52.10	2875.0
55.00	552.0
56.00	1741.0
57.00	4118.0
60.00	541.0
61.00	734.0
62.00	851.0
63.10	2410.0
64.00	363.0
65.10	1333.0
68.10	1229.0
69.00	62392.0
70.00	363.0
73.00	848.0
74.10	6457.0
75.00	10434.0
76.10	3752.0
77.10	74296.0
78.10	5266.0
79.00	5339.0
80.00	3744.0
81.00	5393.0
82.00	1337.0
83.00	1169.0
83.90	310.0
85.10	1047.0
86.00	1754.0
87.00	803.0
91.00	1423.0
92.00	1306.0
93.00	8763.0
94.00	605.0
96.00	386.0
97.00	307.0
98.00	7377.0
99.00	5455.0
100.10	455.0
101.00	3414.0
103.00	1088.0
104.00	2298.0
105.00	2024.0
106.00	643.0
107.00	25936.0
108.10	3993.0
109.10	829.0
110.00	47400.0
111.00	6917.0
112.00	868.0
116.10	1473.0
117.00	21064.0
118.10	1291.0
122.00	1784.0
123.10	3014.0
124.00	1253.0
125.10	1047.0
126.20	626.0
127.10	88088.0
128.10	7235.0
129.00	34616.0
130.00	3004.0
131.00	579.0
132.10	316.0
134.00	1067.0
135.00	3020.0
136.00	1192.0
137.00	1481.0
137.90	365.0
140.00	419.0
141.00	5087.0
142.00	1572.0
143.00	1074.0
145.00	334.0
146.00	877.0
147.00	2751.0
148.00	5757.0
149.00	1230.0
150.00	375.0
151.00	730.0
151.90	412.0
153.00	1410.0
154.00	1167.0

155.10	2711.0
156.10	4147.0
157.00	822.0
158.00	860.0
159.10	699.0
160.10	1494.0
161.00	2479.0
162.00	604.0
164.10	317.0
165.00	2045.0
166.00	1630.0
167.10	10643.0
168.10	4741.0
169.10	925.0
170.00	384.0
171.10	475.0
172.00	942.0
173.00	1254.0
174.00	2152.0
175.10	4099.0
176.10	1036.0
177.00	1953.0
178.00	822.0
179.00	7831.0
180.00	5649.0
181.10	2496.0
182.10	425.0
184.10	653.0
185.00	3808.0
186.10	32800.0
187.10	9462.0
188.10	939.0
189.00	2093.0
190.00	336.0
191.00	1103.0
192.00	2712.0
193.10	2893.0
194.00	643.0
195.10	449.0
196.00	6210.0
197.20	1842.0
198.00	228544.0
199.00	14769.0
200.00	1209.0
201.50	948.0
203.00	1660.0
204.10	8406.0
205.10	14311.0
206.10	62968.0
207.10	8413.0
208.00	2136.0
209.00	700.0
210.10	883.0
211.10	2555.0
215.00	717.0
216.10	1244.0
217.00	16338.0
218.00	2168.0
221.10	8810.0
221.90	2095.0
223.10	3690.0
224.10	35672.0
225.10	9094.0
226.10	952.0
227.10	15582.0
228.10	2252.0
229.10	3054.0
230.00	432.0
231.10	1089.0
233.00	317.0
234.00	1028.0
235.00	1135.0
236.00	732.0
237.00	1240.0
239.10	645.0
240.00	442.0
241.00	866.0
242.00	1844.0
243.10	2165.0
244.10	26824.0
245.10	3378.0
246.10	5742.0
247.00	1192.0
249.00	971.0
253.10	650.0
254.20	1704.0
255.10	149824.0
256.10	21072.0
257.10	1769.0
258.10	9048.0
259.10	1241.0
265.00	3616.0
266.00	605.0
272.00	451.0
273.10	4574.0

Instrument :
BNA_M
ClientSampleId :
DFTPP38

274.10	12809.0
275.10	68800.0
276.10	9429.0
277.00	6303.0
278.00	878.0
283.10	690.0
284.10	451.0
285.10	1252.0
293.00	1540.0
294.00	435.0
295.10	448.0
296.10	19776.0
297.10	2772.0
303.10	2281.0
304.00	656.0
314.00	941.0
315.00	2186.0
316.00	1222.0
321.10	714.0
322.10	349.0
323.10	6736.0
324.10	999.0
327.00	1264.0
328.10	696.0
332.10	553.0
333.10	660.0
334.10	4348.0
335.00	1199.0
341.00	871.0
342.10	302.0
346.00	1382.0
352.10	2289.0
353.10	1681.0
354.10	2403.0
355.10	426.0
365.00	9926.0
366.00	1286.0
371.10	572.0
372.10	3914.0
373.10	909.0
383.00	994.0
390.00	522.0
391.10	351.0
402.00	1512.0
403.10	2180.0
404.10	859.0
421.10	1894.0
422.10	2148.0
423.10	14633.0
424.10	2997.0
441.10	42944.0
442.10	276096.0
443.10	52120.0
444.10	4833.0

Instrument :
BNA_M
ClientSampleId :
DFTPP38

Scan 2526 (17.545 min): BM005426.D
DFTPP38

m/z	Abundance
40.00	329.0
41.00	525.0
42.10	332.0
43.10	1564.0
44.00	1100.0
45.00	1048.0
55.10	364.0
57.00	337.0
60.00	767.0
73.00	466.0
207.10	451.0

Instrument :
BNA_M
ClientSampleId :
DFTPP38

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
SBLK32

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : PB90332BL
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005388.D
% Solids : 100
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	67	U
100-52-7	Benzaldehyde	330	U
108-95-2	Phenol	330	U
111-44-4	Bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	170	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2-oxybis(1-Chloropropane)	330	U
98-86-2	Acetophenone	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	170	U
67-72-1	Hexachloroethane	170	U
98-95-3	Nitrobenzene	170	U
78-59-1	Isophorone	170	U
88-75-5	2-Nitrophenol	170	U
105-67-9	2,4-Dimethylphenol	170	U
111-91-1	Bis(2-Chloroethoxy)methane	170	U
120-83-2	2,4-Dichlorophenol	170	U
91-20-3	Naphthalene	170	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	170	U
105-60-2	Caprolactam	330	U
59-50-7	4-Chloro-3-methylphenol	170	U
91-57-6	2-Methylnaphthalene	170	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	170	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
SBLK32

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : PB90332BL
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005388.D
% Solids : 100
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	170	U
92-52-4	1,1-Biphenyl	170	U
91-58-7	2-Chloronaphthalene	170	U
88-74-4	2-Nitroaniline	170	U
131-11-3	Dimethylphthalate	170	U
606-20-2	2,6-Dinitrotoluene	170	U
208-96-8	Acenaphthylene	170	U
99-09-2	3-Nitroaniline	330	U
83-32-9	Acenaphthene	170	U
51-28-5	2,4-Dinitrophenol	330	U
100-02-7	4-Nitrophenol	330	U
132-64-9	Dibenzofuran	170	U
121-14-2	2,4-Dinitrotoluene	170	U
84-66-2	Diethylphthalate	170	U
86-73-7	Fluorene	170	U
7005-72-3	4-Chlorophenyl-phenylether	170	U
100-01-6	4-Nitroaniline	330	U
534-52-1	4,6-Dinitro-2-methylphenol	330	U
86-30-6	N-Nitrosodiphenylamine	170	U
95-94-3	1,2,4,5-Tetrachlorobenzene	170	U
101-55-3	4-Bromophenyl-phenylether	170	U
118-74-1	Hexachlorobenzene	170	U
1912-24-9	Atrazine	330	U
87-86-5	Pentachlorophenol	330	U
85-01-8	Phenanthrene	170	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
SBLK32

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : PB90332BL
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005388.D
% Solids : 100
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/11/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	170	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	170	U
206-44-0	Fluoranthene	170	U
129-00-0	Pyrene	170	U
85-68-7	Butylbenzylphthalate	170	U
91-94-1	3,3-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	170	U
218-01-9	Chrysene	170	U
117-81-7	Bis(2-ethylhexyl)phthalate	170	U
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	170	U
207-08-9	Benzo(k)fluoranthene	170	U
50-32-8	Benzo(a)pyrene	170	U
193-39-5	Indeno(1,2,3-cd)pyrene	170	U
53-70-3	Dibenzo(a,h)anthracene	170	U
191-24-2	Benzo(g,h,i)perylene	170	U
58-90-2	2,3,4,6-Tetrachlorophenol	170	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK32

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : PB90332BL
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005388.D
% Solids : 100
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
Extract Concentrated : (Y / N) Y
Date Analyzed : 05/11/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 500 (µL)
Heated Purge : (Y / N)
Extraction Type : SOXH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types : GPC
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

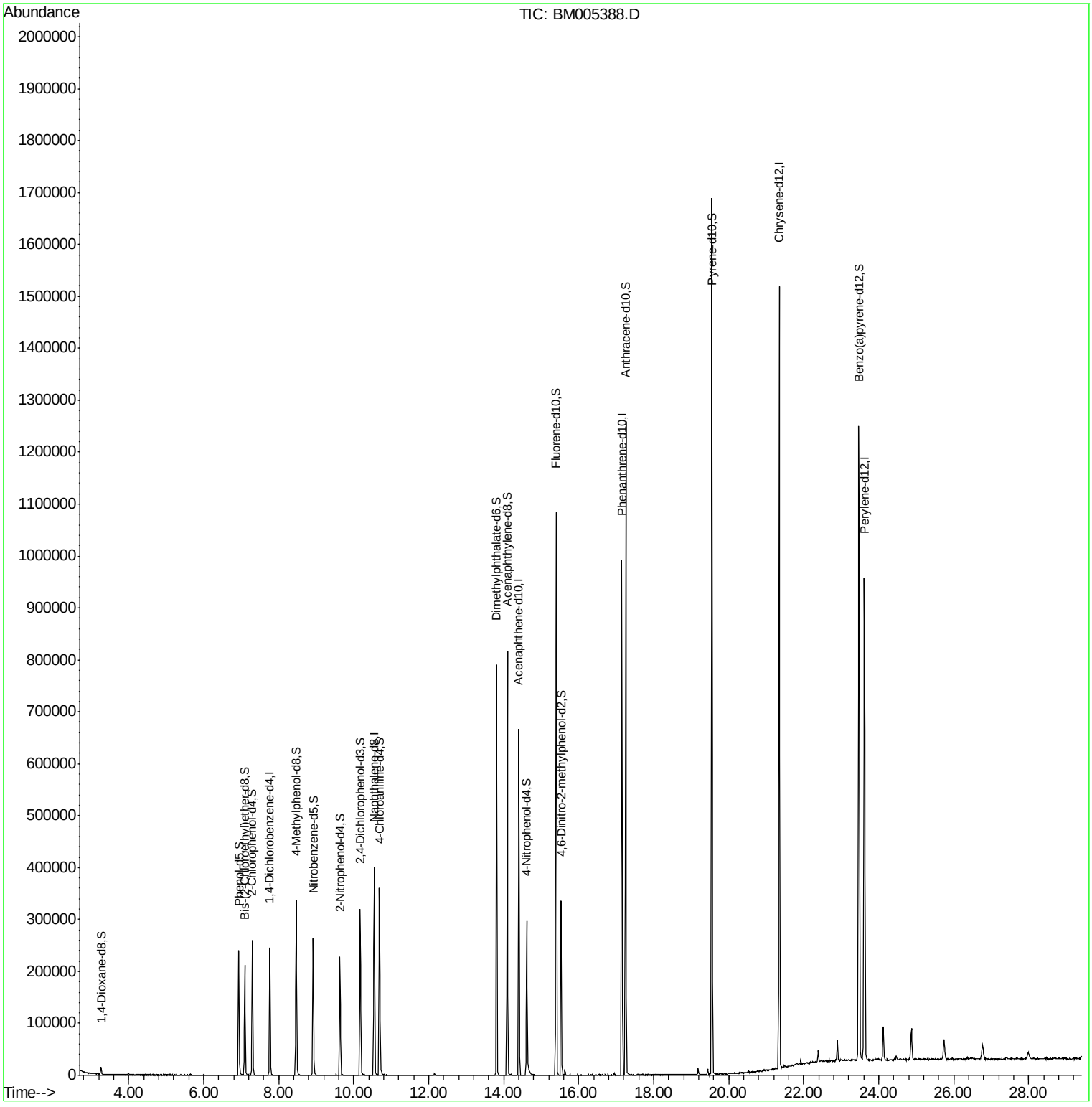
EPA-designated Registry Number.

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005388.D
Acq On : 11 May 2016 15:49
Operator : UM/SJ
Sample : PB90332BL
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SBLK32

Quant Time: May 12 03:52:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005388.D
Acq On : 11 May 2016 15:49
Operator : UM/SJ
Sample : PB90332BL
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK32

Quant Time: May 12 03:52:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Thu May 12 02:20:05 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	67507	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	336886	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	229833	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.15	188	578080	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	716616	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	680658	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.26	96	7049	4.91	ng/uL	0.00
5) Phenol-d5	6.93	99	149352	24.39	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	93500	26.77	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	119212	25.78	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	128944	25.48	ng/ul	0.00
19) Nitrobenzene-d5	8.92	128	63741	26.50	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	74185	27.24	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	124205	24.54	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	195798	32.14	ng/ul	0.00
43) Dimethylphthalate-d6	13.81	166	523876	28.44	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	577925	26.75	ng/ul	0.00
51) 4-Nitrophenol-d4	14.61	143	81417	24.21	ng/ul	0.00
57) Fluorene-d10	15.40	176	437672	27.51	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.53	200	74682	22.97	ng/ul	0.00
70) Anthracene-d10	17.25	188	725284	28.38	ng/ul	0.00
76) Pyrene-d10	19.55	212	875573	26.47	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	841615	27.93	ng/ul	0.00

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005388.D
Acq On : 11 May 2016 15:49
Operator : UM/SJ
Sample : PB90332BL
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK32

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.934	716	722	739	rBV	239869	403004	17.22%	1.764%
2	7.092	743	749	759	rBV	212645	325095	13.89%	1.423%
3	7.292	777	783	795	rBV	259729	410090	17.53%	1.795%
4	7.757	856	862	871	rBV	245266	399539	17.08%	1.749%
5	8.463	976	982	996	rBV	336729	546397	23.35%	2.392%
6	8.916	1051	1059	1072	rBV	263862	432361	18.48%	1.892%
7	9.633	1175	1181	1190	rBV	228258	371279	15.87%	1.625%
8	10.169	1266	1272	1286	rBV	320087	553082	23.64%	2.421%
9	10.545	1329	1336	1347	rBV	401671	684983	29.28%	2.998%
10	10.686	1353	1360	1378	rBV	360115	630670	26.95%	2.760%
11	13.810	1885	1891	1902	rBV	790167	1105556	47.25%	4.839%
12	14.092	1932	1939	1952	rBV	817262	1205083	51.51%	5.275%
13	14.398	1985	1991	2002	rVB2	665900	1063060	45.44%	4.653%
14	14.610	2022	2027	2049	rBV	297512	493297	21.08%	2.159%
15	15.398	2154	2161	2170	rBV	1083253	1603126	68.52%	7.017%
16	15.527	2178	2183	2198	rBV	335107	480776	20.55%	2.104%
17	17.151	2452	2459	2469	rBV2	991679	1414197	60.44%	6.190%
18	17.250	2469	2476	2488	rVV	1256959	1864335	79.68%	8.160%
19	19.550	2860	2867	2880	rBV	1686582	2339734	100.00%	10.241%
20	21.344	3167	3172	3183	rBV	1504554	1916259	81.90%	8.388%
21	22.385	3345	3349	3355	rVB	22959	30430	1.30%	0.133%
22	22.897	3431	3436	3444	rVB	39485	60203	2.57%	0.264%
23	23.468	3525	3533	3545	rBV2	1220316	2329375	99.56%	10.196%
24	23.615	3550	3558	3569	rVB2	926476	1801037	76.98%	7.883%
25	24.115	3638	3643	3653	rVB	65637	122536	5.24%	0.536%
26	24.868	3764	3771	3778	rVB2	59903	127087	5.43%	0.556%
27	25.738	3912	3919	3927	rBV2	37412	87200	3.73%	0.382%
28	26.768	4091	4094	4100	rVB4	23608	46765	2.00%	0.205%

Sum of corrected areas: 22846556

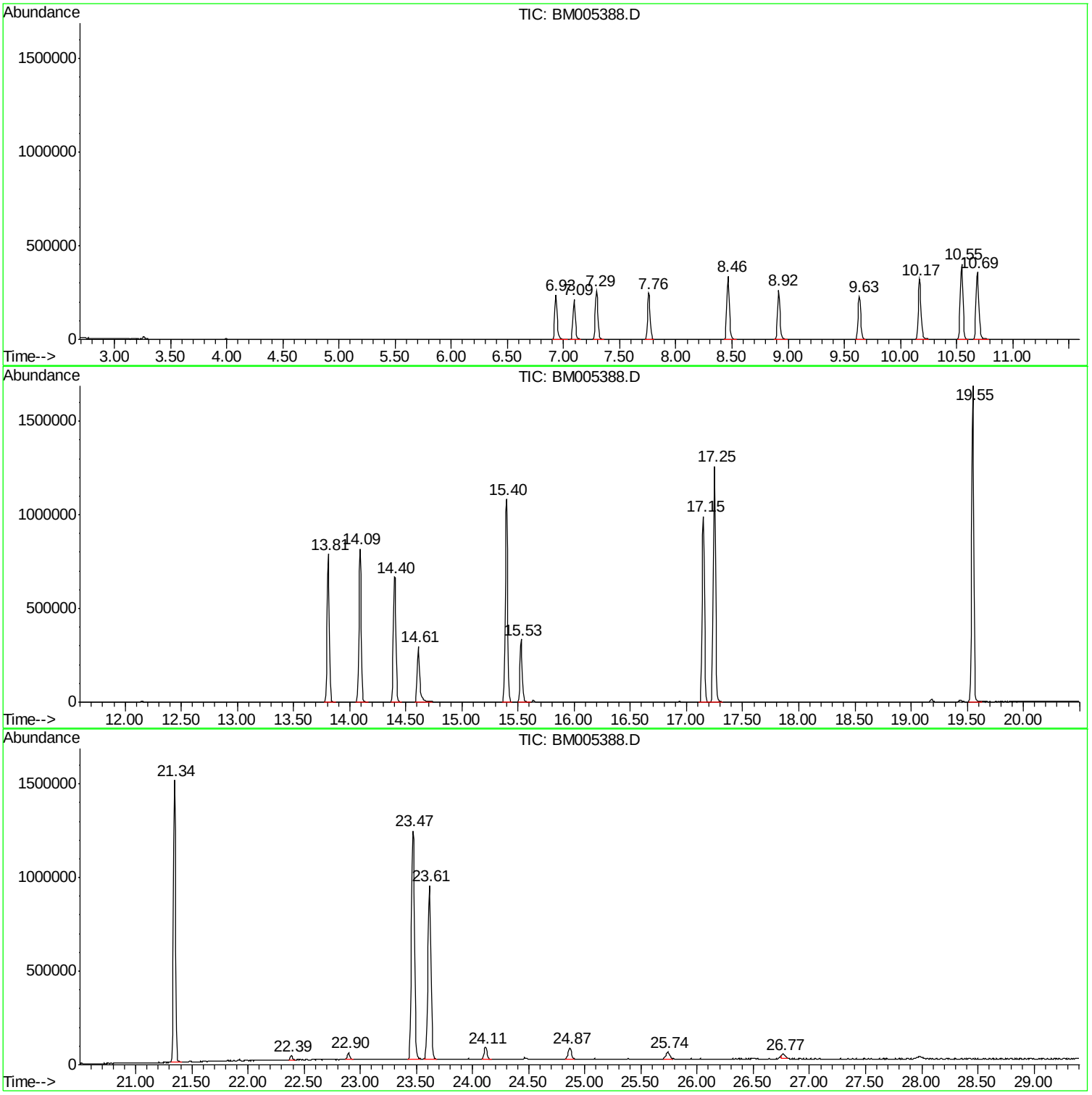
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005388.D
Acq On : 11 May 2016 15:49
Operator : UM/SJ
Sample : PB90332BL
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK32

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005388.D
Acq On : 11 May 2016 15:49
Operator : UM/SJ
Sample : PB90332BL
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SBLK32

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051116\
Data File : BM005388.D
Acq On : 11 May 2016 15:49
Operator : UM/SJ
Sample : PB90332BL
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK32

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
SBLK30

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : PB90330BL
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005450.D
% Solids :
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	U
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
SBLK30

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : PB90330BL
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005450.D
% Solids :
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	5.0	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
SBLK30

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : PB90330BL
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005450.D
% Solids :
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK30

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : PB90330BL
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005450.D
% Solids :
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
Extract Concentrated : (Y / N) N
Date Analyzed : 05/14/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 1000 (µL)
Heated Purge : (Y / N)
Extraction Type : CONH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L
Cleanup Factor : 1.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

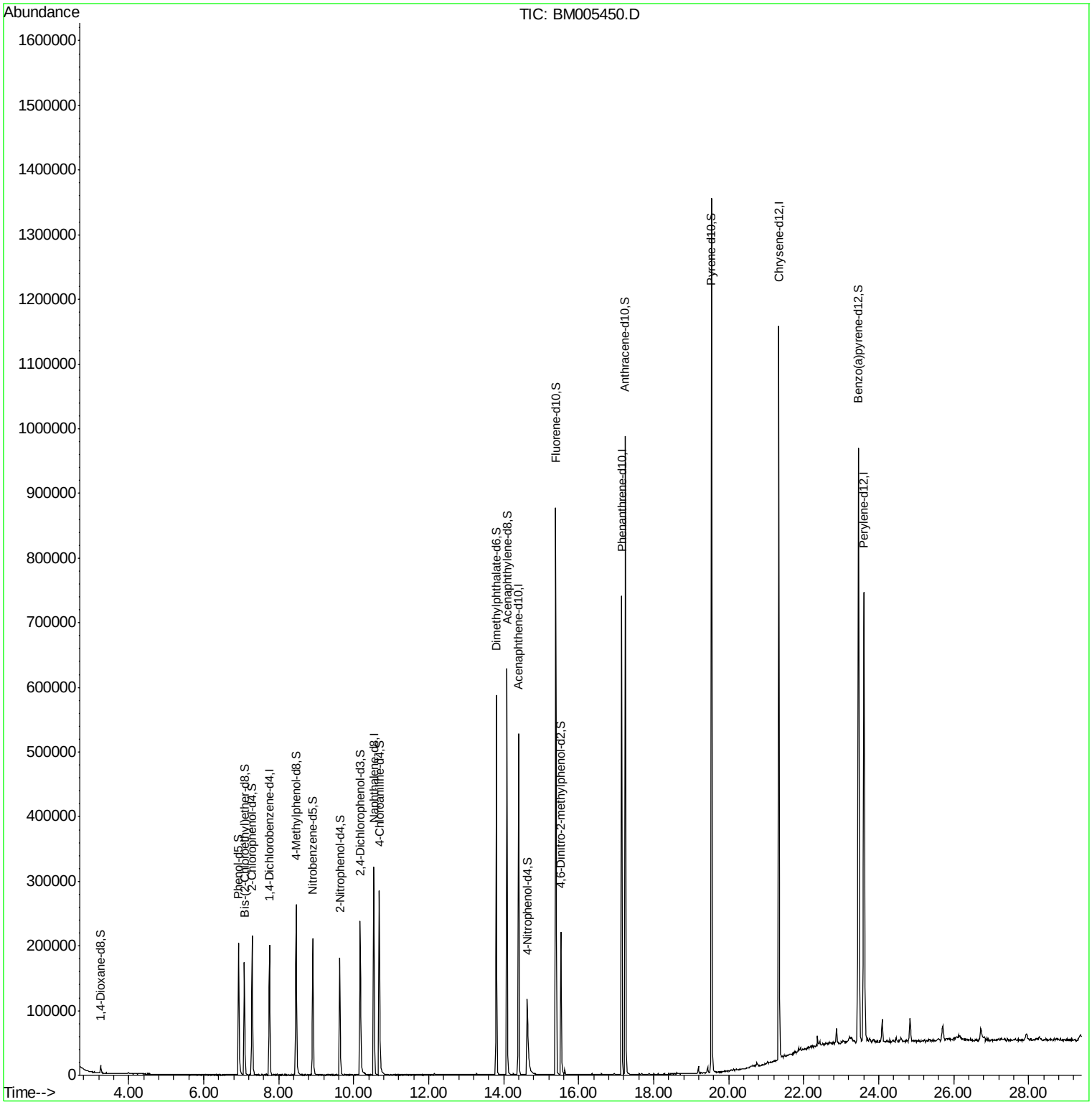
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 16 03:48:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SBLK30

Manual Integrations APPROVED
sohil
5/16/2016 7:01:38 PM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SBLK30

Manual Integrations APPROVED
sohil
5/16/2016 7:01:38 PM

Quant Time: May 16 03:48:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	57328	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	272738	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	178342	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	445752	20.00	ng/ul	0.00
75) Chrysene-d12	21.33	240	589547	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	522602	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	6741	5.53	ng/uL	0.00
5) Phenol-d5	6.93	99	129344	24.88	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	80175	27.03	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	104673	26.65	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	109071	25.38	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	53589	27.52	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	61062	27.70	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	101884	24.86	ng/ul	0.00
29) 4-Chloroaniline-d4	10.68	131	168619	34.19	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	404729	28.31	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	467924	27.91	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	54248m	20.79	ng/ul	0.00
57) Fluorene-d10	15.39	176	350633	28.41	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	51834	20.67	ng/ul	0.00
70) Anthracene-d10	17.24	188	578862	29.38	ng/ul	0.00
76) Pyrene-d10	19.54	212	718114	26.39	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	683493	29.55	ng/ul	0.00

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK30

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.928	716	721	733	rBV	203083	345950	18.13%	1.915%
2	7.081	742	747	757	rBV	173822	278015	14.57%	1.539%
3	7.286	776	782	794	rBV	215139	357986	18.76%	1.982%
4	7.751	854	861	871	rBV	200393	337494	17.68%	1.868%
5	8.463	976	982	997	rBV	263366	459648	24.08%	2.544%
6	8.910	1051	1058	1073	rBV	210446	369422	19.36%	2.045%
7	9.627	1174	1180	1191	rBV	181417	307665	16.12%	1.703%
8	10.169	1266	1272	1289	rBV	238271	446718	23.41%	2.473%
9	10.533	1327	1334	1344	rBV	321218	555304	29.10%	3.074%
10	10.680	1352	1359	1375	rBV	284621	542733	28.44%	3.004%
11	13.798	1883	1889	1902	rBV	586505	852137	44.65%	4.717%
12	14.086	1931	1938	1950	rBV	627741	971271	50.89%	5.377%
13	14.392	1984	1990	2002	rVB2	527563	828116	43.39%	4.584%
14	14.621	2025	2029	2053	rBV	117000	309609	16.22%	1.714%
15	15.386	2151	2159	2173	rBV	877298	1285448	67.35%	7.116%
16	15.521	2178	2182	2197	rBV	220103	327640	17.17%	1.814%
17	17.145	2452	2458	2468	rBV2	739250	1090843	57.16%	6.039%
18	17.239	2468	2474	2487	rVV2	986810	1473041	77.18%	8.154%
19	19.539	2859	2865	2881	rBV2	1351927	1908549	100.00%	10.565%
20	21.333	3165	3170	3182	rBV	1133577	1582124	82.90%	8.758%
21	22.874	3428	3432	3439	rVB4	23575	38712	2.03%	0.214%
22	23.456	3524	3531	3545	rVB2	917863	1874765	98.23%	10.378%
23	23.603	3549	3556	3570	rVB2	693170	1391282	72.90%	7.702%
24	24.085	3634	3638	3645	rVB	34921	60510	3.17%	0.335%
25	24.832	3761	3765	3772	rVB2	34858	69510	3.64%	0.385%

Sum of corrected areas: 18064492

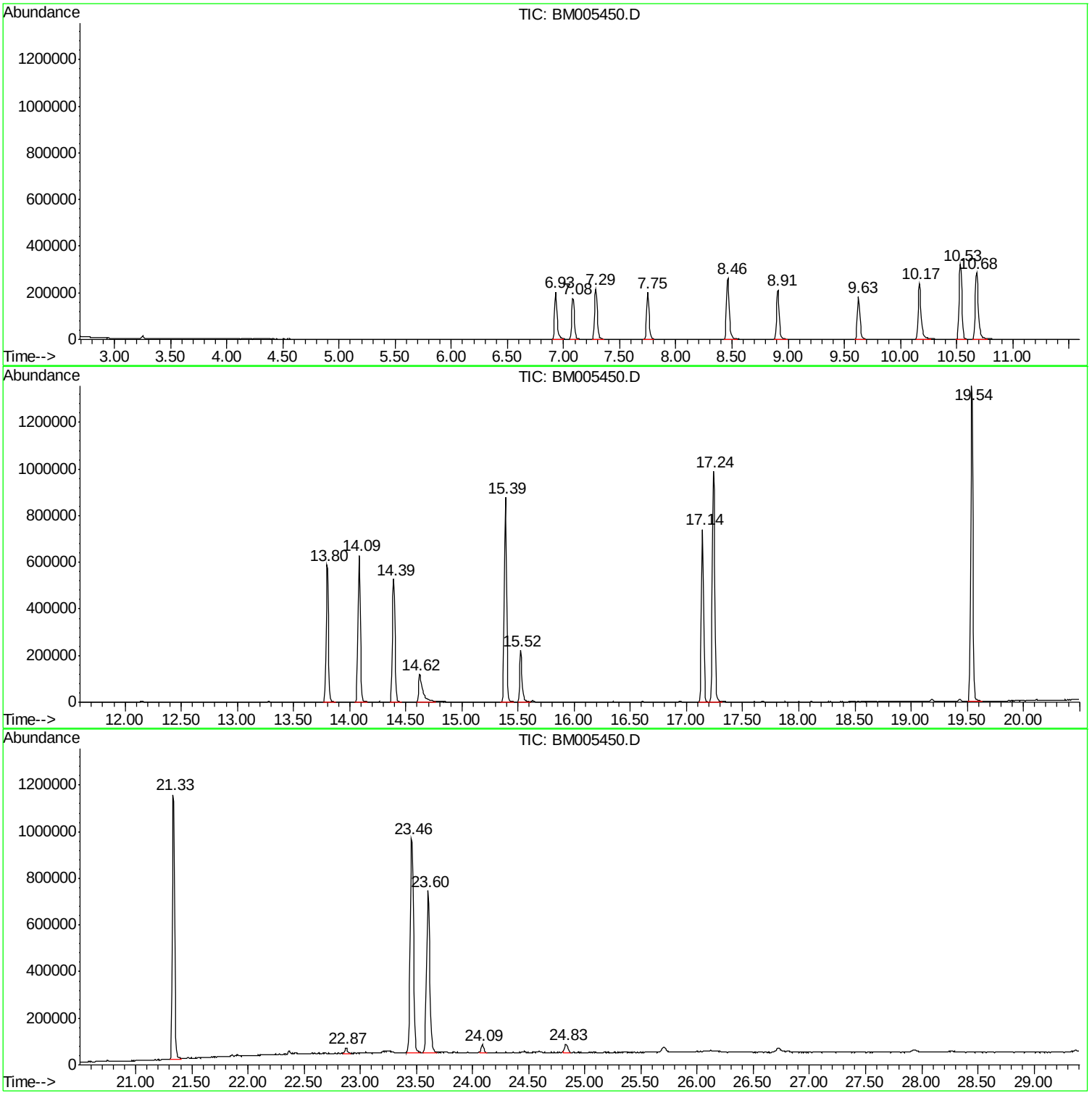
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK30

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SBLK30

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK30

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

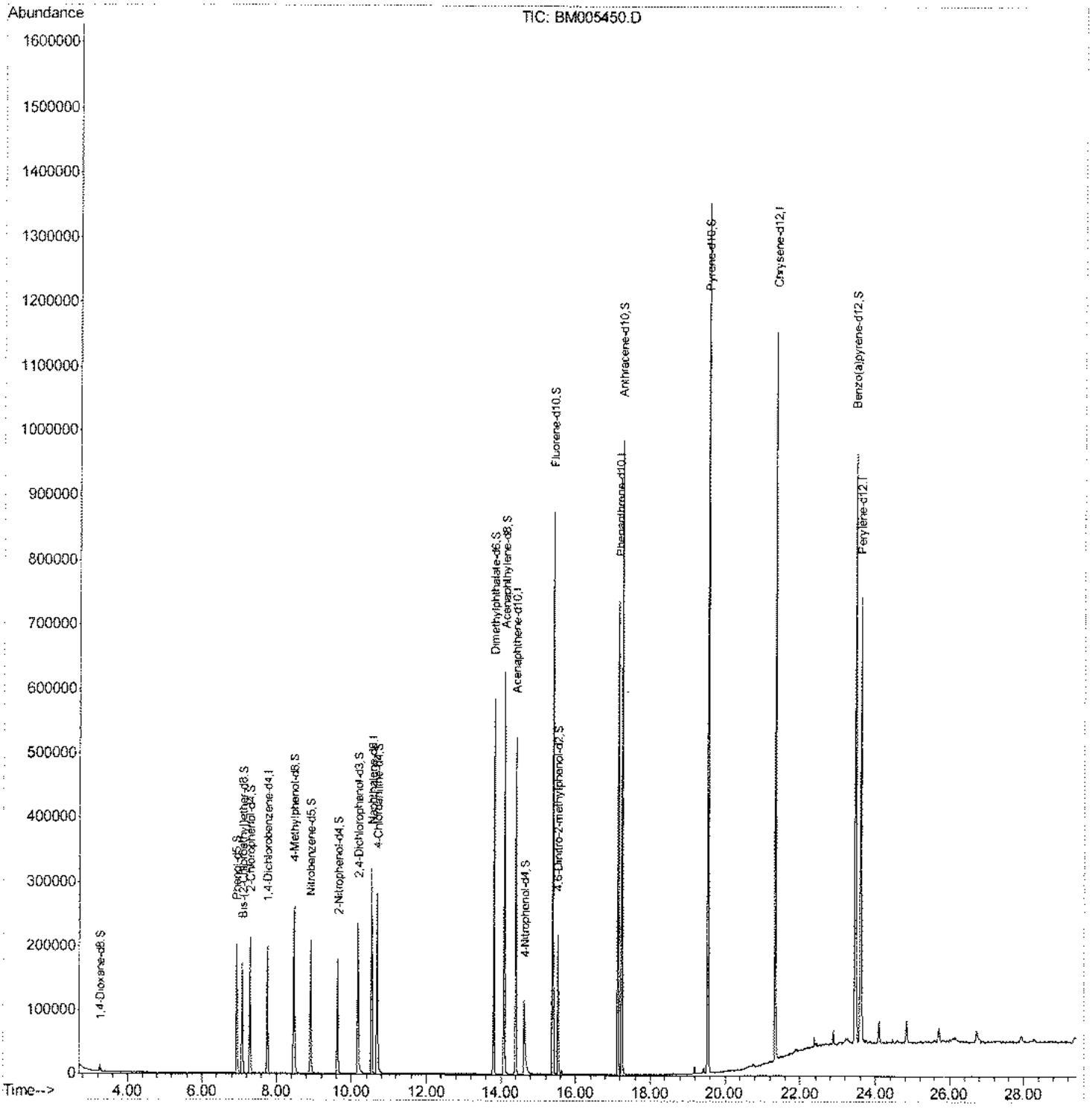
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 16 03:48:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SBLK30

Manual Integrations APPROVED
sohil
5/16/2016 7:01:38 PM



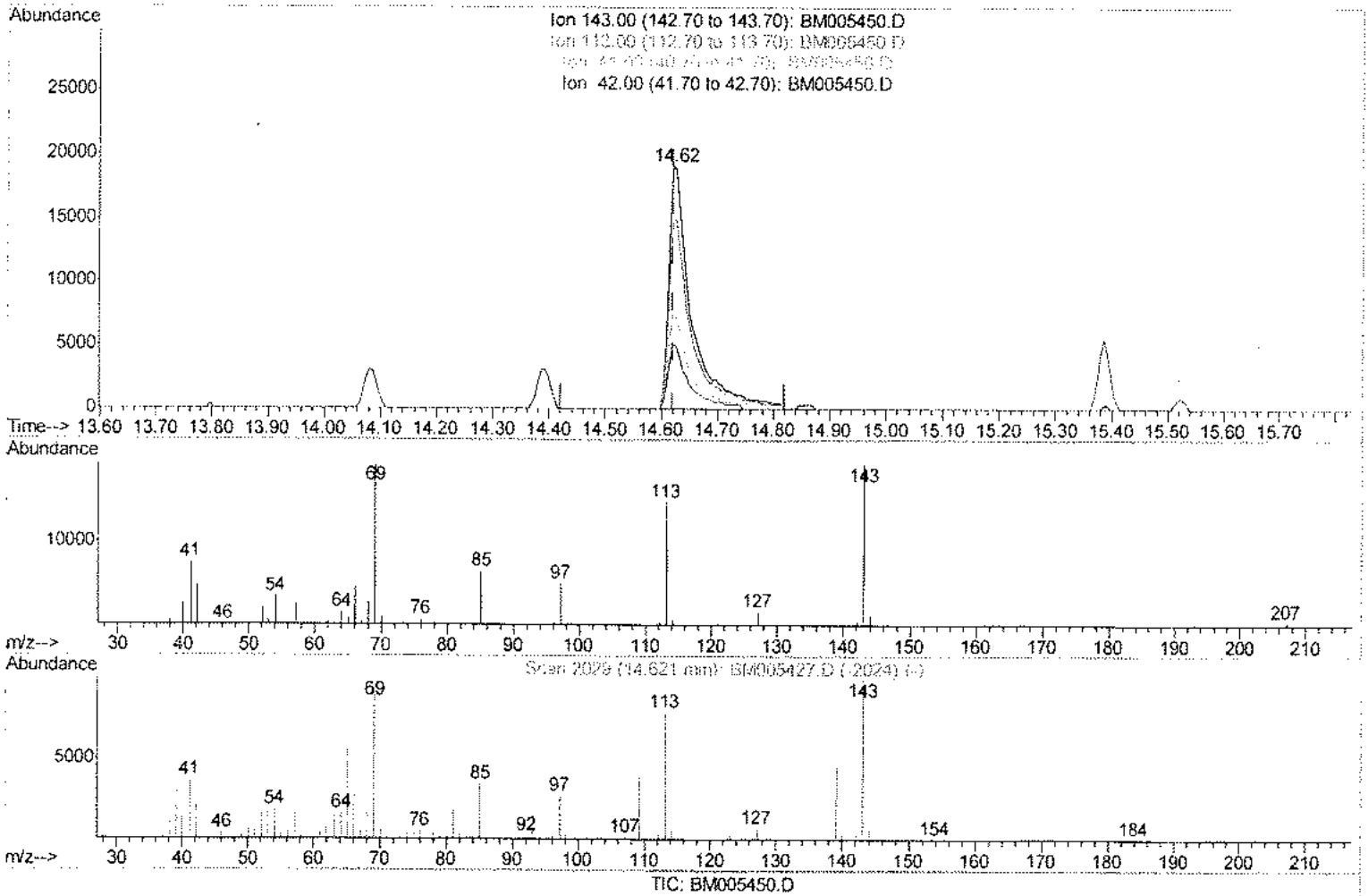
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 16 03:39:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SBLK30

Manual Integrations APPROVED
sohil
5/16/2016 7:01:38 PM



(51) 4-Nitrophenol-d4 (S)

14.621min (-0.000) 20.79ng/ul m

response 54248

> U.M 05/17/16

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	76.90
41.00	38.10	39.56
42.00	26.00	26.19

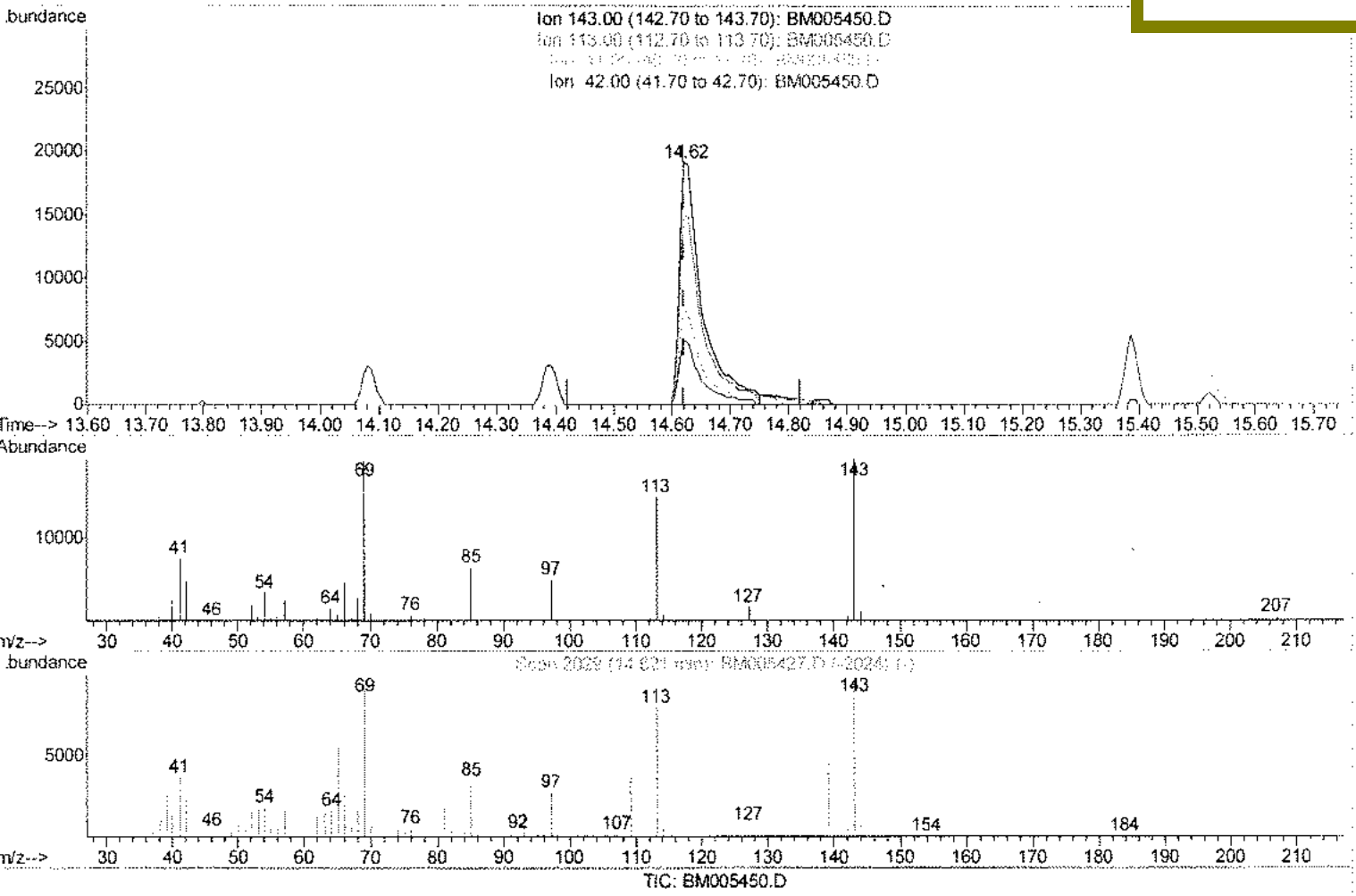
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 16 03:39:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SBLK30

Manual Integrations APPROVED
sohil
5/16/2016 7:01:38 PM



(51) 4-Nitrophenol-d4 (S)

14.621min (-0.000) 19.81ng/ul

response 51685

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	76.90
41.00	38.10	39.56
42.00	26.00	26.19

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005450.D
Acq On : 14 May 2016 05:09
Operator : UM/SJ
Sample : PB90330BL
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 16 03:48:11 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SBLK30

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	57328	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	272738	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	178342	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	445752	20.00	ng/ul	0.00
75) Chrysene-d12	21.33	240	589547	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	522602	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	6741	5.53	ng/uL	0.00
5) Phenol-d5	6.93	99	129344	24.88	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	80175	27.03	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	104673	26.65	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	109071	25.38	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	53589	27.52	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	61062	27.70	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	101884	24.86	ng/ul	0.00
29) 4-Chloroaniline-d4	10.68	131	168619	34.19	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	404729	28.31	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	467924	27.91	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	54248m	20.79	ng/ul	0.00
57) Fluorene-d10	15.39	176	350633	28.41	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	51834	20.67	ng/ul	0.00
70) Anthracene-d10	17.24	188	578862	29.38	ng/ul	0.00
76) Pyrene-d10	19.54	212	718114	26.39	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	683493	29.55	ng/ul	0.00

U.M 05/17/16

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-02MS
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005452.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	U
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	6.3	J
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	23	
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	30	
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	24	
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-02MS
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005452.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	5.0	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	30	
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	4.7	J
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	32	
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	21	
85-01-8	Phenanthrene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-02MS
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005452.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	28	
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005452.D
Acq On : 14 May 2016 06:21
Operator : UM/SJ
Sample : H2834-02MS
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 16 04:27:16 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
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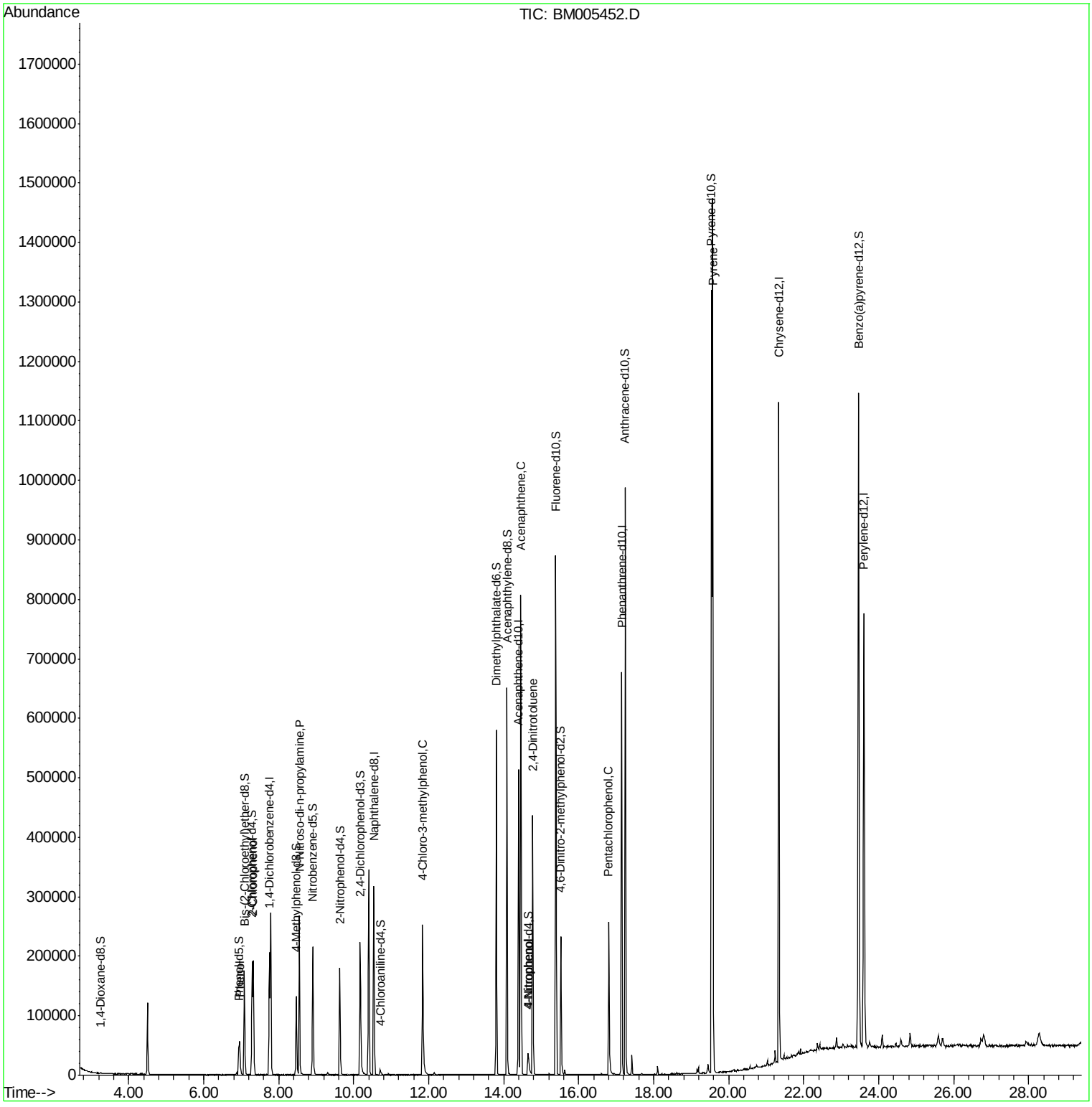
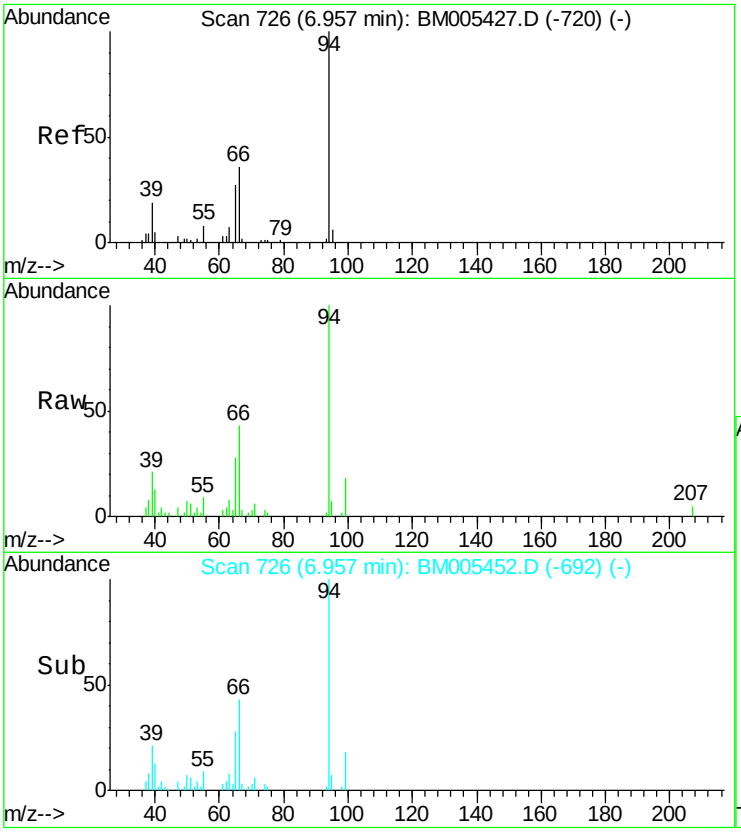
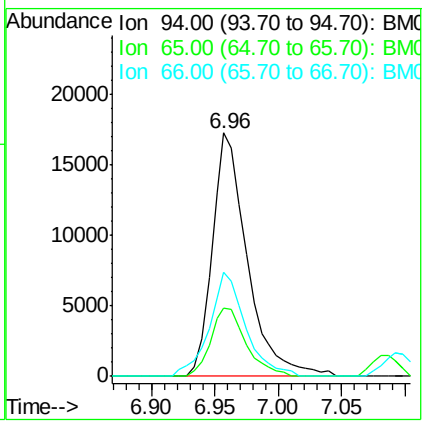




#6
Phenol
Concen: 6.30 ng/ul
RT: 6.96 min Scan# 726
Delta R.T. -0.00 min
Lab File: BM005452.D
Acq: 14 May 2016 06:21

Tgt Ion: 94 Resp: 33172

Ion	Ratio	Lower	Upper
94	100		
65	28.1	22.7	34.1
66	42.8	31.7	47.5



Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
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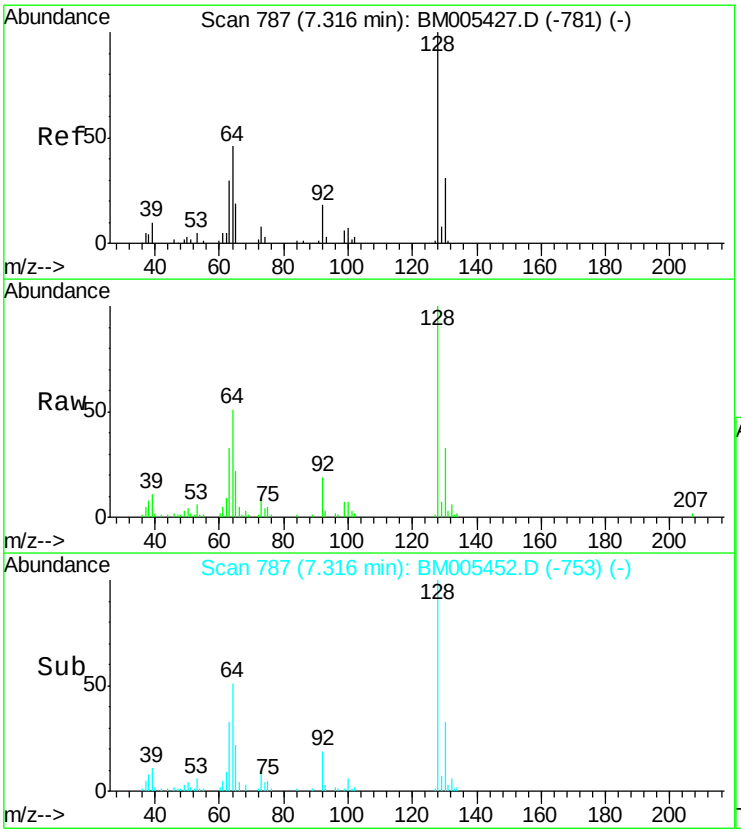
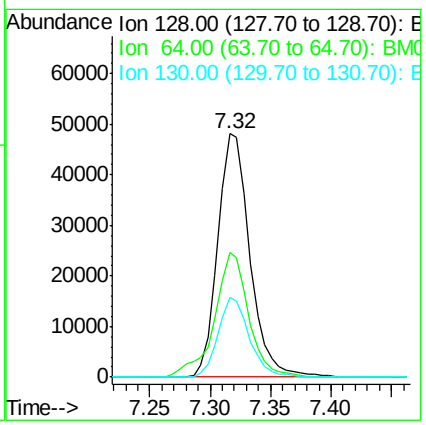
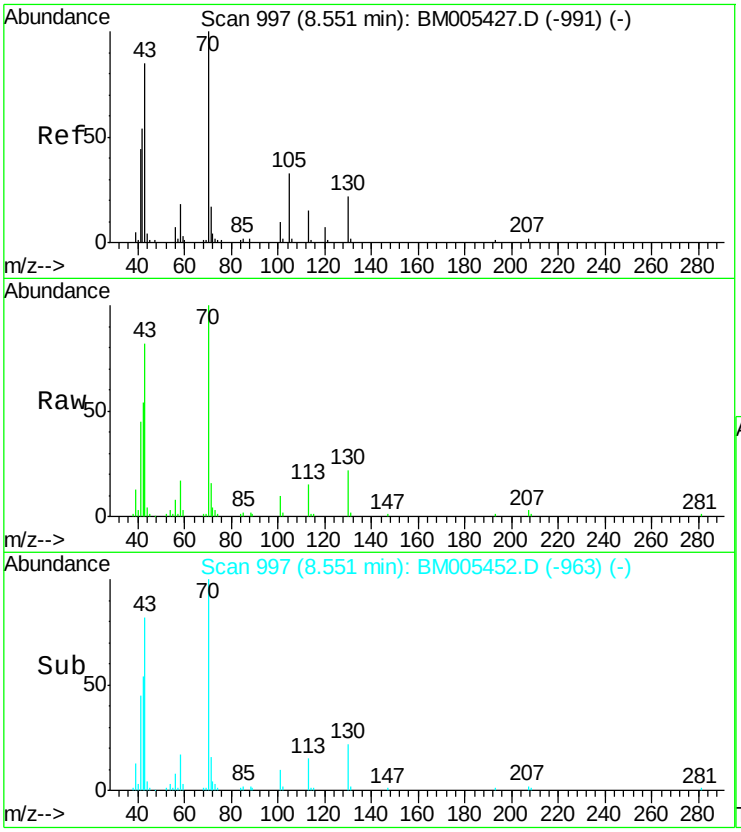


#10
2-Chlorophenol
Concen: 22.60 ng/ul
RT: 7.32 min Scan# 787
Delta R.T. -0.00 min
Lab File: BM005452.D
Acq: 14 May 2016 06:21

Tgt Ion:128 Resp: 88910

Ion	Ratio	Lower	Upper
128	100		
64	51.2	37.8	56.8
130	32.7	24.9	37.3

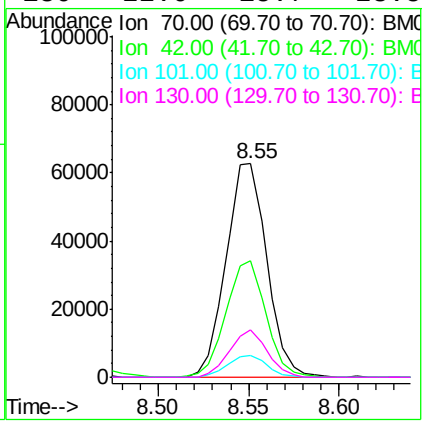




#15
N-Nitroso-di-n-propylamine
Concen: 30.08 ng/ul
RT: 8.55 min Scan# 997
Delta R.T. -0.00 min
Lab File: BM005452.D
Acq: 14 May 2016 06:21

Tgt Ion: 70 Resp: 97977

Ion	Ratio	Lower	Upper
70	100		
42	54.4	42.8	64.2
101	10.5	7.8	11.6
130	22.0	15.7	23.5



Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
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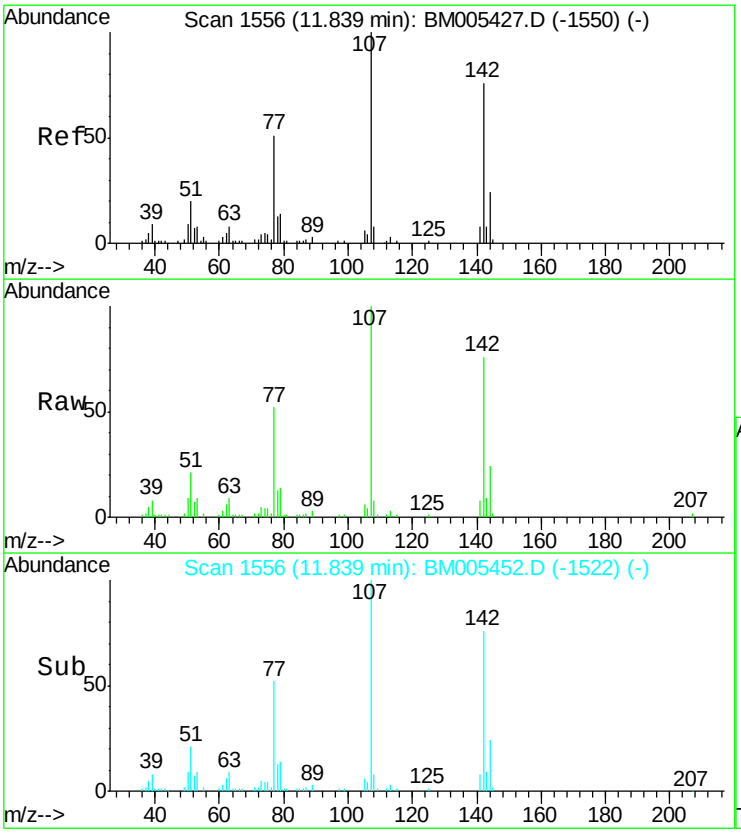
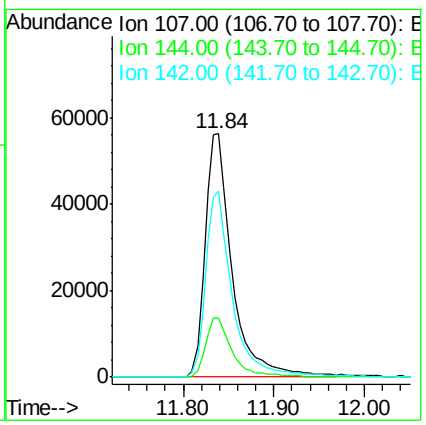
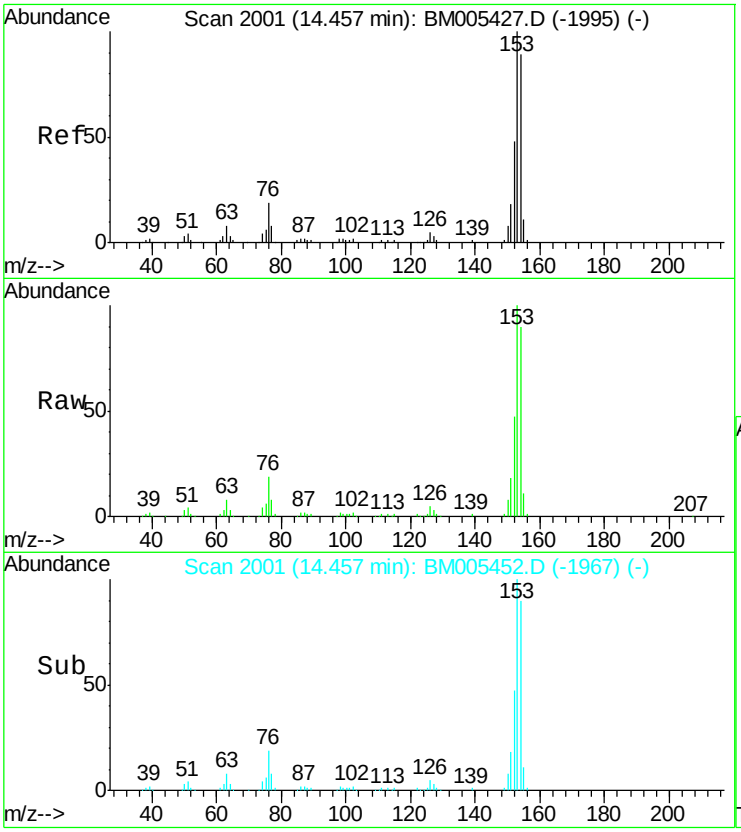


#33
4-Chloro-3-methylphenol
Concen: 24.26 ng/ul
RT: 11.84 min Scan# 1556
Delta R.T. -0.00 min
Lab File: BM005452.D
Acq: 14 May 2016 06:21

Tgt Ion:107 Resp: 117083

Ion	Ratio	Lower	Upper
107	100		
144	24.5	19.3	28.9
142	76.3	60.8	91.2

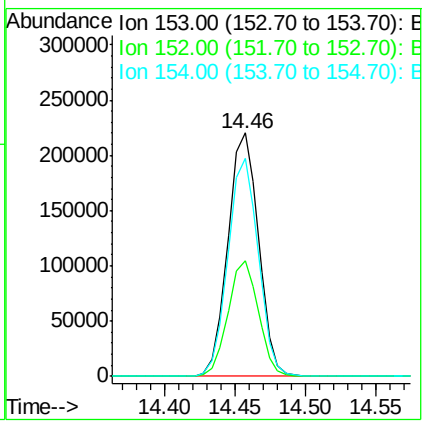




#49
Acenaphthene
Concen: 30.09 ng/ul
RT: 14.46 min Scan# 2001
Delta R.T. -0.00 min
Lab File: BM005452.D
Acq: 14 May 2016 06:21

Tgt Ion:153 Resp: 333704

Ion	Ratio	Lower	Upper
153	100		
152	47.3	38.9	58.3
154	89.7	70.3	105.5



Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
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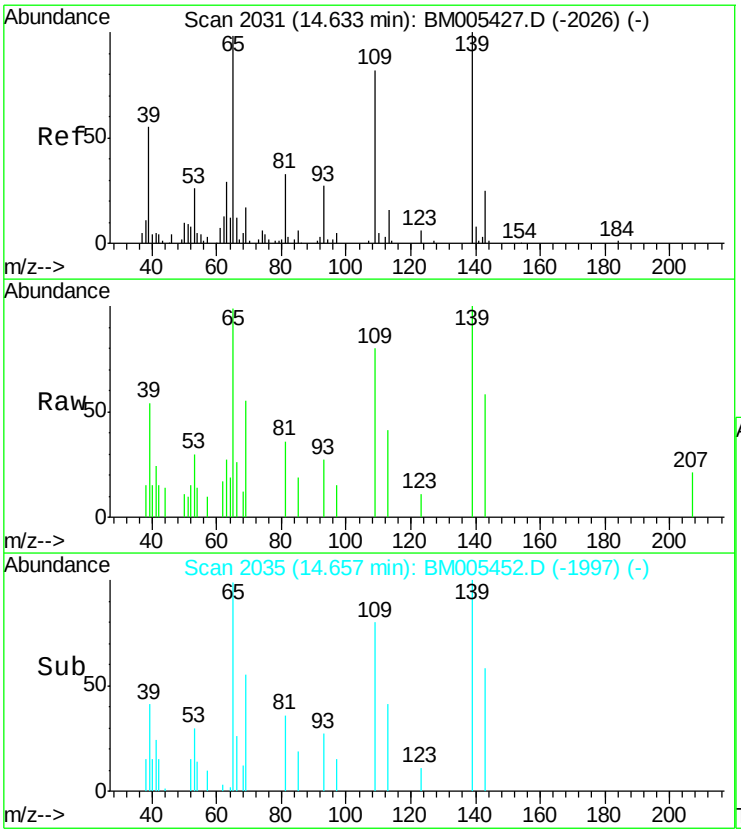
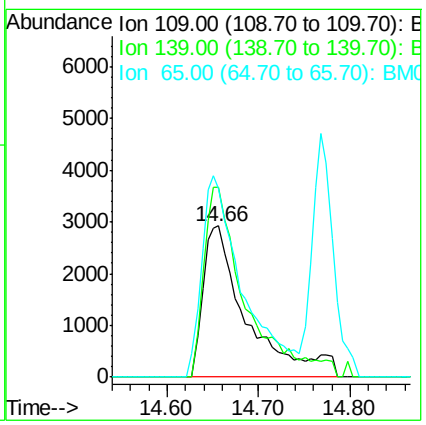
5/16/2016 7:01:43 PM

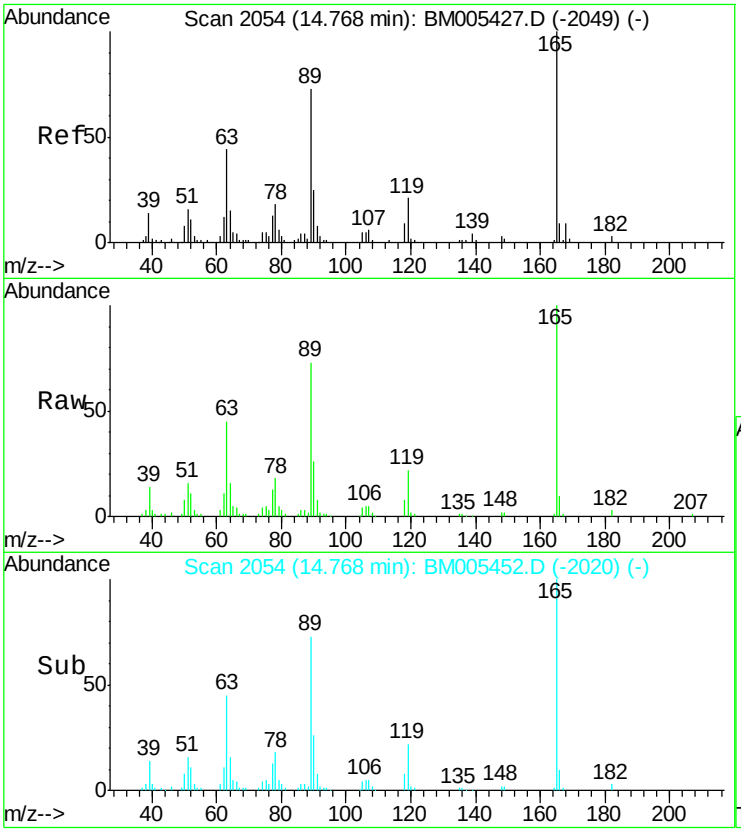


#52
4-Nitrophenol
Concen: 4.71 ng/ul m
RT: 14.66 min Scan# 2035
Delta R.T. 0.02 min
Lab File: BM005452.D
Acq: 14 May 2016 06:21

Tgt Ion:109 Resp: 9689

Ion	Ratio	Lower	Upper
109	100		
139	125.3	103.6	155.4
65	124.4	104.7	157.1

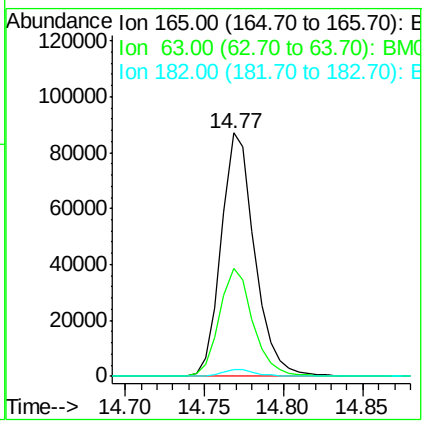




#54
2,4-Dinitrotoluene
Concen: 32.00 ng/ul
RT: 14.77 min Scan# 2054
Delta R.T. -0.00 min
Lab File: BM005452.D
Acq: 14 May 2016 06:21

Tgt Ion:165 Resp: 127484

Ion	Ratio	Lower	Upper
165	100		
63	44.5	36.2	54.4
182	3.0	2.5	3.7



Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
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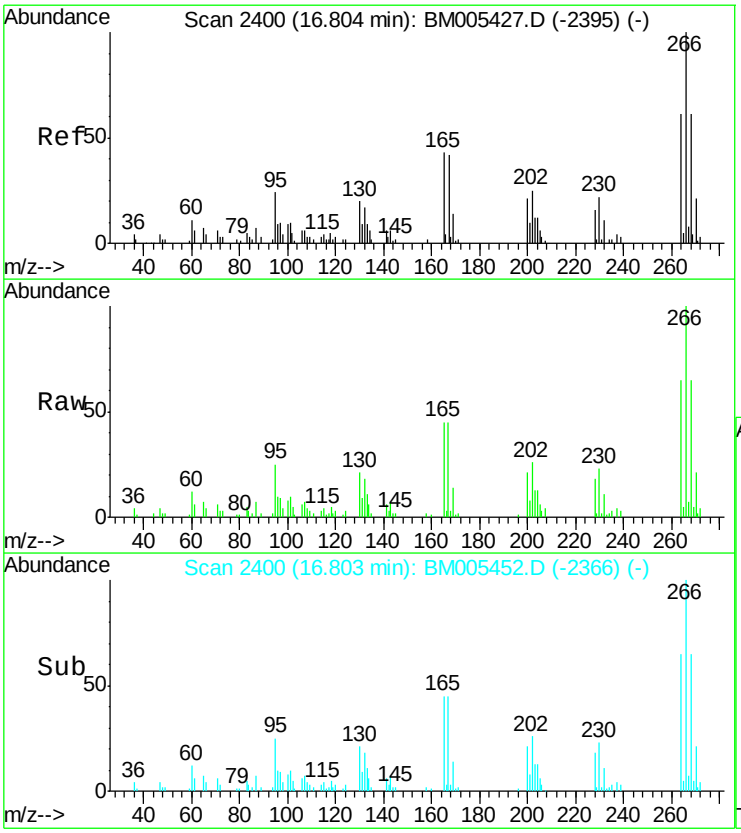
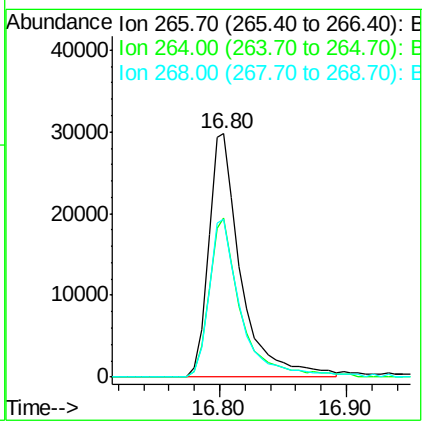
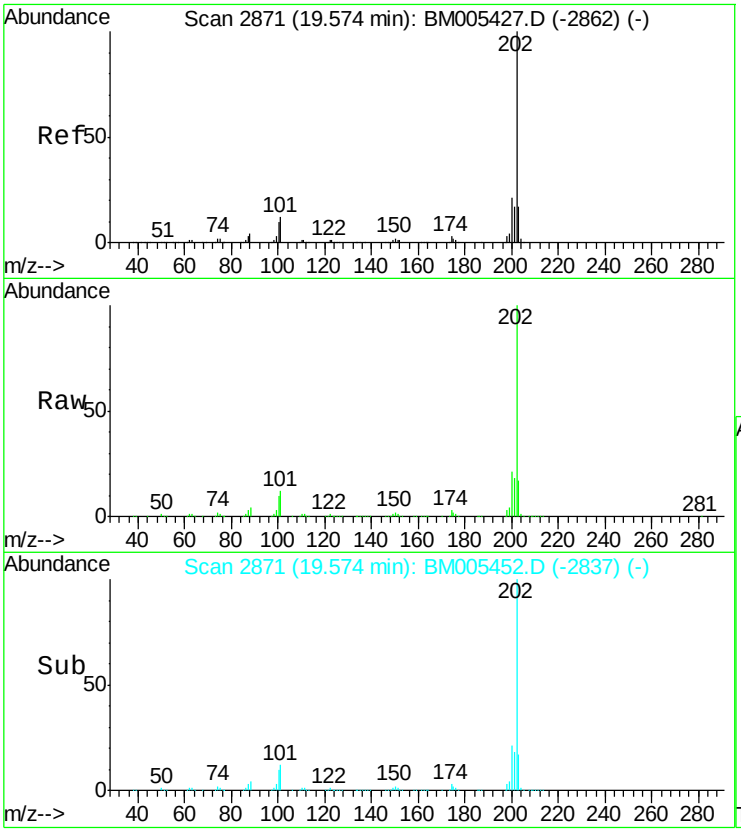


#68
Pentachlorophenol
Concen: 21.43 ng/ul
RT: 16.80 min Scan# 2400
Delta R.T. -0.00 min
Lab File: BM005452.D
Acq: 14 May 2016 06:21

Tgt Ion:266 Resp: 52638

Ion	Ratio	Lower	Upper
266	100		
264	65.4	52.0	78.0
268	64.9	53.0	79.6

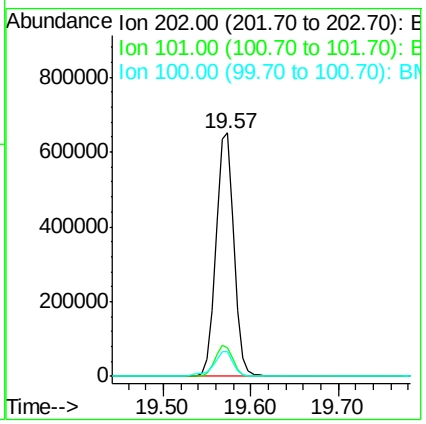




#77
Pyrene
Concen: 28.00 ng/ul
RT: 19.57 min Scan# 2871
Delta R.T. -0.00 min
Lab File: BM005452.D
Acq: 14 May 2016 06:21

Tgt Ion:202 Resp: 926016

Ion	Ratio	Lower	Upper
202	100		
101	11.7	10.8	16.2
100	10.1	8.4	12.6



Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
sohil
5/16/2016 7:01:43 PM

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005452.D
Acq On : 14 May 2016 06:21
Operator : UM/SJ
Sample : H2834-02MS
Misc :
ALS Vial : 26 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4002MS

Manual Integrations APPROVED
sohil
5/16/2016 7:01:43 PM

Quant Time: May 16 04:27:16 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	56135	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	261561	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	169167	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	411145	20.00	ng/ul	0.00
75) Chrysene-d12	21.33	240	570201	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	566295	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1504	1.26	ng/uL	0.00
5) Phenol-d5	6.93	99	29335	5.76	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	79841	27.49	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	86476	22.49	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	54253	12.89	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	54532	29.20	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	61154	28.92	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	100469	25.57	ng/ul	0.00
29) 4-Chloroaniline-d4	10.71	131	8692	1.84	ng/ul	0.03
43) Dimethylphthalate-d6	13.80	166	401936	29.64	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	469919	29.55	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	9655m	3.90	ng/ul	0.02
57) Fluorene-d10	15.39	176	345481	29.51	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	54354	23.50	ng/ul	0.00
70) Anthracene-d10	17.24	188	571164	31.43	ng/ul	0.00
76) Pyrene-d10	19.54	212	720107	27.36	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	779805	31.11	ng/ul	0.00
Target Compounds						Qvalue
6) Phenol	6.96	94	33172	6.30	ng/ul	97
10) 2-Chlorophenol	7.32	128	88910	22.60	ng/ul	95
15) N-Nitroso-di-n-propylamine	8.55	70	97977	30.08	ng/ul	98
33) 4-Chloro-3-methylphenol	11.84	107	117083	24.26	ng/ul	100
49) Acenaphthene	14.46	153	333704	30.09	ng/ul	98
52) 4-Nitrophenol	14.66	109	9689m	4.71	ng/ul	
54) 2,4-Dinitrotoluene	14.77	165	127484	32.00	ng/ul	99
68) Pentachlorophenol	16.80	266	52638	21.43	ng/ul	99
77) Pyrene	19.57	202	926016	28.00	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

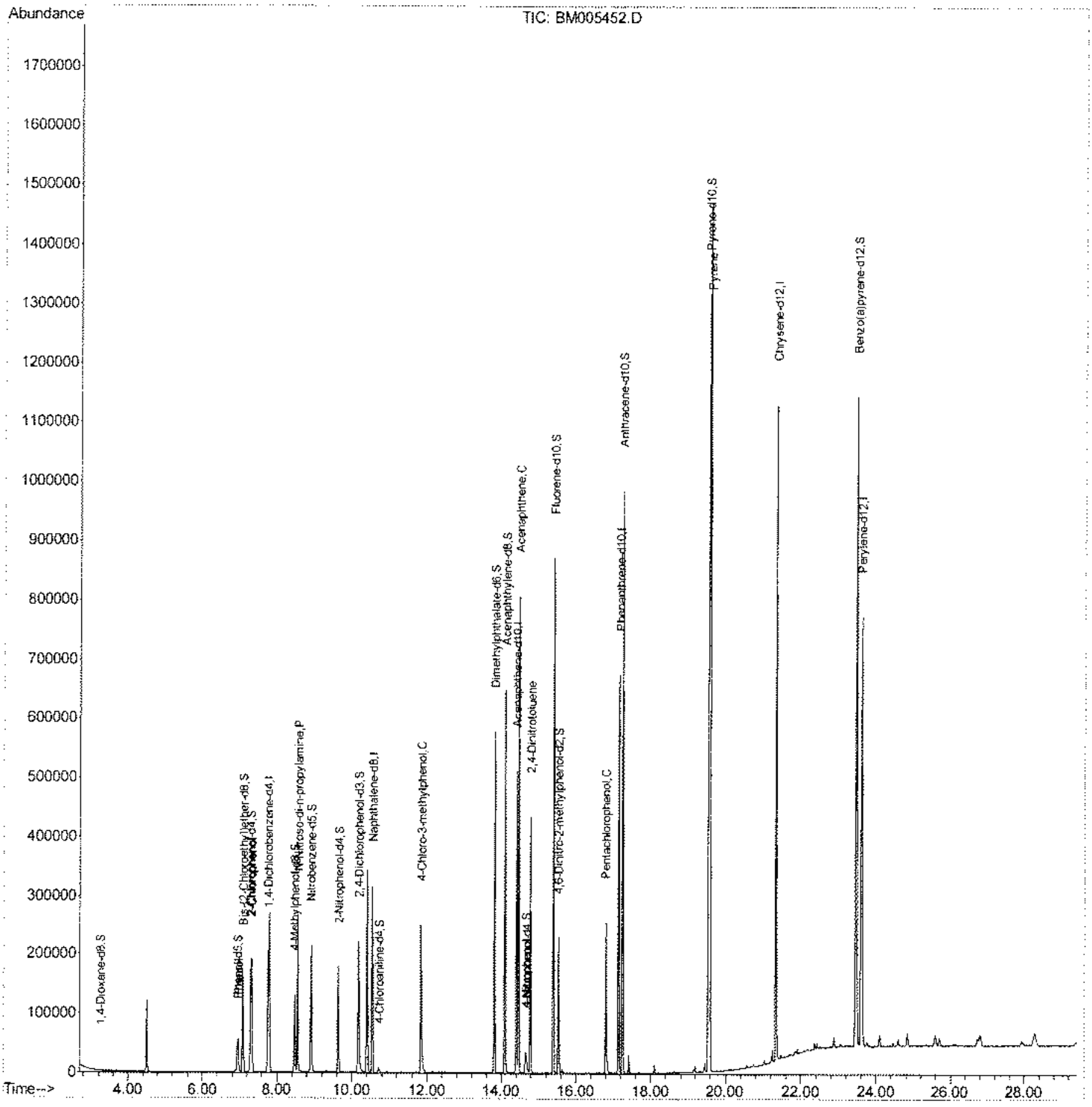
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005452.D
Acq On : 14 May 2016 06:21
Operator : UM/SJ
Sample : H2834-02MS
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 16 04:27:16 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
sohil
5/16/2016 7:01:43 PM



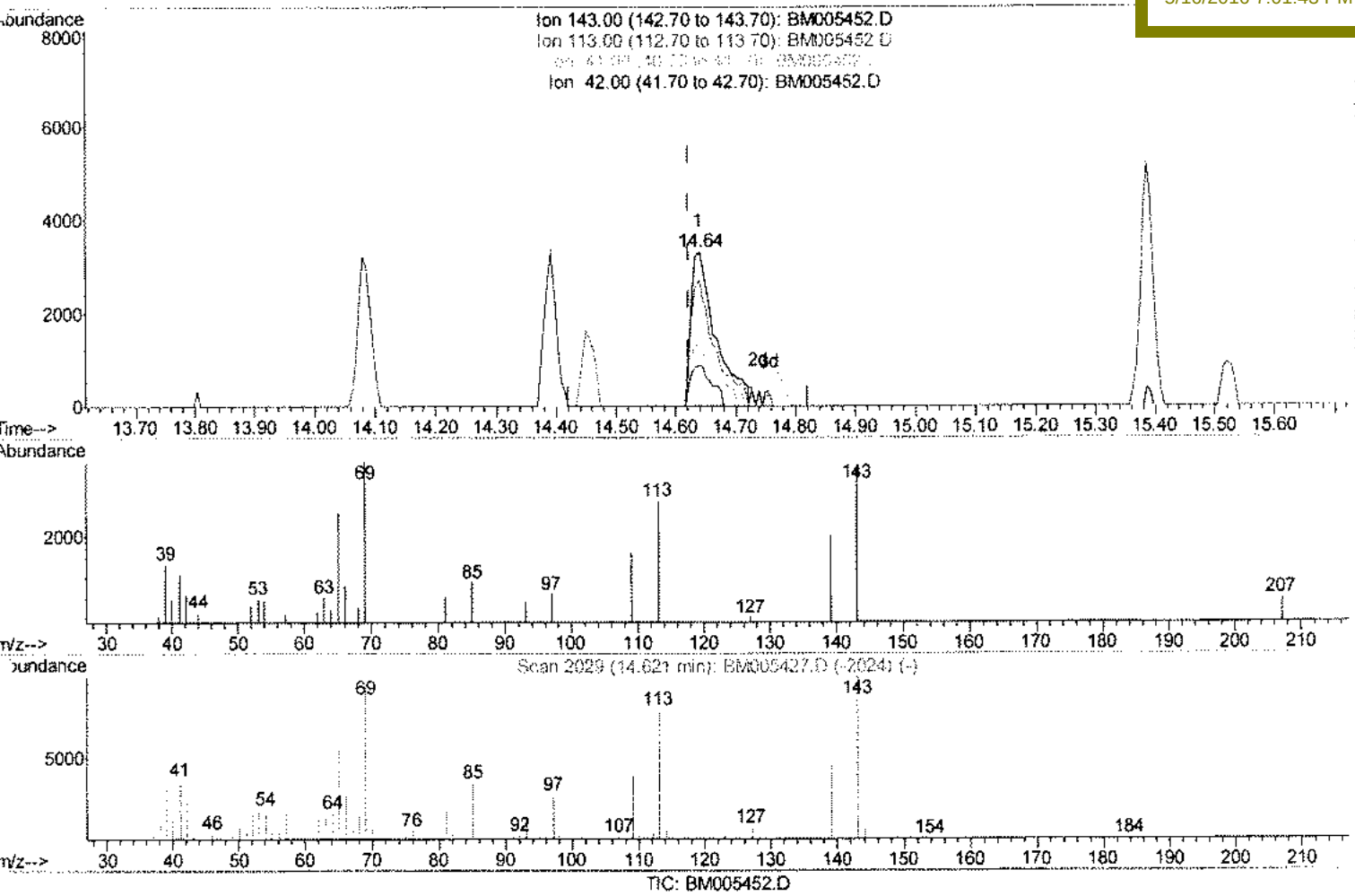
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005452.D
Acq On : 14 May 2016 06:21
Operator : UM/SJ
Sample : H2834-02MS
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 16 04:26:07 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
sohil
5/16/2016 7:01:43 PM



TIC: BM005452.D

(51) 4-Nitrophenol-d4 (S)

14.639min (+0.017) 3.84ng/ul

response 9517

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	81.27
41.00	38.10	37.90
42.00	26.00	26.33

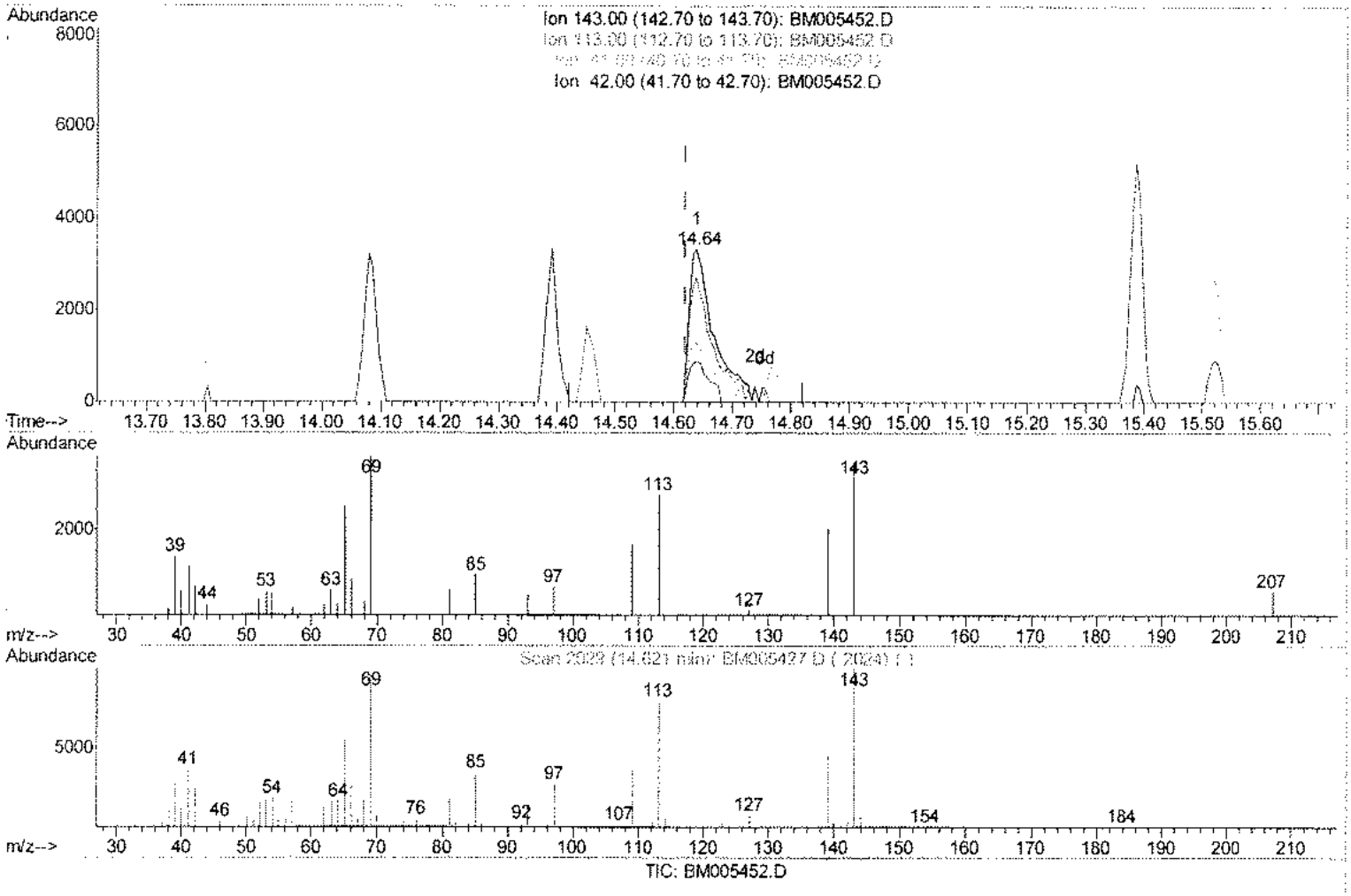
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005452.D
Acq On : 14 May 2016 06:21
Operator : UM/SJ
Sample : H2834-02MS
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 16 04:26:07 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
sohil
5/16/2016 7:01:43 PM



(51) 4-Nitrophenol-d4 (S)

14.639min (+0.017) 3.90ng/ul m

response 9655

U.M 05/17/16

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	81.27
41.00	38.10	37.90
42.00	26.00	26.33

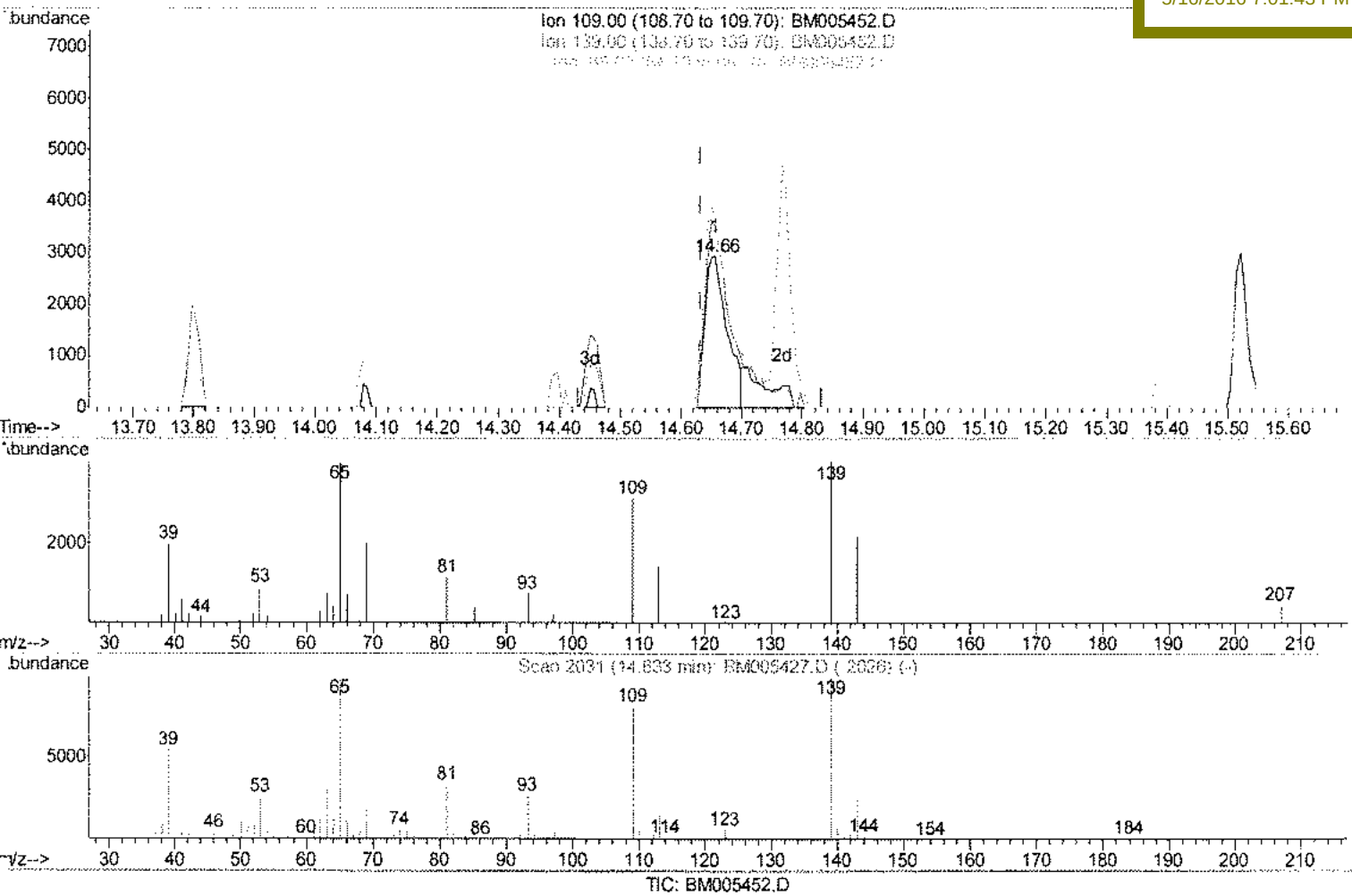
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005452.D
Acq On : 14 May 2016 06:21
Operator : UM/SJ
Sample : H2834-02MS
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 16 04:26:07 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
sohil
5/16/2016 7:01:43 PM



TIC: BM005452.D

(52) 4-Nitrophenol

14.657min (+0.023) 3.60ng/ul

response 7408

Ion	Exp%	Act%
109.00	100	100
139.00	129.50	125.28
65.00	130.90	124.36
0.00	0.00	0.00

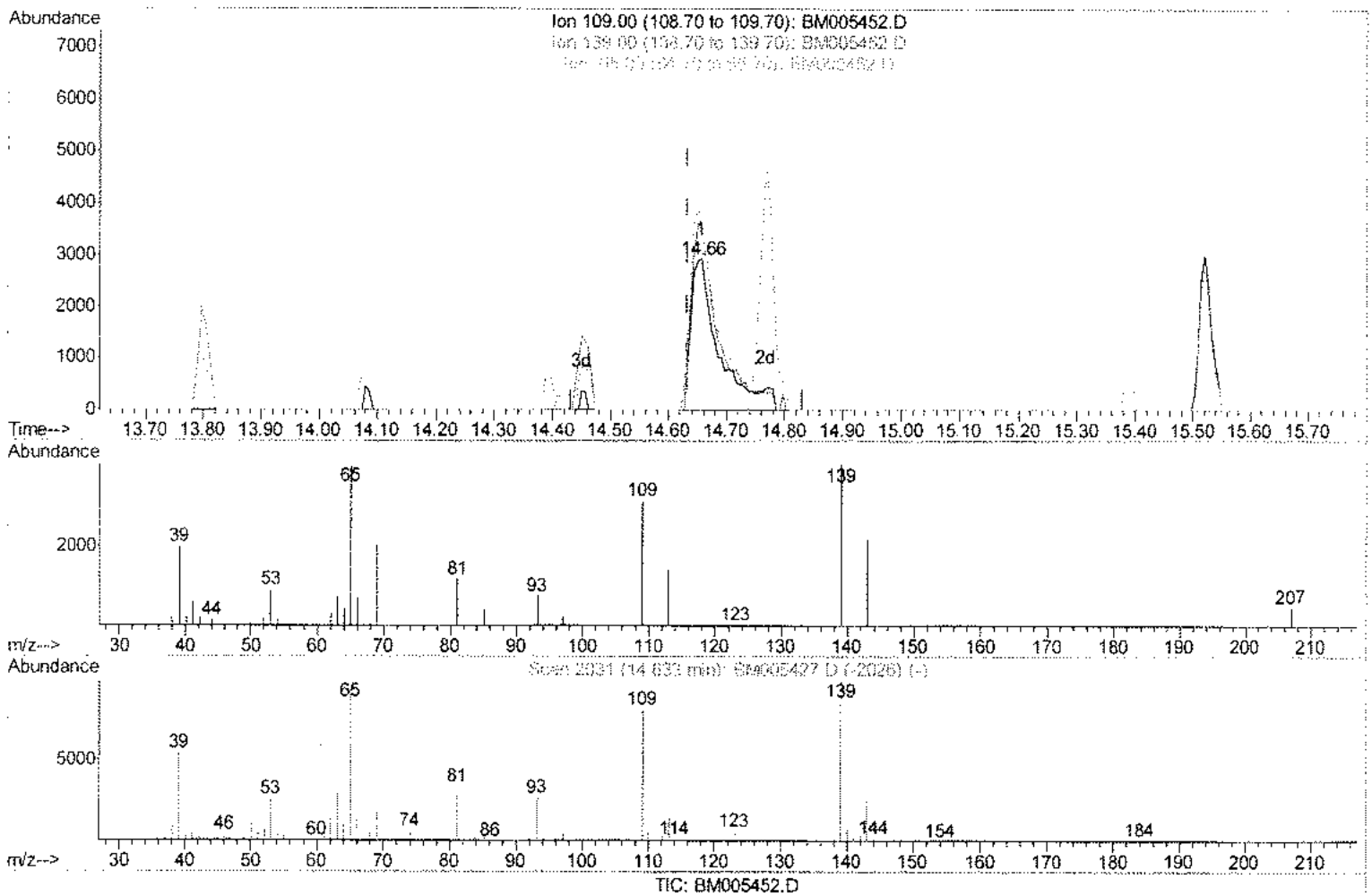
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005452.D
Acq On : 14 May 2016 06:21
Operator : UM/SJ
Sample : H2834-02MS
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 16 04:26:07 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MS

Manual Integrations APPROVED
sohil
5/16/2016 7:01:43 PM



(52) 4-Nitrophenol

14.657min (+0.023) 4.71ng/ul m > U.M 05/17/16

response 9689

Ion	Exp%	Act%
109.00	100	100
139.00	129.50	125.28
65.00	130.90	124.36
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005452.D
Acq On : 14 May 2016 06:21
Operator : UM/SJ
Sample : H2834-02MS
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 16 04:27:16 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4002MS

Manual Integrations APPROVED
sohil
5/16/2016 7:01:43 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	56135	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	261561	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	169167	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	411145	20.00	ng/ul	0.00
75) Chrysene-d12	21.33	240	570201	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	566295	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1504	1.26	ng/uL	0.00
5) Phenol-d5	6.93	99	29335	5.76	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	79841	27.49	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	86476	22.49	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	54253	12.89	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	54532	29.20	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	61154	28.92	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	100469	25.57	ng/ul	0.00
29) 4-Chloroaniline-d4	10.71	131	8692	1.84	ng/ul	0.03
43) Dimethylphthalate-d6	13.80	166	401936	29.64	ng/ul	0.00
46) Acenaphthylene-d8	14.09	160	469919	29.55	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	9655m	3.90	ng/ul	0.02
57) Fluorene-d10	15.39	176	345481	29.51	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	54354	23.50	ng/ul	0.00
70) Anthracene-d10	17.24	188	571164	31.43	ng/ul	0.00
76) Pyrene-d10	19.54	212	720107	27.36	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	779805	31.11	ng/ul	0.00
Target Compounds						Qvalue
6) Phenol	6.96	94	33172	6.30	ng/ul	97
10) 2-Chlorophenol	7.32	128	88910	22.60	ng/ul	95
15) N-Nitroso-di-n-propylamine	8.55	70	97977	30.08	ng/ul	98
33) 4-Chloro-3-methylphenol	11.84	107	117083	24.26	ng/ul	100
49) Acenaphthene	14.46	153	333704	30.09	ng/ul	98
52) 4-Nitrophenol	14.66	109	9689m	4.71	ng/ul	
54) 2,4-Dinitrotoluene	14.77	165	127484	32.00	ng/ul	99
68) Pentachlorophenol	16.80	266	52638	21.43	ng/ul	99
77) Pyrene	19.57	202	926016	28.00	ng/ul	97

U.M 05/17/16

U.M 05/17/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-14MS
Sample wt/vol : 30.03 (g/mL): g
Lab File ID : BM005459.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	100	U
100-52-7	Benzaldehyde	520	U
108-95-2	Phenol	1000	
111-44-4	Bis(2-Chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	1000	
95-48-7	2-Methylphenol	520	U
108-60-1	2,2-oxybis(1-Chloropropane)	520	U
98-86-2	Acetophenone	62	J
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-di-n-propylamine	1200	
67-72-1	Hexachloroethane	270	U
98-95-3	Nitrobenzene	270	U
78-59-1	Isophorone	270	U
88-75-5	2-Nitrophenol	270	U
105-67-9	2,4-Dimethylphenol	270	U
111-91-1	Bis(2-Chloroethoxy)methane	270	U
120-83-2	2,4-Dichlorophenol	270	U
91-20-3	Naphthalene	270	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	270	U
105-60-2	Caprolactam	520	U
59-50-7	4-Chloro-3-methylphenol	1100	
91-57-6	2-Methylnaphthalene	270	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	270	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
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Level : LOW
Matrix : Soil
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GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	270	U
92-52-4	1,1-Biphenyl	270	U
91-58-7	2-Chloronaphthalene	270	U
88-74-4	2-Nitroaniline	270	U
131-11-3	Dimethylphthalate	360	
606-20-2	2,6-Dinitrotoluene	270	U
208-96-8	Acenaphthylene	270	U
99-09-2	3-Nitroaniline	520	U
83-32-9	Acenaphthene	1100	
51-28-5	2,4-Dinitrophenol	520	U
100-02-7	4-Nitrophenol	870	
132-64-9	Dibenzofuran	270	U
121-14-2	2,4-Dinitrotoluene	1100	
84-66-2	Diethylphthalate	270	U
86-73-7	Fluorene	270	U
7005-72-3	4-Chlorophenyl-phenylether	270	U
100-01-6	4-Nitroaniline	520	U
534-52-1	4,6-Dinitro-2-methylphenol	520	U
86-30-6	N-Nitrosodiphenylamine	270	U
95-94-3	1,2,4,5-Tetrachlorobenzene	270	U
101-55-3	4-Bromophenyl-phenylether	270	U
118-74-1	Hexachlorobenzene	270	U
1912-24-9	Atrazine	520	U
87-86-5	Pentachlorophenol	950	
85-01-8	Phenanthrene	270	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MS

Lab Name : Chemtech Consulting Group
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Extract Concentrated :(Y / N) Y
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Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
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Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	270	U
86-74-8	Carbazole	520	U
84-74-2	Di-n-butylphthalate	270	U
206-44-0	Fluoranthene	270	U
129-00-0	Pyrene	1100	
85-68-7	Butylbenzylphthalate	270	U
91-94-1	3,3-Dichlorobenzidine	520	U
56-55-3	Benzo(a)anthracene	270	U
218-01-9	Chrysene	270	U
117-81-7	Bis(2-ethylhexyl)phthalate	270	U
117-84-0	Di-n-octyl phthalate	520	U
205-99-2	Benzo(b)fluoranthene	270	U
207-08-9	Benzo(k)fluoranthene	270	U
50-32-8	Benzo(a)pyrene	270	U
193-39-5	Indeno(1,2,3-cd)pyrene	270	U
53-70-3	Dibenzo(a,h)anthracene	270	U
191-24-2	Benzo(g,h,i)perylene	270	U
58-90-2	2,3,4,6-Tetrachlorophenol	270	U

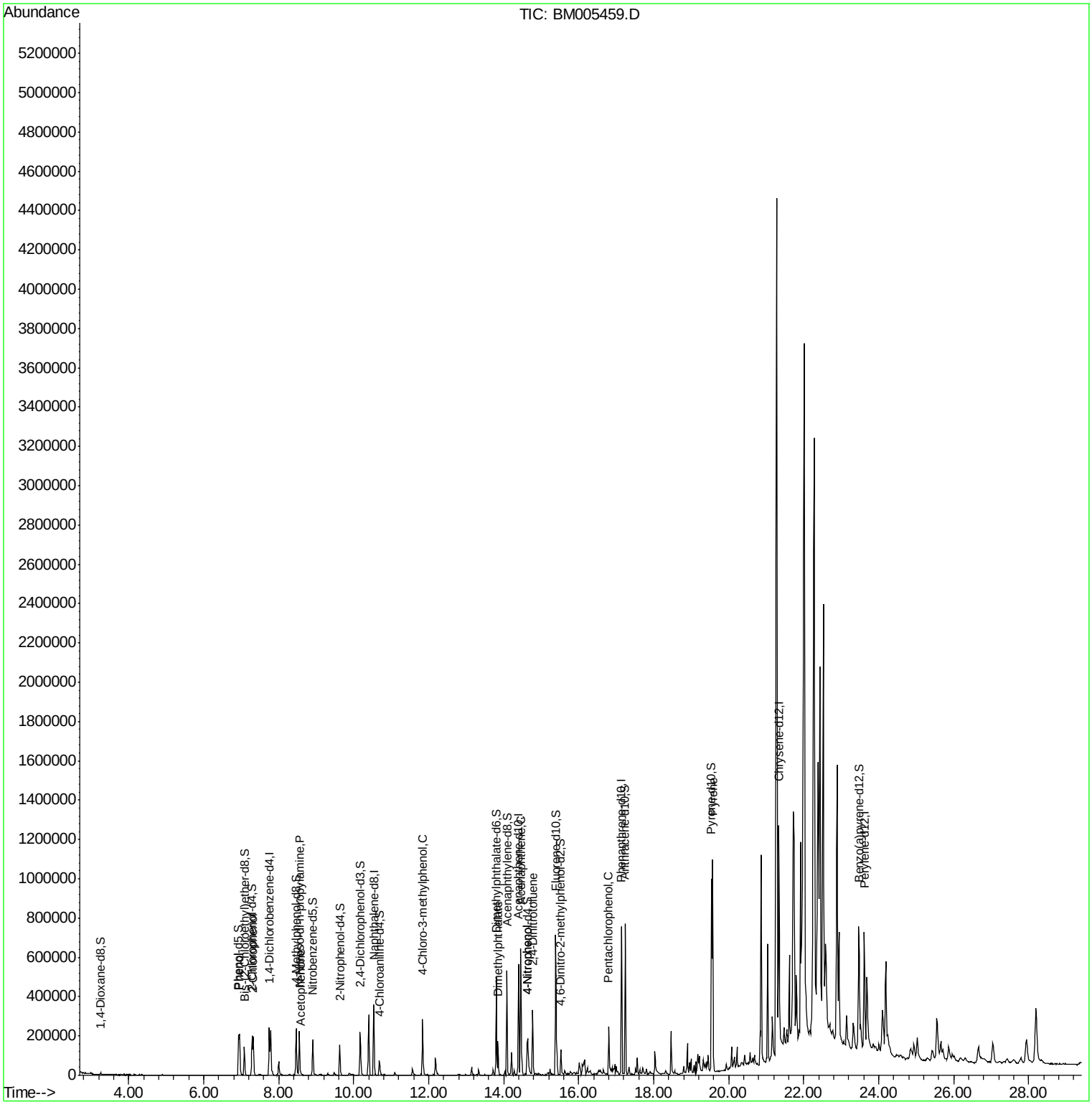
Quantitation Report (QT Reviewed)

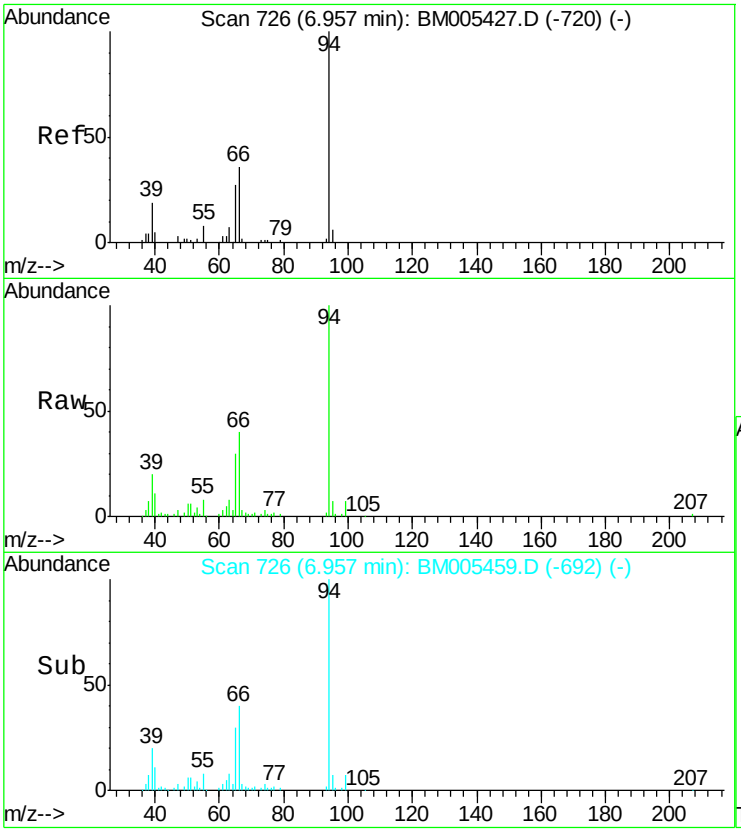
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 04:12:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
sohil
5/16/2016 7:02:02 PM

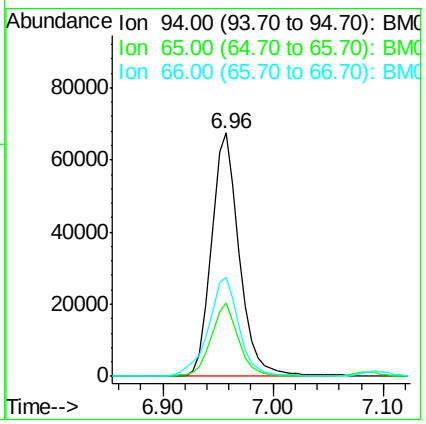




#6
Phenol
Concen: 19.74 ng/ul
RT: 6.96 min Scan# 726
Delta R.T. -0.00 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion: 94 Resp: 117588

Ion	Ratio	Lower	Upper
94	100		
65	30.1	22.7	34.1
66	40.5	31.7	47.5



Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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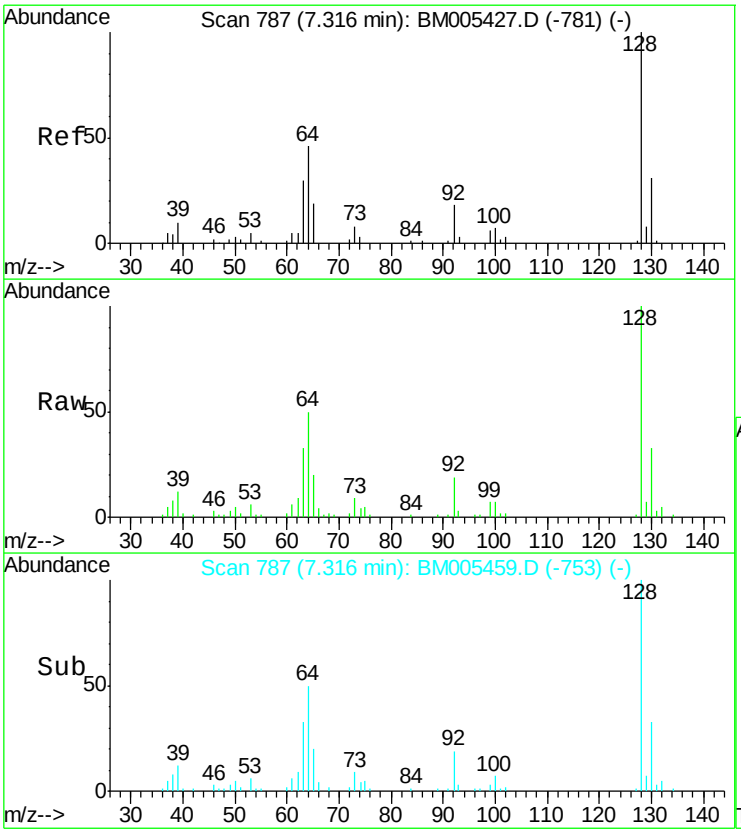
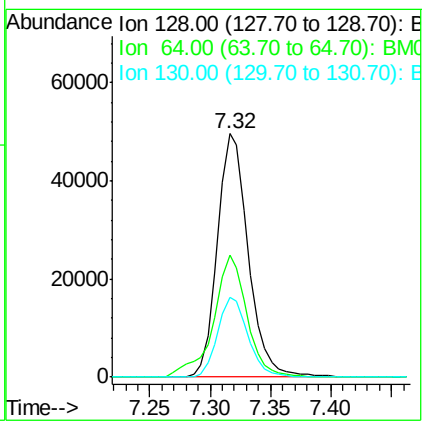
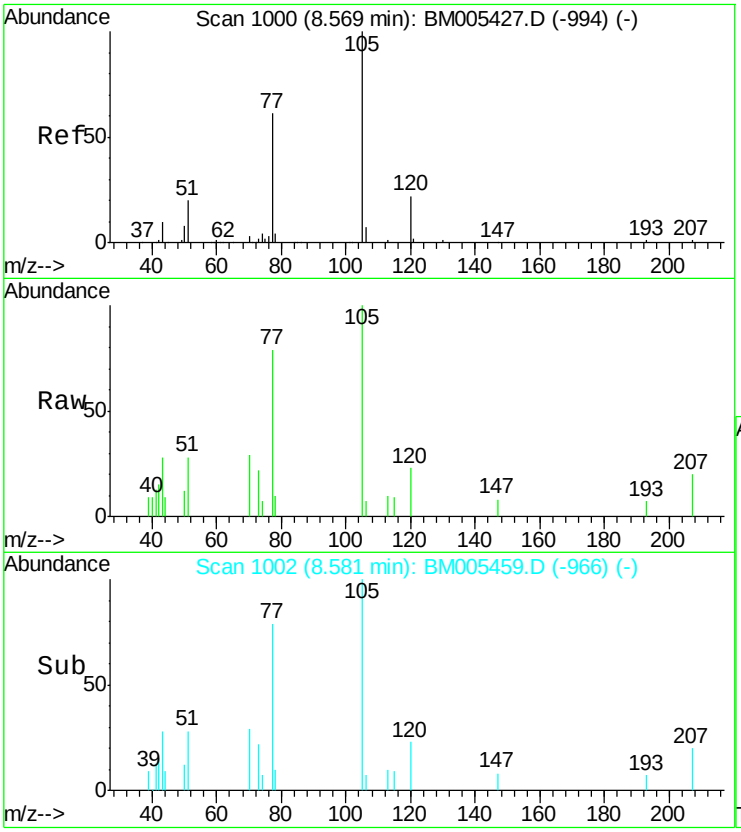


#10
2-Chlorophenol
Concen: 19.75 ng/ul
RT: 7.32 min Scan# 787
Delta R.T. -0.00 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion:128 Resp: 87966

Ion	Ratio	Lower	Upper
128	100		
64	50.0	37.8	56.8
130	32.8	24.9	37.3

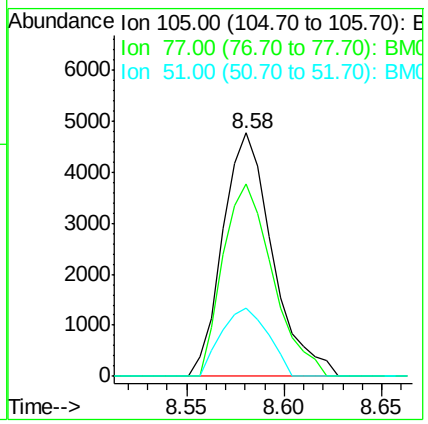




#14
Acetophenone
Concen: 1.19 ng/ul
RT: 8.58 min Scan# 1002
Delta R.T. 0.01 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion:105 Resp: 8430

Ion	Ratio	Lower	Upper
105	100		
77	78.9	61.2	91.8
51	28.2	21.2	31.8



Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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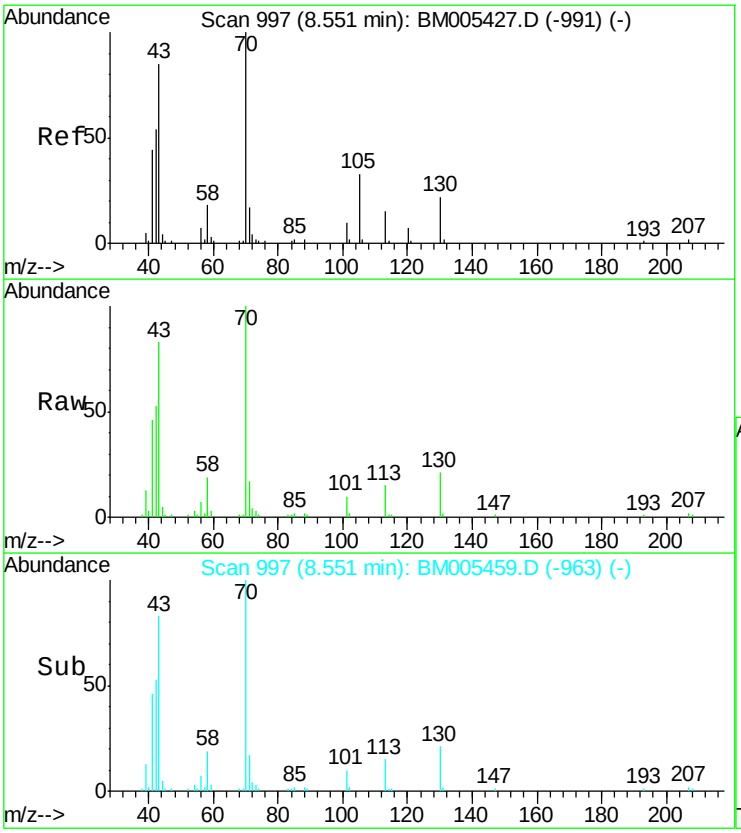
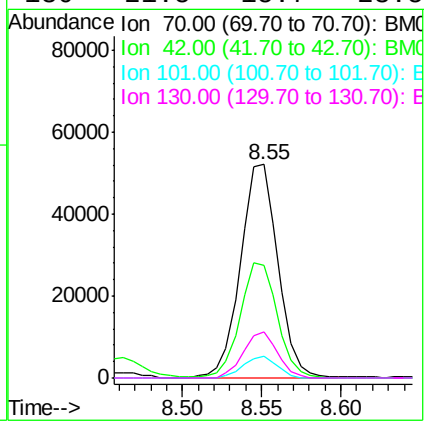
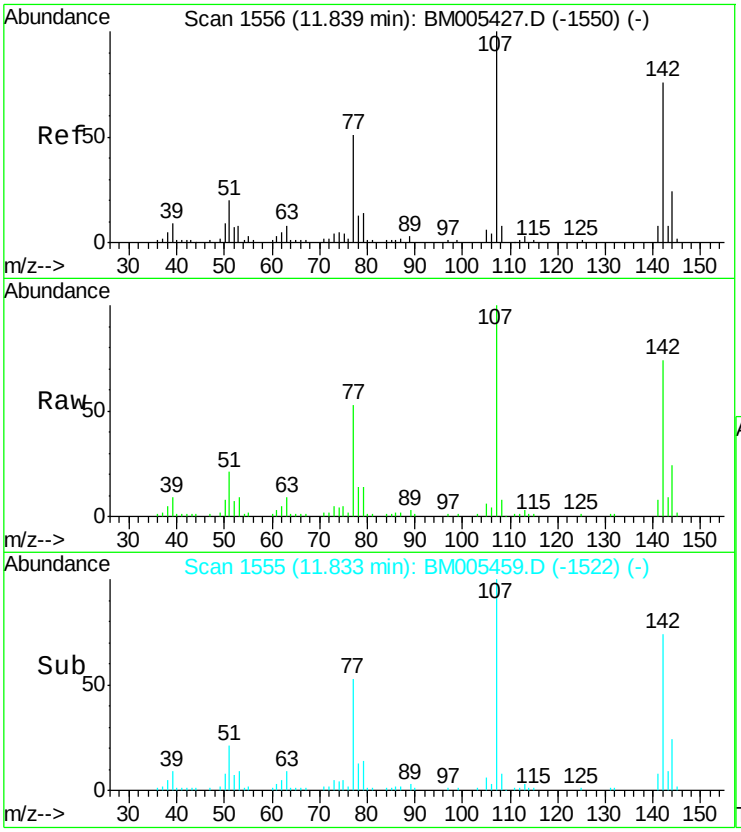


#15
N-Nitroso-di-n-propylamine
Concen: 23.28 ng/ul
RT: 8.55 min Scan# 997
Delta R.T. -0.00 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion: 70 Resp: 85877

Ion	Ratio	Lower	Upper
70	100		
42	53.0	42.8	64.2
101	9.9	7.8	11.6
130	21.5	15.7	23.5

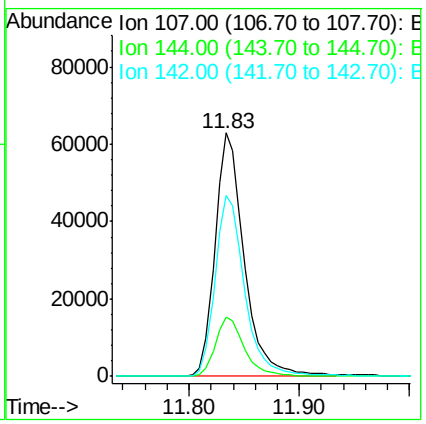




#33
4-Chloro-3-methylphenol
Concen: 21.10 ng/ul
RT: 11.83 min Scan# 1555
Delta R.T. -0.01 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion:107 Resp: 115439

Ion	Ratio	Lower	Upper
107	100		
144	24.5	19.3	28.9
142	74.3	60.8	91.2



Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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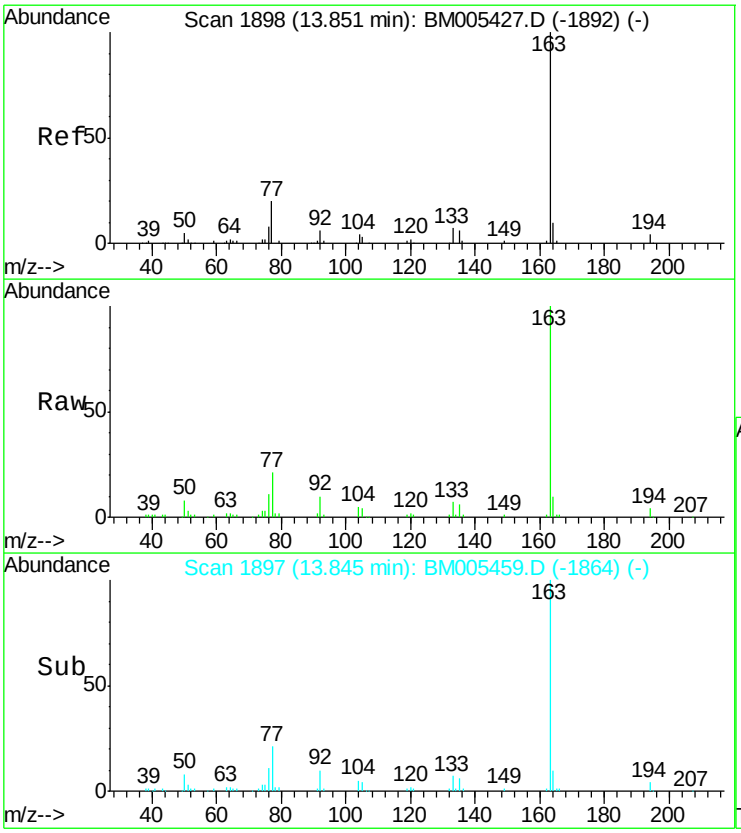
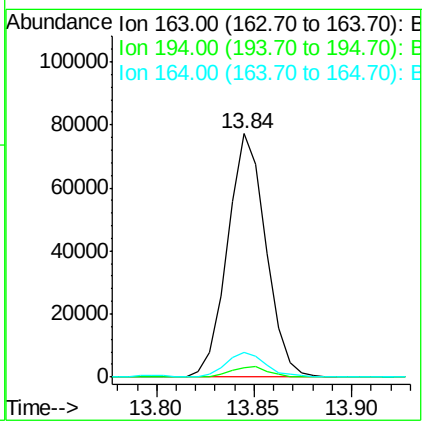
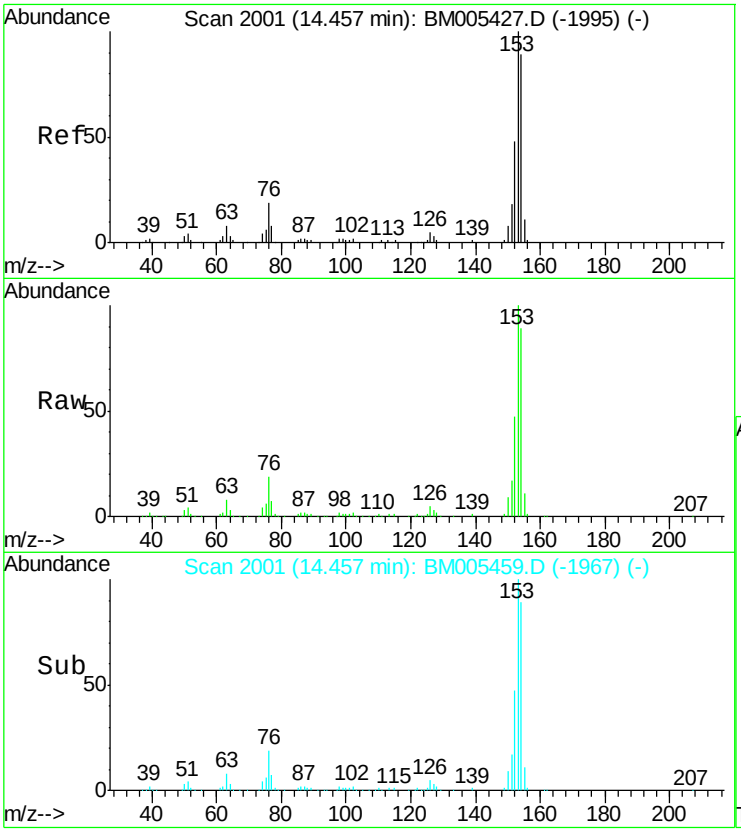


#44
Dimethylphthalate
Concen: 6.94 ng/ul
RT: 13.84 min Scan# 1897
Delta R.T. -0.01 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion:163 Resp: 105097

Ion	Ratio	Lower	Upper
163	100		
194	3.8	3.4	5.0
164	10.4	7.9	11.9

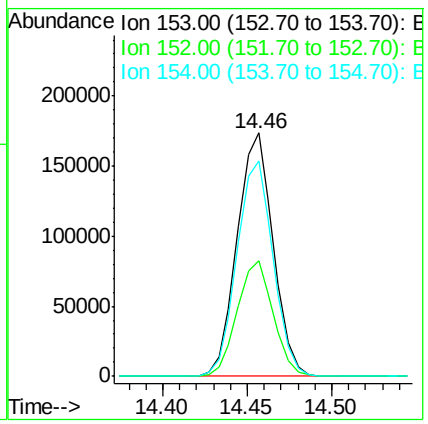




#49
Acenaphthene
Concen: 20.75 ng/ul
RT: 14.46 min Scan# 2001
Delta R.T. -0.00 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion:153 Resp: 257384

Ion	Ratio	Lower	Upper
153	100		
152	47.3	38.9	58.3
154	88.7	70.3	105.5



Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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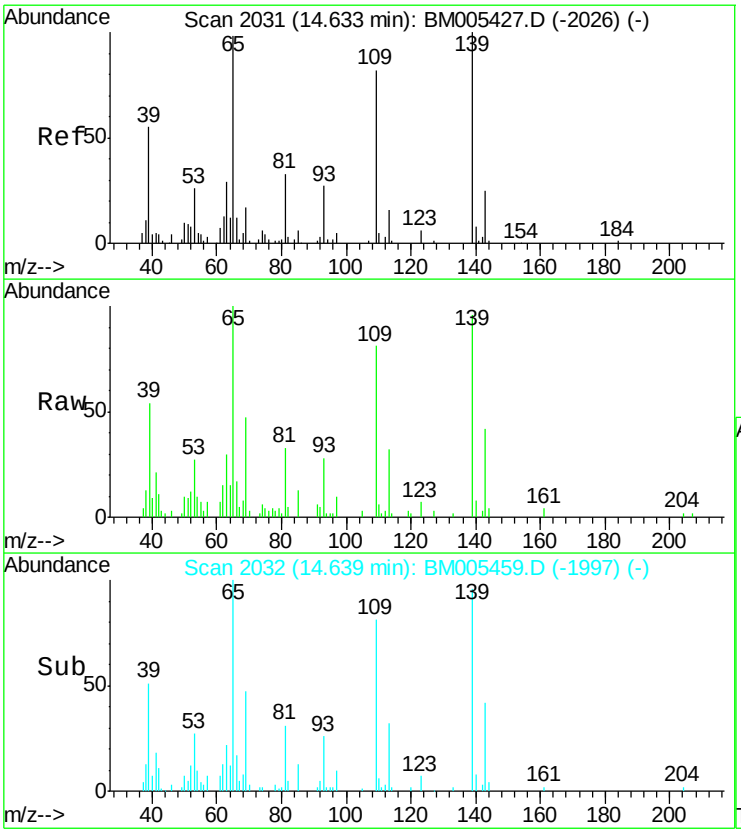
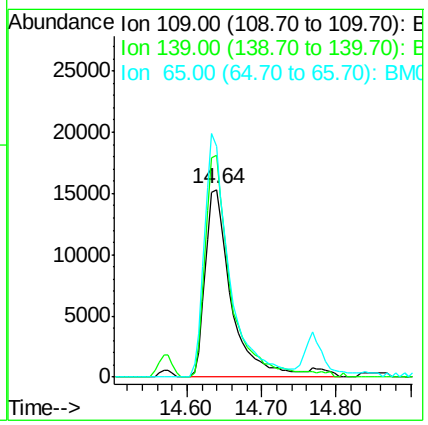
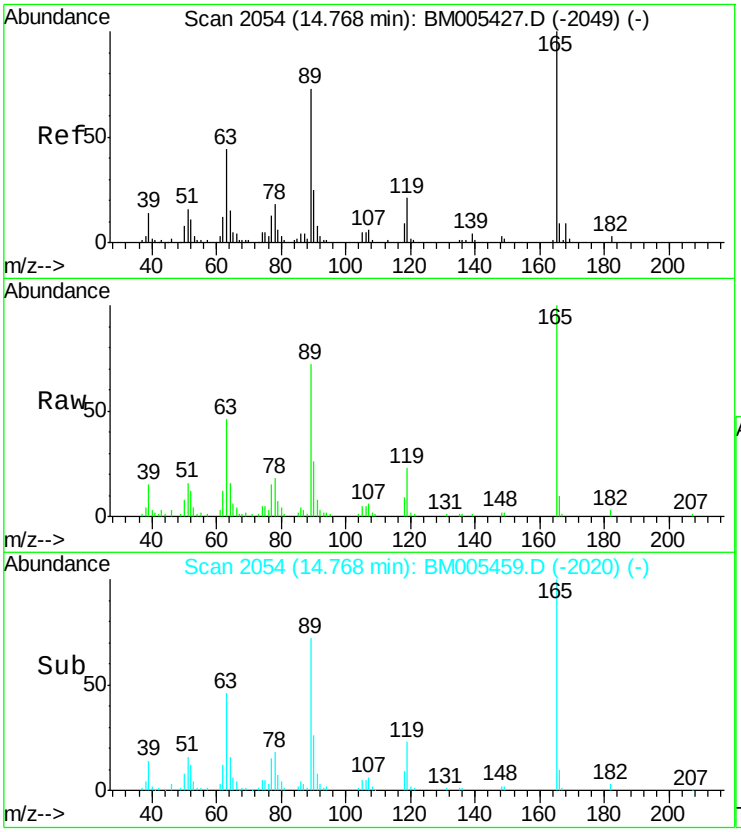


#52
4-Nitrophenol
Concen: 16.62 ng/ul m
RT: 14.64 min Scan# 2032
Delta R.T. 0.01 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion:109 Resp: 38251

Ion	Ratio	Lower	Upper
109	100		
139	118.3	103.6	155.4
65	123.0	104.7	157.1

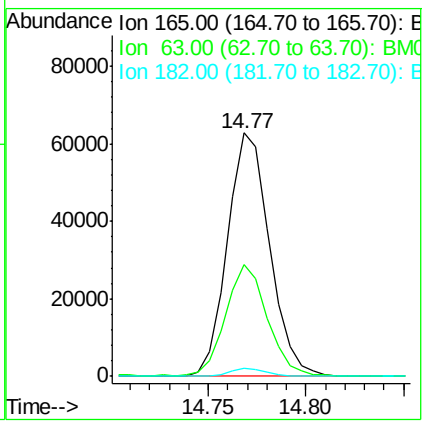




#54
2,4-Dinitrotoluene
Concen: 21.13 ng/ul
RT: 14.77 min Scan# 2054
Delta R.T. -0.00 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion:165 Resp: 94155

Ion	Ratio	Lower	Upper
165	100		
63	46.1	36.2	54.4
182	3.1	2.5	3.7



Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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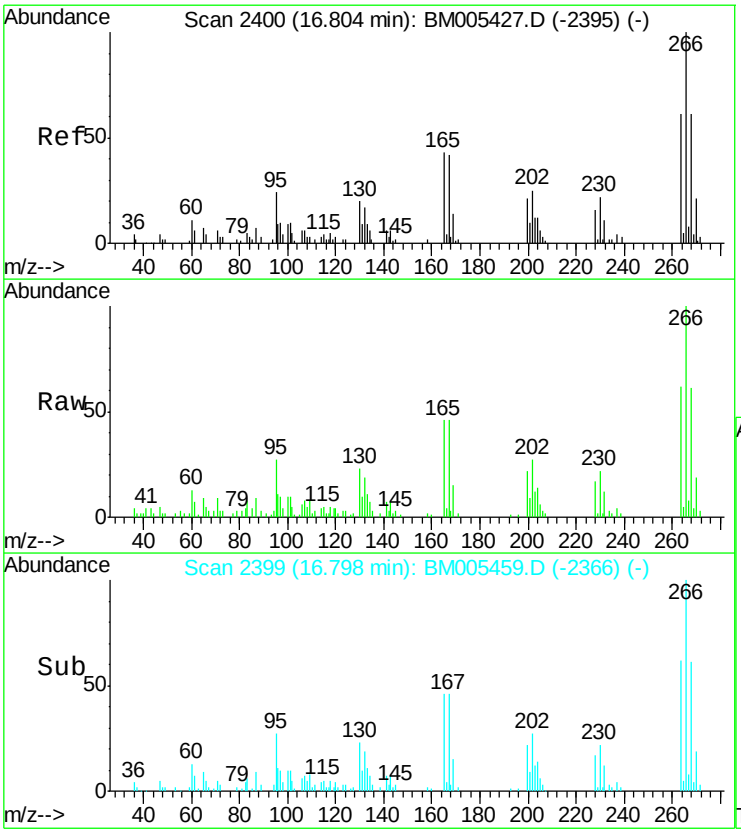
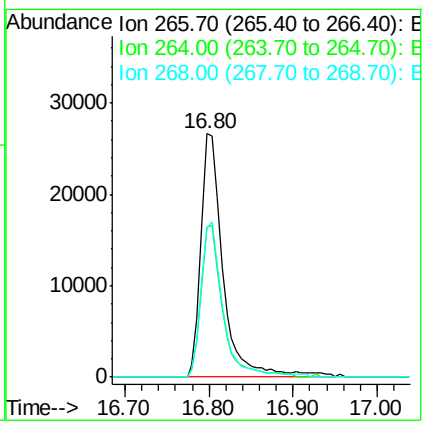
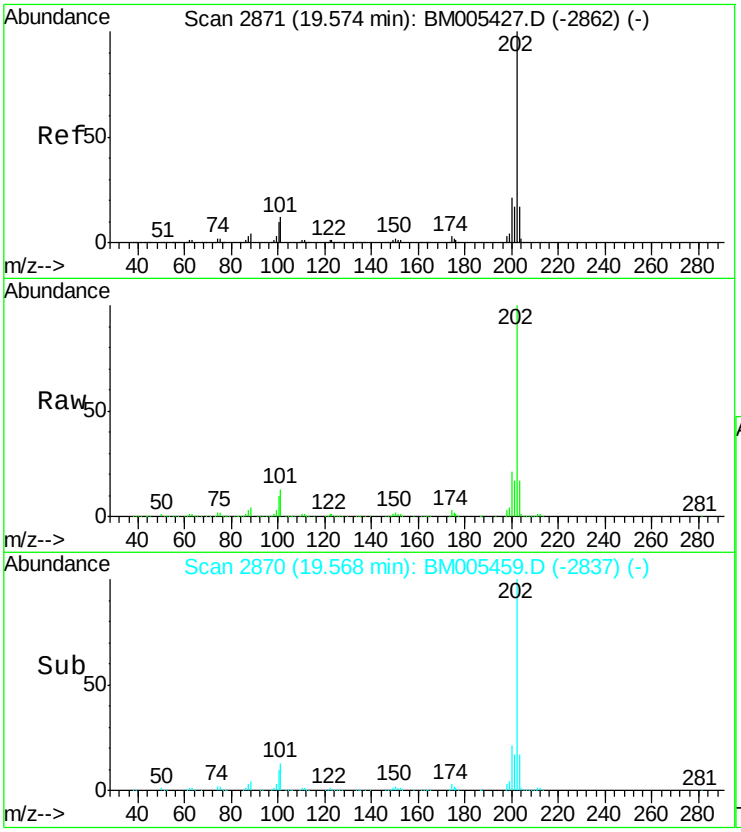


#68
Pentachlorophenol
Concen: 18.21 ng/ul m
RT: 16.80 min Scan# 2399
Delta R.T. -0.01 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion:266 Resp: 48363

Ion	Ratio	Lower	Upper
266	100		
264	61.7	52.0	78.0
268	61.4	53.0	79.6

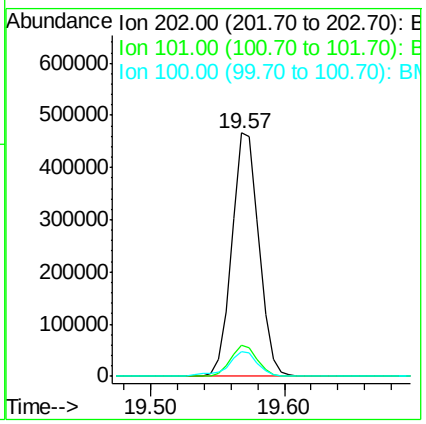




#77
Pyrene
Concen: 21.82 ng/ul
RT: 19.57 min Scan# 2870
Delta R.T. -0.01 min
Lab File: BM005459.D
Acq: 14 May 2016 10:36

Tgt Ion:202 Resp: 655834

Ion	Ratio	Lower	Upper
202	100		
101	12.7	10.8	16.2
100	10.3	8.4	12.6



Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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5/16/2016 7:02:02 PM

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061MS

Manual Integrations APPROVED
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5/16/2016 7:02:02 PM

Quant Time: May 16 04:12:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	63562	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	296549	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	189197	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	444383	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	518205	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	436350	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	4725	3.50	ng/uL	0.00
5) Phenol-d5	6.93	99	112240	19.47	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	66853	20.33	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	89371	20.53	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	93488	19.62	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	45389	21.44	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	51464	21.47	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	90811	20.38	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	50393m	9.40	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	326810	21.55	ng/ul	0.00
46) Acenaphthylene-d8	14.08	160	378947	21.30	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	35903m	12.97	ng/ul	0.00
57) Fluorene-d10	15.39	176	270481	20.66	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	28885	11.55	ng/ul	0.00
70) Anthracene-d10	17.24	188	425152	21.64	ng/ul	0.00
76) Pyrene-d10	19.54	212	518689	21.68	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	420676	21.78	ng/ul	0.00
Target Compounds						Qvalue
6) Phenol	6.96	94	117588	19.74	ng/ul	98
10) 2-Chlorophenol	7.32	128	87966	19.75	ng/ul	96
14) Acetophenone	8.58	105	8430	1.19	ng/ul	97
15) N-Nitroso-di-n-propylamine	8.55	70	85877	23.28	ng/ul	99
33) 4-Chloro-3-methylphenol	11.83	107	115439	21.10	ng/ul	98
44) Dimethylphthalate	13.84	163	105097	6.94	ng/ul	99
49) Acenaphthene	14.46	153	257384	20.75	ng/ul	99
52) 4-Nitrophenol	14.64	109	38251m	16.62	ng/ul	
54) 2,4-Dinitrotoluene	14.77	165	94155	21.13	ng/ul	99
68) Pentachlorophenol	16.80	266	48363m	18.21	ng/ul	
77) Pyrene	19.57	202	655834	21.82	ng/ul	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 04:12:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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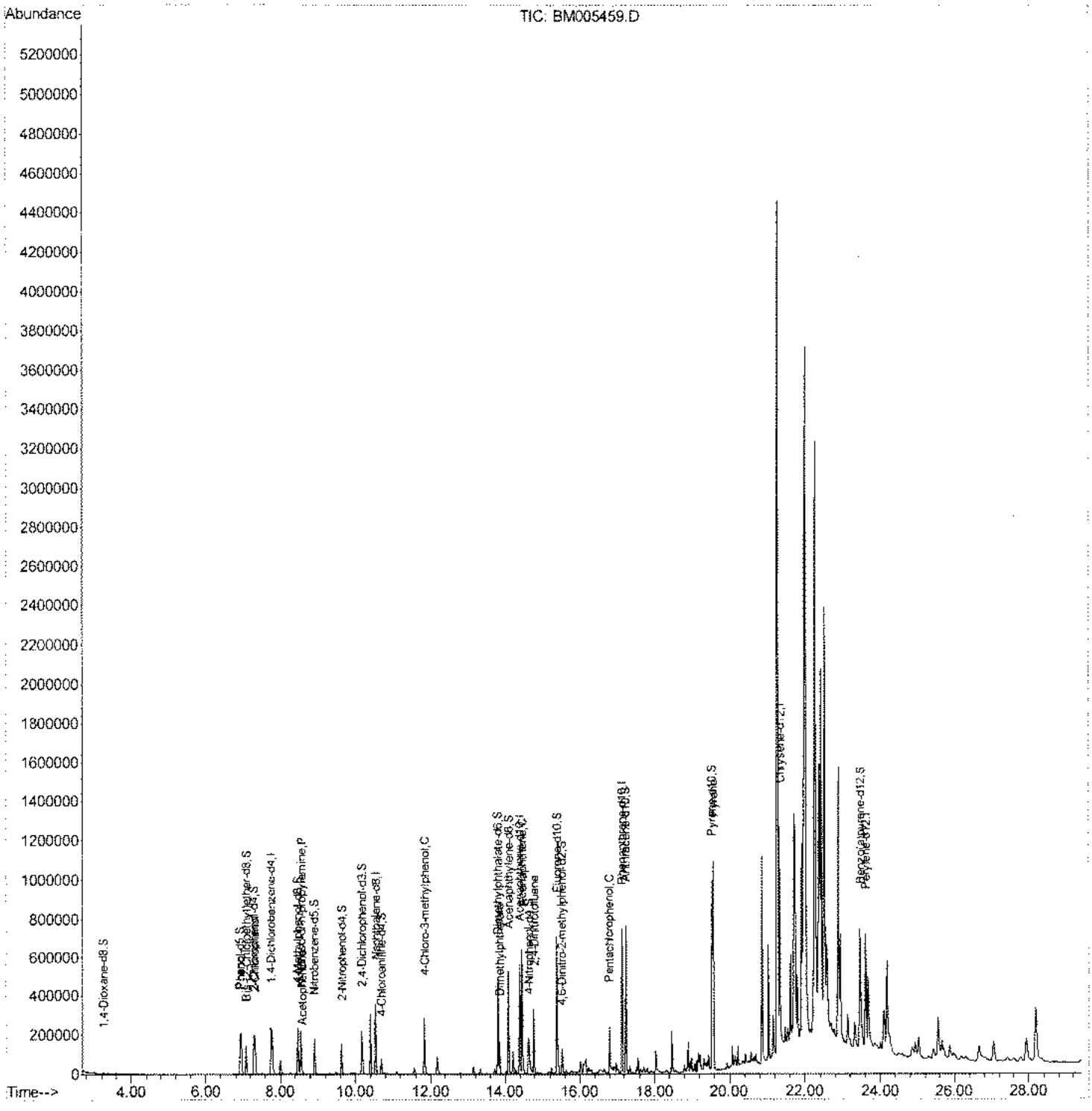
5/16/2016 7:02:02 PM



Quantitation Report (Qedit)

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Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 03:40:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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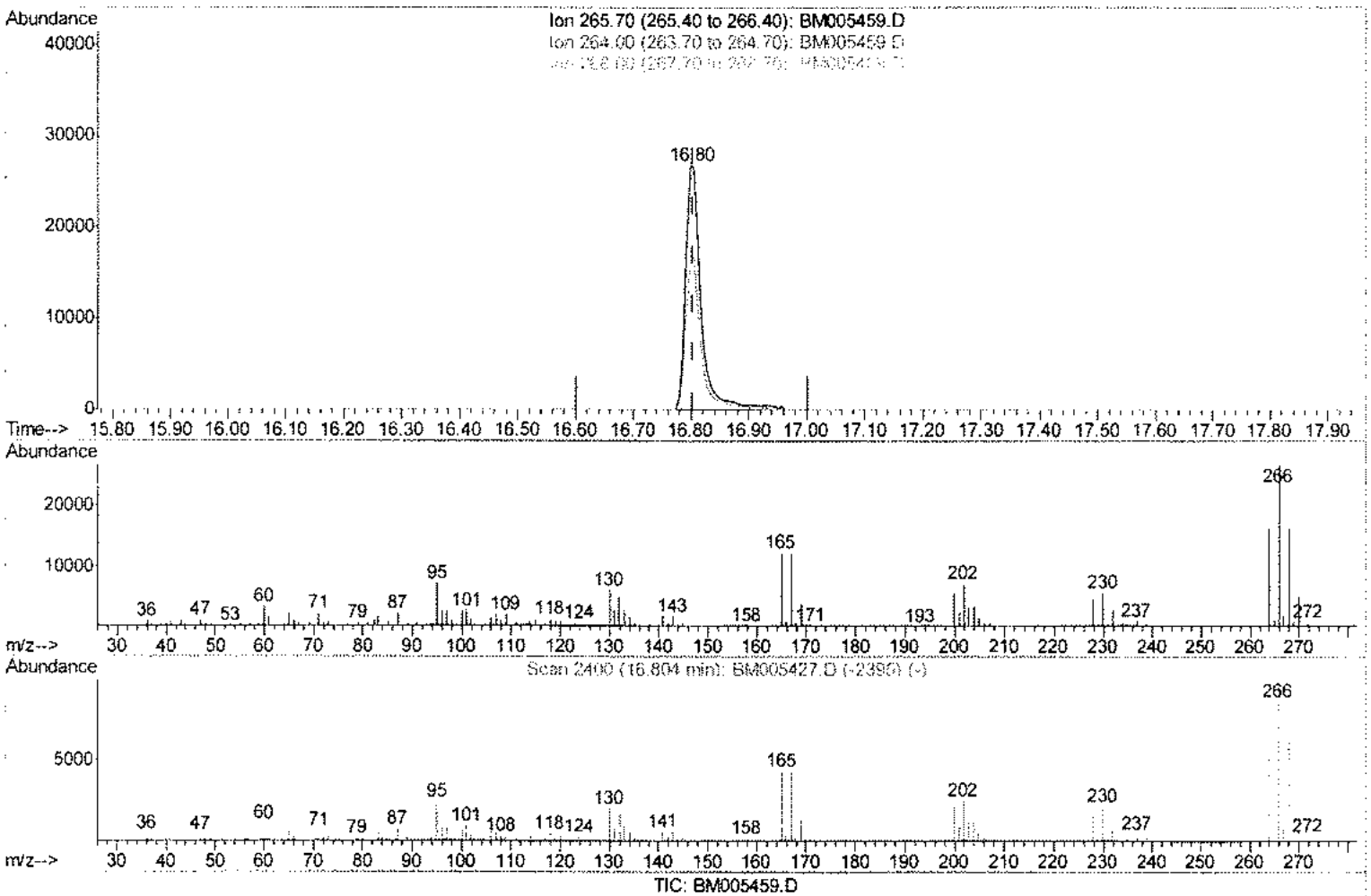

(68) Pentachlorophenol (C)

16.798min (-0.006) 18.21ng/ul m

response 48363

U.M 05/17/16

Ion	Exp%	Act%
265.70	100	100
264.00	65.00	61.72
268.00	66.30	61.37
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 03:40:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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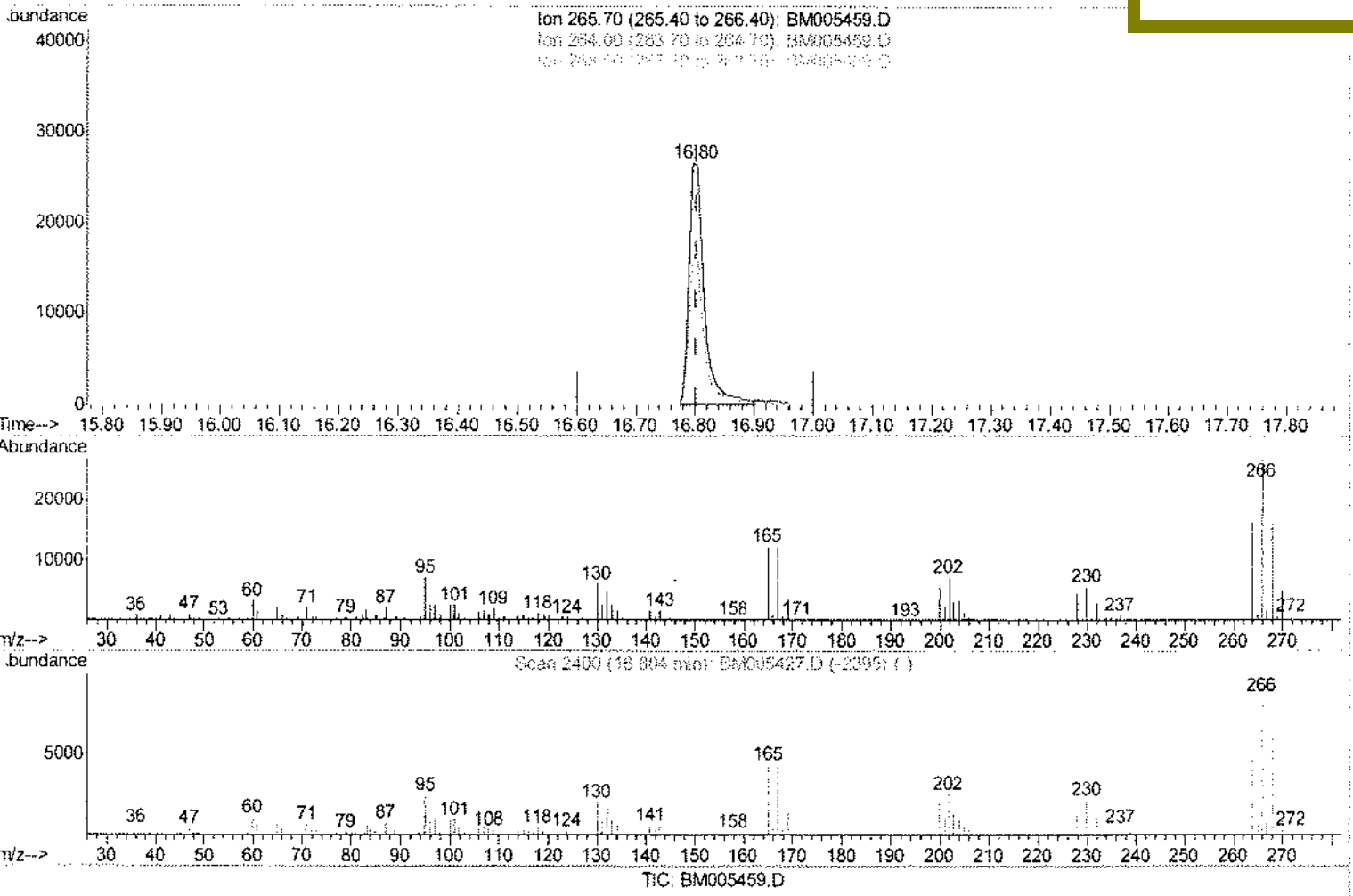

(68) Pentachlorophenol (C)

16.798min (-0.006) 17.69ng/ul

response 46960

Ion	Exp%	Act%
265.70	100	100
264.00	65.00	61.72
268.00	66.30	61.37
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 03:40:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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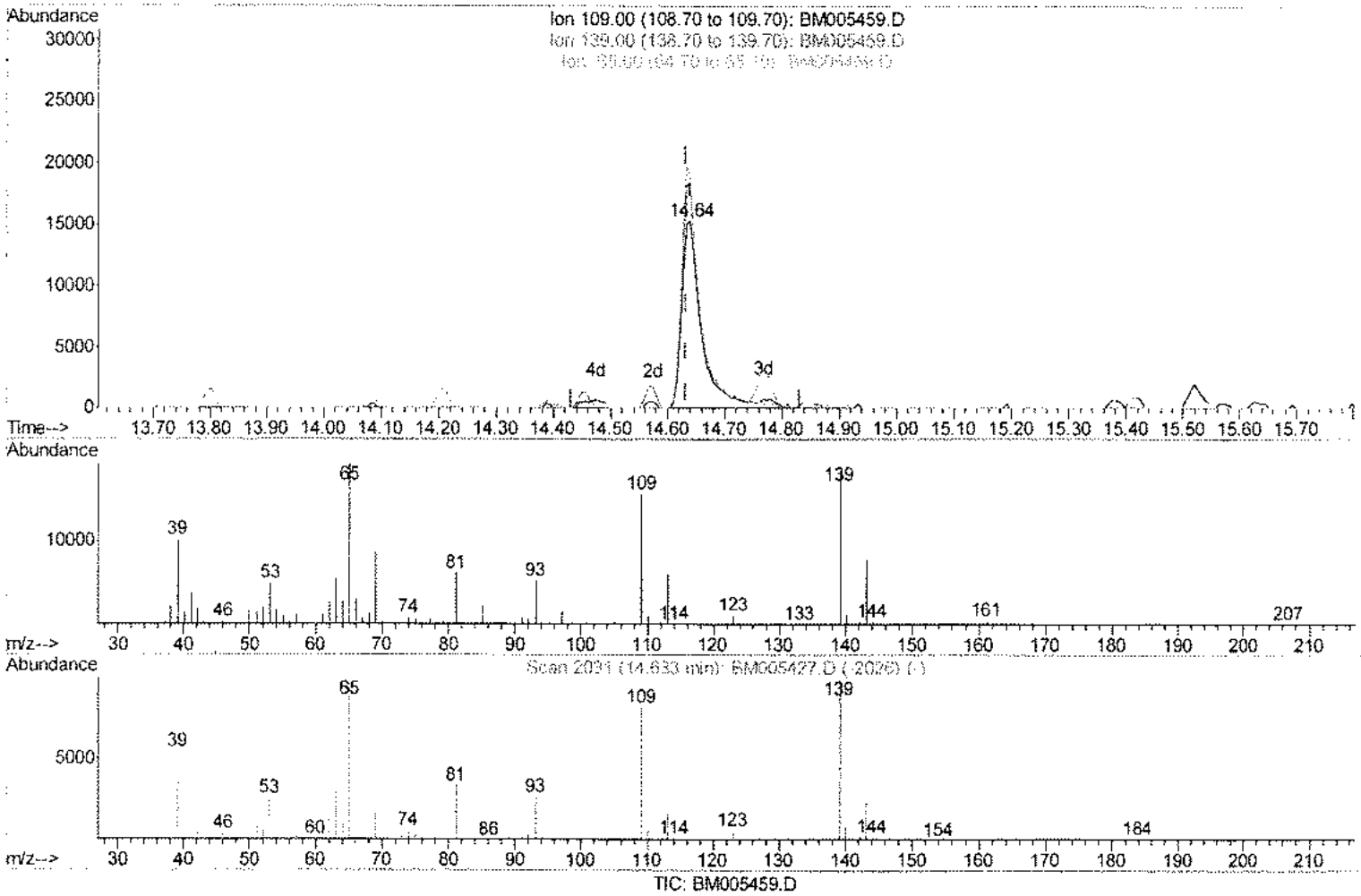

TIC: BM005459.D

(52) 4-Nitrophenol

14.639min (+0.006) 16.62ng/ul m

response 38251

U.M 05/17/16

Ion	Exp%	Act%
109.00	100	100
139.00	129.50	118.33
65.00	130.90	122.98
0.00	0.00	0.00

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 03:40:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
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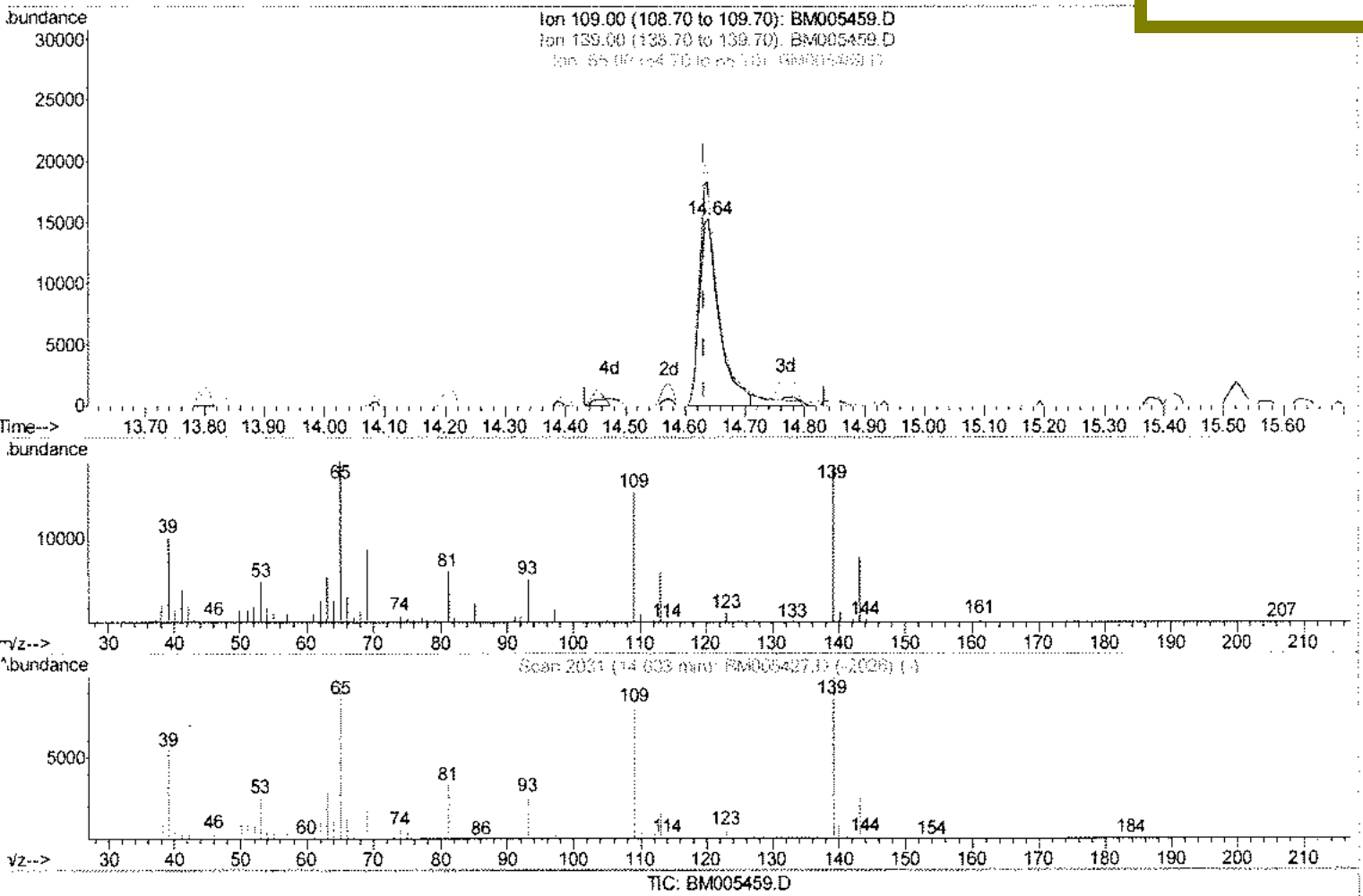


(52) 4-Nitrophenol

14.639min (+0.006) 15.32ng/ul

response 35270

Ion	Exp%	Act%
109.00	100	100
139.00	129.50	118.33
65.00	130.90	122.98
0.00	0.00	0.00

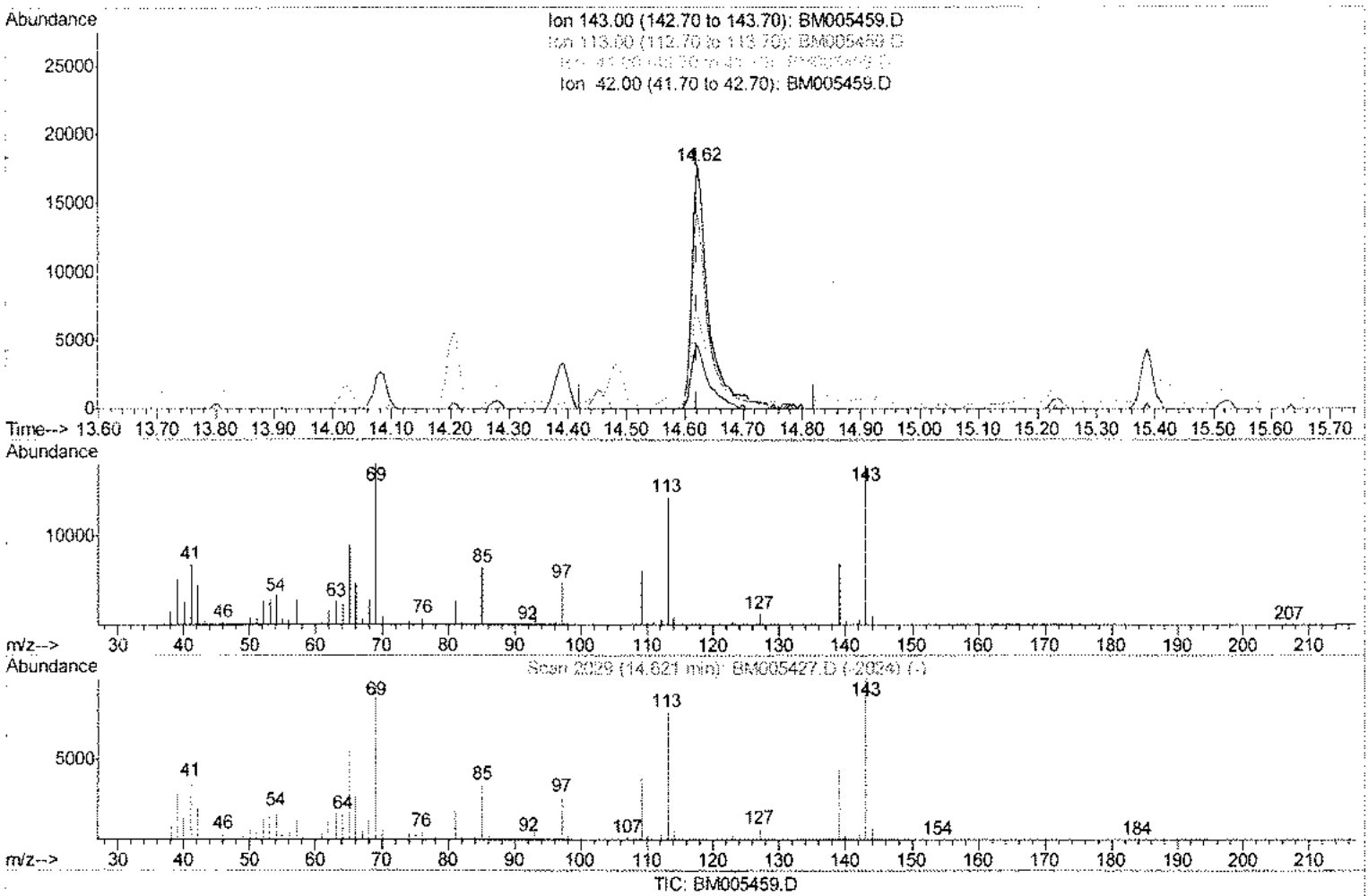
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 03:40:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
sohil
5/16/2016 7:02:02 PM



(51) 4-Nitrophenol-d4 (S)

14.621min (-0.000) 12.97ng/ul m

response 35903

U · M
05/17/16

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	80.63
41.00	38.10	39.13
42.00	26.00	26.37

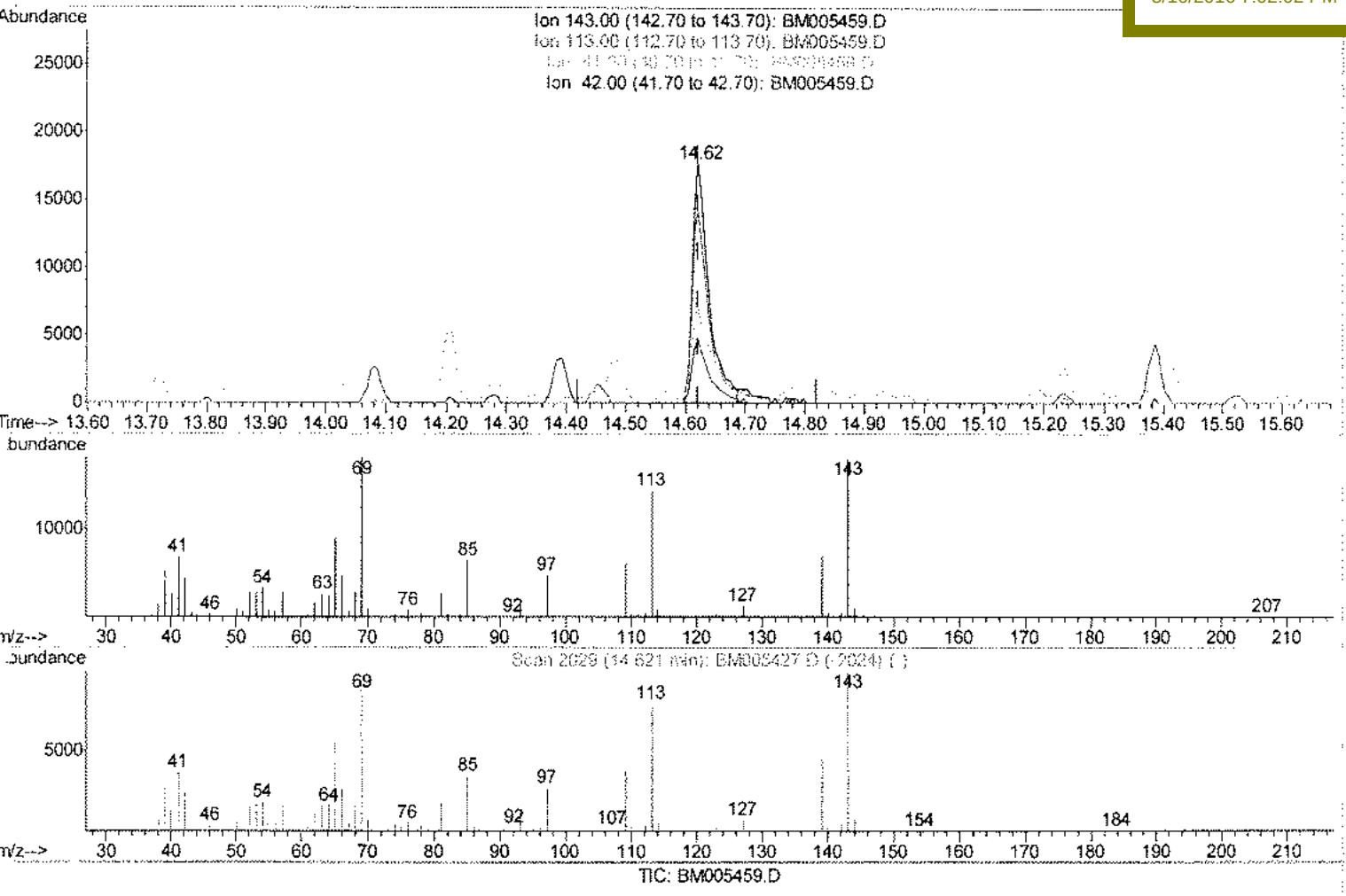
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 03:40:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
sohil
5/16/2016 7:02:02 PM



(51) 4-Nitrophenol-d4 (S)

14.621min (-0.000) 12.21ng/ul

response 33803

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	80.63
41.00	38.10	39.13
42.00	26.00	26.37

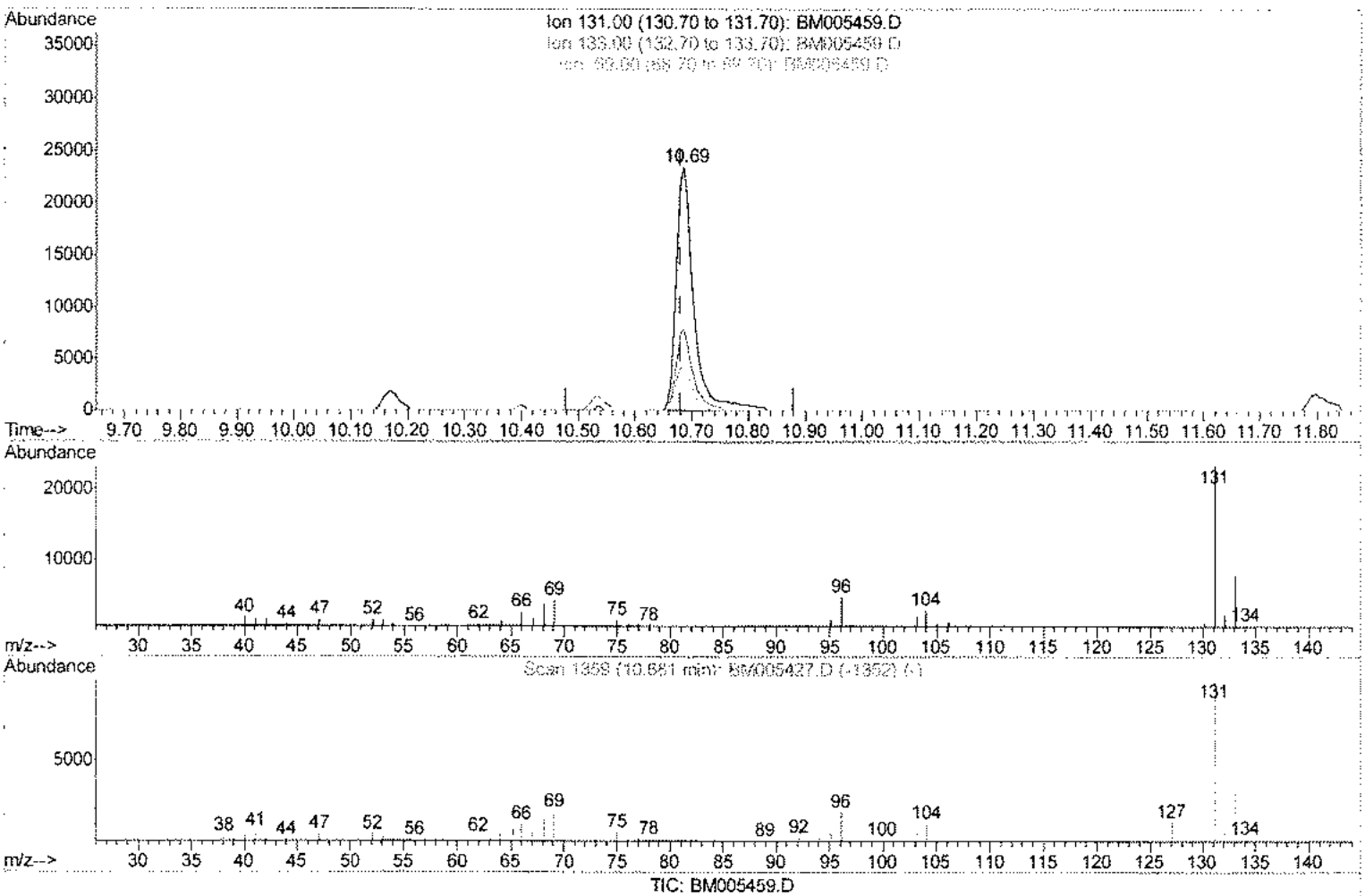
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 03:40:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
sohil
5/16/2016 7:02:02 PM



(29) 4-Chloroaniline-d4 (S)

10.686min (+0.006) 9.40ng/ul m > U·M 05/17/16

response 50393

Ion	Exp%	Act%
131.00	100	100
133.00	32.30	33.49
69.00	19.20	17.52
0.00	0.00	0.00

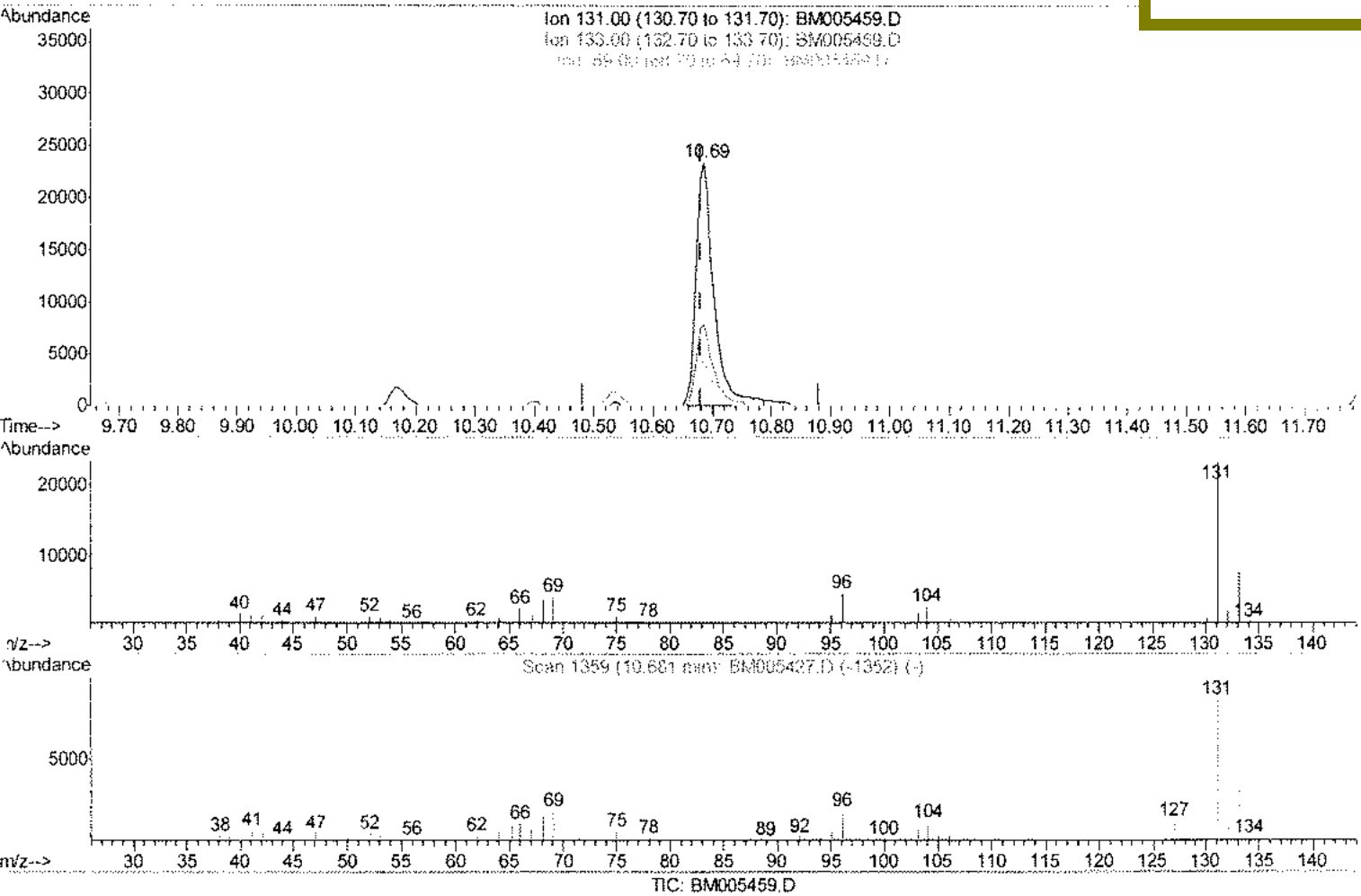
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 03:40:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MS

Manual Integrations APPROVED
sohil
5/16/2016 7:02:02 PM



(29) 4-Chloroaniline-d4 (S)

10.686min (+0.006) 9.21ng/ul

response 49386

Ion	Exp%	Act%
131.00	100	100
133.00	32.30	33.49
69.00	19.20	17.52
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005459.D
Acq On : 14 May 2016 10:36
Operator : UM/SJ
Sample : H2834-14MS
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 16 04:12:48 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4061MS

Manual Integrations APPROVED
sohil
5/16/2016 7:02:02 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	63562	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	296549	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	189197	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	444383	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	518205	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	436350	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	4725	3.50	ng/uL	0.00
5) Phenol-d5	6.93	99	112240	19.47	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.09	67	66853	20.33	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	89371	20.53	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	93488	19.62	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	45389	21.44	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	51464	21.47	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	90811	20.38	ng/ul	0.00
29) 4-Chloroaniline-d4	10.69	131	50393m	9.40	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	326810	21.55	ng/ul	0.00
46) Acenaphthylene-d8	14.08	160	378947	21.30	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	35903m	12.97	ng/ul	0.00
57) Fluorene-d10	15.39	176	270481	20.66	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	28885	11.55	ng/ul	0.00
70) Anthracene-d10	17.24	188	425152	21.64	ng/ul	0.00
76) Pyrene-d10	19.54	212	518689	21.68	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	420676	21.78	ng/ul	0.00
Target Compounds						Qvalue
6) Phenol	6.96	94	117588	19.74	ng/ul	98
10) 2-Chlorophenol	7.32	128	87966	19.75	ng/ul	96
14) Acetophenone	8.58	105	8430	1.19	ng/ul	97
15) N-Nitroso-di-n-propylamine	8.55	70	85877	23.28	ng/ul	99
33) 4-Chloro-3-methylphenol	11.83	107	115439	21.10	ng/ul	98
44) Dimethylphthalate	13.84	163	105097	6.94	ng/ul	99
49) Acenaphthene	14.46	153	257384	20.75	ng/ul	99
52) 4-Nitrophenol	14.64	109	38251m	16.62	ng/ul	
54) 2,4-Dinitrotoluene	14.77	165	94155	21.13	ng/ul	99
68) Pentachlorophenol	16.80	266	48363m	18.21	ng/ul	
77) Pyrene	19.57	202	655834	21.82	ng/ul	99

U.M 05/17/16

U.M 05/17/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-03MSD
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005453.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	2.0	U
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	6.8	J
111-44-4	Bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	24	
95-48-7	2-Methylphenol	10	U
108-60-1	2,2-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	32	
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-Chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	27	
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-03MSD
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005453.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	5.0	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	32	
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	5.1	J
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	36	
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	24	
85-01-8	Phenanthrene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4002MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level :
Matrix : Water
Lab Sample ID : H2834-03MSD
Sample wt/vol : 1000 (g/mL): mL
Lab File ID : BM005453.D
% Solids :
Date Received : 05/03/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) N
Extract Volume : 1000 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : CONH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : 6 Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/L

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	29	
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

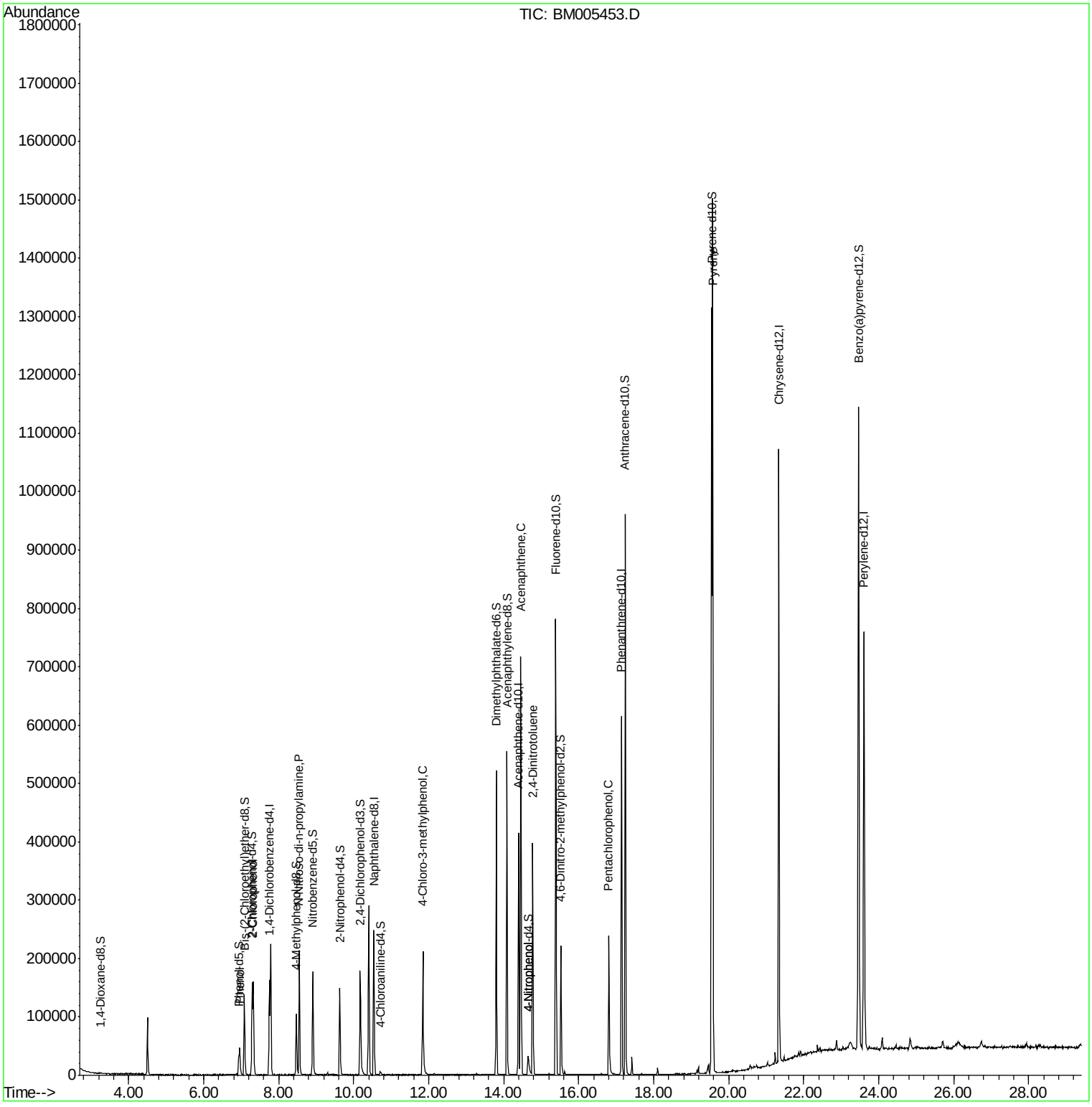
Quantitation Report (QT Reviewed)

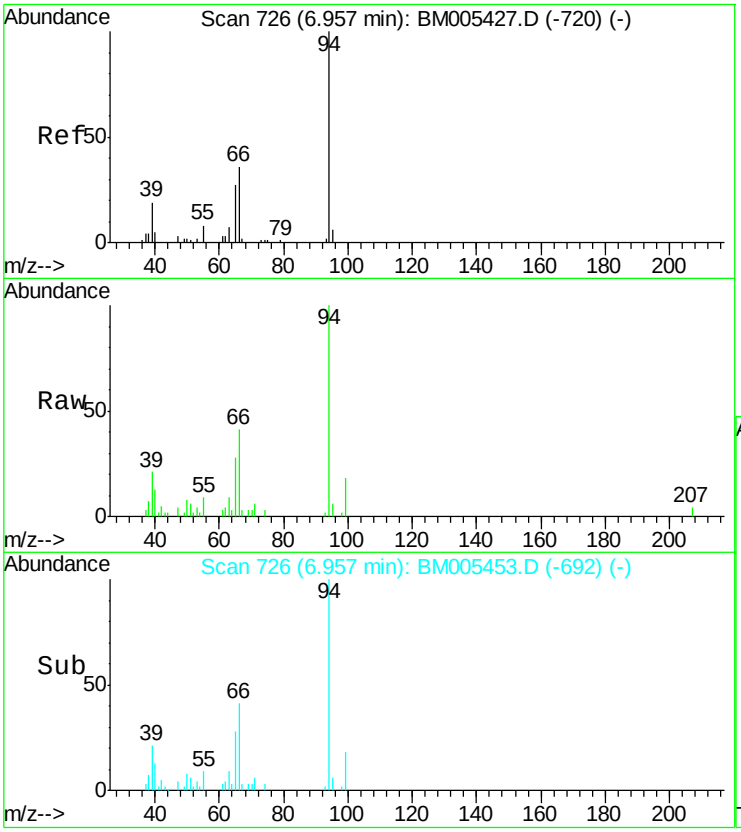
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005453.D
Acq On : 14 May 2016 06:58
Operator : UM/SJ
Sample : H2834-03MSD
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 16 04:29:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:01:45 PM

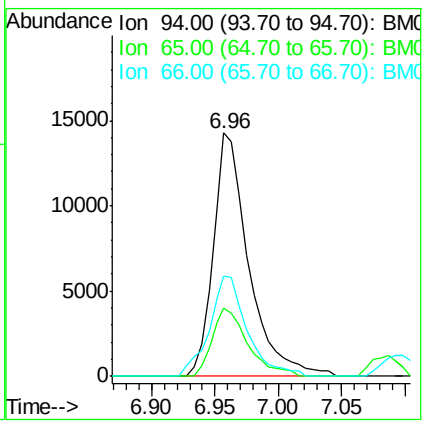




#6
Phenol
Concen: 6.76 ng/ul
RT: 6.96 min Scan# 726
Delta R.T. -0.00 min
Lab File: BM005453.D
Acq: 14 May 2016 06:58

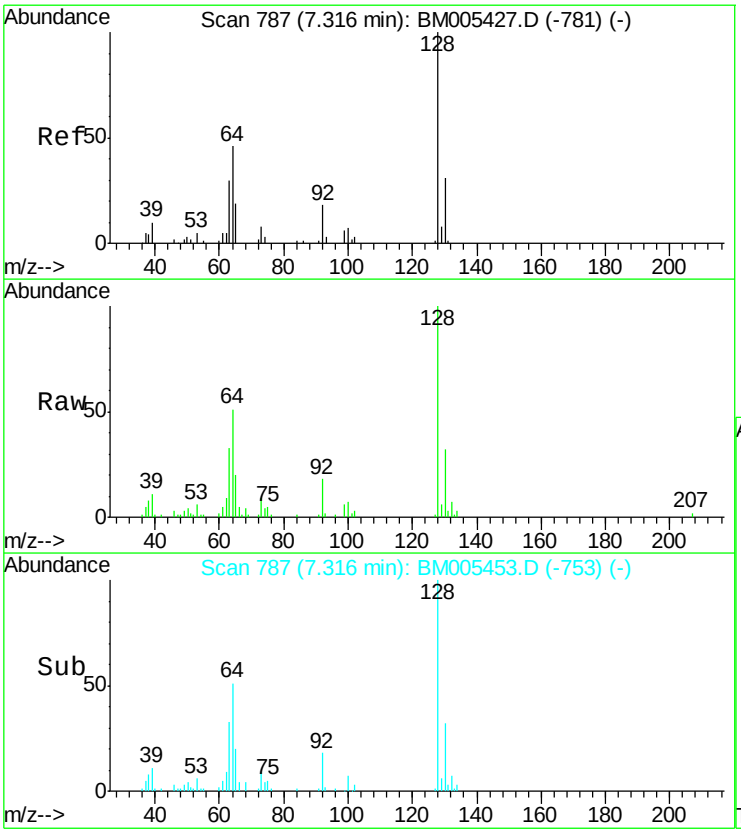
Tgt Ion: 94 Resp: 27811

Ion	Ratio	Lower	Upper
94	100		
65	28.0	22.7	34.1
66	41.0	31.7	47.5



Instrument :
BNA_M
ClientSampleId :
H4002MSD

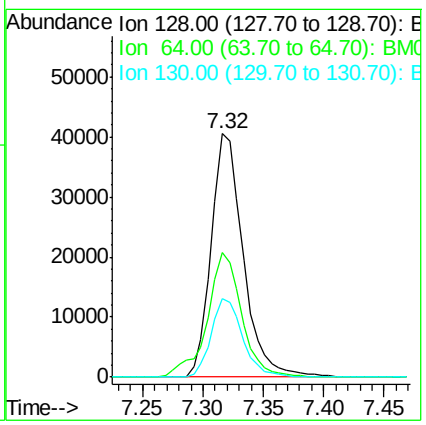
Manual Integrations APPROVED
sohil
5/16/2016 7:01:45 PM

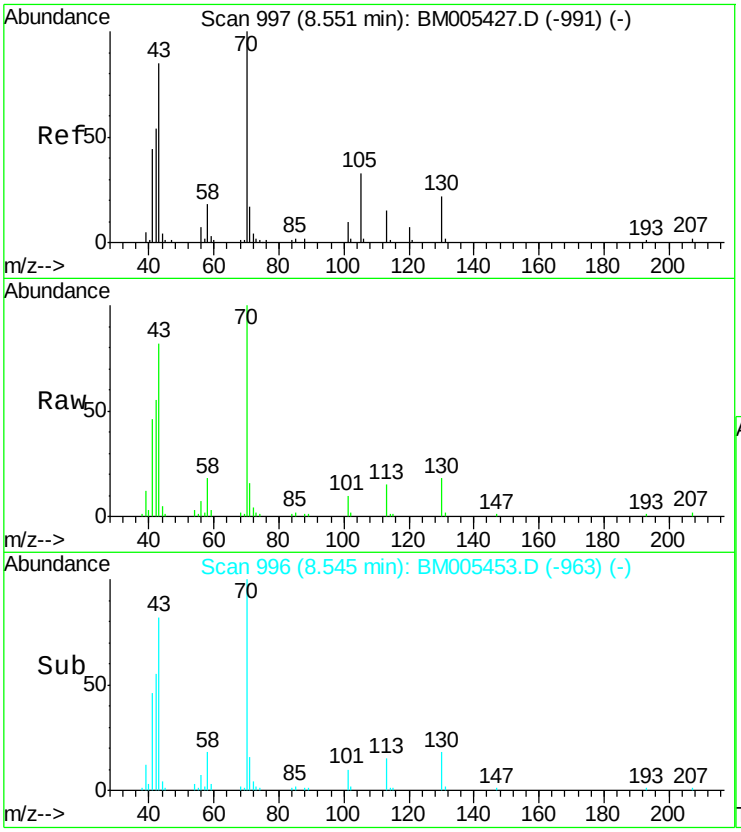


#10
2-Chlorophenol
Concen: 24.24 ng/ul
RT: 7.32 min Scan# 787
Delta R.T. -0.00 min
Lab File: BM005453.D
Acq: 14 May 2016 06:58

Tgt Ion:128 Resp: 74504

Ion	Ratio	Lower	Upper
128	100		
64	51.1	37.8	56.8
130	32.2	24.9	37.3

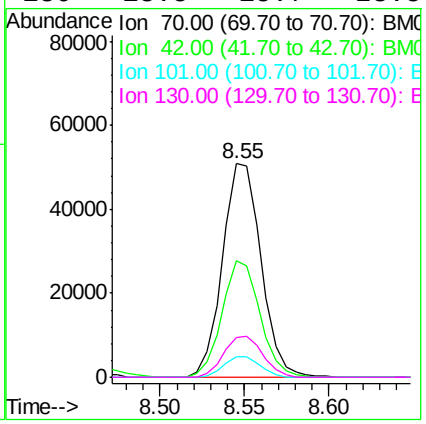




#15
N-Nitroso-di-n-propylamine
Concen: 31.78 ng/ul
RT: 8.55 min Scan# 996
Delta R.T. -0.01 min
Lab File: BM005453.D
Acq: 14 May 2016 06:58

Tgt Ion: 70 Resp: 80908

Ion	Ratio	Lower	Upper
70	100		
42	54.5	42.8	64.2
101	9.7	7.8	11.6
130	18.5	15.7	23.5



Instrument :
BNA_M
ClientSampleId :
H4002MSD

Manual Integrations APPROVED
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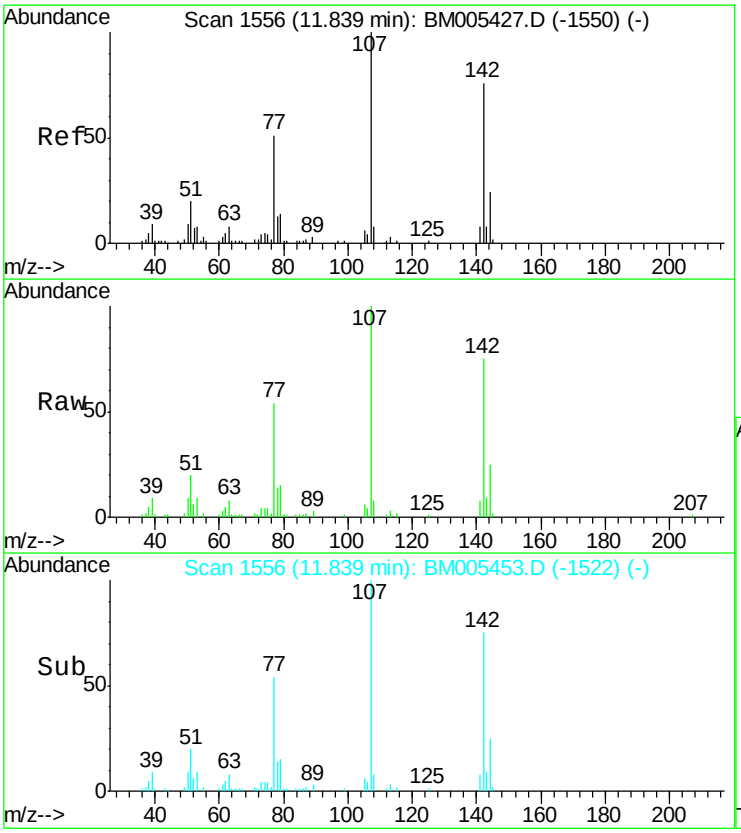
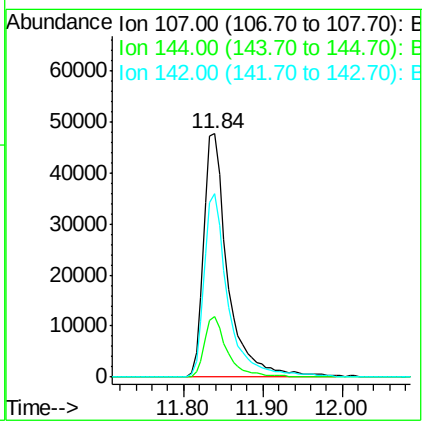
5/16/2016 7:01:45 PM

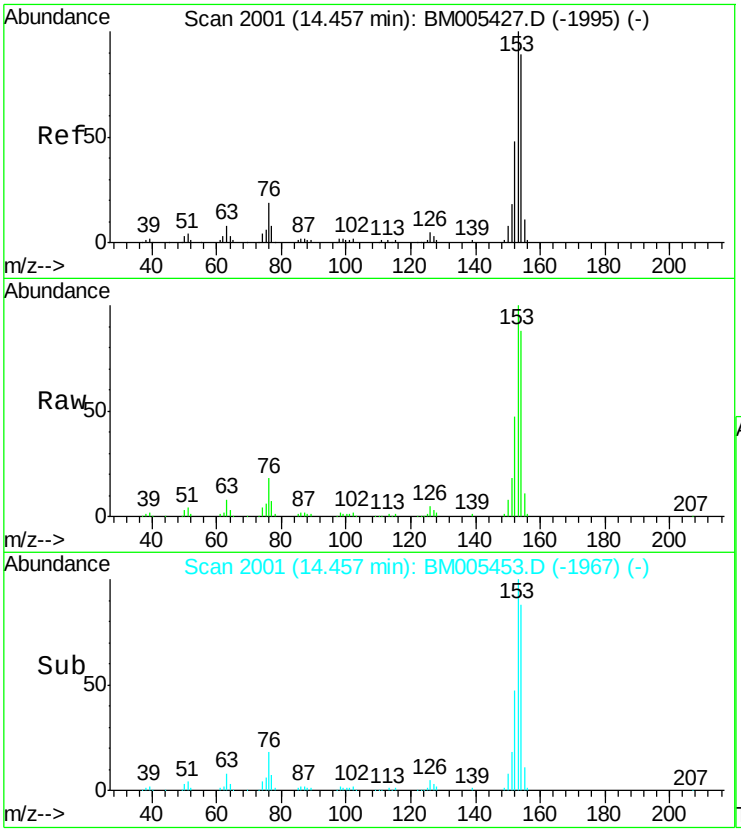


#33
4-Chloro-3-methylphenol
Concen: 26.67 ng/ul
RT: 11.84 min Scan# 1556
Delta R.T. -0.00 min
Lab File: BM005453.D
Acq: 14 May 2016 06:58

Tgt Ion:107 Resp: 101938

Ion	Ratio	Lower	Upper
107	100		
144	24.8	19.3	28.9
142	75.5	60.8	91.2

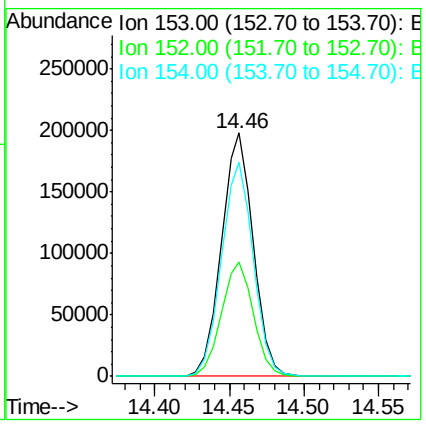




#49
Acenaphthene
Concen: 32.32 ng/ul
RT: 14.46 min Scan# 2001
Delta R.T. -0.00 min
Lab File: BM005453.D
Acq: 14 May 2016 06:58

Tgt Ion:153 Resp: 295135

Ion	Ratio	Lower	Upper
153	100		
152	47.2	38.9	58.3
154	87.8	70.3	105.5



Instrument :
BNA_M
ClientSampleId :
H4002MSD

Manual Integrations APPROVED
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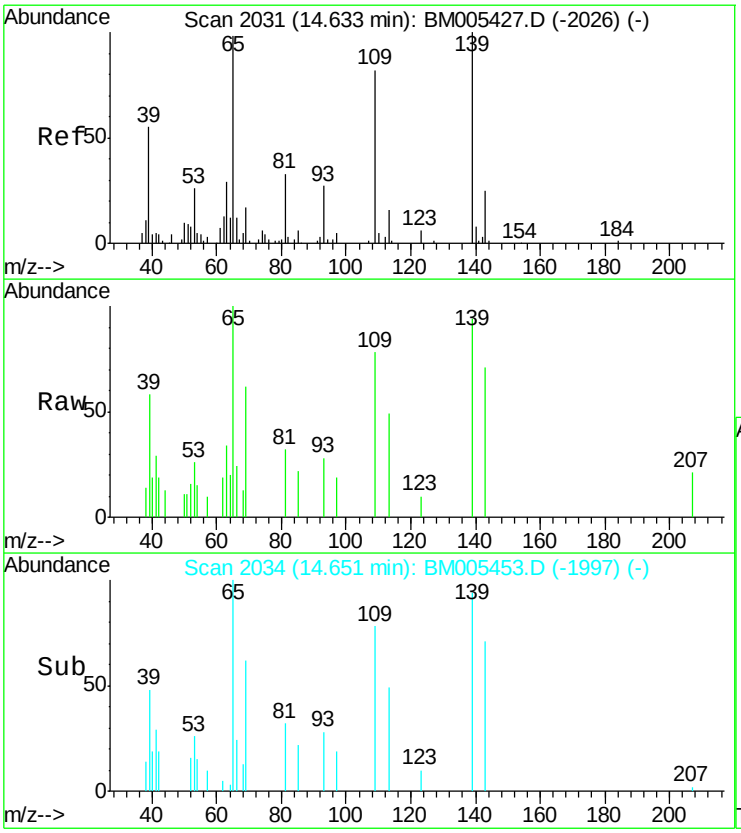
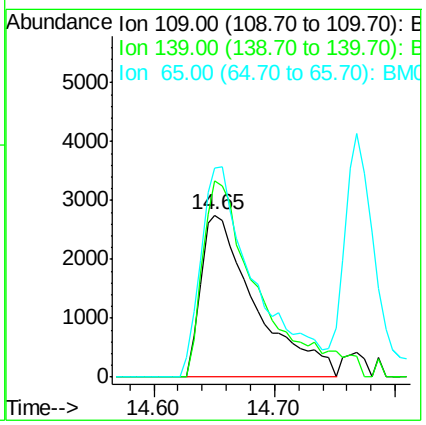
5/16/2016 7:01:45 PM

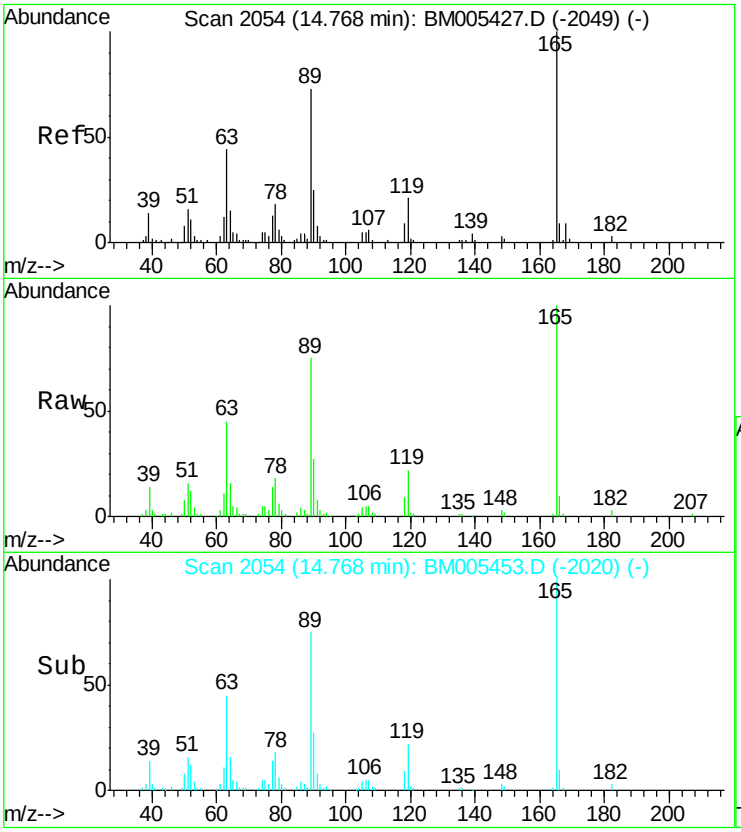


#52
4-Nitrophenol
Concen: 5.07 ng/ul
RT: 14.65 min Scan# 2034
Delta R.T. 0.02 min
Lab File: BM005453.D
Acq: 14 May 2016 06:58

Tgt Ion:109 Resp: 8595

Ion	Ratio	Lower	Upper
109	100		
139	121.2	103.6	155.4
65	128.7	104.7	157.1

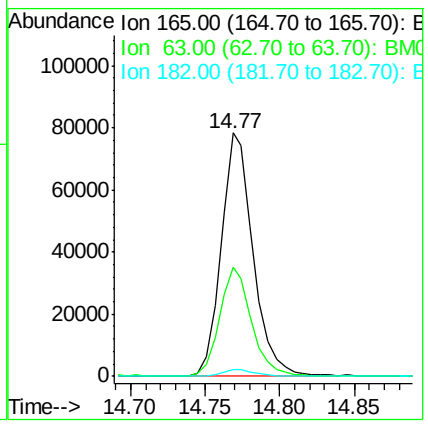




#54
2,4-Dinitrotoluene
Concen: 35.68 ng/ul
RT: 14.77 min Scan# 2054
Delta R.T. -0.00 min
Lab File: BM005453.D
Acq: 14 May 2016 06:58

Tgt Ion:165 Resp: 117093

Ion	Ratio	Lower	Upper
165	100		
63	45.0	36.2	54.4
182	3.0	2.5	3.7



Instrument :
BNA_M
ClientSampleId :
H4002MSD

Manual Integrations APPROVED
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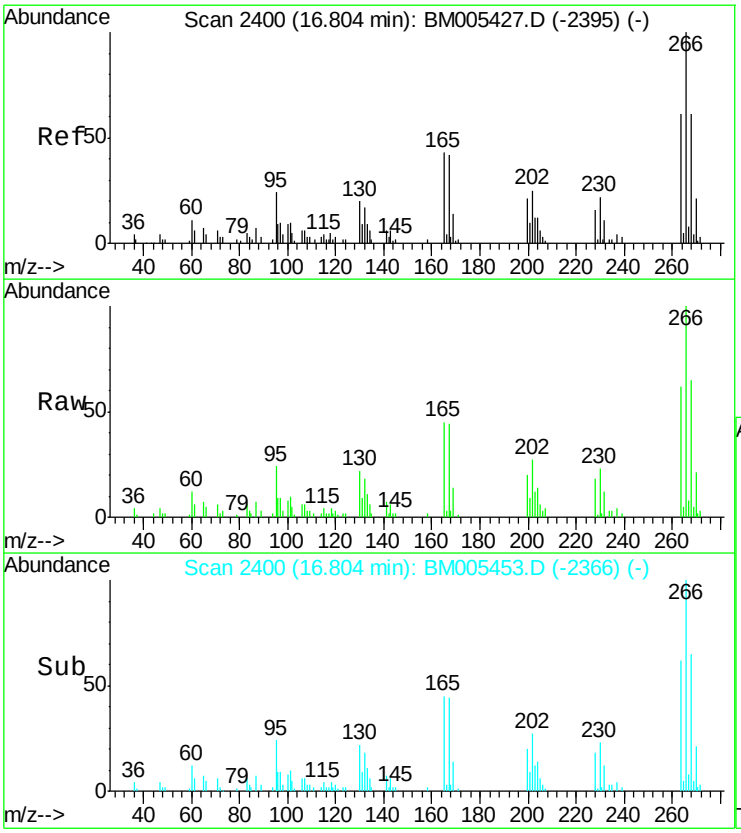
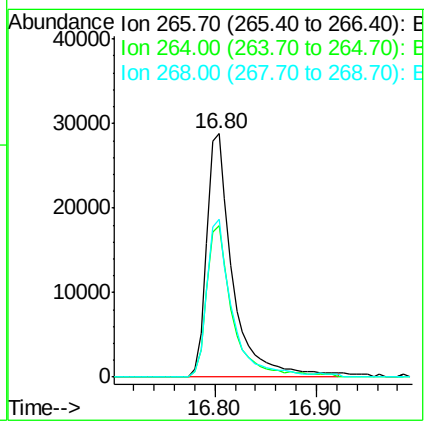
5/16/2016 7:01:45 PM

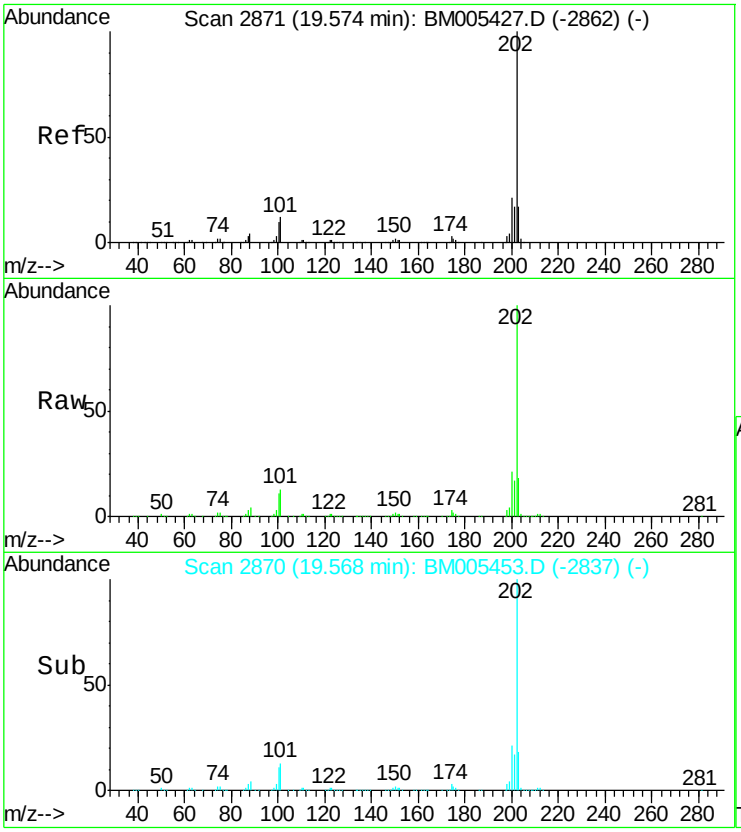


#68
Pentachlorophenol
Concen: 23.54 ng/ul
RT: 16.80 min Scan# 2400
Delta R.T. -0.00 min
Lab File: BM005453.D
Acq: 14 May 2016 06:58

Tgt Ion:266 Resp: 51388

Ion	Ratio	Lower	Upper
266	100		
264	62.1	52.0	78.0
268	65.0	53.0	79.6

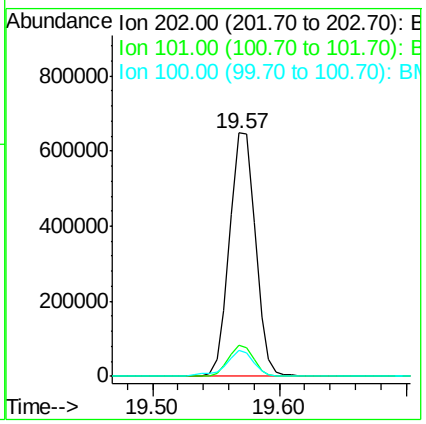




#77
Pyrene
Concen: 29.29 ng/ul
RT: 19.57 min Scan# 2870
Delta R.T. -0.01 min
Lab File: BM005453.D
Acq: 14 May 2016 06:58

Tgt Ion:202 Resp: 917137

Ion	Ratio	Lower	Upper
202	100		
101	12.9	10.8	16.2
100	10.7	8.4	12.6



Instrument :
BNA_M
ClientSampleId :
H4002MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:01:45 PM

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005453.D
Acq On : 14 May 2016 06:58
Operator : UM/SJ
Sample : H2834-03MSD
Misc :
ALS Vial : 27 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4002MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:01:45 PM

Quant Time: May 16 04:29:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	43867	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	207205	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	139326	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	365368	20.00	ng/ul	0.00
75) Chrysene-d12	21.33	240	539904	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	535616	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1271	1.36	ng/uL	0.00
5) Phenol-d5	6.93	99	24392	6.13	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	66053	29.10	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	71708	23.86	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	44390	13.50	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	45414	30.70	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	49552	29.58	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	82257	26.42	ng/ul	0.00
29) 4-Chloroaniline-d4	10.71	131	7166	1.91	ng/ul	0.03
43) Dimethylphthalate-d6	13.80	166	352494	31.56	ng/ul	0.00
46) Acenaphthylene-d8	14.08	160	407690	31.12	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	9088m	4.46	ng/ul	0.02
57) Fluorene-d10	15.39	176	313393	32.50	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	51368	24.99	ng/ul	0.00
70) Anthracene-d10	17.24	188	543327	33.64	ng/ul	0.00
76) Pyrene-d10	19.54	212	720300	28.90	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	797098	33.62	ng/ul	0.00
Target Compounds						Qvalue
6) Phenol	6.96	94	27811	6.76	ng/ul	98
10) 2-Chlorophenol	7.32	128	74504	24.24	ng/ul	96
15) N-Nitroso-di-n-propylamine	8.55	70	80908	31.78	ng/ul	98
33) 4-Chloro-3-methylphenol	11.84	107	101938	26.67	ng/ul	99
49) Acenaphthene	14.46	153	295135	32.32	ng/ul	99
52) 4-Nitrophenol	14.65	109	8595	5.07	ng/ul	96
54) 2,4-Dinitrotoluene	14.77	165	117093	35.68	ng/ul	99
68) Pentachlorophenol	16.80	266	51388	23.54	ng/ul	97
77) Pyrene	19.57	202	917137	29.29	ng/ul	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005453.D
Acq On : 14 May 2016 06:58
Operator : UM/SJ
Sample : H2834-03MSD
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 16 04:29:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MSD

Manual Integrations APPROVED
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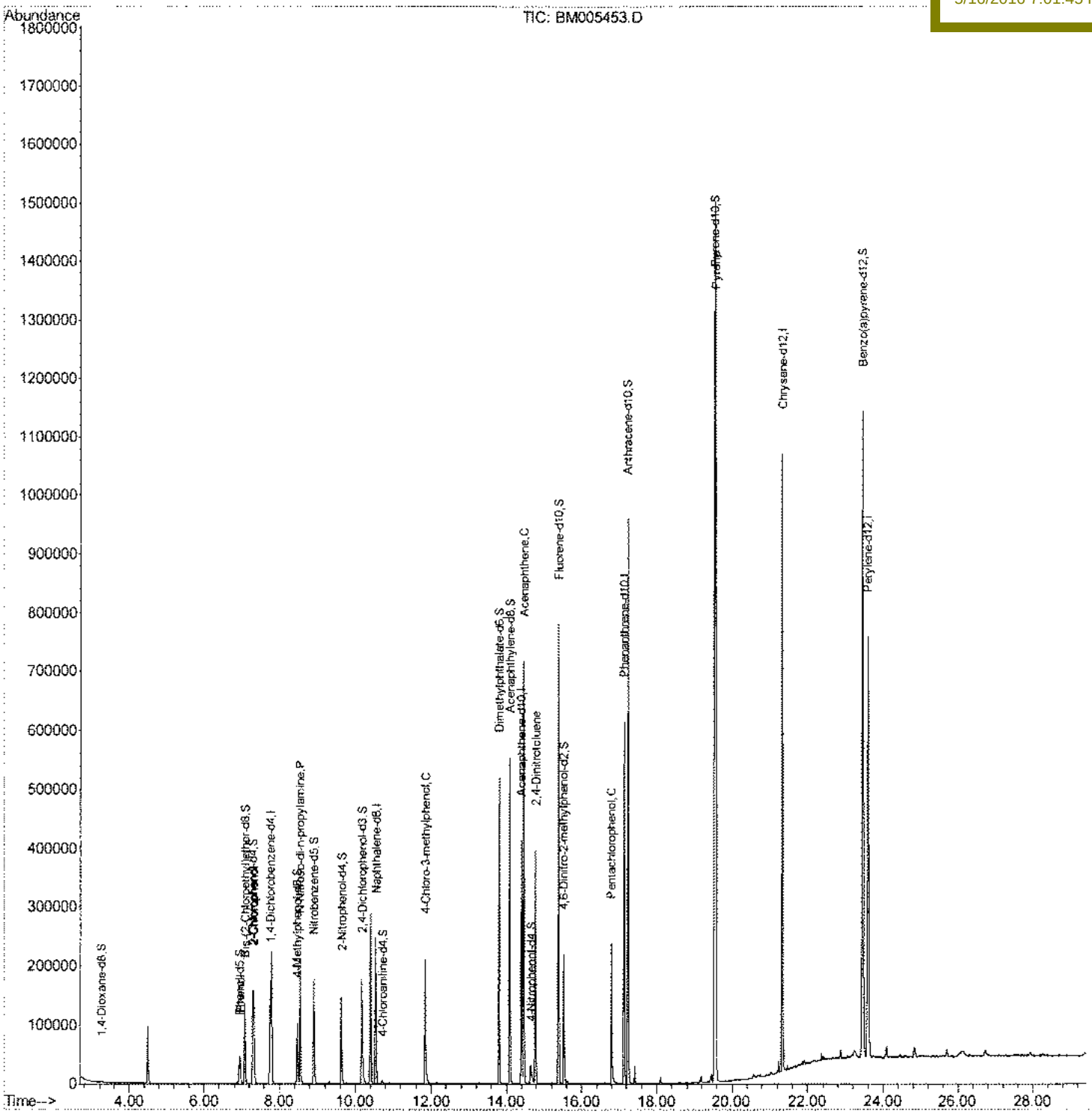
5/16/2016 7:01:45 PM



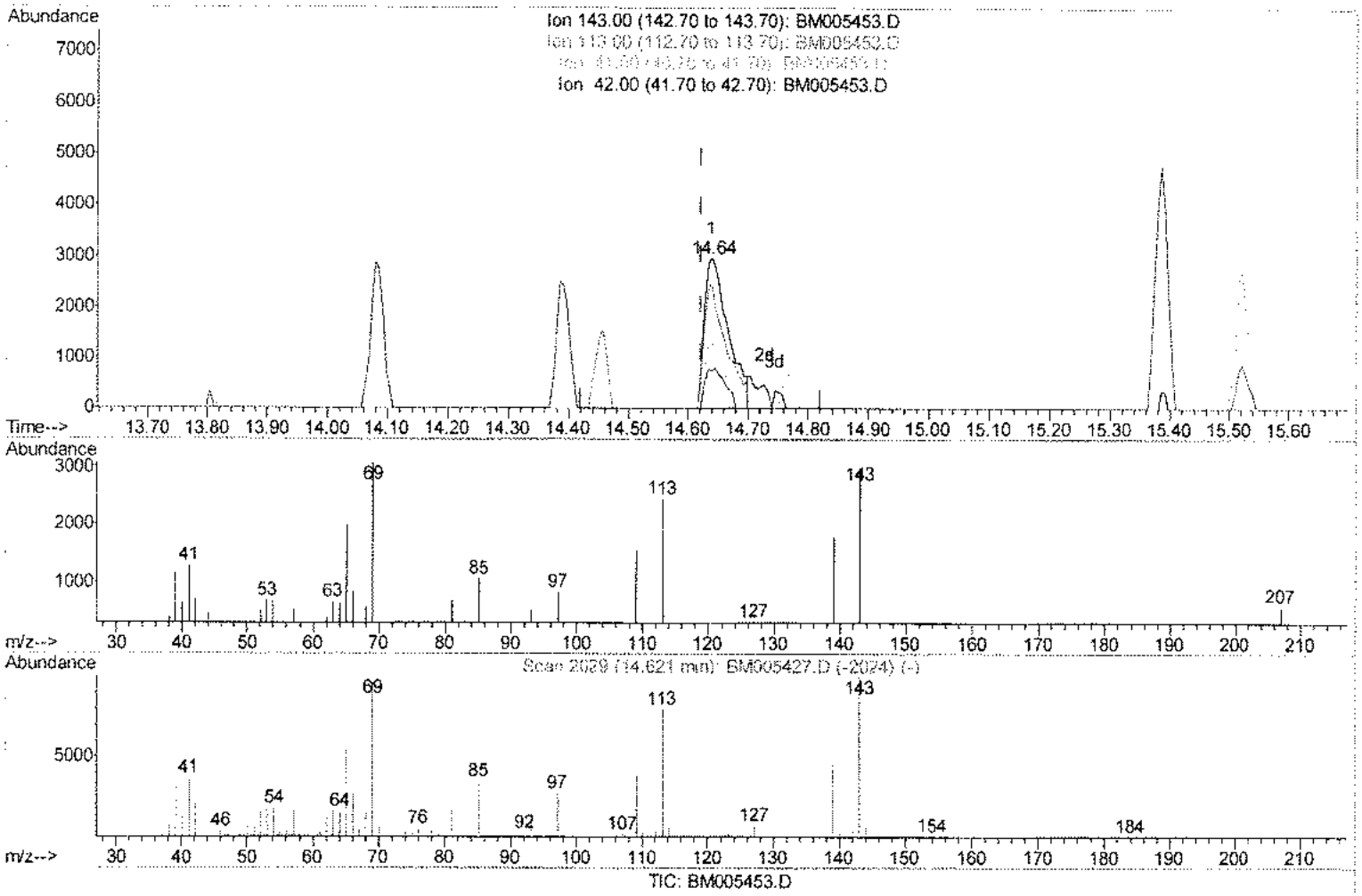
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005453.D
Acq On : 14 May 2016 06:58
Operator : UM/SJ
Sample : H2834-03MSD
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 16 04:28:16 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:01:45 PM



(51) 4-Nitrophenol-d4 (S)

14.639min (+0.018) 3.99ng/ul

response 8124

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	82.80
41.00	38.10	44.05
42.00	26.00	24.59

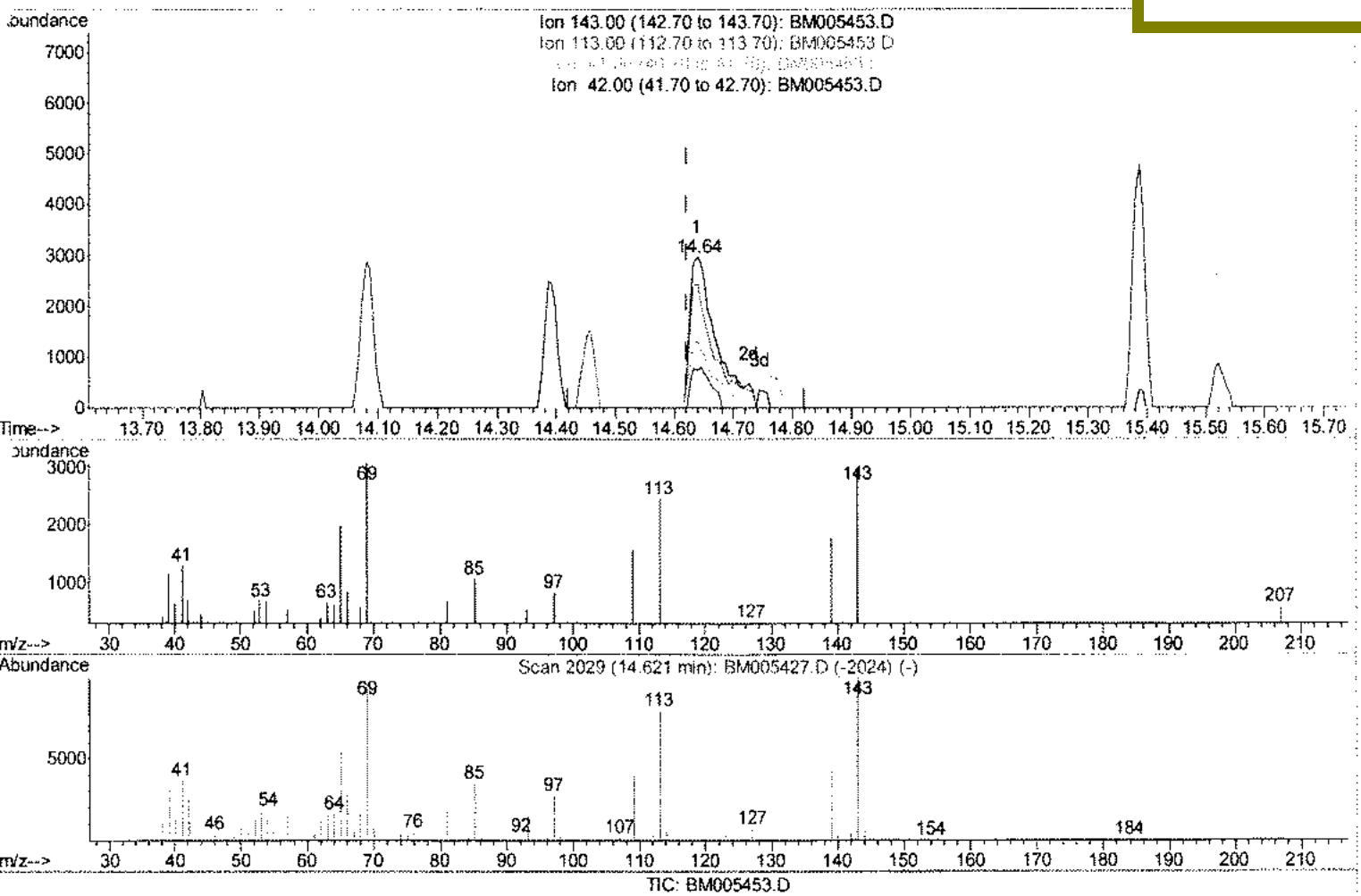
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005453.D
Acq On : 14 May 2016 06:58
Operator : UM/SJ
Sample : H2834-03MSD
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 16 04:28:16 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4002MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:01:45 PM



TIC: BM005453.D

(51) 4-Nitrophenol-d4 (S)

14.639min (+0.018) 4.46ng/ul m

response 9088

U · M
05/17/16

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	82.80
41.00	38.10	44.05
42.00	26.00	24.59

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005453.D
Acq On : 14 May 2016 06:58
Operator : UM/SJ
Sample : H2834-03MSD
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 16 04:29:03 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4002MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:01:45 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	43867	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	207205	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	139326	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	365368	20.00	ng/ul	0.00
75) Chrysene-d12	21.33	240	539904	20.00	ng/ul	0.00
83) Perylene-d12	23.60	264	535616	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	1271	1.36	ng/uL	0.00
5) Phenol-d5	6.93	99	24392	6.13	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	66053	29.10	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	71708	23.86	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	44390	13.50	ng/ul	0.00
19) Nitrobenzene-d5	8.91	128	45414	30.70	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	49552	29.58	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	82257	26.42	ng/ul	0.00
29) 4-Chloroaniline-d4	10.71	131	7166	1.91	ng/ul	0.03
43) Dimethylphthalate-d6	13.80	166	352494	31.56	ng/ul	0.00
46) Acenaphthylene-d8	14.08	160	407690	31.12	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	9088m	4.46	ng/ul	0.02
57) Fluorene-d10	15.39	176	313393	32.50	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	51368	24.99	ng/ul	0.00
70) Anthracene-d10	17.24	188	543327	33.64	ng/ul	0.00
76) Pyrene-d10	19.54	212	720300	28.90	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.46	264	797098	33.62	ng/ul	0.00
Target Compounds						Qvalue
6) Phenol	6.96	94	27811	6.76	ng/ul	98
10) 2-Chlorophenol	7.32	128	74504	24.24	ng/ul	96
15) N-Nitroso-di-n-propylamine	8.55	70	80908	31.78	ng/ul	98
33) 4-Chloro-3-methylphenol	11.84	107	101938	26.67	ng/ul	99
49) Acenaphthene	14.46	153	295135	32.32	ng/ul	99
52) 4-Nitrophenol	14.65	109	8595	5.07	ng/ul	96
54) 2,4-Dinitrotoluene	14.77	165	117093	35.68	ng/ul	99
68) Pentachlorophenol	16.80	266	51388	23.54	ng/ul	97
77) Pyrene	19.57	202	917137	29.29	ng/ul	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

U.M 05/17/16

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4002
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2834-15MSD
Sample wt/vol : 30.06 (g/mL): g
Lab File ID : BM005460.D
% Solids : 63.8
Date Received : 05/04/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/05/2016
GC Column : ID : (mm)
Date Analyzed : 05/14/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	100	U
100-52-7	Benzaldehyde	96	J
108-95-2	Phenol	1200	
111-44-4	Bis(2-Chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	1200	
95-48-7	2-Methylphenol	520	U
108-60-1	2,2-oxybis(1-Chloropropane)	520	U
98-86-2	Acetophenone	69	J
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-di-n-propylamine	1400	
67-72-1	Hexachloroethane	270	U
98-95-3	Nitrobenzene	270	U
78-59-1	Isophorone	270	U
88-75-5	2-Nitrophenol	270	U
105-67-9	2,4-Dimethylphenol	270	U
111-91-1	Bis(2-Chloroethoxy)methane	270	U
120-83-2	2,4-Dichlorophenol	270	U
91-20-3	Naphthalene	270	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	270	U
105-60-2	Caprolactam	520	U
59-50-7	4-Chloro-3-methylphenol	1300	
91-57-6	2-Methylnaphthalene	270	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	270	U

FORM 1A-OR
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H4061MSD

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Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	270	U
92-52-4	1,1-Biphenyl	270	U
91-58-7	2-Chloronaphthalene	270	U
88-74-4	2-Nitroaniline	270	U
131-11-3	Dimethylphthalate	410	
606-20-2	2,6-Dinitrotoluene	270	U
208-96-8	Acenaphthylene	270	U
99-09-2	3-Nitroaniline	520	U
83-32-9	Acenaphthene	1300	
51-28-5	2,4-Dinitrophenol	520	U
100-02-7	4-Nitrophenol	1100	
132-64-9	Dibenzofuran	270	U
121-14-2	2,4-Dinitrotoluene	1400	
84-66-2	Diethylphthalate	270	U
86-73-7	Fluorene	270	U
7005-72-3	4-Chlorophenyl-phenylether	270	U
100-01-6	4-Nitroaniline	520	U
534-52-1	4,6-Dinitro-2-methylphenol	520	U
86-30-6	N-Nitrosodiphenylamine	270	U
95-94-3	1,2,4,5-Tetrachlorobenzene	270	U
101-55-3	4-Bromophenyl-phenylether	270	U
118-74-1	Hexachlorobenzene	270	U
1912-24-9	Atrazine	520	U
87-86-5	Pentachlorophenol	1200	
85-01-8	Phenanthrene	270	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4061MSD

Lab Name : Chemtech Consulting Group
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Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	270	U
86-74-8	Carbazole	520	U
84-74-2	Di-n-butylphthalate	270	U
206-44-0	Fluoranthene	270	U
129-00-0	Pyrene	1300	
85-68-7	Butylbenzylphthalate	270	U
91-94-1	3,3-Dichlorobenzidine	520	U
56-55-3	Benzo(a)anthracene	270	U
218-01-9	Chrysene	270	U
117-81-7	Bis(2-ethylhexyl)phthalate	270	U
117-84-0	Di-n-octyl phthalate	520	U
205-99-2	Benzo(b)fluoranthene	270	U
207-08-9	Benzo(k)fluoranthene	270	U
50-32-8	Benzo(a)pyrene	270	U
193-39-5	Indeno(1,2,3-cd)pyrene	270	U
53-70-3	Dibenzo(a,h)anthracene	270	U
191-24-2	Benzo(g,h,i)perylene	270	U
58-90-2	2,3,4,6-Tetrachlorophenol	270	U

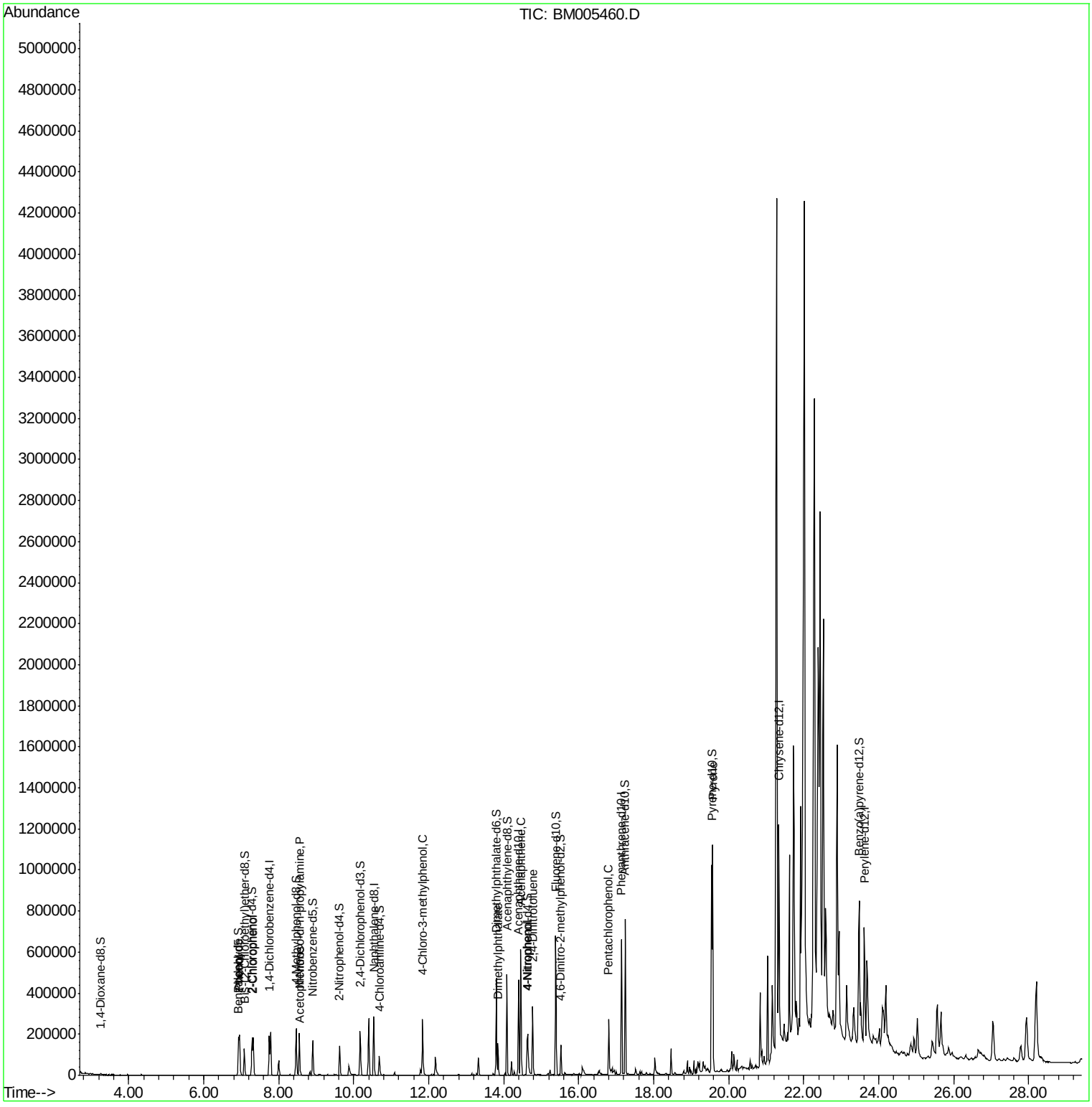
Quantitation Report (QT Reviewed)

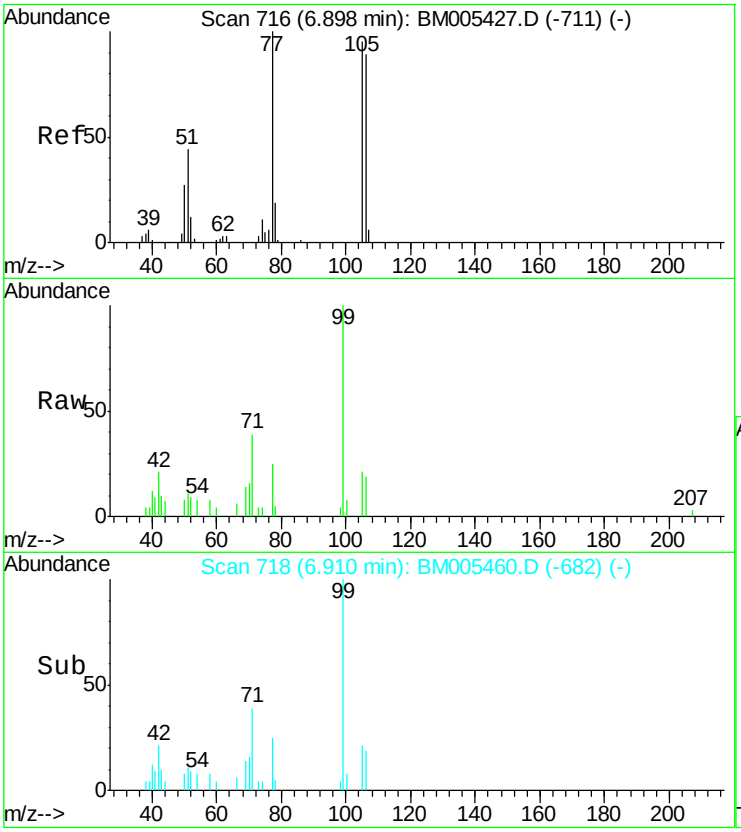
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005460.D
Acq On : 14 May 2016 11:12
Operator : UM/SJ
Sample : H2834-15MSD
Misc :
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 16 04:17:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:02:04 PM

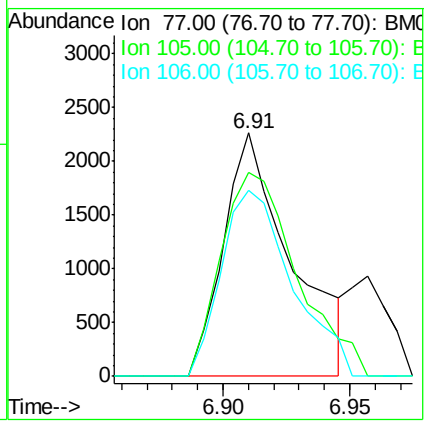




#4
Benzaldehyde
Concen: 1.85 ng/ul
RT: 6.91 min Scan# 718
Delta R.T. 0.01 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion: 77 Resp: 4187

Ion	Ratio	Lower	Upper
77	100		
105	83.8	77.6	116.4
106	76.3	77.9	116.9#



Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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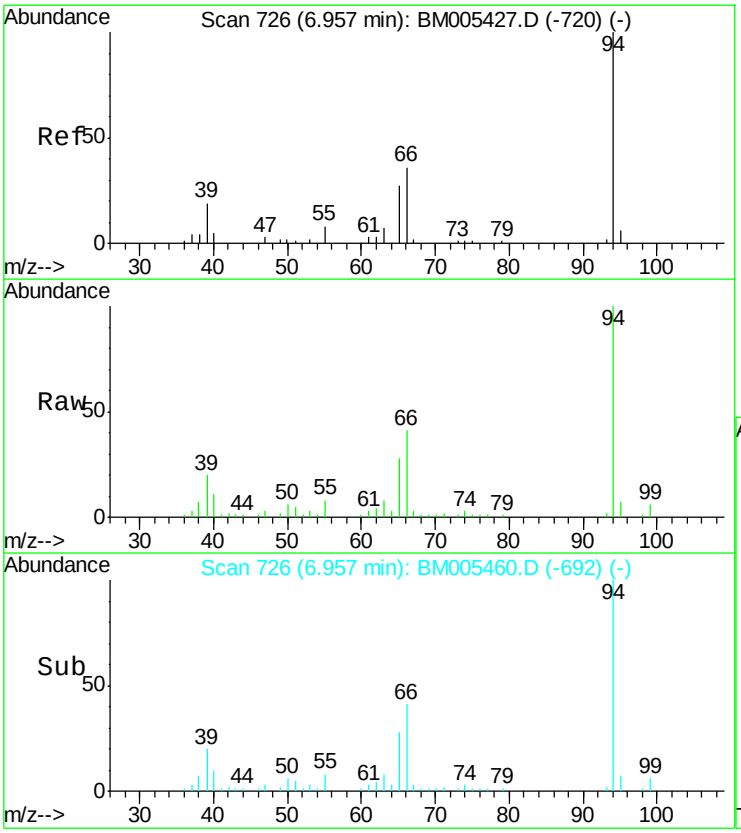
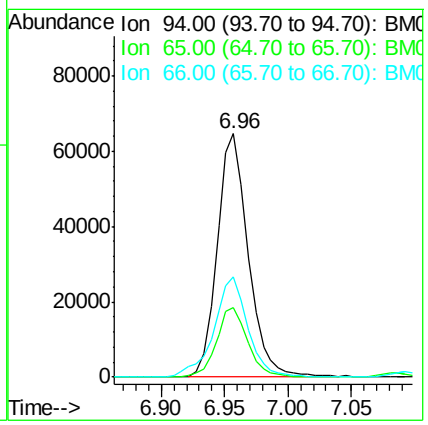
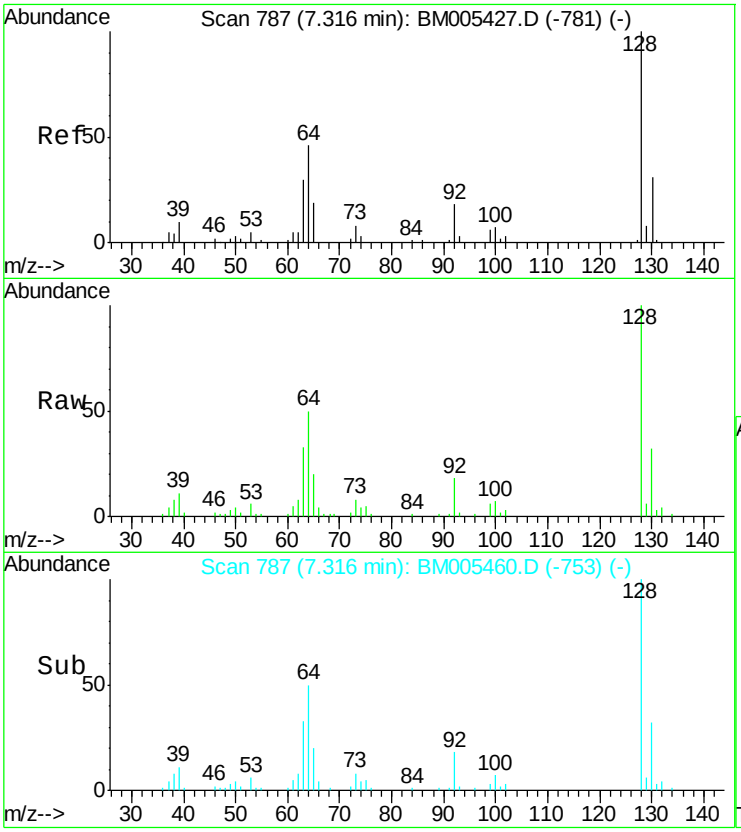


#6
Phenol
Concen: 22.71 ng/ul
RT: 6.96 min Scan# 726
Delta R.T. -0.00 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion: 94 Resp: 109781

Ion	Ratio	Lower	Upper
94	100		
65	28.3	22.7	34.1
66	41.0	31.7	47.5

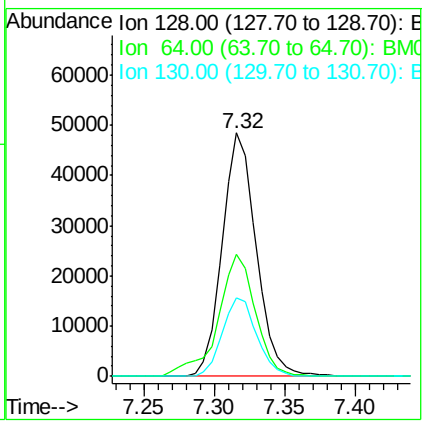




#10
2-Chlorophenol
Concen: 22.54 ng/ul
RT: 7.32 min Scan# 787
Delta R.T. -0.00 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion:128 Resp: 81446

Ion	Ratio	Lower	Upper
128	100		
64	50.2	37.8	56.8
130	32.2	24.9	37.3



Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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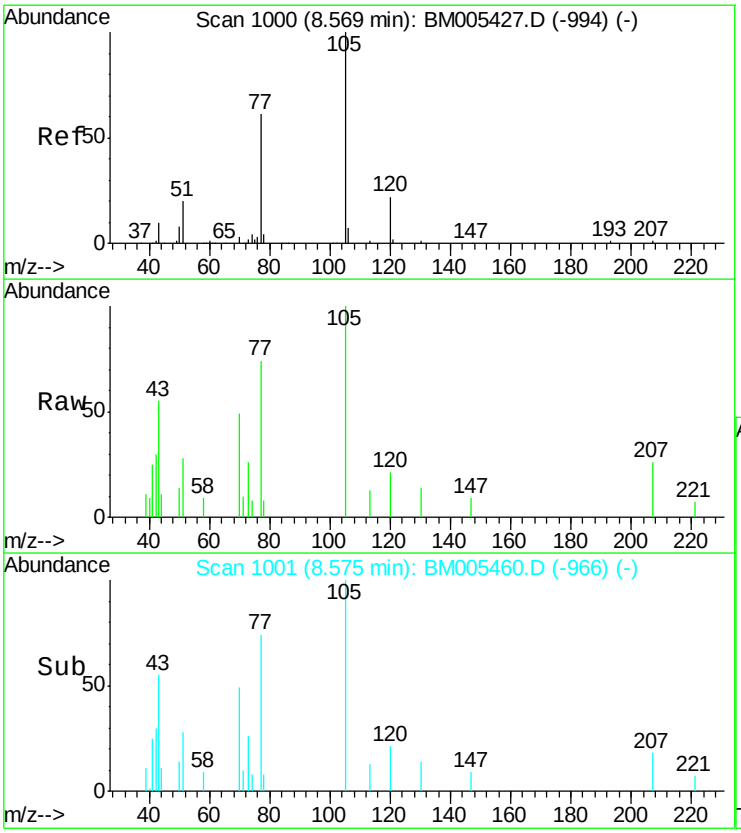
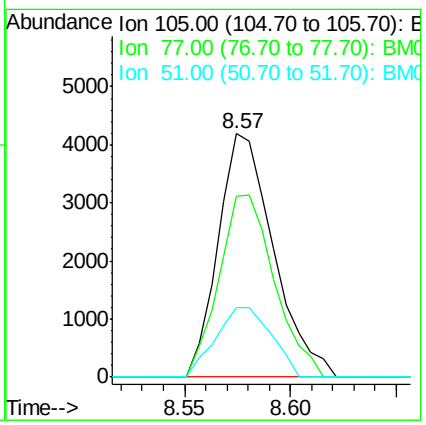
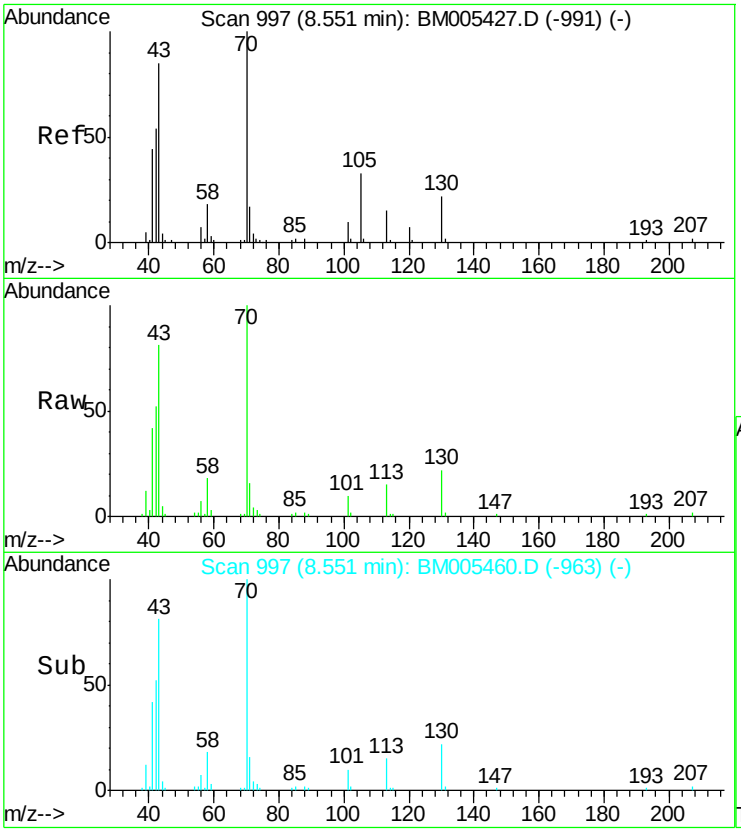


#14
Acetophenone
Concen: 1.32 ng/ul
RT: 8.57 min Scan# 1001
Delta R.T. 0.01 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion:105 Resp: 7587

Ion	Ratio	Lower	Upper
105	100		
77	74.2	61.2	91.8
51	28.4	21.2	31.8

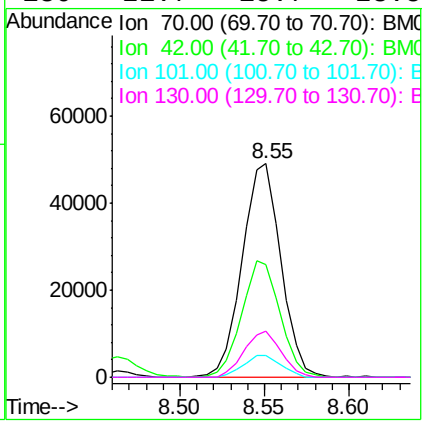




#15
N-Nitroso-di-n-propylamine
Concen: 26.20 ng/ul
RT: 8.55 min Scan# 997
Delta R.T. -0.00 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion: 70 Resp: 78401

Ion	Ratio	Lower	Upper
70	100		
42	52.5	42.8	64.2
101	10.5	7.8	11.6
130	21.7	15.7	23.5



Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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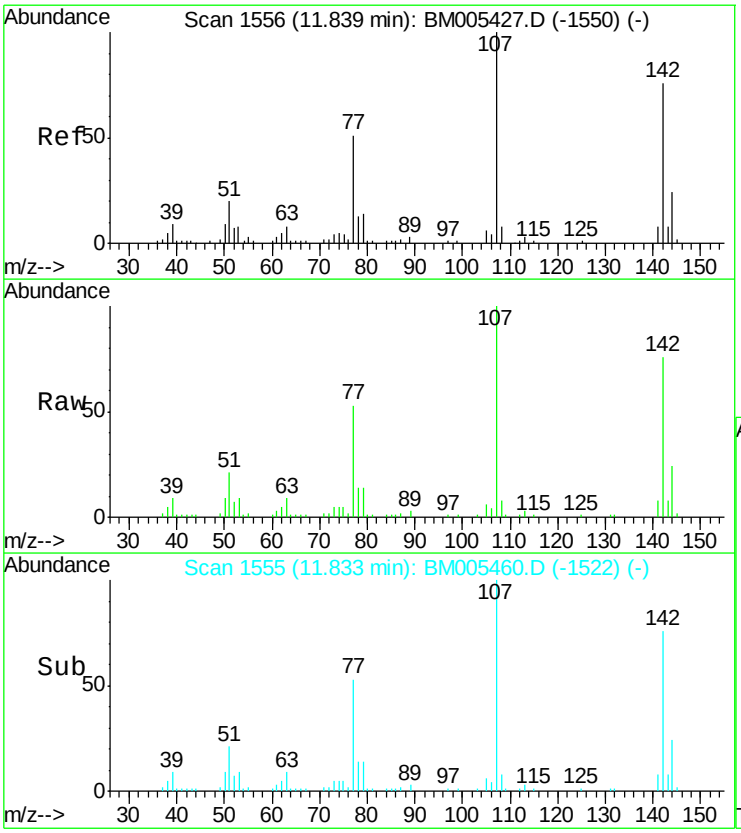
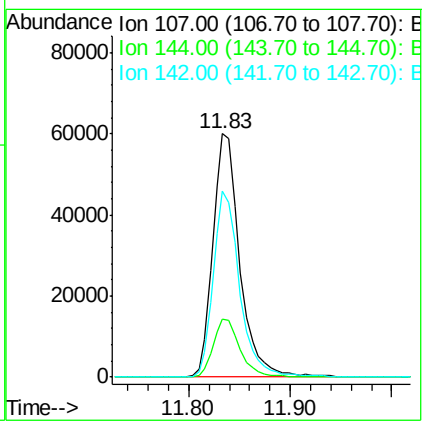
5/16/2016 7:02:04 PM

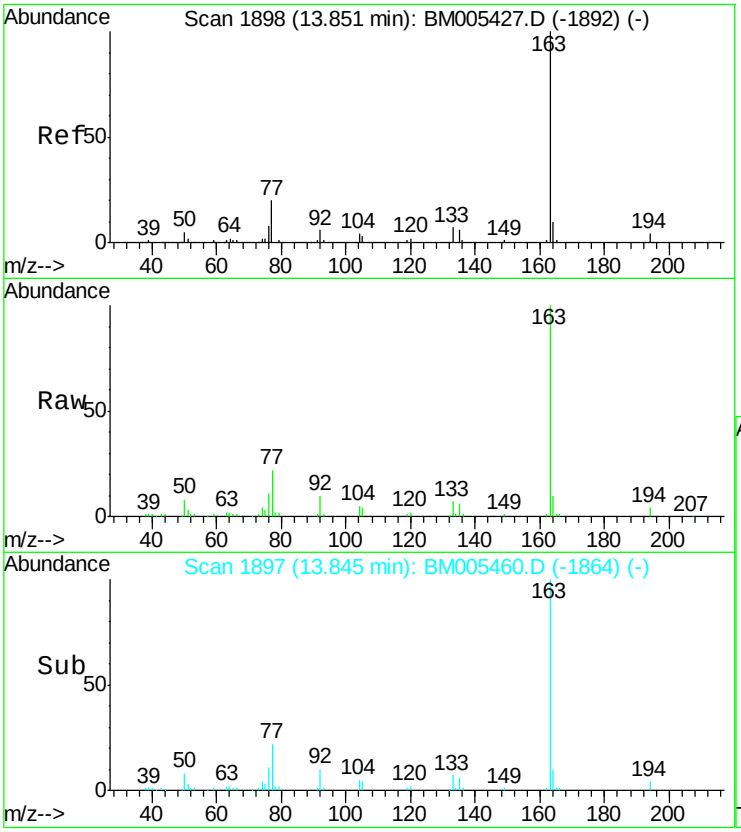


#33
4-Chloro-3-methylphenol
Concen: 25.18 ng/ul
RT: 11.83 min Scan# 1555
Delta R.T. -0.01 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion:107 Resp: 110585

Ion	Ratio	Lower	Upper
107	100		
144	23.8	19.3	28.9
142	76.5	60.8	91.2

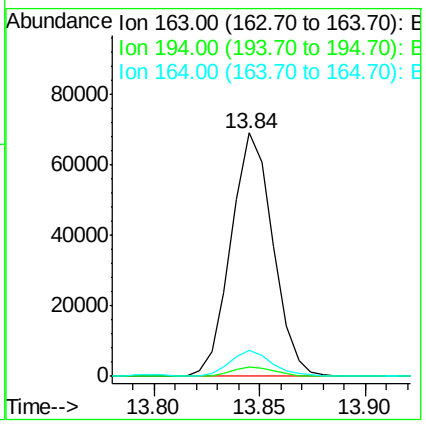




#44
Dimethylphthalate
Concen: 7.89 ng/ul
RT: 13.84 min Scan# 1897
Delta R.T. -0.01 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion:163 Resp: 95220

Ion	Ratio	Lower	Upper
163	100		
194	4.0	3.4	5.0
164	10.5	7.9	11.9



Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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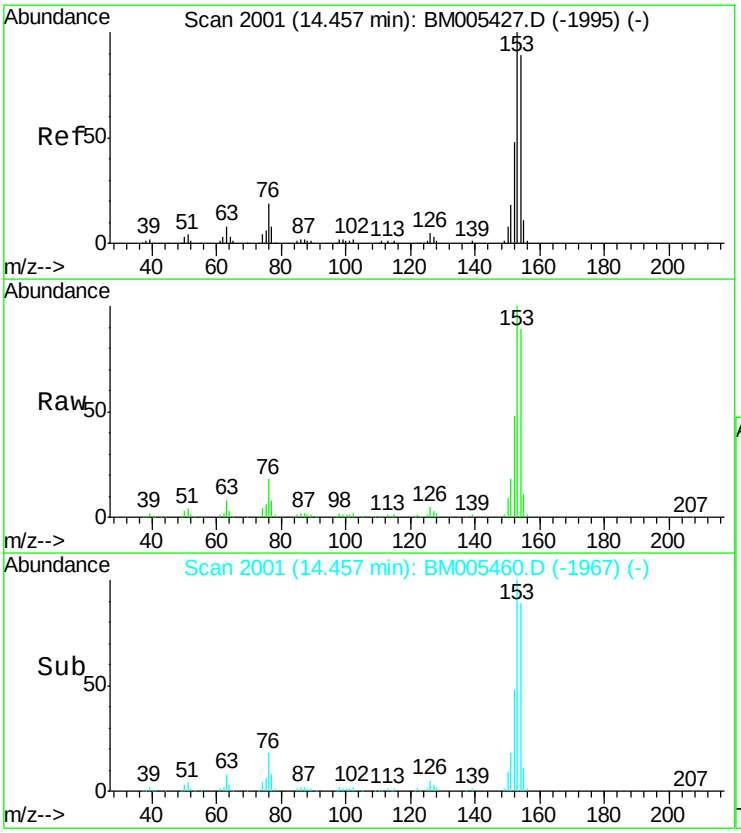
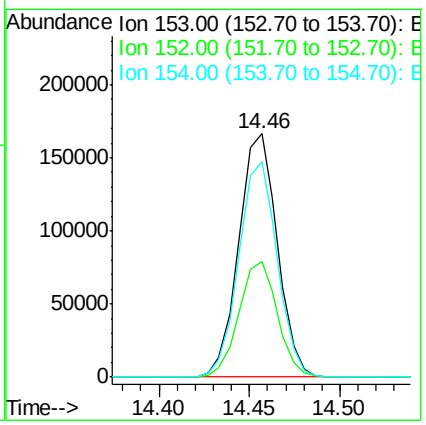
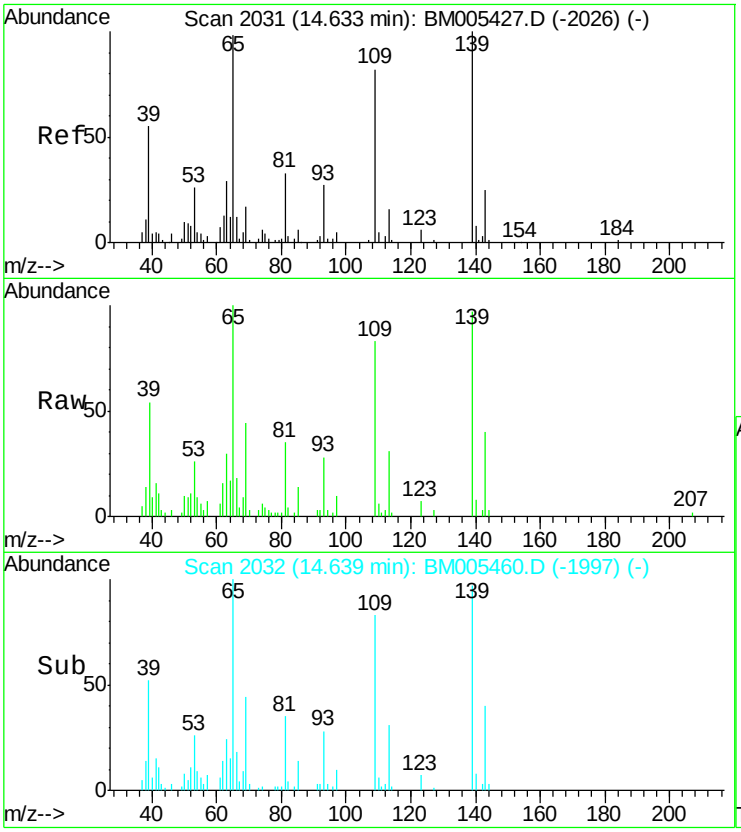


#49
Acenaphthene
Concen: 24.91 ng/ul
RT: 14.46 min Scan# 2001
Delta R.T. -0.00 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion:153 Resp: 245941

Ion	Ratio	Lower	Upper
153	100		
152	47.5	38.9	58.3
154	88.6	70.3	105.5

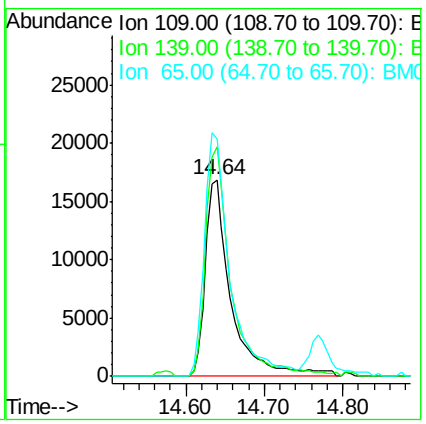




#52
4-Nitrophenol
Concen: 21.03 ng/ul m
RT: 14.64 min Scan# 2032
Delta R.T. 0.01 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion:109 Resp: 38524

Ion	Ratio	Lower	Upper
109	100		
139	116.4	103.6	155.4
65	120.5	104.7	157.1



Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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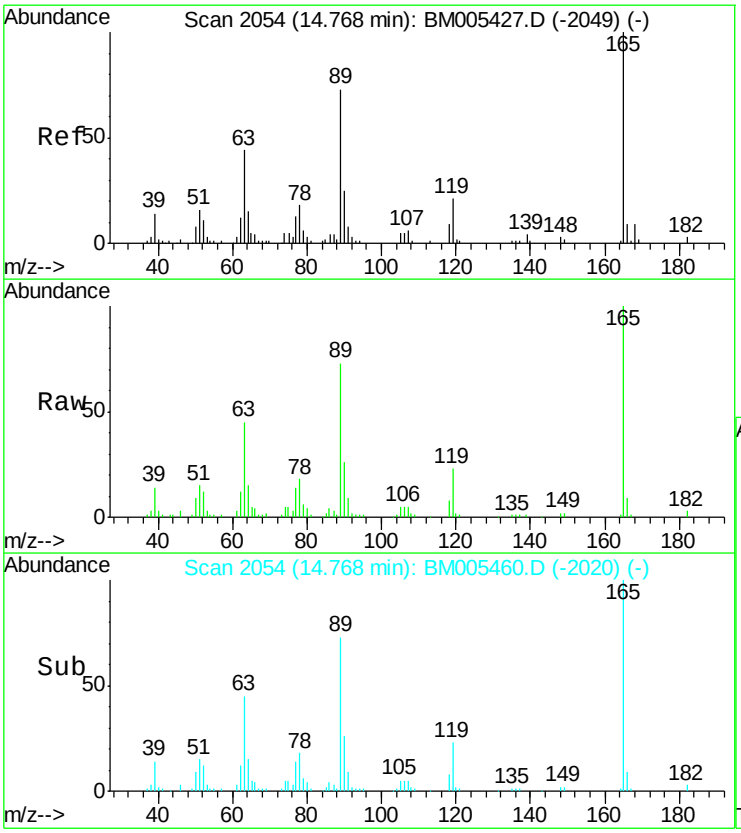
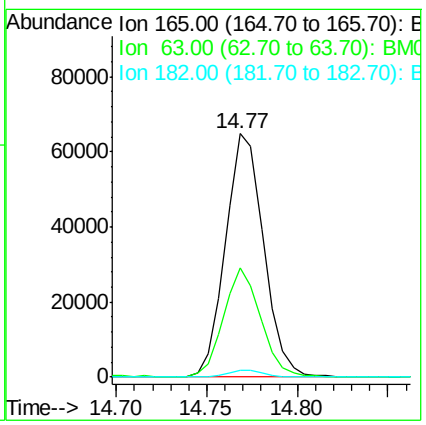
5/16/2016 7:02:04 PM

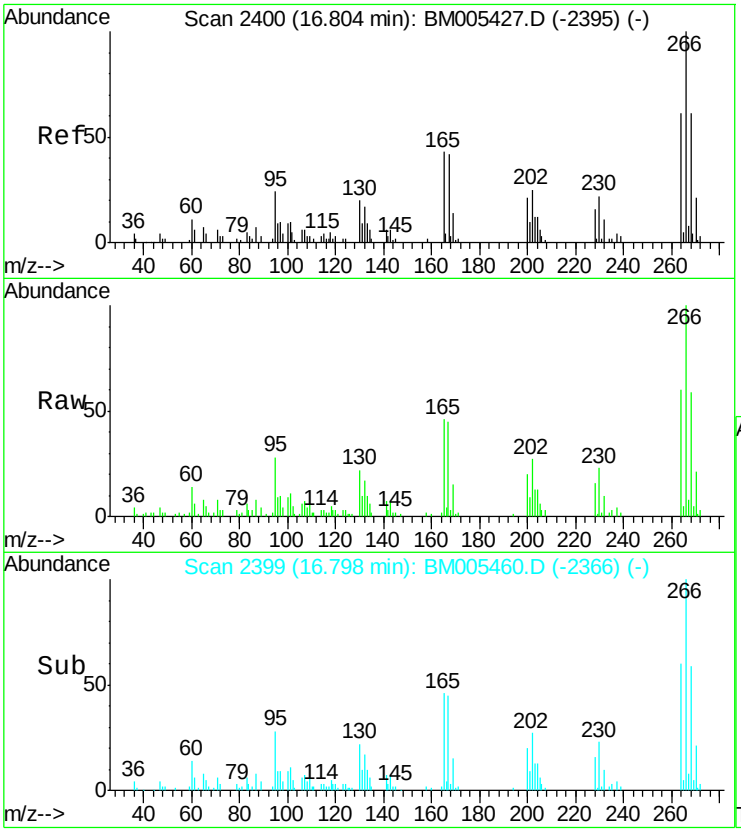


#54
2,4-Dinitrotoluene
Concen: 26.75 ng/ul
RT: 14.77 min Scan# 2054
Delta R.T. -0.00 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion:165 Resp: 94898

Ion	Ratio	Lower	Upper
165	100		
63	45.0	36.2	54.4
182	2.9	2.5	3.7

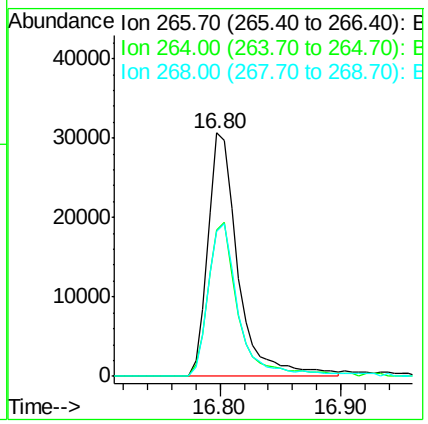




#68
Pentachlorophenol
Concen: 23.18 ng/ul
RT: 16.80 min Scan# 2399
Delta R.T. -0.01 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion:266 Resp: 53059

Ion	Ratio	Lower	Upper
266	100		
264	60.3	52.0	78.0
268	59.4	53.0	79.6



Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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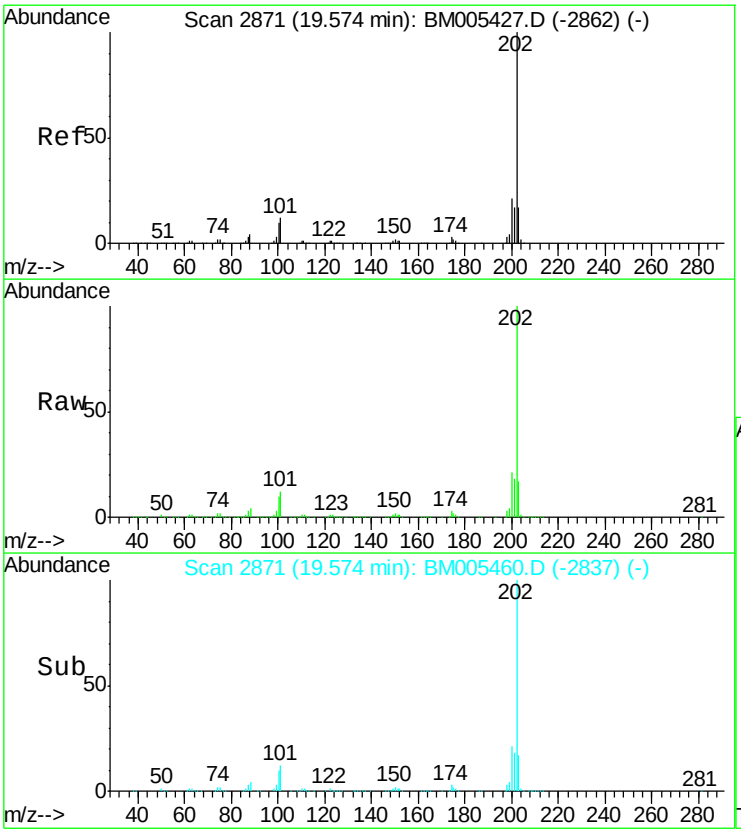
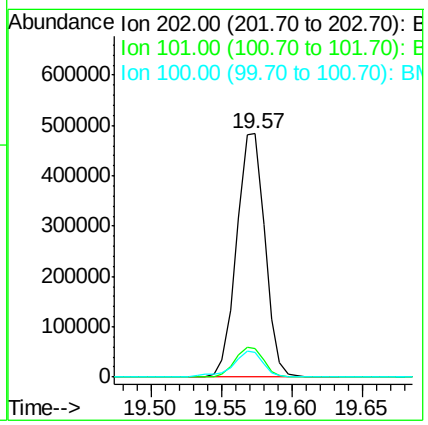
5/16/2016 7:02:04 PM



#77
Pyrene
Concen: 24.66 ng/ul
RT: 19.57 min Scan# 2871
Delta R.T. -0.00 min
Lab File: BM005460.D
Acq: 14 May 2016 11:12

Tgt Ion:202 Resp: 677389

Ion	Ratio	Lower	Upper
202	100		
101	12.0	10.8	16.2
100	9.9	8.4	12.6



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005460.D
Acq On : 14 May 2016 11:12
Operator : UM/SJ
Sample : H2834-15MSD
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4061MSD

Manual Integrations APPROVED
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Quant Time: May 16 04:17:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	51562	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	238097	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	150598	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	383066	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	473564	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	401608	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	4317	3.94	ng/uL	0.00
5) Phenol-d5	6.93	99	103897	22.22	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	60651	22.73	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	81400	23.05	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	87220	22.56	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	41853	24.62	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	48316	25.10	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	85950	24.03	ng/ul	0.00
29) 4-Chloroaniline-d4	10.68	131	57087	13.26	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	315991	26.18	ng/ul	0.00
46) Acenaphthylene-d8	14.08	160	356861	25.20	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	39394m	17.88	ng/ul	0.00
57) Fluorene-d10	15.39	176	261046	25.04	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	32721	15.18	ng/ul	0.00
70) Anthracene-d10	17.24	188	428673	25.32	ng/ul	0.00
76) Pyrene-d10	19.54	212	531506	24.31	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	452484	25.45	ng/ul	0.01
Target Compounds						Qvalue
4) Benzaldehyde	6.91	77	4187	1.85	ng/ul#	83
6) Phenol	6.96	94	109781	22.71	ng/ul	99
10) 2-Chlorophenol	7.32	128	81446	22.54	ng/ul	97
14) Acetophenone	8.57	105	7587	1.32	ng/ul	97
15) N-Nitroso-di-n-propylamine	8.55	70	78401	26.20	ng/ul	98
33) 4-Chloro-3-methylphenol	11.83	107	110585	25.18	ng/ul	99
44) Dimethylphthalate	13.84	163	95220	7.89	ng/ul	99
49) Acenaphthene	14.46	153	245941	24.91	ng/ul	99
52) 4-Nitrophenol	14.64	109	38524m	21.03	ng/ul	
54) 2,4-Dinitrotoluene	14.77	165	94898	26.75	ng/ul	100
68) Pentachlorophenol	16.80	266	53059	23.18	ng/ul	93
77) Pyrene	19.57	202	677389	24.66	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005460.D
Acq On : 14 May 2016 11:12
Operator : UM/SJ
Sample : H2834-15MSD
Misc :
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 16 04:17:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
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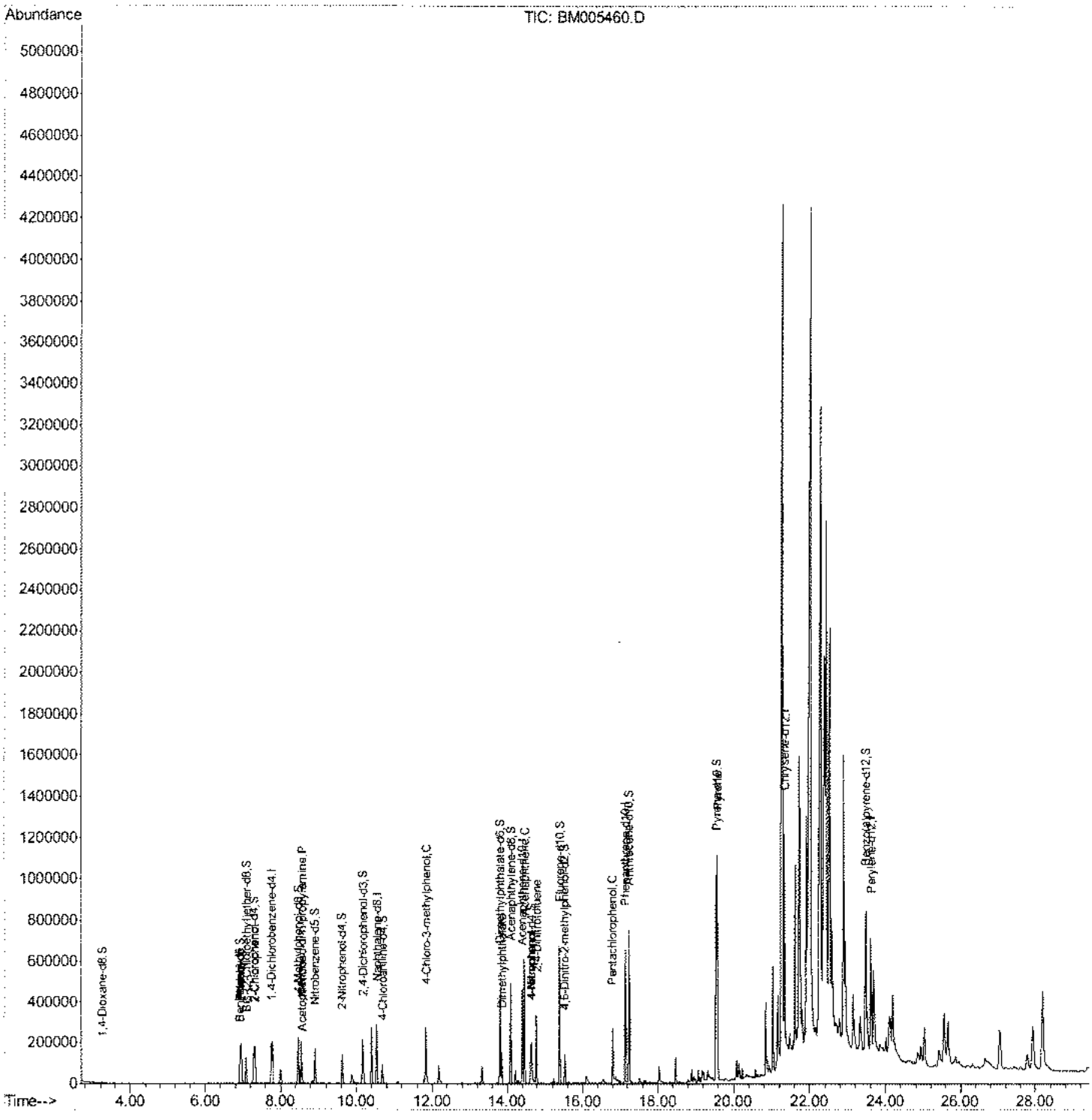
5/16/2016 7:02:04 PM



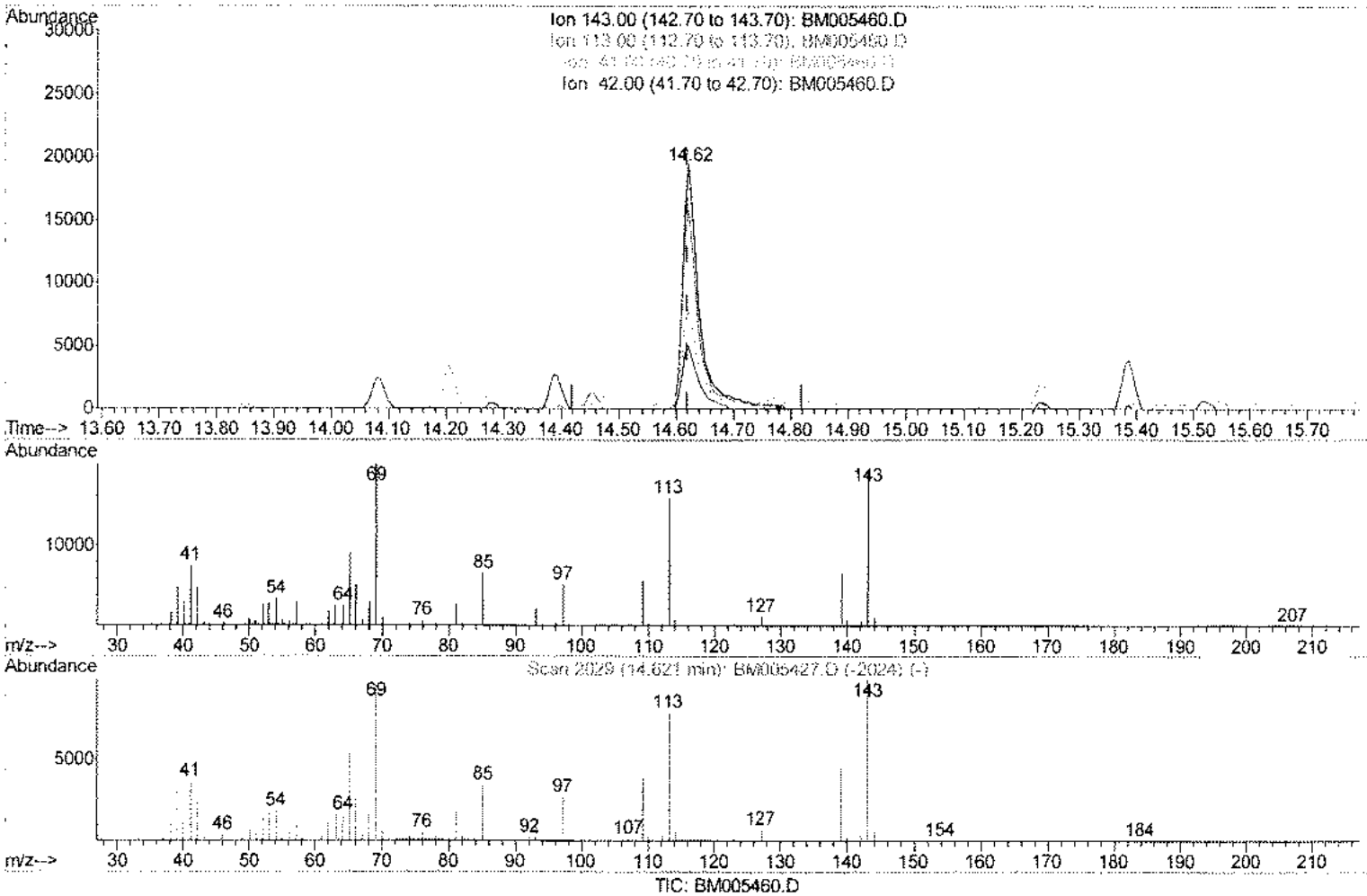
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005460.D
Acq On : 14 May 2016 11:12
Operator : UM/SJ
Sample : H2834-15MSD
Misc :
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 16 03:41:08 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:02:04 PM



(51) 4-Nitrophenol-d4 (S)

14.621min (-0.000) 17.88ng/ul m > U.M 05/17/16

response 39394

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	81.80
41.00	38.10	39.48
42.00	26.00	25.99

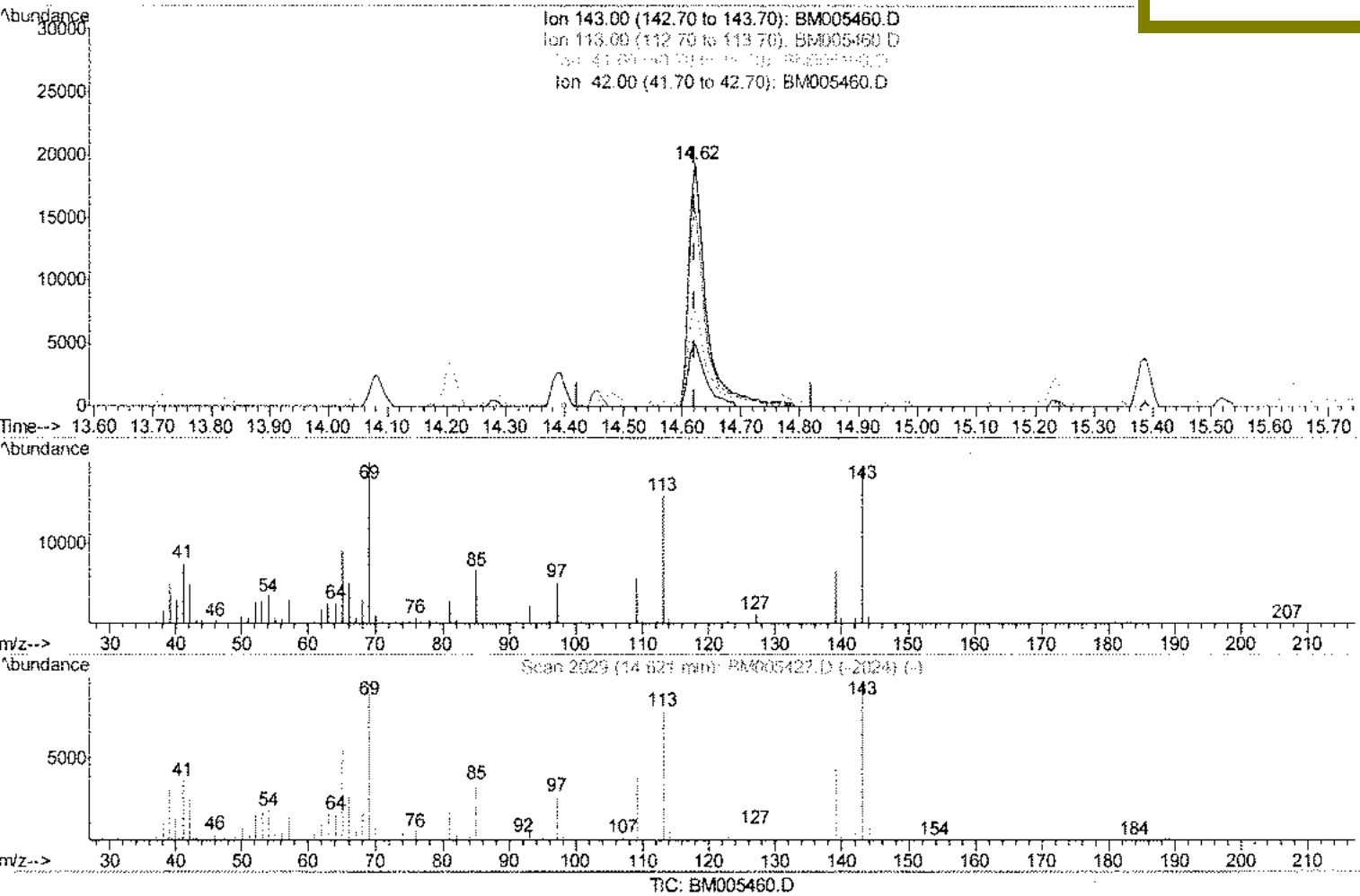
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005460.D
Acq On : 14 May 2016 11:12
Operator : UM/SJ
Sample : H2834-15MSD
Misc :
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 16 03:41:08 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:02:04 PM



(51) 4-Nitrophenol-d4 (S)

14.621min (-0.000) 17.55ng/ul

response 38668

Ion	Exp%	Act%
143.00	100	100
113.00	75.60	81.80
41.00	38.10	39.48
42.00	26.00	25.99

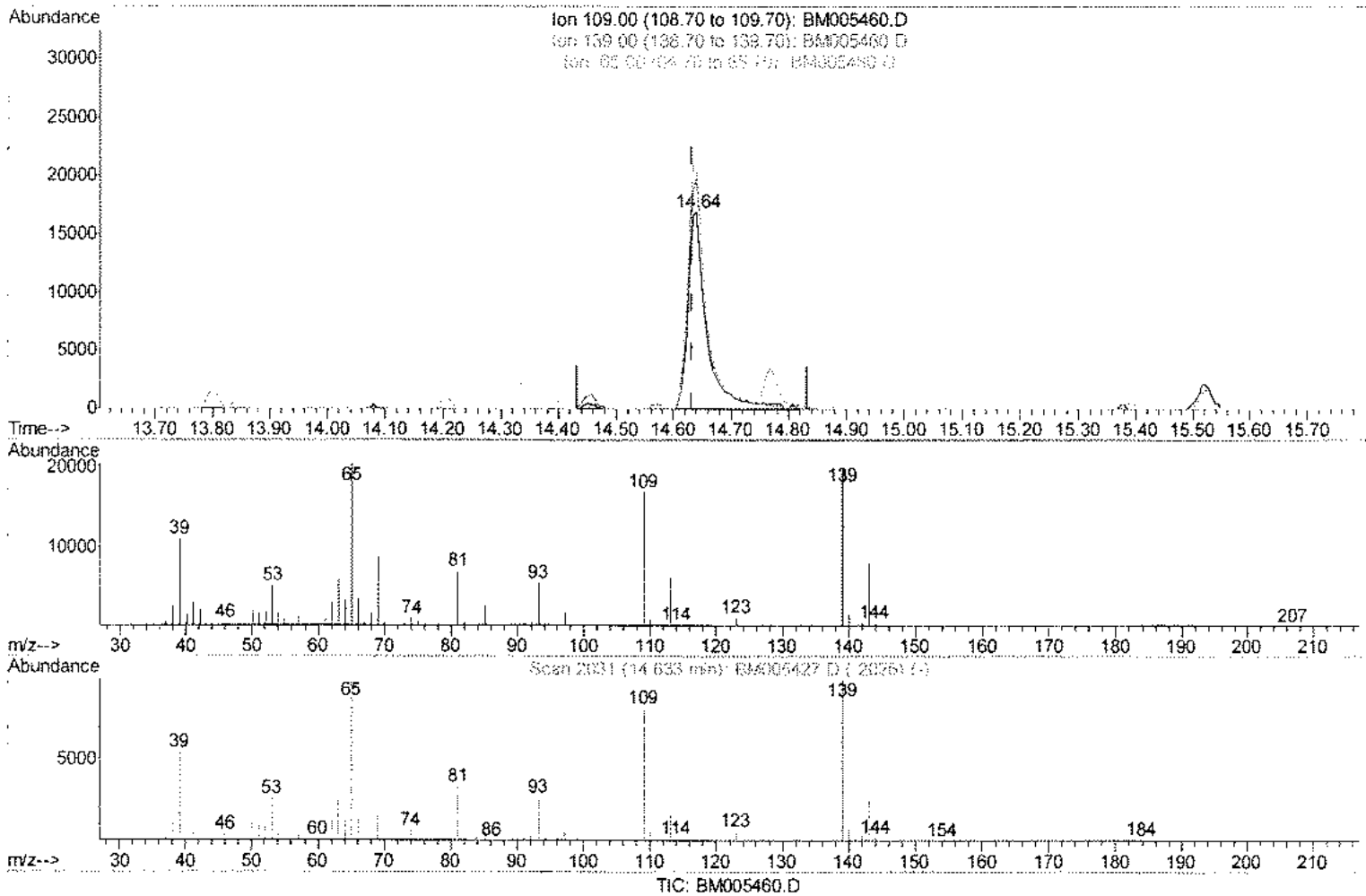
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005460.D
Acq On : 14 May 2016 11:12
Operator : UM/SJ
Sample : H2834-15MSD
Misc :
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 16 03:41:08 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:02:04 PM



TIC: BM005460.D

(52) 4-Nitrophenol

14.639min (+0.006) 21.03ng/ul m > U · M 5/17/16

response 38524

Ion	Exp%	Act%
109.00	100	100
139.00	129.50	116.40
65.00	130.90	120.47
0.00	0.00	0.00

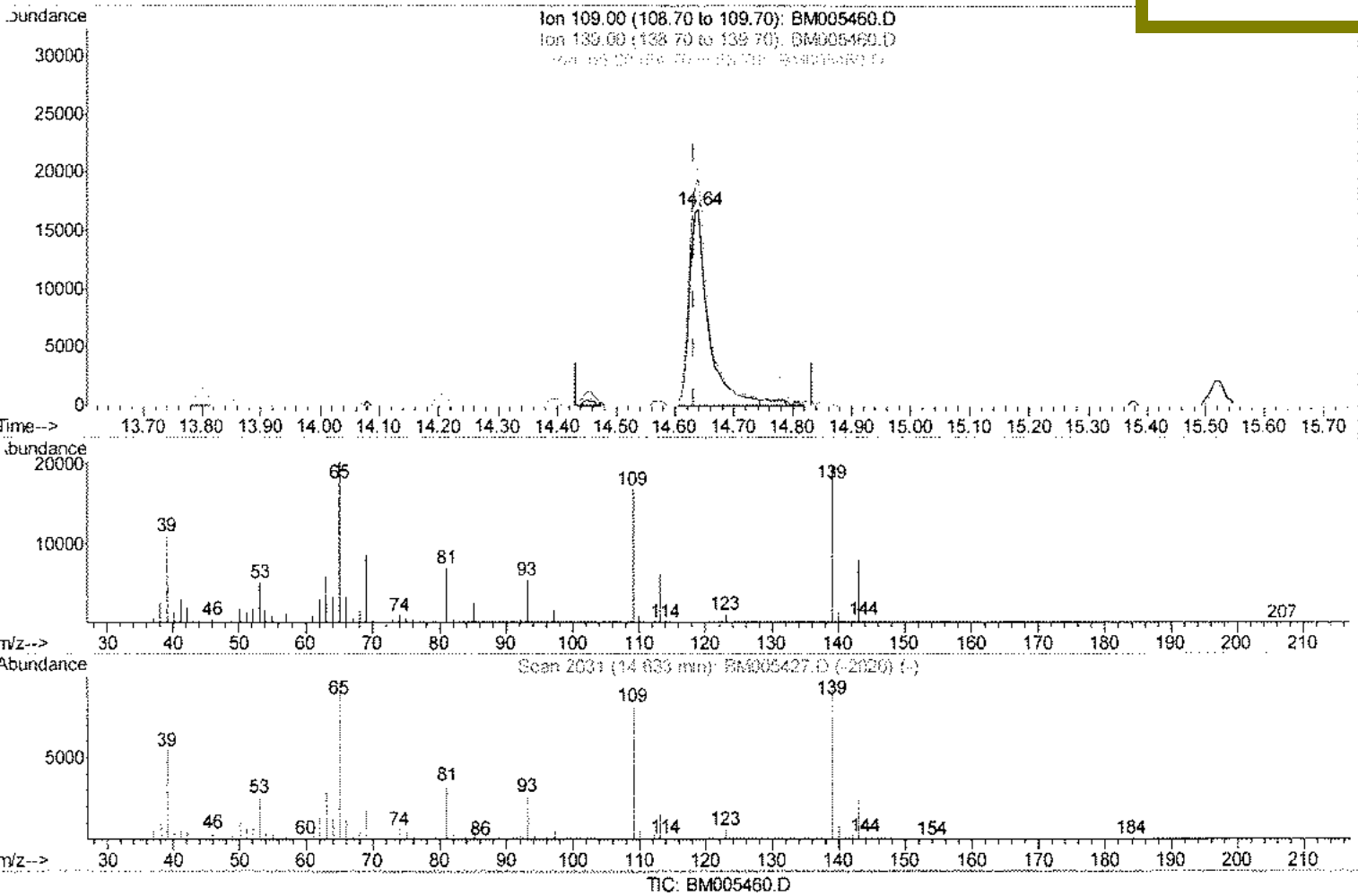
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005460.D
Acq On : 14 May 2016 11:12
Operator : UM/SJ
Sample : H2834-15MSD
Misc :
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 16 03:41:08 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
H4061MSD

Manual Integrations APPROVED
sohil
5/16/2016 7:02:04 PM



TIC: BM005460.D

(52) 4-Nitrophenol

14.639min (+0.006) 20.36ng/ul

response 37291

Ion	Exp%	Act%
109.00	100	100
139.00	129.50	116.40
65.00	130.90	120.47
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051316\
Data File : BM005460.D
Acq On : 14 May 2016 11:12
Operator : UM/SJ
Sample : H2834-15MSD
Misc :
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 16 04:17:12 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Sat May 14 00:15:57 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : H4061MSD

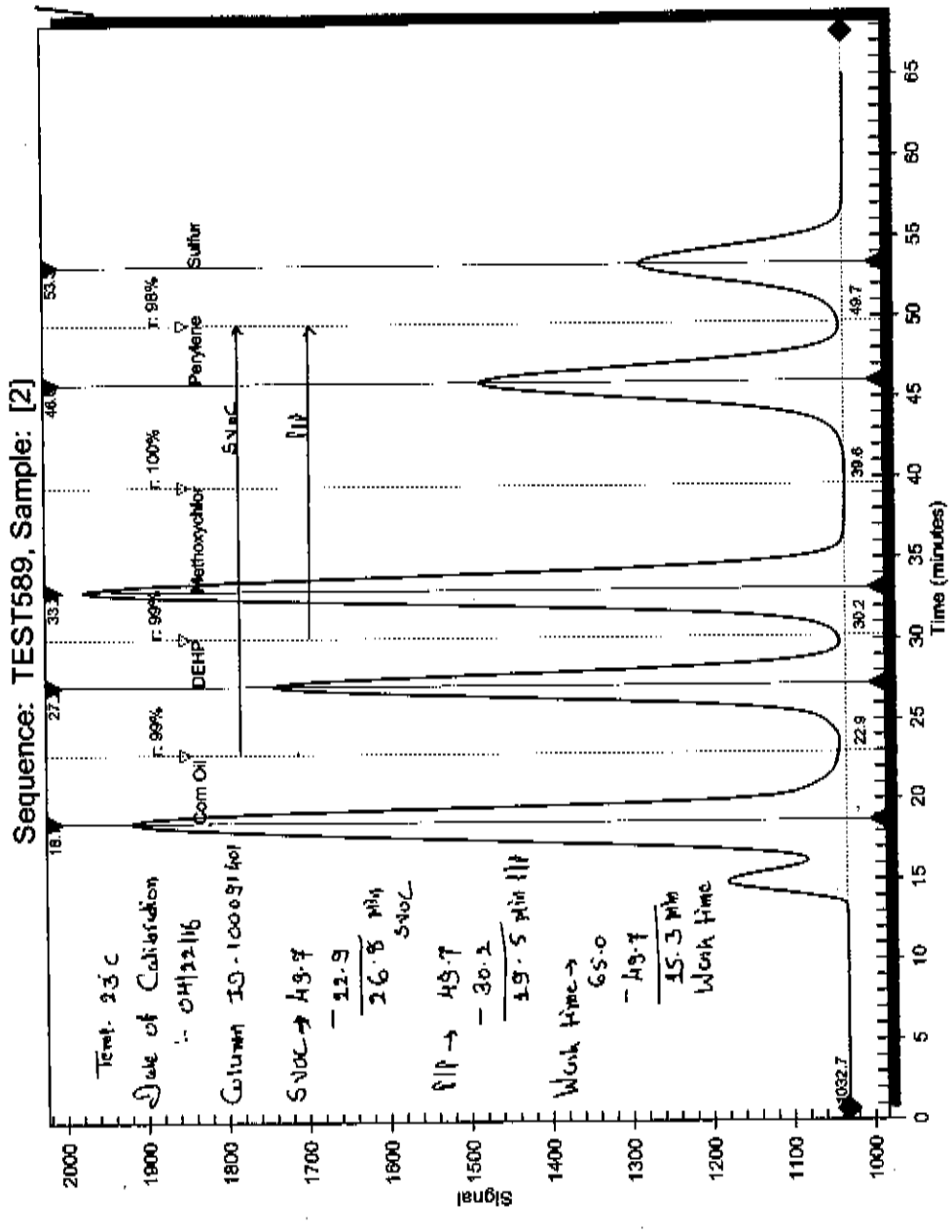
Manual Integrations APPROVED
sohil
5/16/2016 7:02:04 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.75	152	51562	20.00	ng/ul	0.00
18) Naphthalene-d8	10.53	136	238097	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.39	164	150598	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.14	188	383066	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	473564	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	401608	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.25	96	4317	3.94	ng/uL	0.00
5) Phenol-d5	6.93	99	103897	22.22	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.08	67	60651	22.73	ng/ul	0.00
9) 2-Chlorophenol-d4	7.29	132	81400	23.05	ng/ul	0.00
13) 4-Methylphenol-d8	8.46	113	87220	22.56	ng/ul	0.00
19) Nitrobenzene-d5	8.90	128	41853	24.62	ng/ul	0.00
22) 2-Nitrophenol-d4	9.63	143	48316	25.10	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.17	165	85950	24.03	ng/ul	0.00
29) 4-Chloroaniline-d4	10.68	131	57087	13.26	ng/ul	0.00
43) Dimethylphthalate-d6	13.80	166	315991	26.18	ng/ul	0.00
46) Acenaphthylene-d8	14.08	160	356861	25.20	ng/ul	0.00
51) 4-Nitrophenol-d4	14.62	143	39394m	17.88	ng/ul	0.00
57) Fluorene-d10	15.39	176	261046	25.04	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.52	200	32721	15.18	ng/ul	0.00
70) Anthracene-d10	17.24	188	428673	25.32	ng/ul	0.00
76) Pyrene-d10	19.54	212	531506	24.31	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.47	264	452484	25.45	ng/ul	0.01
Target Compounds						Qvalue
4) Benzaldehyde	6.91	77	4187	1.85	ng/ul#	83
6) Phenol	6.96	94	109781	22.71	ng/ul	99
10) 2-Chlorophenol	7.32	128	81446	22.54	ng/ul	97
14) Acetophenone	8.57	105	7587	1.32	ng/ul	97
15) N-Nitroso-di-n-propylamine	8.55	70	78401	26.20	ng/ul	98
33) 4-Chloro-3-methylphenol	11.83	107	110585	25.18	ng/ul	99
44) Dimethylphthalate	13.84	163	95220	7.89	ng/ul	99
49) Acenaphthene	14.46	153	245941	24.91	ng/ul	99
52) 4-Nitrophenol	14.64	109	38524m	21.03	ng/ul	
54) 2,4-Dinitrotoluene	14.77	165	94898	26.75	ng/ul	100
68) Pentachlorophenol	16.80	266	53059	23.18	ng/ul	93
77) Pyrene	19.57	202	677389	24.66	ng/ul	97

U.M 05/17/16

U.M 05/17/16

(#) = qualifier out of range (m) = manual integration (+) = signals summed



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Daily Analysis Runlog

J2 SCIENTIFIC ACCUPREP GPC System

Start Date: 04/25/16 End Date: 05/01/16 Analyst [illegible] Review By: [illegible]

STD. Name	STD REF. #:	Check Standard	Data File and Date	Reagent
GPC Calibration	E1 1670	BNA Blank Check		Methylene Chloride
Pest Check Std	H 10896 2.0 ml	Pesticide Blank Check		Reagent Reference #
PCB Check Std	H 10806 1.0 ml	Pesticide Check		E 2098
CALIB. DATE:	04/22/16	PCB Check		

Port #	Sample ID	Volume Collected	GPC Date	BNA	PEST	Comments
1	Column cleaned	-	04/22/16	-	-	
2	Calc Calibration	-		-	-	U.V. Trace Analysis
1	Column cleaned	-	04/22/16	-	-	
2	H 2694-09 Blk			-	✓	H 2694-BN Blk & Lcs
3	H 2694-08 Blk			-	✓	
4	H 2694-07 Pest Blk			-	✓	
5	H 2694-06 Pest Blk			-	✓	
6	H 2694-05 Blk BN			✓	-	

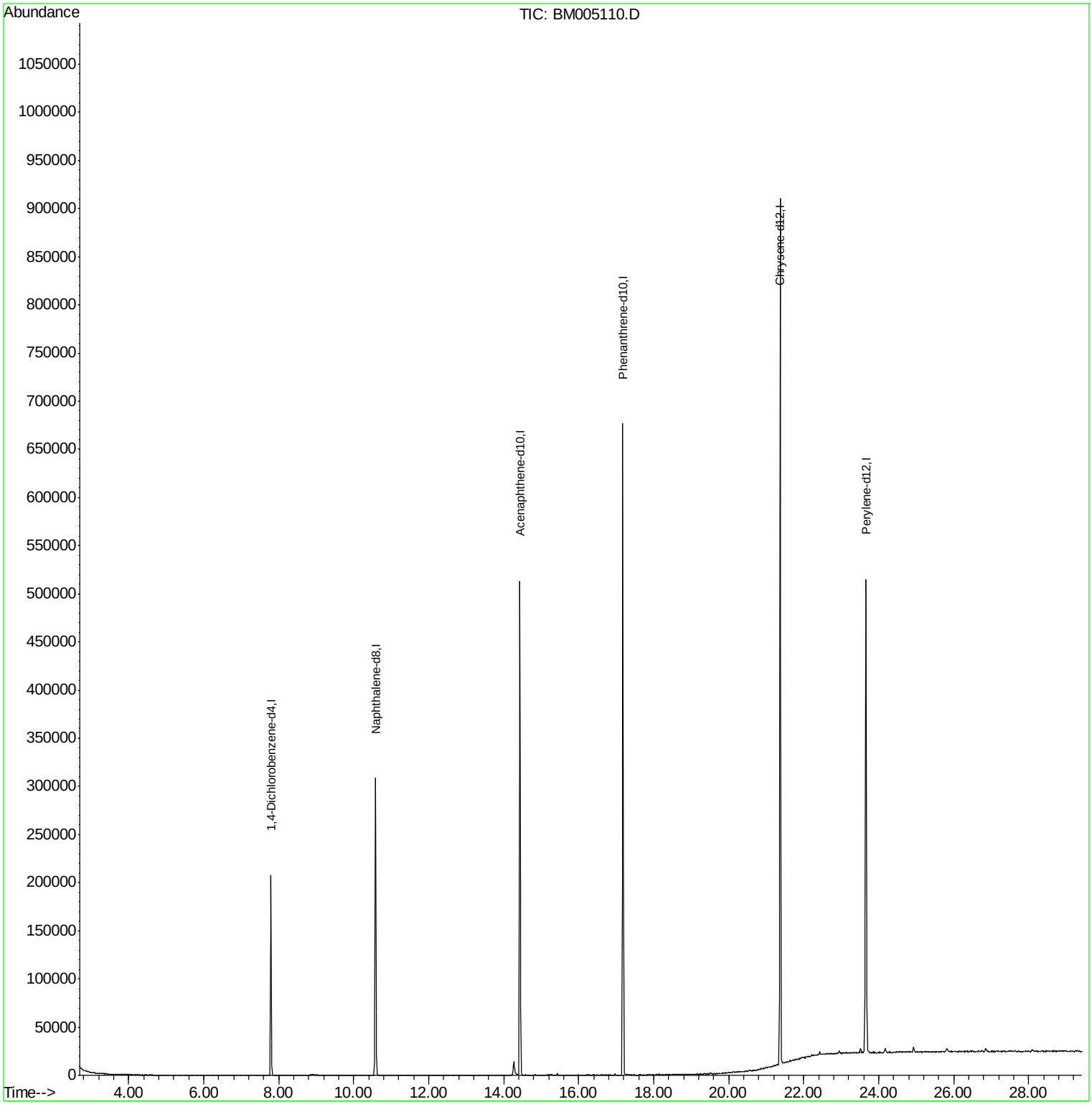
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM042816\
Data File : BM005110.D
Acq On : 28 Apr 2016 12:24
Operator : UM/SJ
Sample : H2694-05
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 29 10:52:26 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri Apr 29 02:20:37 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SVOC-GPC-BLANK

Manual Integrations APPROVED
sohil
4/29/2016 10:36:29 AM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM042816\
Data File : BM005110.D
Acq On : 28 Apr 2016 12:24
Operator : UM/SJ
Sample : H2694-05
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SVOC-GPC-BLANK

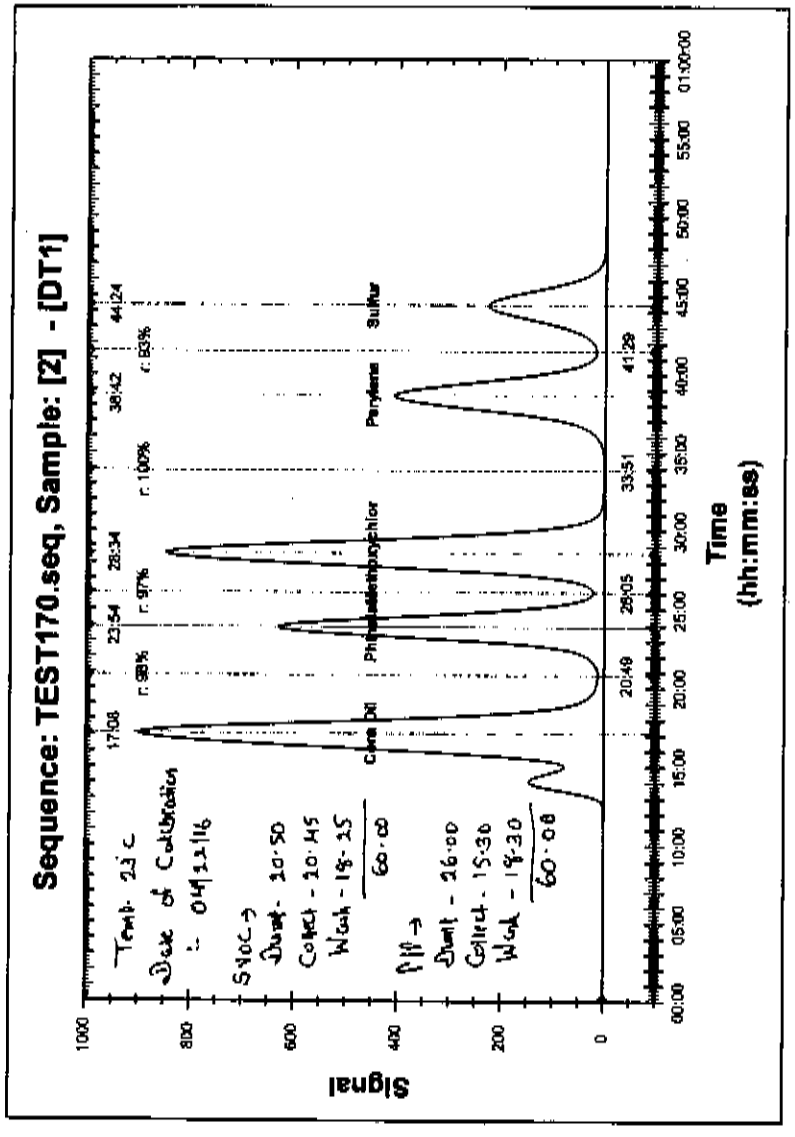
Manual Integrations APPROVED
sohil
4/29/2016 10:36:29 AM

Quant Time: Apr 29 10:52:26 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri Apr 29 02:20:37 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.79	152	59201	20.00	ng/ul	0.00
18) Naphthalene-d8	10.58	136	264665	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.43	164	172001	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.18	188	413495	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	441629	20.00	ng/ul	0.00
83) Perylene-d12	23.66	264	361248	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0	0.00	ng/uL	
5) Phenol-d5	0.00	99	0	0.00	ng/ul	
7) Bis-(2-Chloroethyl)ether-d	0.00	67	0	0.00	ng/ul	
9) 2-Chlorophenol-d4	0.00	132	0	0.00	ng/ul	
13) 4-Methylphenol-d8	0.00	113	0	0.00	ng/ul	
19) Nitrobenzene-d5	0.00	128	0	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0	0.00	ng/ul	
29) 4-Chloroaniline-d4	0.00	131	0	0.00	ng/ul	
43) Dimethylphthalate-d6	0.00	166	0	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0	0.00	ng/ul	
51) 4-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
57) Fluorene-d10	0.00	176	0d	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	0.00	200	0	0.00	ng/ul	
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed



GPC

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Daily Analysis Runlog

J2 SCIENTIFIC PREPLINE GPC System

Start Date: 04/25/16 End Date: 05/01/16 Analyst M/JJM Review By

STD. Name	STD REF. #:	Check Standard	Data File and Date	Reagent
GPC Calibration	E.P 1670	BNA Blank Check		Methylene Chloride
Pest Check Std	PP 10896 2.0 mL	Pesticide Blank Check		Reagent Reference #
PCB Check Std	PP 10804 1.0 mL	Pesticide Check		E 2098
CALIB. DATE:	04/22/16	PCB Check		

	Port #	Sample ID	Volume Collected	GPC Date	BNA	PEST	Comments
	1	GPC Calibration	-	04/22/16	-	-	U.V. Trace Analysis
	1	H 2694 - 1M PCB 50%	55	04/22/16	-	✓	H 2694 BN/PCB/Kit
	2	H 2694 - 12 PCB BLK	55		-	✓	
	3	H 2694 - 12 PEST 50%	55		-	✓	
	4	H 2694 - 11 PEST BLK	55		-	✓	
	5	H 2694 - 10 BLK BN	45		✓	-	

4/22

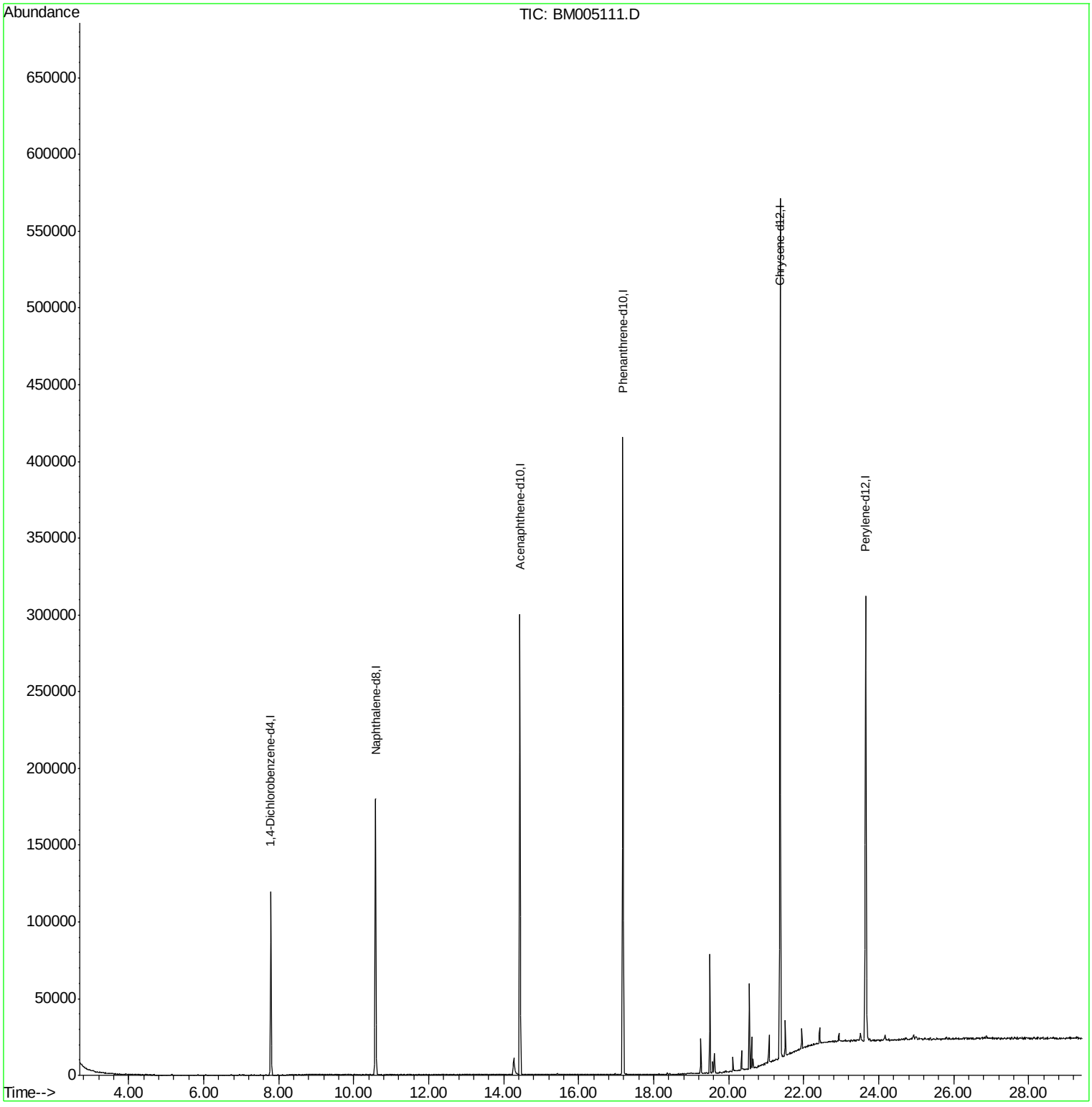
Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM042816\
Data File : BM005111.D
Acq On : 28 Apr 2016 13:00
Operator : UM/SJ
Sample : H2694-10
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 29 10:53:52 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri Apr 29 02:20:37 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SVOC-GPC2-BLANK

Manual Integrations APPROVED
sohil
4/29/2016 10:36:30 AM



Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM042816\
Data File : BM005111.D
Acq On : 28 Apr 2016 13:00
Operator : UM/SJ
Sample : H2694-10
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SVOC-GPC2-BLANK

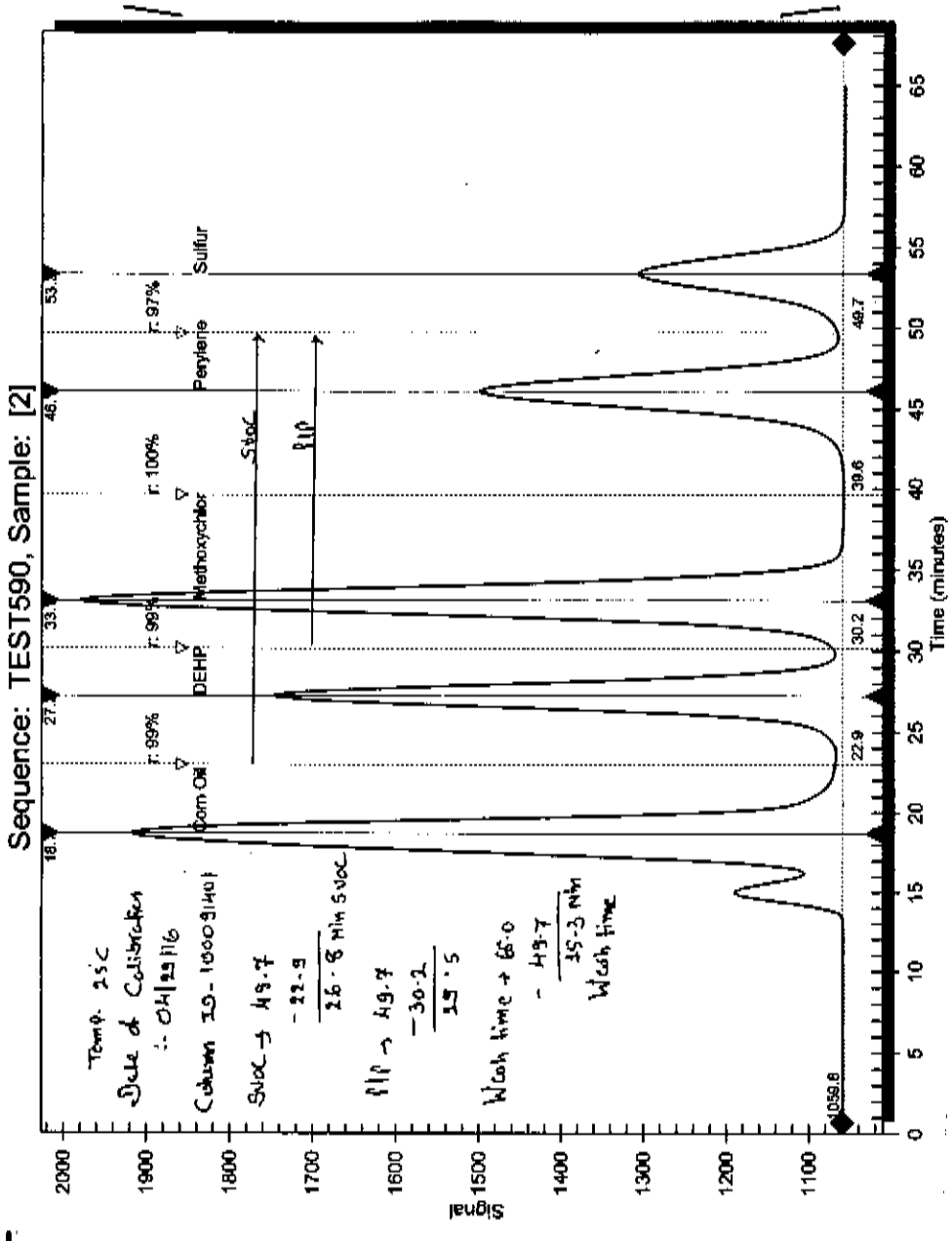
Manual Integrations APPROVED
sohil
4/29/2016 10:36:30 AM

Quant Time: Apr 29 10:53:52 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri Apr 29 02:20:37 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.79	152	34221	20.00	ng/ul	0.00
18) Naphthalene-d8	10.58	136	156560	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.43	164	102863	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	249813	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	266816	20.00	ng/ul	0.00
83) Perylene-d12	23.65	264	213427	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0	0.00	ng/uL	
5) Phenol-d5	0.00	99	0	0.00	ng/ul	
7) Bis-(2-Chloroethyl)ether-d	0.00	67	0	0.00	ng/ul	
9) 2-Chlorophenol-d4	0.00	132	0	0.00	ng/ul	
13) 4-Methylphenol-d8	0.00	113	0	0.00	ng/ul	
19) Nitrobenzene-d5	0.00	128	0	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0	0.00	ng/ul	
29) 4-Chloroaniline-d4	0.00	131	0	0.00	ng/ul	
43) Dimethylphthalate-d6	0.00	166	0	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0	0.00	ng/ul	
51) 4-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
57) Fluorene-d10	0.00	176	0d	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	0.00	200	0	0.00	ng/ul	
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed



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Daily Analysis Runlog

J2 SCIENTIFIC ACCUPREP GPC System

Start Date: 05/02/16 End Date: 05/09/16 Analyst: [illegible] Review By: [illegible]

STD. Name	STD REF. #:	Check Standard	Data File and Date	Reagent
GPC Calibration	E# 1670	BNA Blank Check		Methylene Chloride
Pest Check Std	PP 10896 2.0 ml	Pesticide Blank Check		Reagent Reference #
PCB Check Std	PP 10906 1.0 ml	Pesticide Check		E 2105
CALIB. DATE:	04/29/16	PCB Check		

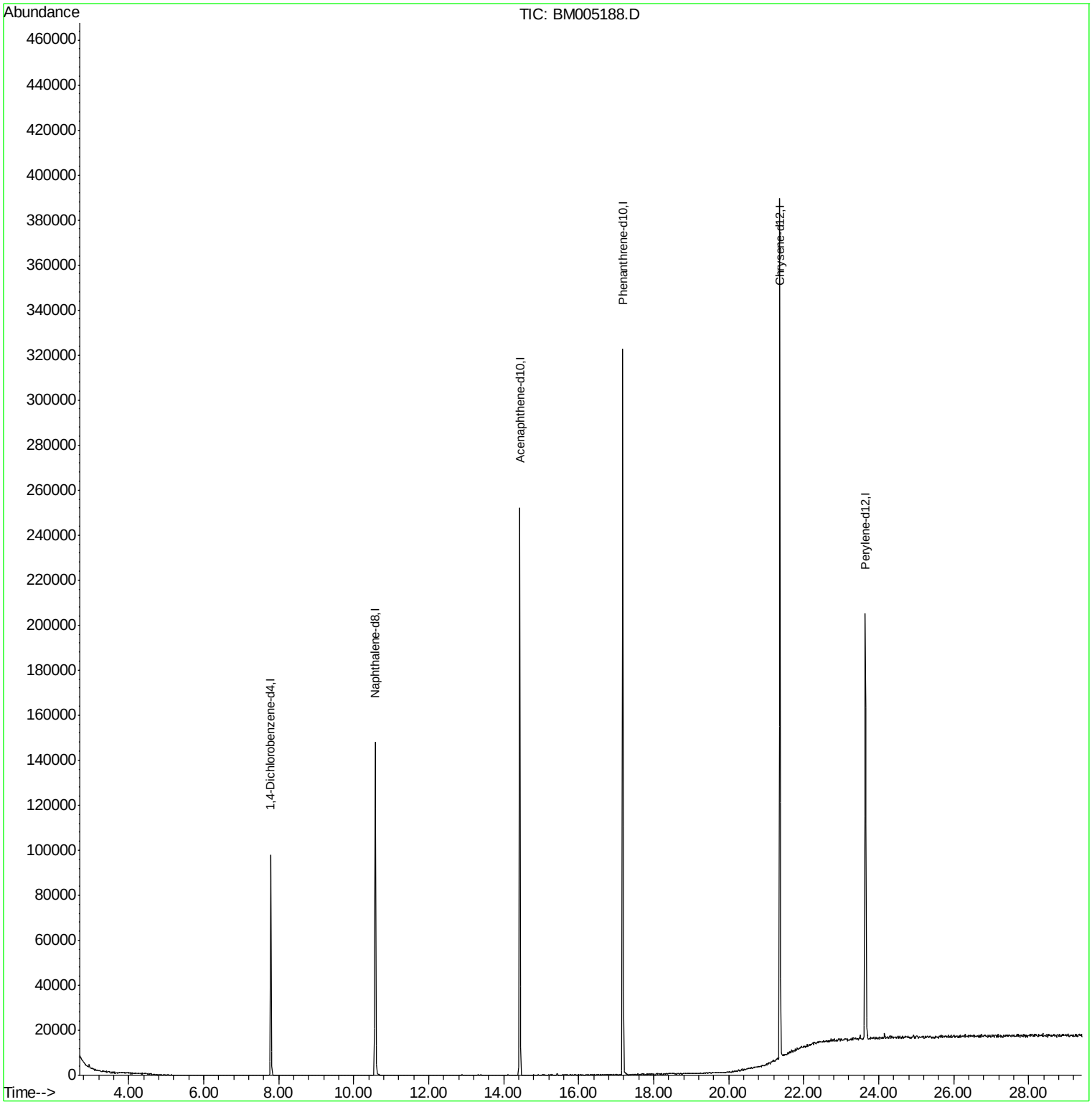
	Port #	Sample ID	Volume Collected	GPC Date	BNA	PEST	Comments
	1	Column Cleaned	-	04/29/16	-	-	
	2	GPC Calibration	-		-	-	U.V. Trace Analysis
	1	Column Cleaned	-	04/29/16	-	-	
	2	H 2796-09 Pig Stk	SS		-	✓	H 2796-BN Healthy
	3	H 2798-05 PCB Blk	SS		-	✓	
	4	H 2798-07 Pest Stk	SS		-	✓	
	5	H 2798-06 Pest Blk	SS		-	✓	
	6	H 2798-05 BN	FT		✓	-	

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM050216\
Data File : BM005188.D
Acq On : 02 May 2016 12:20
Operator : UM/SJ
Sample : H2798-05
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SVOC-GPC-BLANK

Quant Time: May 03 10:49:19 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Tue May 03 03:20:39 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM050216\
Data File : BM005188.D
Acq On : 02 May 2016 12:20
Operator : UM/SJ
Sample : H2798-05
Misc :
ALS Vial : 3 Sample Multiplier: 1

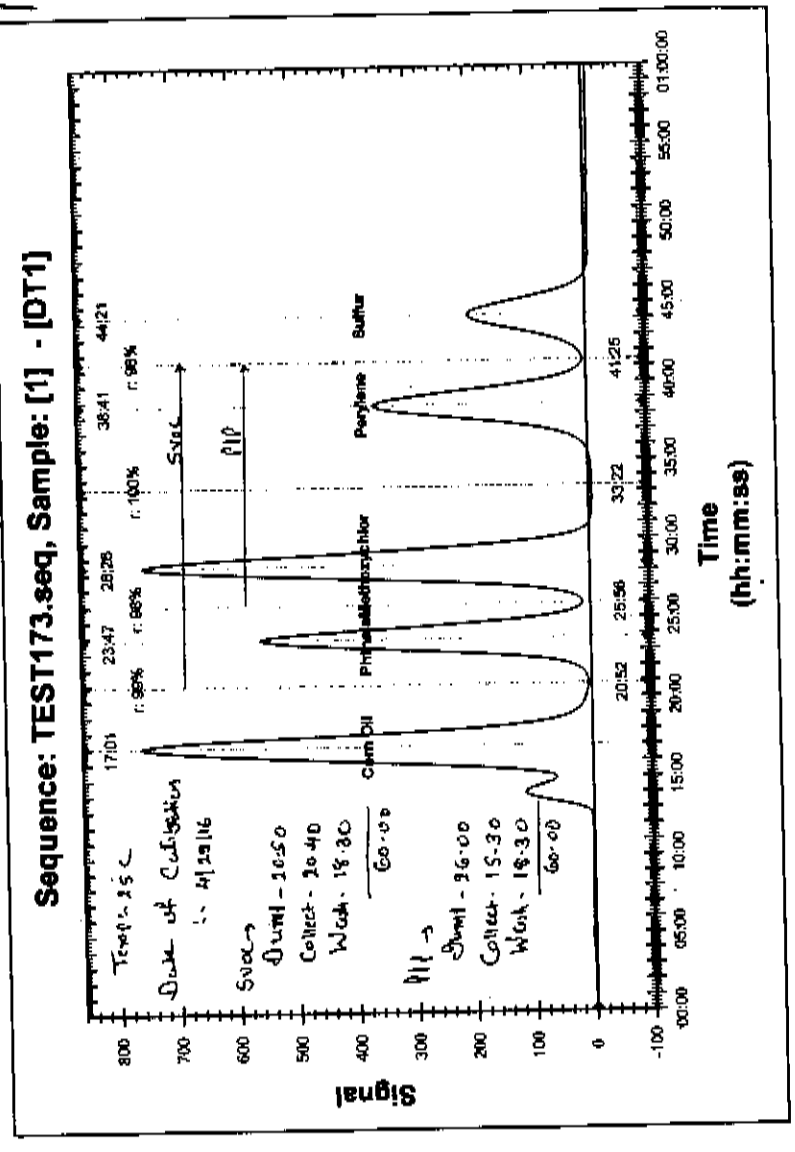
Instrument : BNA_M
ClientSampleId : SVOC-GPC-BLANK

Quant Time: May 03 10:49:19 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Tue May 03 03:20:39 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.79	152	28304	20.00	ng/ul	0.00
18) Naphthalene-d8	10.57	136	133029	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.43	164	86989	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	202031	20.00	ng/ul	0.00
75) Chrysene-d12	21.36	240	179336	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	145233	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0	0.00	ng/uL	
5) Phenol-d5	0.00	99	0	0.00	ng/ul	
7) Bis-(2-Chloroethyl)ether-d	0.00	67	0	0.00	ng/ul	
9) 2-Chlorophenol-d4	0.00	132	0	0.00	ng/ul	
13) 4-Methylphenol-d8	0.00	113	0	0.00	ng/ul	
19) Nitrobenzene-d5	0.00	128	0	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0	0.00	ng/ul	
29) 4-Chloroaniline-d4	0.00	131	0	0.00	ng/ul	
43) Dimethylphthalate-d6	0.00	166	0	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0	0.00	ng/ul	
51) 4-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
57) Fluorene-d10	0.00	176	0d	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	0.00	200	0	0.00	ng/ul	
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed



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Daily Analysis Runlog

J2 SCIENTIFIC PREPLINE GPC System

Start Date: 05/02/16 End Date: 05/05/16 Analyst: [illegible] Review By: [illegible]

STD. Name	STD REF. #:	Check Standard	Data File and Date	Reagent
GPC Calibration	E1670	BNA Blank Check		Methylene Chloride
Pest Check Std	H10896 2.0 ML	Pesticide Blank Check		Reagent Reference #
PCB Check Std	H10806 1.0 ML	Pesticide Check		E 2105
CALIB. DATE:-	04/29/16	PCB Check		

	Port #	Sample ID	Volume Collected	GPC Date	BNA	PEST	Comments
	1	Chk Calibration	--	04/29/16	-	-	H.V. Trace Analysis
	1	H 2798-14 KB SPK	55	04/29/16	-	✓	H 2798 BNA ISTD
	2	H 2798-13 LIABK	55		-	✓	
	3	H 2798-12 Pest SPK	55		-	✓	
	4	H 2798-11 Pest Blk	55		-	✓	
	5	H 2798-10 BN	70		✓	-	

4/29

Daily Maintenance Runlog For J2 SCIENTIFIC ACCUPREP GPC System

	Analyst Initial	Performed
1.	STS	filling of Meds.
2.		
3		
4		
5		

Daily Analysis Ruulog

J2 SCIENTIFIC ACCUPREP GPC System

Start Date: 05/02/16 End Date: 05/09/16 Analyst [illegible] Review By: [illegible]

STD. Name	STD REF. #:	Check Standard	Data File and Date	Reagent
GPC Calibration	EP 1670	BNA Blank Check		Methylene Chloride
Pest Check Std	PP 108956 2.0mL	Pesticide Blank Check		Reagent Reference #
PCB Check Std	PP 109006 1.0mL	Pesticide Check		E 2105
CALIB. DATE:	04/29/16	PCB Check		

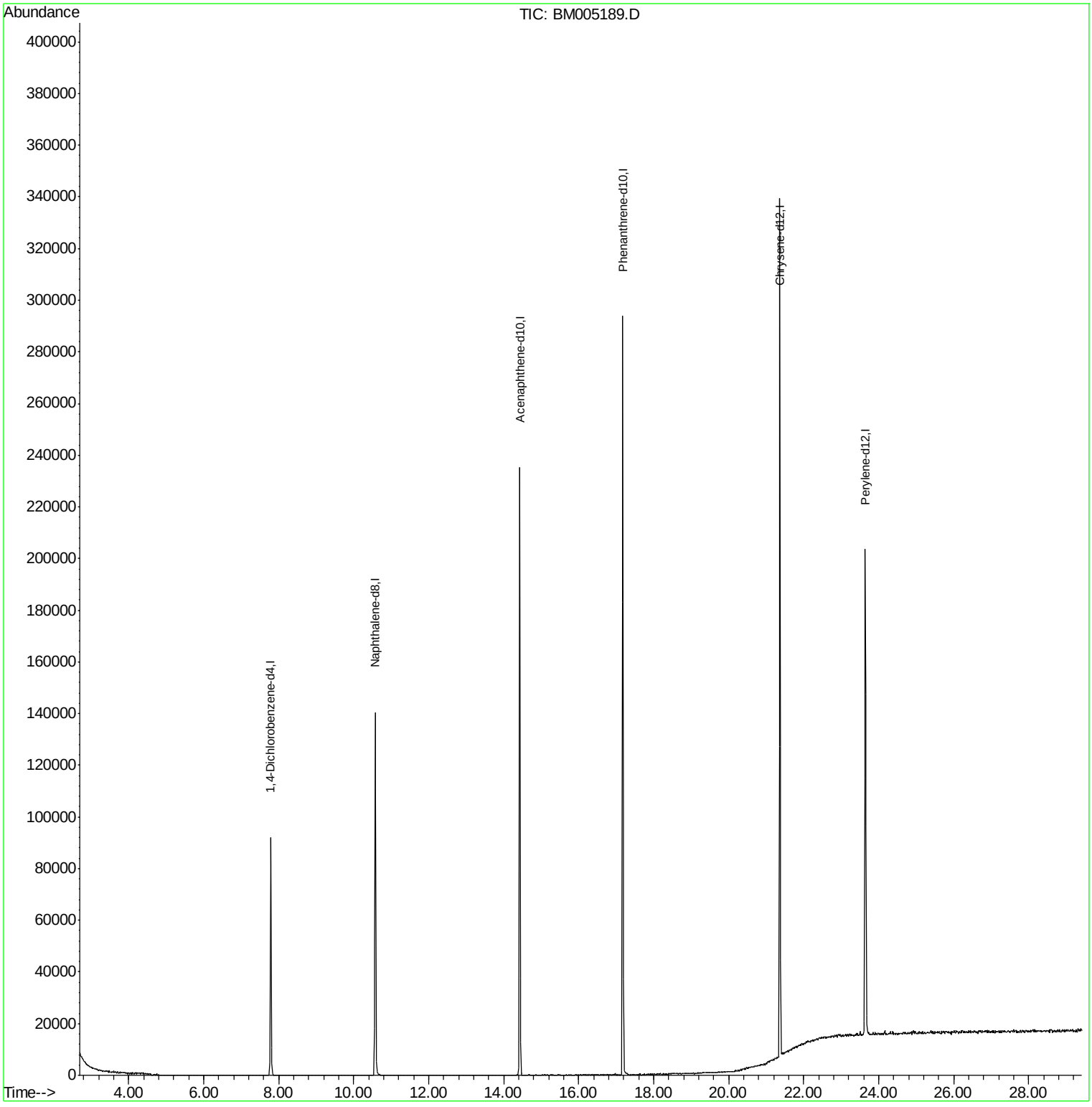
	Port #	Sample ID	Volume Collected	GPC Date	BNA	PEST	Comments
	1	H 2834-13-BN 2.2	75	05/01/16	✓	–	H 2534 & BN H 2588
	2	-16	75		✓	–	
	3	-14 MS	75		✓	–	
	4	-15 MSD	75		✓	–	
	5	Blk BN	75		✓	–	
	6	H 2588-01 BN 2.2	75		✓	–	
	7	-02	75		✓	–	
	8	-03	75	05/06/16	✓	–	
	9	-04	75		✓	–	
	10	-05	75		✓	–	
	11	-06	75		✓	–	
	12	-07	75		✓	–	
	13	-08	75		✓	–	
	14	-09	75		✓	–	
	15	-10	75		✓	–	
	16						
	17						

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM050216\
Data File : BM005189.D
Acq On : 02 May 2016 12:56
Operator : UM/SJ
Sample : H2798-10
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SVOC-GPC2-BLANK

Quant Time: May 03 10:50:40 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Tue May 03 03:20:39 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM050216\
Data File : BM005189.D
Acq On : 02 May 2016 12:56
Operator : UM/SJ
Sample : H2798-10
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SVOC-GPC2-BLANK

Quant Time: May 03 10:50:40 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Tue May 03 03:20:39 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.79	152	27076	20.00	ng/ul	0.00
18) Naphthalene-d8	10.57	136	126066	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.43	164	81864	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	183438	20.00	ng/ul	0.00
75) Chrysene-d12	21.36	240	162750	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	138553	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0	0.00	ng/uL	
5) Phenol-d5	0.00	99	0	0.00	ng/ul	
7) Bis-(2-Chloroethyl)ether-d	0.00	67	0	0.00	ng/ul	
9) 2-Chlorophenol-d4	0.00	132	0	0.00	ng/ul	
13) 4-Methylphenol-d8	0.00	113	0	0.00	ng/ul	
19) Nitrobenzene-d5	0.00	128	0	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0	0.00	ng/ul	
29) 4-Chloroaniline-d4	0.00	131	0	0.00	ng/ul	
43) Dimethylphthalate-d6	0.00	166	0	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0	0.00	ng/ul	
51) 4-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
57) Fluorene-d10	0.00	176	0	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	0.00	200	0	0.00	ng/ul	
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Prep Standard - Chemical Standard Summary

Order ID : H2834

Test : VOC-Low Level -15

Prepbatch ID :

Sequence ID/Qc Batch ID: VI050416,VI050516,VI050616,VI050416

Standard ID :
VP47998,VP52019,VP52036,VP52453,VP52662,VP52664,VP52665,VP52666,VP52667,VP52668,VP52669,VP52670,VP52696,VP52698,VP52699,VP52700,VP52731,VP52733,VP52734,VP52735,

Chemical ID :
V1456,V5218,V5740,V5948,V6161,V6285,V6330,V6355,V6373,V6406,V6419,V6493,V6580,V6583,V6588,V6592,V6593,V6671,

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
218	BFB, 25PPM	VP47998	11/13/2015	05/13/2016	sam

FROM 0.500ml of V5218 + 49.500ml of V6285 = Final Quantity: 50.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1721	SOM01.2 TRACE-Calibration Mix,25 PPM	VP52019	04/15/2016	05/16/2016	sam

FROM 0.125ml of V5948 + 0.125ml of V6161 + 0.125ml of V6355 + 0.250ml of V6406 + 0.250ml of V6419 + 0.500ml of V6373 + 8.625ml of V6493 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1896	Trace internal standard 50 ppm	VP52036	04/15/2016	05/16/2016	sam

FROM 0.200ml of V5740 + 9.800ml of V6493 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1897	Trace surrogate mix 25 ppm	VP52453	04/28/2016	05/28/2016	sam

FROM 0.200ml of V6593 + 0.500ml of V6330 + 1.200ml of V6580 + 1.200ml of V6583 + 1.200ml of V6588 + 1.200ml of V6592 + 4.500ml of V6671 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1734	BFB TUNE SOM01.2 TRACE	VP52662	05/04/2016	05/05/2016	feifei

FROM 40.000ml of V1456 + 0.003ml of VP47998 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1722	0.5 PPB ICC SOM01.2 Trace	VP52664	05/04/2016	05/05/2016	feifei

FROM 39.990ml of V1456 + 0.001ml of VP52019 + 0.001ml of VP52453 + 0.004ml of VP52036 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1723	1 PPB ICC SOM01.2 Trace	VP52665	05/04/2016	05/05/2016	feifei

FROM 39.990ml of V1456 + 0.002ml of VP52019 + 0.002ml of VP52453 + 0.004ml of VP52036 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1724	5 PPB ICC SOM01.2 Trace	VP52666	05/04/2016	05/05/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1725	10 PPB ICC SOM01.2 Trace	VP52667	05/04/2016	05/05/2016	feifei

FROM 39.960ml of V1456 + 0.004ml of VP52036 + 0.016ml of VP52019 + 0.016ml of VP52453 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1726	20 PPB ICC SOM01.2 Trace	VP52668	05/04/2016	05/05/2016	feifei

FROM 39.930ml of V1456 + 0.004ml of VP52036 + 0.032ml of VP52019 + 0.032ml of VP52453 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52669	05/04/2016	05/05/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52670	05/04/2016	05/05/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1734	BFB TUNE SOM01.2 TRACE	VP52696	05/05/2016	05/06/2016	feifei

FROM 40.000ml of V1456 + 0.003ml of VP47998 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52698	05/05/2016	05/06/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52699	05/05/2016	05/06/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52700	05/05/2016	05/06/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1734	BFB TUNE SOM01.2 TRACE	VP52731	05/06/2016	05/07/2016	feifei

FROM 40.000ml of V1456 + 0.003ml of VP47998 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52733	05/06/2016	05/07/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52734	05/06/2016	05/07/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52735	05/06/2016	05/07/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Res-Kem General water	DIW / DI Water	DAILY	12/31/2019	03/01/2010 / apatel	03/02/2010 / apatel	V1456

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30067 / BFB tuneing solution	A0102518	04/30/2019	11/13/2015 / sam	07/14/2014 / sam	V5218

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30091 / VOA Mix, CLP method L/C Internal Std 2500uq/ml, PT&M, 1ml/ampul	A099377	10/31/2018	04/13/2016 / sam	03/27/2015 / sam	V5740

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30429 / 1,2,3-Trichloropropane Standard, 2,000 ug/ml	A0108463	01/31/2020	12/11/2015 / sam	06/04/2015 / sam	V5948

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30492 / VOA Mix, OLC 03.2 VOA Mega Mix, 1mL, 2000ug/mL, P&TM	A0102833	04/30/2017	03/16/2016 / sam	09/24/2015 / sam	V6161

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	118655	07/13/2017	11/13/2015 / sam	11/04/2015 / sam	V6285

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	04/22/2016 / sam	10/28/2015 / sam	V6330

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30042 / VOA Mix,500 series method 502.2 Calibration Std #1 gases, 2000uq/ml, PTM, 1ml	A0114018	05/31/2022	04/14/2016 / sam	10/28/2015 / sam	V6355

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A0110042	07/31/2018	03/16/2016 / sam	10/28/2015 / sam	V6373

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	01/13/2016 / sam	11/17/2015 / sam	V6406

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0109767	03/31/2020	04/14/2016 / sam	11/19/2015 / sam	V6419

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	127999	10/27/2017	04/05/2016 / sam	01/13/2016 / sam	V6493

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6580

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6583

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6588

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6592

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6593

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	0000127999	10/27/2017	04/28/2016 / sam	04/12/2016 / sam	V6671

RESTEK CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30492 **Lot No.:** A0102833

Description : OLC 03.2 VOA Mega Mix

OLC 03.2 VOA Mega Mix 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2017 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.: K=2)	
1	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1 (Lot Q9B-87) **Purity** 98%	2,006.1 µg/mL	+/- 11.7727 µg/mL +/- 106.7701 µg/mL +/- 106.8878 µg/mL	Gravimetric Unstressed Stressed
2	1,1-dichloroethene **CAS #** 75-35-4 (Lot 33096BKV) **Purity** 99%	2,001.3 µg/mL	+/- 15.4296 µg/mL +/- 106.9831 µg/mL +/- 107.1000 µg/mL	Gravimetric Unstressed Stressed
3	Methyl acetate **CAS #** 79-20-9 (Lot 56696JMV) **Purity** 99%	2,001.5 µg/mL	+/- 11.7459 µg/mL +/- 106.5274 µg/mL +/- 106.6448 µg/mL	Gravimetric Unstressed Stressed
4	Methylene chloride (dichloromethane) **CAS #** 75-09-2 (Lot SHBC7917V) **Purity** 99%	2,001.8 µg/mL	+/- 15.4334 µg/mL +/- 107.0098 µg/mL +/- 107.1268 µg/mL	Gravimetric Unstressed Stressed
5	Carbon disulfide **CAS #** 75-15-0 (Lot C30Y997) **Purity** 98%	2,003.6 µg/mL	+/- 11.7583 µg/mL +/- 106.6397 µg/mL +/- 106.7573 µg/mL	Gravimetric Unstressed Stressed
6	Methyl-tert-butyl ether (MTBE) **CAS #** 1634-04-4 (Lot SHBD2980V) **Purity** 99%	2,001.0 µg/mL	+/- 11.7430 µg/mL +/- 106.5008 µg/mL +/- 106.6182 µg/mL	Gravimetric Unstressed Stressed
7	trans-1,2-Dichloroethene **CAS #** 156-60-5 (Lot 09431AEV) **Purity** 99%	2,005.0 µg/mL	+/- 15.4585 µg/mL +/- 107.1836 µg/mL +/- 107.3007 µg/mL	Gravimetric Unstressed Stressed
8	1,1-Dichloroethane **CAS #** 75-34-3 (Lot Q179-33) **Purity** 98%	2,003.0 µg/mL	+/- 15.4429 µg/mL +/- 107.0752 µg/mL +/- 107.1923 µg/mL	Gravimetric Unstressed Stressed

25	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBD2073V)	2,000.2	µg/mL	+/- +/- +/-	15.4213 106.9257 107.0425	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	dibromochloromethane **CAS #** 124-48-1 **Purity** 98%	(Lot MKBP0459V)	2,000.4	µg/mL	+/- +/- +/-	15.4234 106.9403 107.0572	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBH3877V)	2,004.0	µg/mL	+/- +/- +/-	11.7606 106.6604 106.7780	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBD3200V)	2,002.3	µg/mL	+/- +/- +/-	15.4373 107.0366 107.1536	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBC9001V)	2,005.0	µg/mL	+/- +/- +/-	11.7665 106.7137 106.8313	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot H08Y016)	1,005.5	µg/mL	+/- +/- +/-	5.9008 53.5165 53.5755	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBC6261V)	1,004.0	µg/mL	+/- +/- +/-	5.8920 53.4367 53.4956	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBC4667V)	2,000.0	µg/mL	+/- +/- +/-	11.7371 106.4475 106.5649	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot 10174567)	2,002.5	µg/mL	+/- +/- +/-	11.7518 106.5806 106.6981	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10169400)	2,006.5	µg/mL	+/- +/- +/-	11.7753 106.7935 106.9112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBC3410V)	2,005.1	µg/mL	+/- +/- +/-	15.4593 107.1889 107.3061	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot I29W026)	2,001.9	µg/mL	+/- +/- +/-	15.4342 107.0152 107.1322	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	1,3-Dichlorobenzene **CAS #** 541-73-1 **Purity** 99%	(Lot BCBC1891V)	2,003.2	µg/mL	+/- +/- +/-	15.4448 107.0887 107.2057	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBL3891V)	2,007.4	µg/mL	+/- +/- +/-	15.4766 107.3092 107.4265	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	1,2-Dichlorobenzene **CAS #** 95-50-1 **Purity** 99%	(Lot 68996CMV)	2,002.6	µg/mL	+/- +/- +/-	15.4400 107.0553 107.1723	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
40	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8 **Purity** 99%	(Lot FBL01)	2,000.5	µg/mL	+/- +/- +/-	11.7401 106.4742 106.5916	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Methanol
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Material No.:9077-02
Batch No.: 0000118655
Manufactured Date:2015/07/16
Expiration Date:2017/07/13

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Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.3000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	0.1
Water (by KF, coulometric)	<= 0.08 %	< 0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

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Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

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Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India. 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
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12

Methanol
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J.T.Baker®

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Material No.: 9077-02
Batch No.: 0000127999
Manufactured Date: 2015/10/30
Expiration Date: 2017/10/27

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.7000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	<0.01
Water (by KF, coulometric)	<= 0.08 %	< 0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

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Performance Tested for Use in EPA Methods
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600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

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Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 11485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 11485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James T Ethier
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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30625 **Lot No.:** A0114355

Description : OLC 3.2 VOA Deuterated Monitoring Compounds

OLC 3.2 VOA Ketone Deuterated Monitoring Compounds 500µg/mL, Deuterium Oxide, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M276P24) **Purity** 99%	501.0 µg/mL	+/- 2.9758 +/- 26.6691 +/- 26.6985	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Hexanone-d5 **CAS #** 4840-82-8 (Lot I500P2) **Purity** 99%	501.0 µg/mL	+/- 2.9758 +/- 26.6691 +/- 26.6985	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Deuterium Oxide
CAS # 7789-20-0
Purity 99%

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Catalog No. : 30429 **Lot No.:** A0108463

Description : 1,2,3-Trichloropropane Standard

1,2,3-Trichloropropane 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2,3-Trichloropropane **CAS #** 96-18-4 (Lot 1428739V) **Purity** 99%	2,012.0 µg/mL	+/- 18.7105 µg/mL +/- 26.9814 µg/mL +/- 29.9140 µg/mL		Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 30006 **Lot No.:** A0110042

Description : VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone **CAS #** 67-64-1 **Purity** 99% (Lot 07196AK)	5,000.7 µg/mL	+/- 29.0745 +/- 266.1262 +/- 266.4197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99% (Lot BCBH7802V)	5,000.3 µg/mL	+/- 29.0722 +/- 266.1049 +/- 266.3984	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99% (Lot SHBD1798V)	5,000.7 µg/mL	+/- 29.0745 +/- 266.1262 +/- 266.4197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99% (Lot MKBN7380V)	5,000.7 µg/mL	+/- 29.0745 +/- 266.1262 +/- 266.4197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

12 14

Methanol
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Material No.: 9077-02
Batch No.: 0000127999
Manufactured Date: 2015/10/30
Expiration Date: 2017/10/27

Dee 11/3/16

V-6482 to V 6493 S4

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.7000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	<0.01
Water (by KF, coulometric)	<= 0.08 %	< 0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

For Laboratory, Research or Manufacturing Use
Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
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Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No.: 30067 **Lot No.:** A0102518

Description: 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size: 2 mL **Pkg Amt:** > 1 mL

Expiration Date: April 30, 2019 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,506.0 µg/mL	+/- 14.7066	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 01127COV)		+/- 28.3294	µg/mL	Unstressed
	Purity 99%		+/- 32.5790	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31081 **Lot No.:** A0109767

Description : 1,3,5-Trichlorobenzene Standard

1,3,5-Trichlorobenzene Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,3,5-Trichlorobenzene	1,008.0 µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 108-70-3 (Lot 11319AS)		+/- 11.4324	µg/mL	Unstressed
	Purity 99%		+/- 13.1369	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31280 **Lot No.:** A0111730

Description : Naphthalene Standard

Naphthalene Standard 1000 µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 25°C nominal

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L. ; K=2)		
1	Naphthalene **CAS #** 91-20-3 **Purity** 99% (Lot MKBH4351V)	1,004.0 µg/mL	+/- 5.9635 +/- 44.6249 +/- 49.0256	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 30624 **Lot No.:** A0113615

Description : SOM 01.1 VOA DMC Non-Ketones Standard

OLC 3.2 VOA Non-Ketone Deuterated Monitoring Compounds
500µg/mL, Methanol-OD, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Vinyl Chloride-d3 **CAS #** 6745-35-3 (Lot PR-21820) **Purity** 98%	523.4 µg/mL	+/- 35.2305 µg/mL +/- 35.5916 µg/mL +/- 35.7499 µg/mL	Gravimetric Unstressed Stressed
2	Chloroethane-d5 **CAS #** 19199-91-8 (Lot F243P15) **Purity** 99%	509.0 µg/mL	+/- 19.1030 µg/mL +/- 19.7259 µg/mL +/- 19.9947 µg/mL	Gravimetric Unstressed Stressed
3	1,1-Dichloroethylene-d2 **CAS #** 22280-73-5 (Lot PR-21050) **Purity** 99%	501.0 µg/mL	+/- 2.9758 µg/mL +/- 5.6822 µg/mL +/- 6.5294 µg/mL	Gravimetric Unstressed Stressed
4	Chloroform-d **CAS #** 865-49-6 (Lot A021968500l) **Purity** 99%	503.0 µg/mL	+/- 2.9877 µg/mL +/- 5.7049 µg/mL +/- 6.5554 µg/mL	Gravimetric Unstressed Stressed
5	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 (Lot 14C-191) **Purity** 99%	504.0 µg/mL	+/- 2.9936 µg/mL +/- 5.7162 µg/mL +/- 6.5685 µg/mL	Gravimetric Unstressed Stressed
6	Benzene-d6 **CAS #** 1076-43-3 (Lot 14G-554) **Purity** 99%	500.0 µg/mL	+/- 2.9698 µg/mL +/- 5.6709 µg/mL +/- 6.5163 µg/mL	Gravimetric Unstressed Stressed
7	1,2-Dichloropropane-d6 **CAS #** 93952-08-0 (Lot Z322P8) **Purity** 99%	502.0 µg/mL	+/- 2.9817 µg/mL +/- 5.6935 µg/mL +/- 6.5424 µg/mL	Gravimetric Unstressed Stressed

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30042 **Lot No.:** A0114018

Description : 502.2 Calibration Mix #1

502.2 Calibration Mix #1 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot Q167-08) **Purity** 99%	2,013.4 µg/mL	+/- 14.1778 +/- 24.0720 -/- 27.3231	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBF7067V) **Purity** 99%	2,014.0 µg/mL	+/- 15.9346 +/- 25.1511 +/- 28.2800	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 25LPST) **Purity** 99%	2,018.2 µg/mL	+/- 15.9614 +/- 25.1997 +/- 28.3356	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,018.8 µg/mL	+/- 15.1008 +/- 24.6679 +/- 27.8655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot SHBD1717V) **Purity** 99%	2,006.0 µg/mL	-/- 12.7193 +/- 23.1828 +/- 26.5198	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Trichlorofluoromethane (CFC-11) **CAS #** 75-69-4 (Lot SHBF6387V) **Purity** 99%	2,014.0 µg/mL	+/- 15.3697 +/- 24.7970 +/- 27.9656	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30091 **Lot No.:** A099377

Description : L/C VOA Internal Standard Mix

L/C Internal Std 2500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Difluorobenzene	2,500.5 µg/mL	+/- 14.6743	µg/mL Gravimetric
	CAS # 540-36-3 (Lot 13105AO)		+/- 26.5411	µg/mL Unstressed
	Purity 99%		+/- 30.8641	µg/mL Stressed
2	Chlorobenzene-d5	2,499.0 µg/mL	+/- 14.6655	µg/mL Gravimetric
	CAS # 3114-55-4 (Lot PR-22736)		+/- 26.5252	µg/mL Unstressed
	Purity 99%		+/- 30.8456	µg/mL Stressed
3	1,4-Dichlorobenzene-d4	2,504.5 µg/mL	+/- 14.6978	µg/mL Gravimetric
	CAS # 3855-82-1 (Lot PR-18488)		+/- 26.5836	µg/mL Unstressed
	Purity 99%		+/- 30.9135	µg/mL Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Prep Standard - Chemical Standard Summary

Order ID : H2834

Test : VOC-TCLVOA-10

Prepbatch ID :

Sequence ID/Qc Batch ID: VI050416,VT050516,VT050916,VT041216,VT050616

Standard ID :

VP47998,VP51196,VP51197,VP51198,VP51299,VP51898,VP51899,VP51900,VP51901,VP51902,VP51904,VP51905,VP51906,VP51907,VP52016,VP52017,VP52018,VP52019,VP52036,VP52194,VP52211,VP52212,VP52213,VP52214,VP52215,VP52453,VP52460,VP52662,VP52664,VP52665,VP52666,VP52667,VP52668,VP52669,VP52670,VP52692,VP52693,VP52694,VP52695,VP52707,VP52708,VP52709,VP52723,VP52724,VP52725,VP52726,VP52727,VP52728,VP52729,VP52730,VP52802,VP52809,VP52810,VP52811,VP52812,

Chemical ID :

V1456,V5218,V5739,V5740,V5882,V5948,V6160,V6161,V6162,V6285,V6325,V6326,V6327,V6330,V6331,V6339,V6345,V6355,V6372,V6373,V6374,V6377,V6406,V6408,V6410,V6411,V6412,V6413,V6417,V6418,V6419,V6420,V6421,V6422,V6483,V6486,V6493,V6580,V6583,V6588,V6592,V6593,V6598,V6600,V6601,V6603,V6671,V6674,V6710,V6712,V6713,

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
218	BFB, 25PPM	VP47998	11/13/2015	05/13/2016	sam

FROM 0.500ml of V5218 + 49.500ml of V6285 = Final Quantity: 50.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
651	SOM01.2 Calibration Mix, 200PPM	VP51196	03/15/2016	04/15/2016	sam

FROM 0.800ml of V6374 + 0.800ml of V6413 + 0.800ml of V6417 + 1.000ml of V6160 + 1.000ml of V6345 + 1.200ml of V6412 + 1.200ml of V6418 + 3.200ml of V6483 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
913	SOM01.2 Calibration Mix, 100PPM	VP51197	03/15/2016	04/15/2016	sam

FROM 2.500ml of V6483 + 2.500ml of VP51196 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2133	SOM01.2 Calibration mix, 10PPM	VP51198	03/15/2016	04/15/2016	sam

FROM 4.750ml of V6483 + 0.250ml of VP51196 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2159	SOM01.2. Internal Standard 50 ppm	VP51299	03/18/2016	04/18/2016	sam

FROM 0.200ml of V5739 + 9.800ml of V6486 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
650	SOM01.2 Surrogate, 100PPM	VP51898	04/12/2016	05/12/2016	sam

FROM 0.300ml of V6327 + 0.500ml of V6325 + 0.500ml of V6598 + 0.500ml of V6601 + 1.200ml of V6326 + 1.500ml of V6600 + 1.500ml of V6603 + 4.000ml of V6493 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2752	SOM01.2 Surrogate, 10ppm	VP51899	04/12/2016	05/12/2016	sam

FROM 4.500ml of V6493 + 0.500ml of VP51898 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
732	BFB TUNE CHECK - SOIL	VP51900	04/12/2016	04/13/2016	feifei

FROM 4.998ml of V1456 + 0.002ml of VP47998 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
763	5 PPB ICC, SOM01.2LM-SOIL	VP51901	04/12/2016	04/13/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51198 + 0.003ml of VP51899 + 0.005ml of VP51299 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
764	10 PPB ICC, SOM01.2LM-SOIL	VP51902	04/12/2016	04/13/2016	feifei

FROM 4.985ml of V1456 + 0.005ml of VP51198 + 0.005ml of VP51299 + 0.005ml of VP51899 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
765	50 PPB ICC, SOM01.2LM-SOIL	VP51904	04/12/2016	04/13/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51197 + 0.003ml of VP51898 + 0.005ml of VP51299 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
766	100 PPB ICC, SOM01.2LM-SOIL	VP51905	04/12/2016	04/13/2016	feifei

FROM 4.988ml of V1456 + 0.003ml of VP51196 + 0.005ml of VP51299 + 0.005ml of VP51898 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
767	200 PPB ICC, SOM01.2LM-SOIL	VP51906	04/12/2016	04/13/2016	feifei

FROM 4.980ml of V1456 + 0.005ml of VP51196 + 0.005ml of VP51299 + 0.010ml of VP51898 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP51907	04/12/2016	04/13/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51197 + 0.003ml of VP51898 + 0.005ml of VP51299 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
651	SOM01.2 Calibration Mix, 200PPM	VP52016	04/15/2016	05/16/2016	sam

FROM 0.300ml of V6373 + 0.500ml of V6372 + 1.000ml of V6161 + 1.000ml of V6355 + 1.000ml of V6406 + 1.000ml of V6408 + 1.000ml of V6419 + 1.000ml of V6420 + 3.200ml of V6493 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
913	SOM01.2 Calibration Mix, 100PPM	VP52017	04/15/2016	05/16/2016	sam

FROM 2.500ml of V6493 + 2.500ml of VP52016 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2133	SOM01.2 Calibration mix, 10PPM	VP52018	04/15/2016	05/16/2016	sam

FROM 4.750ml of V6493 + 0.250ml of VP52016 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1721	SOM01.2 TRACE-Calibration Mix,25 PPM	VP52019	04/15/2016	05/16/2016	sam

FROM 0.125ml of V5948 + 0.125ml of V6161 + 0.125ml of V6355 + 0.250ml of V6406 + 0.250ml of V6419 + 0.500ml of V6373 + 8.625ml of V6493 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1896	Trace internal standard 50 ppm	VP52036	04/15/2016	05/16/2016	sam

FROM 0.200ml of V5740 + 9.800ml of V6493 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2159	SOM01.2. Internal Standard 50 ppm	VP52194	04/19/2016	05/19/2016	sam

FROM 0.200ml of V5740 + 9.800ml of V6493 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
763	5 PPB ICC, SOM01.2LM-SOIL	VP52211	04/20/2016	04/21/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51899 + 0.003ml of VP52018 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
764	10 PPB ICC, SOM01.2LM-SOIL	VP52212	04/20/2016	04/21/2016	feifei

FROM 4.985ml of V1456 + 0.005ml of VP51899 + 0.005ml of VP52018 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
765	50 PPB ICC, SOM01.2LM-SOIL	VP52213	04/20/2016	04/21/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51898 + 0.003ml of VP52017 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
766	100 PPB ICC, SOM01.2LM-SOIL	VP52214	04/20/2016	04/21/2016	feifei

FROM 4.988ml of V1456 + 0.003ml of VP52016 + 0.005ml of VP51898 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
767	200 PPB ICC, SOM01.2LM-SOIL	VP52215	04/20/2016	04/21/2016	feifei

FROM 4.980ml of V1456 + 0.005ml of VP52016 + 0.005ml of VP52194 + 0.010ml of VP51898 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1897	Trace surrogate mix 25 ppm	VP52453	04/28/2016	05/28/2016	sam

FROM 0.200ml of V6593 + 0.500ml of V6330 + 1.200ml of V6580 + 1.200ml of V6583 + 1.200ml of V6588 + 1.200ml of V6592 + 4.500ml of V6671 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
651	SOM01.2 Calibration Mix, 200PPM	VP52460	04/28/2016	05/28/2016	sam

FROM 0.500ml of V6411 + 0.500ml of V6413 + 0.500ml of V6419 + 0.500ml of V6422 + 0.800ml of V6377 + 1.000ml of V5882 + 1.000ml of V6162 + 1.000ml of V6410 + 1.000ml of V6421 + 3.200ml of V6671 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1734	BFB TUNE SOM01.2 TRACE	VP52662	05/04/2016	05/05/2016	feifei

FROM 40.000ml of V1456 + 0.003ml of VP47998 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1722	0.5 PPB ICC SOM01.2 Trace	VP52664	05/04/2016	05/05/2016	feifei

FROM 39.990ml of V1456 + 0.001ml of VP52019 + 0.001ml of VP52453 + 0.004ml of VP52036 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1723	1 PPB ICC SOM01.2 Trace	VP52665	05/04/2016	05/05/2016	feifei

FROM 39.990ml of V1456 + 0.002ml of VP52019 + 0.002ml of VP52453 + 0.004ml of VP52036 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1724	5 PPB ICC SOM01.2 Trace	VP52666	05/04/2016	05/05/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1725	10 PPB ICC SOM01.2 Trace	VP52667	05/04/2016	05/05/2016	feifei

FROM 39.960ml of V1456 + 0.004ml of VP52036 + 0.016ml of VP52019 + 0.016ml of VP52453 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1726	20 PPB ICC SOM01.2 Trace	VP52668	05/04/2016	05/05/2016	feifei

FROM 39.930ml of V1456 + 0.004ml of VP52036 + 0.032ml of VP52019 + 0.032ml of VP52453 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52669	05/04/2016	05/05/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1727	5 PPB CCC-CCV SOM01.2 Trace	VP52670	05/04/2016	05/05/2016	feifei

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52019 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
732	BFB TUNE CHECK - SOIL	VP52692	05/05/2016	05/06/2016	feifei

FROM 4.998ml of V1456 + 0.002ml of VP47998 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52693	05/05/2016	05/06/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51898 + 0.003ml of VP52017 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52694	05/05/2016	05/06/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51898 + 0.003ml of VP52017 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52695	05/05/2016	05/06/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51898 + 0.003ml of VP52017 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
913	SOM01.2 Calibration Mix, 100PPM	VP52707	05/05/2016	05/28/2016	sam

FROM 2.500ml of V6674 + 2.500ml of VP52460 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2133	SOM01.2 Calibration mix, 10PPM	VP52708	05/05/2016	05/28/2016	sam

FROM 4.750ml of V6674 + 0.250ml of VP52460 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
650	SOM01.2 Surrogate, 100PPM	VP52709	05/05/2016	06/06/2016	sam

FROM 0.500ml of V6331 + 1.200ml of V6713 + 1.400ml of V6710 + 1.400ml of V6712 + 1.500ml of V6339 + 4.000ml of V6674 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
732	BFB TUNE CHECK - SOIL	VP52723	05/06/2016	05/07/2016	feifei

FROM 4.998ml of V1456 + 0.002ml of VP47998 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
763	5 PPB ICC, SOM01.2LM-SOIL	VP52724	05/06/2016	05/07/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51899 + 0.003ml of VP52708 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
764	10 PPB ICC, SOM01.2LM-SOIL	VP52725	05/06/2016	05/07/2016	feifei

FROM 4.985ml of V1456 + 0.005ml of VP51899 + 0.005ml of VP52194 + 0.005ml of VP52708 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
765	50 PPB ICC, SOM01.2LM-SOIL	VP52726	05/06/2016	05/07/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52709 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
766	100 PPB ICC, SOM01.2LM-SOIL	VP52727	05/06/2016	05/07/2016	feifei

FROM 4.988ml of V1456 + 0.003ml of VP52460 + 0.005ml of VP52194 + 0.005ml of VP52709 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
767	200 PPB ICC, SOM01.2LM-SOIL	VP52728	05/06/2016	05/07/2016	feifei

FROM 4.980ml of V1456 + 0.005ml of VP52194 + 0.005ml of VP52460 + 0.010ml of VP52709 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52729	05/06/2016	05/07/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52709 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52730	05/06/2016	05/07/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52709 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52802	05/06/2016	05/07/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52709 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
732	BFB TUNE CHECK - SOIL	VP52809	05/09/2016	05/10/2016	feifei

FROM 4.998ml of V1456 + 0.002ml of VP47998 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52810	05/09/2016	05/10/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52709 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52811	05/09/2016	05/10/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52709 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52812	05/09/2016	05/10/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52709 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Res-Kem General water	DIW / DI Water	DAILY	12/31/2019	03/01/2010 / apatel	03/02/2010 / apatel	V1456

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30067 / BFB tuneing solution	A0102518	04/30/2019	11/13/2015 / sam	07/14/2014 / sam	V5218

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30091 / VOA Mix, CLP method L/C Internal Std 2500uq/ml, PT&M, 1ml/ampul	A099377	10/31/2018	03/14/2016 / sam	03/27/2015 / sam	V5739

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30091 / VOA Mix, CLP method L/C Internal Std 2500uq/ml, PT&M, 1ml/ampul	A099377	10/31/2018	04/13/2016 / sam	03/27/2015 / sam	V5740

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30042 / VOA Mix,500 series method 502.2 Calibration Std #1 gases, 2000uq/ml, PTM, 1ml	A0109529	11/30/2021	04/28/2016 / sam	05/28/2015 / sam	V5882

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30429 / 1,2,3-Trichloropropane Standard, 2,000 ug/ml	A0108463	01/31/2020	12/11/2015 / sam	06/04/2015 / sam	V5948

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30492 / VOA Mix, OLC 03.2 VOA Mega Mix, 1mL, 2000ug/mL, P&TM	A0102833	04/30/2017	02/15/2016 / sam	09/24/2015 / sam	V6160

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30492 / VOA Mix, OLC 03.2 VOA Mega Mix, 1mL, 2000ug/mL, P&TM	A0102833	04/30/2017	03/16/2016 / sam	09/24/2015 / sam	V6161

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30492 / VOA Mix, OLC 03.2 VOA Mega Mix, 1mL, 2000ug/mL, P&TM	A0102833	04/30/2017	04/28/2016 / sam	09/24/2015 / sam	V6162

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	118655	07/13/2017	11/13/2015 / sam	11/04/2015 / sam	V6285

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	03/30/2016 / sam	10/28/2015 / sam	V6325

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	04/12/2016 / sam	10/28/2015 / sam	V6326

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	04/12/2016 / sam	10/28/2015 / sam	V6327

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	04/22/2016 / sam	10/28/2015 / sam	V6330

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	04/28/2016 / sam	10/28/2015 / sam	V6331

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	05/05/2016 / sam	10/28/2015 / sam	V6339

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30042 / VOA Mix,500 series method 502.2 Calibration Std #1 gases, 2000ug/ml, PTM, 1ml	A0112834	05/31/2022	03/14/2016 / sam	10/28/2015 / sam	V6345

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30042 / VOA Mix,500 series method 502.2 Calibration Std #1 gases, 2000ug/ml, PTM, 1ml	A0114018	05/31/2022	04/14/2016 / sam	10/28/2015 / sam	V6355

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A0110042	07/31/2018	03/16/2016 / sam	10/28/2015 / sam	V6372

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A0110042	07/31/2018	03/16/2016 / sam	10/28/2015 / sam	V6373

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A0110042	07/31/2018	03/14/2016 / sam	10/28/2015 / sam	V6374

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A0110042	07/31/2018	04/28/2016 / sam	10/28/2015 / sam	V6377

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	01/13/2016 / sam	11/17/2015 / sam	V6406

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	04/14/2016 / sam	11/17/2015 / sam	V6408

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	04/28/2016 / sam	11/17/2015 / sam	V6410

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	04/28/2016 / sam	11/17/2015 / sam	V6411

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	03/15/2016 / sam	11/17/2015 / sam	V6412

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	03/15/2016 / sam	11/17/2015 / sam	V6413

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0109767	03/31/2020	02/15/2016 / sam	11/19/2015 / sam	V6417

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0109767	03/31/2020	03/15/2016 / sam	11/19/2015 / sam	V6418

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0109767	03/31/2020	04/14/2016 / sam	11/19/2015 / sam	V6419

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0109767	03/31/2020	04/14/2016 / sam	11/19/2015 / sam	V6420

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0109767	03/31/2020	04/28/2016 / sam	11/19/2015 / sam	V6421

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0113973	03/31/2020	04/28/2016 / sam	11/19/2015 / sam	V6422

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	127999	10/27/2017	02/29/2016 / sam	01/13/2016 / sam	V6483

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	127999	10/27/2017	03/18/2016 / sam	01/13/2016 / sam	V6486

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	127999	10/27/2017	04/05/2016 / sam	01/13/2016 / sam	V6493

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6580

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6583

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6588

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6592

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6593

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	03/30/2016 / sam	03/08/2016 / sam	V6598

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	04/12/2016 / sam	03/08/2016 / sam	V6600

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	04/12/2016 / sam	03/08/2016 / sam	V6601

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	04/12/2016 / sam	03/08/2016 / sam	V6603

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	0000127999	10/27/2017	04/28/2016 / sam	04/12/2016 / sam	V6671

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	0000127999	10/27/2017	05/04/2016 / sam	04/12/2016 / sam	V6674

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	05/05/2016 / sam	04/20/2016 / sam	V6710

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	05/05/2016 / sam	04/20/2016 / sam	V6712

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	05/05/2016 / sam	04/20/2016 / sam	V6713

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30492 **Lot No.:** A0102833

Description : OLC 03.2 VOA Mega Mix

OLC 03.2 VOA Mega Mix 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2017 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.: K=2)		
1	1,1,2-Trichlorotrifluoroethane (CFC-113)	2,006.1 µg/mL	+/- 11.7727	µg/mL	Gravimetric
	CAS # 76-13-1 (Lot Q9B-87)		+/- 106.7701	µg/mL	Unstressed
	Purity 98%		+/- 106.8878	µg/mL	Stressed
2	1,1-dichloroethene	2,001.3 µg/mL	+/- 15.4296	µg/mL	Gravimetric
	CAS # 75-35-4 (Lot 33096BKV)		+/- 106.9831	µg/mL	Unstressed
	Purity 99%		+/- 107.1000	µg/mL	Stressed
3	Methyl acetate	2,001.5 µg/mL	+/- 11.7459	µg/mL	Gravimetric
	CAS # 79-20-9 (Lot 56696JMV)		+/- 106.5274	µg/mL	Unstressed
	Purity 99%		+/- 106.6448	µg/mL	Stressed
4	Methylene chloride (dichloromethane)	2,001.8 µg/mL	+/- 15.4334	µg/mL	Gravimetric
	CAS # 75-09-2 (Lot SHBC7917V)		+/- 107.0098	µg/mL	Unstressed
	Purity 99%		+/- 107.1268	µg/mL	Stressed
5	Carbon disulfide	2,003.6 µg/mL	+/- 11.7583	µg/mL	Gravimetric
	CAS # 75-15-0 (Lot C30Y997)		+/- 106.6397	µg/mL	Unstressed
	Purity 98%		+/- 106.7573	µg/mL	Stressed
6	Methyl-tert-butyl ether (MTBE)	2,001.0 µg/mL	+/- 11.7430	µg/mL	Gravimetric
	CAS # 1634-04-4 (Lot SHBD2980V)		+/- 106.5008	µg/mL	Unstressed
	Purity 99%		+/- 106.6182	µg/mL	Stressed
7	trans-1,2-Dichloroethene	2,005.0 µg/mL	+/- 15.4585	µg/mL	Gravimetric
	CAS # 156-60-5 (Lot 09431AEV)		+/- 107.1836	µg/mL	Unstressed
	Purity 99%		+/- 107.3007	µg/mL	Stressed
8	1,1-Dichloroethane	2,003.0 µg/mL	+/- 15.4429	µg/mL	Gravimetric
	CAS # 75-34-3 (Lot Q179-33)		+/- 107.0752	µg/mL	Unstressed
	Purity 98%		+/- 107.1923	µg/mL	Stressed

25	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBD2073V)	2,000.2	µg/mL	+/- +/- +/-	15.4213 106.9257 107.0425	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	dibromochloromethane **CAS #** 124-48-1 **Purity** 98%	(Lot MKBP0459V)	2,000.4	µg/mL	+/- +/- +/-	15.4234 106.9403 107.0572	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBH3877V)	2,004.0	µg/mL	+/- +/- +/-	11.7606 106.6604 106.7780	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBD3200V)	2,002.3	µg/mL	+/- +/- +/-	15.4373 107.0366 107.1536	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBC9001V)	2,005.0	µg/mL	+/- +/- +/-	11.7665 106.7137 106.8313	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot H08Y016)	1,005.5	µg/mL	+/- +/- +/-	5.9008 53.5165 53.5755	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBC6261V)	1,004.0	µg/mL	+/- +/- +/-	5.8920 53.4367 53.4956	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBC4667V)	2,000.0	µg/mL	+/- +/- +/-	11.7371 106.4475 106.5649	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot 10174567)	2,002.5	µg/mL	+/- +/- +/-	11.7518 106.5806 106.6981	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10169400)	2,006.5	µg/mL	+/- +/- +/-	11.7753 106.7935 106.9112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBC3410V)	2,005.1	µg/mL	+/- +/- +/-	15.4593 107.1889 107.3061	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot I29W026)	2,001.9	µg/mL	+/- +/- +/-	15.4342 107.0152 107.1322	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	1,3-Dichlorobenzene **CAS #** 541-73-1 **Purity** 99%	(Lot BCBC1891V)	2,003.2	µg/mL	+/- +/- +/-	15.4448 107.0887 107.2057	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBL3891V)	2,007.4	µg/mL	+/- +/- +/-	15.4766 107.3092 107.4265	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	1,2-Dichlorobenzene **CAS #** 95-50-1 **Purity** 99%	(Lot 68996CMV)	2,002.6	µg/mL	+/- +/- +/-	15.4400 107.0553 107.1723	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
40	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8 **Purity** 99%	(Lot FBL01)	2,000.5	µg/mL	+/- +/- +/-	11.7401 106.4742 106.5916	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30625 **Lot No.:** A0117015

Description : OLC 3.2 VOA Deuterated Monitoring Compounds

OLC 3.2 VOA Ketone Deuterated Monitoring Compounds 500µg/mL, Deuterium Oxide, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M276P24) **Purity** 99%	500.0 µg/mL	+/- 2.9698 µg/mL +/- 30.1733 µg/mL +/- 30.2449 µg/mL	Gravimetric Unstressed Stressed
2	2-Hexanone-d5 **CAS #** 4840-82-8 (Lot I500P2) **Purity** 99%	500.0 µg/mL	+/- 2.9698 µg/mL +/- 30.1733 µg/mL +/- 30.2449 µg/mL	Gravimetric Unstressed Stressed

Solvent: Deuterium Oxide
CAS # 7789-20-0
Purity 99%

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

Material No.:9077-02
Batch No.: 0000118655
Manufactured Date:2015/07/16
Expiration Date:2017/07/13

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.3000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	0.1
Water (by KF, coulometric)	<= 0.08 %	< 0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

For Laboratory, Research or Manufacturing Use
Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India. 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

12

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

Material No.: 9077-02
Batch No.: 0000127999
Manufactured Date: 2015/10/30
Expiration Date: 2017/10/27

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.7000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	<0.01
Water (by KF, coulometric)	<= 0.08 %	< 0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

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500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 11485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 11485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James T Ethier
Jamie Ethier
Vice President Global Quality

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Catalog No. : 30625 **Lot No.:** A0114355

Description : OLC 3.2 VOA Deuterated Monitoring Compounds

OLC 3.2 VOA Ketone Deuterated Monitoring Compounds 500µg/mL, Deuterium Oxide, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M276P24) **Purity** 99%	501.0 µg/mL	+/- 2.9758 +/- 26.6691 +/- 26.6985	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Hexanone-d5 **CAS #** 4840-82-8 (Lot I500P2) **Purity** 99%	501.0 µg/mL	+/- 2.9758 +/- 26.6691 +/- 26.6985	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Deuterium Oxide
CAS # 7789-20-0
Purity 99%

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Catalog No. : 30429 **Lot No.:** A0108463

Description : 1,2,3-Trichloropropane Standard

1,2,3-Trichloropropane 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2,3-Trichloropropane **CAS #** 96-18-4 (Lot 1428739V) **Purity** 99%	2,012.0 µg/mL	+/- 18.7105 µg/mL +/- 26.9814 µg/mL +/- 29.9140 µg/mL		Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 30006 **Lot No.:** A0110042

Description : VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone **CAS #** 67-64-1 **Purity** 99% (Lot 07196AK)	5,000.7 µg/mL	+/- 29.0745 +/- 266.1262 +/- 266.4197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99% (Lot BCBH7802V)	5,000.3 µg/mL	+/- 29.0722 +/- 266.1049 +/- 266.3984	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99% (Lot SHBD1798V)	5,000.7 µg/mL	+/- 29.0745 +/- 266.1262 +/- 266.4197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99% (Lot MKBN7380V)	5,000.7 µg/mL	+/- 29.0745 +/- 266.1262 +/- 266.4197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

12 14

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Batch No.: 0000127999
Manufactured Date: 2015/10/30
Expiration Date: 2017/10/27

Dee 11/3/16

V-6482 to V 6493 S4

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Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.7000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	<0.01
Water (by KF, coulometric)	<= 0.08 %	< 0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

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Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
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Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

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Catalog No.: 30067 **Lot No.:** A0102518

Description: 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size: 2 mL **Pkg Amt:** > 1 mL

Expiration Date: April 30, 2019 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,506.0 µg/mL	+/- 14.7066	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 01127COV)		+/- 28.3294	µg/mL	Unstressed
	Purity 99%		+/- 32.5790	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 30042 **Lot No.:** A0109529

Description : 502.2 Calibration Mix #1

502.2 Calibration Mix #1 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot Q167-08) **Purity** 99%	1,996.7 µg/mL	+/- 13.4280 µg/mL +/- 23.5055 µg/mL +/- 26.7738 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBC8470V) **Purity** 99%	2,003.4 µg/mL	+/- 13.4056 µg/mL +/- 23.5457 µg/mL +/- 26.8296 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 17542) **Purity** 99%	2,008.0 µg/mL	+/- 13.6043 µg/mL +/- 23.6960 µg/mL +/- 26.9758 µg/mL	Gravimetric Unstressed Stressed
4	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,009.5 µg/mL	+/- 13.0312 µg/mL +/- 23.3832 µg/mL +/- 26.7059 µg/mL	Gravimetric Unstressed Stressed
5	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot SHBD1717V) **Purity** 99%	1,998.3 µg/mL	+/- 13.3715 µg/mL +/- 23.4857 µg/mL +/- 26.7613 µg/mL	Gravimetric Unstressed Stressed
6	Trichlorofluoromethane (CFC-11) **CAS #** 75-69-4 (Lot SHBD5121V) **Purity** 99%	1,998.5 µg/mL	+/- 13.2531 µg/mL +/- 23.4203 µg/mL +/- 26.7045 µg/mL	Gravimetric Unstressed Stressed

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Catalog No. : 31081 **Lot No.:** A0109767

Description : 1,3,5-Trichlorobenzene Standard

1,3,5-Trichlorobenzene Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,3,5-Trichlorobenzene	1,008.0 µg/mL	+/- 5.9872	µg/mL Gravimetric
	CAS # 108-70-3 (Lot 11319AS)		+/- 11.4324	µg/mL Unstressed
	Purity 99%		+/- 13.1369	µg/mL Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 31280 **Lot No.:** A0111730

Description : Naphthalene Standard

Naphthalene Standard 1000 µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 25°C nominal

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L. ; K=2)		
1	Naphthalene **CAS #** 91-20-3 **Purity** 99% (Lot MKBH4351V)	1,004.0 µg/mL	+/- 5.9635 +/- 44.6249 +/- 49.0256	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 30042 **Lot No.:** A0112834

Description : 502.2 Calibration Mix #1

502.2 Calibration Mix #1 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot Q167-08) **Purity** 99%	2,001.9 µg/mL	+/- 16.3175 µg/mL +/- 25.3058 µg/mL +/- 28.3823 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBF7067V) **Purity** 99%	2,002.5 µg/mL	+/- 15.7857 µg/mL +/- 24.9704 µg/mL +/- 28.0854 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 25LPST) **Purity** 99%	2,000.1 µg/mL	+/- 16.4089 µg/mL +/- 25.3518 µg/mL +/- 28.4183 µg/mL	Gravimetric Unstressed Stressed
4	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,001.8 µg/mL	+/- 16.3217 µg/mL +/- 25.3075 µg/mL +/- 28.3835 µg/mL	Gravimetric Unstressed Stressed
5	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot SHBD1717V) **Purity** 99%	1,997.5 µg/mL	+/- 16.5711 µg/mL +/- 25.4381 µg/mL +/- 28.4878 µg/mL	Gravimetric Unstressed Stressed
6	Trichlorofluoromethane (CFC-11) **CAS #** 75-69-4 (Lot SHBD5121V) **Purity** 99%	1,998.3 µg/mL	+/- 16.9478 µg/mL +/- 25.6908 µg/mL +/- 28.7160 µg/mL	Gravimetric Unstressed Stressed

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Catalog No. : 30624 **Lot No.:** A0113615

Description : SOM 01.1 VOA DMC Non-Ketones Standard

OLC 3.2 VOA Non-Ketone Deuterated Monitoring Compounds
500µg/mL, Methanol-OD, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Vinyl Chloride-d3 **CAS #** 6745-35-3 (Lot PR-21820) **Purity** 98%	523.4 µg/mL	+/- 35.2305 µg/mL +/- 35.5916 µg/mL +/- 35.7499 µg/mL	Gravimetric Unstressed Stressed
2	Chloroethane-d5 **CAS #** 19199-91-8 (Lot F243P15) **Purity** 99%	509.0 µg/mL	+/- 19.1030 µg/mL +/- 19.7259 µg/mL +/- 19.9947 µg/mL	Gravimetric Unstressed Stressed
3	1,1-Dichloroethylene-d2 **CAS #** 22280-73-5 (Lot PR-21050) **Purity** 99%	501.0 µg/mL	+/- 2.9758 µg/mL +/- 5.6822 µg/mL +/- 6.5294 µg/mL	Gravimetric Unstressed Stressed
4	Chloroform-d **CAS #** 865-49-6 (Lot A021968500l) **Purity** 99%	503.0 µg/mL	+/- 2.9877 µg/mL +/- 5.7049 µg/mL +/- 6.5554 µg/mL	Gravimetric Unstressed Stressed
5	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 (Lot 14C-191) **Purity** 99%	504.0 µg/mL	+/- 2.9936 µg/mL +/- 5.7162 µg/mL +/- 6.5685 µg/mL	Gravimetric Unstressed Stressed
6	Benzene-d6 **CAS #** 1076-43-3 (Lot 14G-554) **Purity** 99%	500.0 µg/mL	+/- 2.9698 µg/mL +/- 5.6709 µg/mL +/- 6.5163 µg/mL	Gravimetric Unstressed Stressed
7	1,2-Dichloropropane-d6 **CAS #** 93952-08-0 (Lot Z322P8) **Purity** 99%	502.0 µg/mL	+/- 2.9817 µg/mL +/- 5.6935 µg/mL +/- 6.5424 µg/mL	Gravimetric Unstressed Stressed

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Catalog No. : 31081 **Lot No.:** A0113973

Description : 1,3,5-Trichlorobenzene Standard

1,3,5-Trichlorobenzene Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,3,5-Trichlorobenzene	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 108-70-3 (Lot 11319AS)		+/- 11.3644	µg/mL	Unstressed
	Purity 99%		+/- 13.0587	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 30042 **Lot No.:** A0114018

Description : 502.2 Calibration Mix #1

502.2 Calibration Mix #1 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot Q167-08) **Purity** 99%	2,013.4 µg/mL	+/- 14.1778 +/- 24.0720 -/- 27.3231	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBF7067V) **Purity** 99%	2,014.0 µg/mL	+/- 15.9346 +/- 25.1511 +/- 28.2800	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 25LPST) **Purity** 99%	2,018.2 µg/mL	+/- 15.9614 +/- 25.1997 +/- 28.3356	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,018.8 µg/mL	+/- 15.1008 +/- 24.6679 +/- 27.8655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot SHBD1717V) **Purity** 99%	2,006.0 µg/mL	-/- 12.7193 +/- 23.1828 +/- 26.5198	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Trichlorofluoromethane (CFC-11) **CAS #** 75-69-4 (Lot SHBF6387V) **Purity** 99%	2,014.0 µg/mL	+/- 15.3697 +/- 24.7970 +/- 27.9656	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

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Catalog No. : 30625 **Lot No.:** A0117015

Description : OLC 3.2 VOA Deuterated Monitoring Compounds

OLC 3.2 VOA Ketone Deuterated Monitoring Compounds 500µg/mL, Deuterium Oxide, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L. K=2)		
1	2-Butanone-d5	500.0 µg/mL	+/- 2.9698	µg/mL	Gravimetric
	CAS # 24313-50-6 (Lot M276P24)		+/- 30.1733	µg/mL	Unstressed
	Purity 99%		+/- 30.2449	µg/mL	Stressed
2	2-Hexanone-d5	500.0 µg/mL	+/- 2.9698	µg/mL	Gravimetric
	CAS # 4840-82-8 (Lot I500P2)		+/- 30.1733	µg/mL	Unstressed
	Purity 99%		+/- 30.2449	µg/mL	Stressed

Solvent: Deuterium Oxide
CAS # 7789-20-0
Purity 99%

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Catalog No. : 30091 **Lot No.:** A099377

Description : L/C VOA Internal Standard Mix

L/C Internal Std 2500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Difluorobenzene	2,500.5 µg/mL	+/- 14.6743 µg/mL	Gravimetric
	CAS # 540-36-3 (Lot 13105AO)		+/- 26.5411 µg/mL	Unstressed
	Purity 99%		+/- 30.8641 µg/mL	Stressed
2	Chlorobenzene-d5	2,499.0 µg/mL	+/- 14.6655 µg/mL	Gravimetric
	CAS # 3114-55-4 (Lot PR-22736)		+/- 26.5252 µg/mL	Unstressed
	Purity 99%		+/- 30.8456 µg/mL	Stressed
3	1,4-Dichlorobenzene-d4	2,504.5 µg/mL	+/- 14.6978 µg/mL	Gravimetric
	CAS # 3855-82-1 (Lot PR-18488)		+/- 26.5836 µg/mL	Unstressed
	Purity 99%		+/- 30.9135 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Prep Standard - Chemical Standard Summary

Order ID : H2834

Test : SVOC-TCL BNA -20

Prepbatch ID : PB90332,PB90330,

Sequence ID/Qc Batch ID: bm051116,bm051316,BM050516

Standard ID :
EP1653,EP1663,EP1671,SP3536,SP3592,SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643,SP3652,

Chemical ID :
1ul IS/ 100ul sample,E1520,E2036,E2072,E2087,E2105,E2106,H1268,H1316,M3518,S3852,S3950,S3957,S4227,S4228,S4605,S4617,S4663,S4672,S4673,S4704,S4711,S4814,S4815,S4985,S4992,S4993,S4996,S5008,S5017,S5020,S5022,S5067,S5068,S5069,S5070,S5071,S5072,S5085,V4294,

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
256	BAKED SODIUM SULPHATE	EP1653	02/29/2016	08/29/2016	Rajesh

FROM 4000.000ml of E2036 = Final Quantity: 4000.000 gram

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
314	1.1 H2SO4 SOLN	EP1663	04/01/2016	10/01/2016	rajesh

FROM 1000.000ml of M3518 + 1000.000ml of V4294 = Final Quantity: 2000.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2017	1:1 ACETONE/METHYLENE CHLORIDE	EP1671	04/28/2016	10/26/2016	rajesh

FROM 8000.000ml of E2105 + 8000.000ml of E2106 = Final Quantity: 16000.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3116	SOM02.2 Spike Solution, 80PPM	SP3536	12/17/2015	06/17/2016	Sohil

FROM 0.400ml of S3852 + 0.800ml of S4228 + 48.800ml of H1268 = Final Quantity: 50.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3334	50ug/ml SOM DFTPP	SP3592	02/08/2016	08/08/2016	UMANGI

FROM 0.200ml of S3957 + 9.800ml of E2072 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3243	SOM02.2 STOCK 160 PPM	SP3637	03/16/2016	07/31/2016	UMANGI

FROM 0.320ml of S4605 + 0.320ml of S4617 + 0.320ml of S4663 + 0.320ml of S4704 + 0.400ml of S4992 + 0.600ml of S4672 + 0.800ml of S3950 + 0.800ml of S4711 + 0.800ml of S4996 + 0.800ml of S5085 + 1.000ml of S4673 + 1.200ml of S4993 + 2.320ml of E2087 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3244	SSTD160 PPM	SP3638	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 1.000ml of SP3637 = Final Quantity: 1.010 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3245	SSTD80 PPM	SP3639	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.500ml of E2087 + 0.500ml of SP3637 = Final Quantity: 1.010 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3246	SSTD40 PPM	SP3640	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.725ml of E2087 + 0.250ml of SP3637 = Final Quantity: 1.010 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3247	SSTD20 PPM	SP3641	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.875ml of E2087 + 0.125ml of SP3637 = Final Quantity: 1.010 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3248	SSTD10 PPM	SP3642	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.500ml of E2087 + 0.500ml of SP3641 = Final Quantity: 1.010 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3249	SSTD005 PPM	SP3643	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.750ml of E2087 + 0.250ml of SP3641 = Final Quantity: 1.010 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3217	SOM02.1 SIM/Reg Surrogate 80/16/0.8 PPM	SP3652	03/28/2016	09/28/2016	umangi

FROM 0.080ml of S4227 + 0.400ml of S4815 + 0.800ml of S4985 + 1.200ml of S4814 + 1.200ml of S5067 + 1.200ml of S5068 + 1.200ml of S5069 + 1.200ml of S5070 + 1.200ml of S5071 + 1.200ml of S5072 + 190.320ml of H1316 = Final Quantity: 200.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3382-05 / Sand, Purified (cs/4x2.5kg)	J40625	02/15/2017	09/25/2012 / muteen	02/15/2012 / rajesh	E1520

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	/ Sodium sulfate (anhyhdrous)	433101	10/05/2020	10/30/2015 / rajesh	10/05/2015 / rajesh	E2036

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	0000131014	08/08/2016	02/09/2016 / rajesh	01/22/2016 / rajesh	E2072

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EMD Chemicals Inc.	DX0831CJ-38 / DCM, Cycle Tainer	56056	09/14/2016	03/15/2016 / rajesh	03/15/2016 / rajesh	E2087

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EMD Chemicals Inc.	DX0831CJ-38 / DCM, Cycle Tainer	56056	10/26/2016	04/27/2016 / rajesh	04/08/2016 / rajesh	E2105

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	0000133024	10/27/2016	04/28/2016 / rajesh	04/28/2016 / rajesh	E2106

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9093-03 / Methanol, HPLC (cs/4x4L)	0000064689	01/14/2018	03/10/2015 / TEJASKUMAR	01/14/2015 / IWONA	H1268

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9093-03 / Methanol, HPLC (cs/4x4L)	0000119840	08/16/2020	02/23/2016 / umangi	01/22/2016 / UMANGI	H1316

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	0000095945	11/02/2019	11/20/2015 / mohan	11/18/2015 / mohan	M3518

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31071 / SV Mix,8000 series method, acid matrix spike, 10,000ug/mL, methanol, 5mL/ampul	A0103147	06/30/2021	10/03/2015 / TEJASKUMAR	10/03/2014 / TEJASKUMAR	S3852

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31833 / caprolactam, 2,000 µg/mL in methylene chloride, 1 mL/ampul	A0105455	08/31/2016	01/02/2015 / jung	10/16/2014 / TEJASKUMAR	S3950

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31001 / SV Tuning Compound Standard, 2500 ug/ml,	A0103386	05/31/2017	01/22/2015 / TEJASKUMAR	10/30/2014 / TEJASKUMAR	S3957

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	33913 / SOM01.0 SIM Analysis Standard (Surrogate), 2000 PPM	A0106668	09/30/2020	12/14/2015 / Sohil	02/12/2015 / TEJASKUMAR	S4227

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31084 / SV Mix,8000 series method, Base Neutral Matrix Spike, 5000ug/mL, MeOH, 5mL/ampul	A0108368	01/31/2018	06/16/2015 / TEJASKUMAR	02/12/2015 / TEJASKUMAR	S4228

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0110448	04/30/2020	02/22/2016 / Sohil	07/07/2015 / TEJASKUMAR	S4605

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30614 / 1,4-Dioxane-D8 Standard	A0111152	05/31/2018	02/23/2016 / umangi	07/17/2015 / TEJASKUMAR	S4617

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	98496 / 1,2,3,4-Tetrachlorobenzene, 5000 ug/mL, in MeCl2	061115	06/11/2020	02/22/2016 / Sohil	08/12/2015 / umangi	S4663

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31900 / SOM01.1 Mega Mix, 500-1000 ug/ml	A01082223	07/31/2016	02/22/2016 / Sohil	08/14/2015 / umangi	S4672

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31900 / SOM01.1 Mega Mix, 500-1000 ug/ml	A0112856	07/31/2016	02/29/2016 / UMANGI	08/14/2015 / umangi	S4673

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	98495 / Pentachlorobenzene, 5000 ug/mL, in MeCl2	061115	06/11/2020	02/22/2016 / Sohil	08/31/2015 / umangi	S4704

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	33017 / Benzaldehyde, 2000 ug/ml	A0111289	05/31/2017	03/14/2016 / UMANGI	09/08/2015 / UMANGI	S4711

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30614 / 1,4-Dioxane-D8 Standard	A0111152	05/31/2018	03/28/2016 / umangi	10/20/2015 / nEVILKUMAR	S4814

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30614 / 1,4-Dioxane-D8 Standard	A0111152	05/31/2018	03/28/2016 / umangi	10/20/2015 / nEVILKUMAR	S4815

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0112586	04/30/2019	03/28/2016 / umangi	11/13/2015 / Sohil	S4985

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32208 / atrazine, 1,000 µg/mL in acetone, 1 mL/ampul	A0112545	03/31/2019	02/22/2016 / Sohil	11/19/2015 / Sohil	S4992

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32208 / atrazine, 1,000 µg/mL in acetone, 1 mL/ampul	A0112545	03/31/2019	03/14/2016 / UMANGI	11/19/2015 / Sohil	S4993

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	90494 / 1-Methylnaphthalene, 2000 ug/mL, in methylene chloride	070314	07/03/2019	03/14/2016 / UMANGI	11/19/2015 / Sohil	S4996

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0115444	10/31/2021	03/16/2016 / UMANGI	12/18/2015 / Sohil	S5008

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0115444	05/09/2016	05/02/2016 / umangi	12/18/2015 / Sohil	S5017

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0115444	10/31/2021	05/04/2016 / umangi	12/18/2015 / Sohil	S5020

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0115444	10/31/2021	05/12/2016 / umangi	12/18/2015 / Sohil	S5022

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	03/28/2016 / umangi	01/28/2016 / Sohil	S5067

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	03/28/2016 / umangi	01/28/2016 / Sohil	S5068

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	03/28/2016 / umangi	01/28/2016 / Sohil	S5069

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	03/28/2016 / umangi	01/28/2016 / Sohil	S5070

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	03/28/2016 / umangi	01/28/2016 / Sohil	S5071

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	03/28/2016 / umangi	01/28/2016 / Sohil	S5072

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	03/14/2016 / UMANGI	01/28/2016 / Sohil	S5085

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Res-Kem General water	200111-SCB-R2 / DI Water, Res-Kem	VOC-DailyChecke	12/31/2020	07/01/2013 / apatel	07/01/2013 / apatel	V4294

Methanol
HPLC
For use in Liquid Chromatography (HPLC & UHPLC) & Spectrophotometry
(methyl alcohol)

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9093-03
Batch No.: 0000064689
Manufactured Date: 2013/11/15
Retest Date: 2018/11/14

SEIDLER CHEMICAL COMPANY
537 Raymond Boulevard
Newark, NJ 07105

Rec: 1/14/15

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Ultraviolet Absorbance (1.00-cm cell vs. water) - 400-254 nm	<= 0.01	< 0.01
Ultraviolet Absorbance (1.00-cm cell vs. water) - 225 nm	<= 0.15	0.12
Ultraviolet Absorbance (1.00-cm cell vs. water) - UV Cut-off, nm	<= 205	204
Gradient Elution Test (a.u.) - 254 nm	<= 0.002	< 0.001
Fluorescence Trace Impurities, measured as Quinine Base - at 450 nm Emission	<= 0.3 ppb	< 0.1
Fluorescence Trace Impurities, measured as Quinine Base - at Emission Maximum for Impurities	<= 1.0 ppb	0.1
Acetone	<= 0.001 %	< 0.001
Residue after Evaporation	<= 1.0000 ppm	0.1000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	<0.01
Water (by KF, coulometric)	<= 0.05 %	< 0.01

For Laboratory, Research or Manufacturing Use

H1268
H1269
H1270
H1271

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & QC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008, 17025:2005
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

Richard M Siberski
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 , Fax: 610.573.2610

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800-368-1131
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Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 98495
Lot Number: 061115
Description: Pentachlorobenzene

Expiration Date: 061120
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 5000

Solvent(s):	Lot#
Methylene chloride	72062

S4703
S4704
S4705
S4706

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 10.0 0.002 Flask Uncertainty

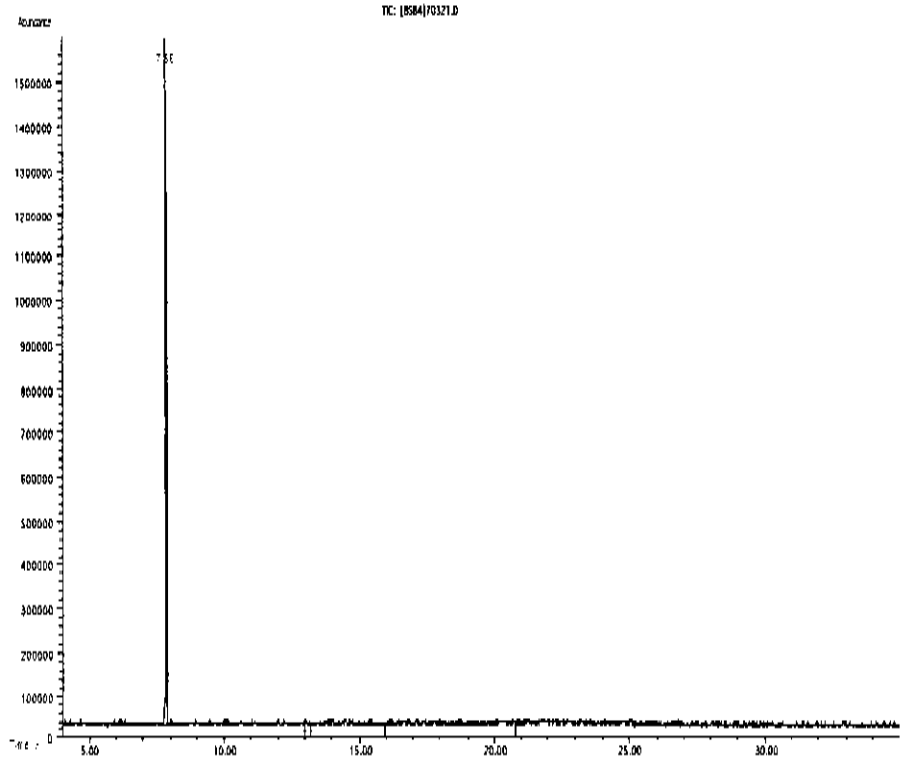
Paul Barron 061115
Formulated By: Paul Barron DATE

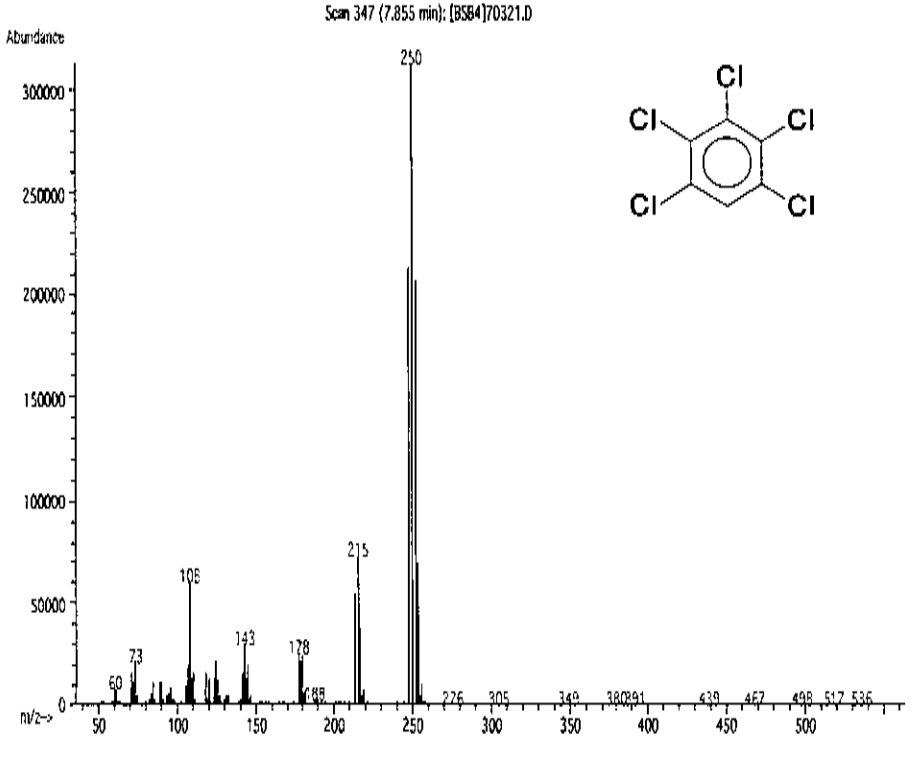
Pedro Rentas 061115
Reviewed By: Pedro L. Rentas DATE

MSDS Information
(Solvent Safety Info. On Attached pg.)

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	CAS#	OSHA PEL (TWA)	LD50
1. Pentachlorobenzene	321	2705100	5000	99.5	0.5	0.05024	0.05038	5013.7	0.0102	00608-93-5	N/A	orl-rat 1080mg/kg

Method GC7MSD-1.M: Column: SPB-608 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 150°C (4min.), Temp 2 = 290°C (13.5 min.), Rate = 8°C/min., Injector B= 200°C, Detector B = 290°C. Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Candice Warren.





1411

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

1412

CERTIFIED WEIGHT REPORT

Part Number:	90494
Lot Number:	070314
Description:	1-Methylnaphthalene
Expiration Date:	070319
Recommended Storage:	Refrigerate (4 °C)
Nominal Concentration (µg/mL):	2000

Solvent(s):	**Lot#**
Methylene chloride	74359

S4996 SJ
↓ 11/23/15
S5000

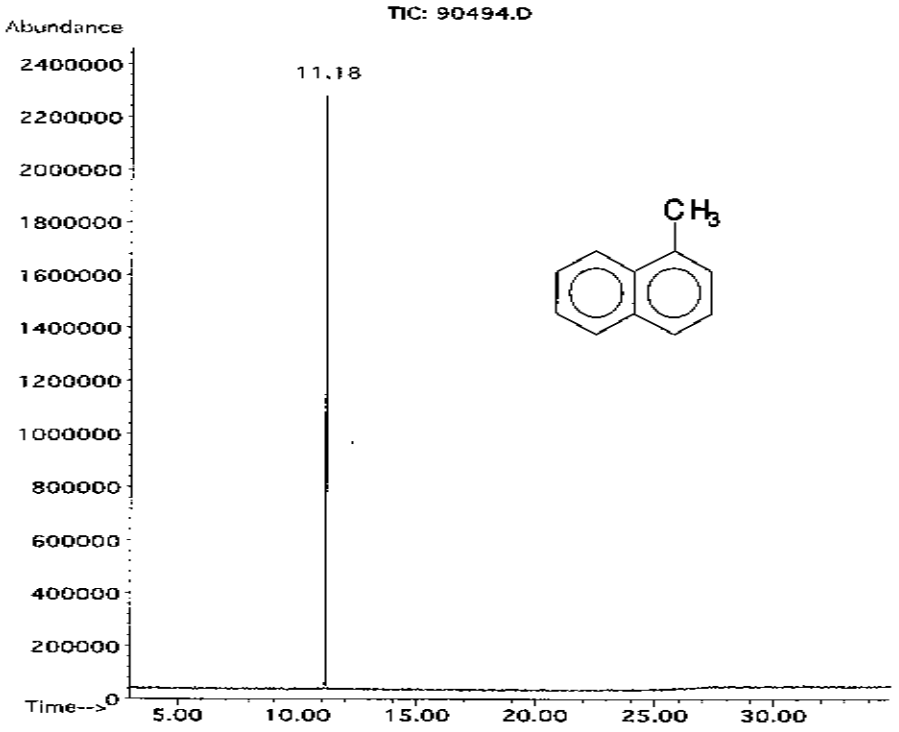
Formulated By:	Paul Barron	070314 DATE
Reviewed By:	Pedro L. Rentas	070314 DATE

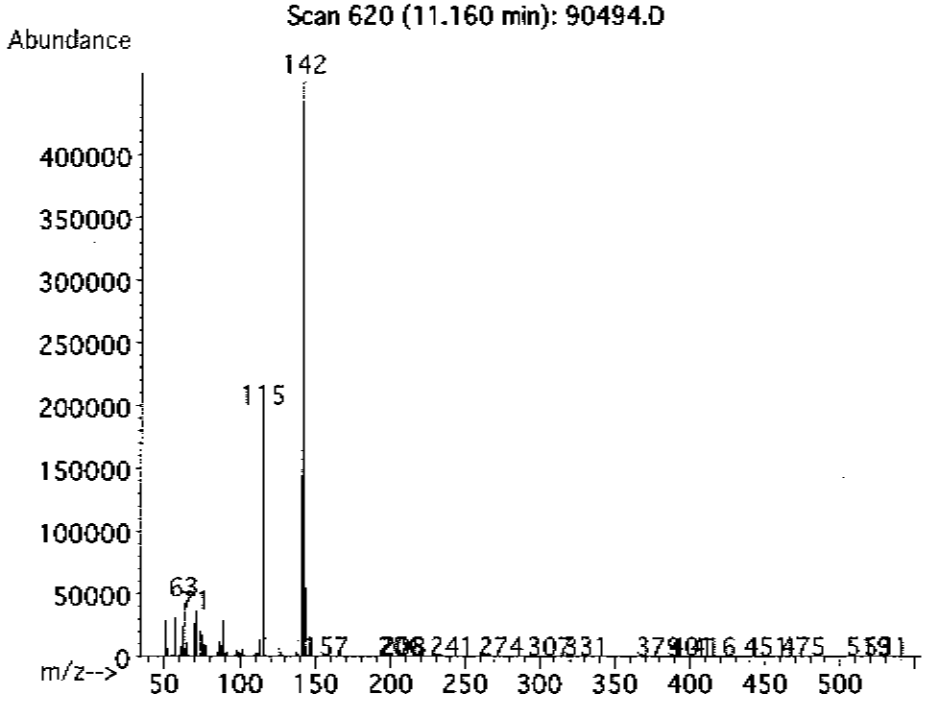
5E-05 Balance Uncertainty
0.003 Flask Uncertainty

Weight(s) shown below were combined and diluted to: 100.0

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 1-Methylnaphthalene	313	04413BX	2000	98	0.2	0.20410	0.20420	2001.0	0.0041	00090-12-0	N/A	orl-rat 1840mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.

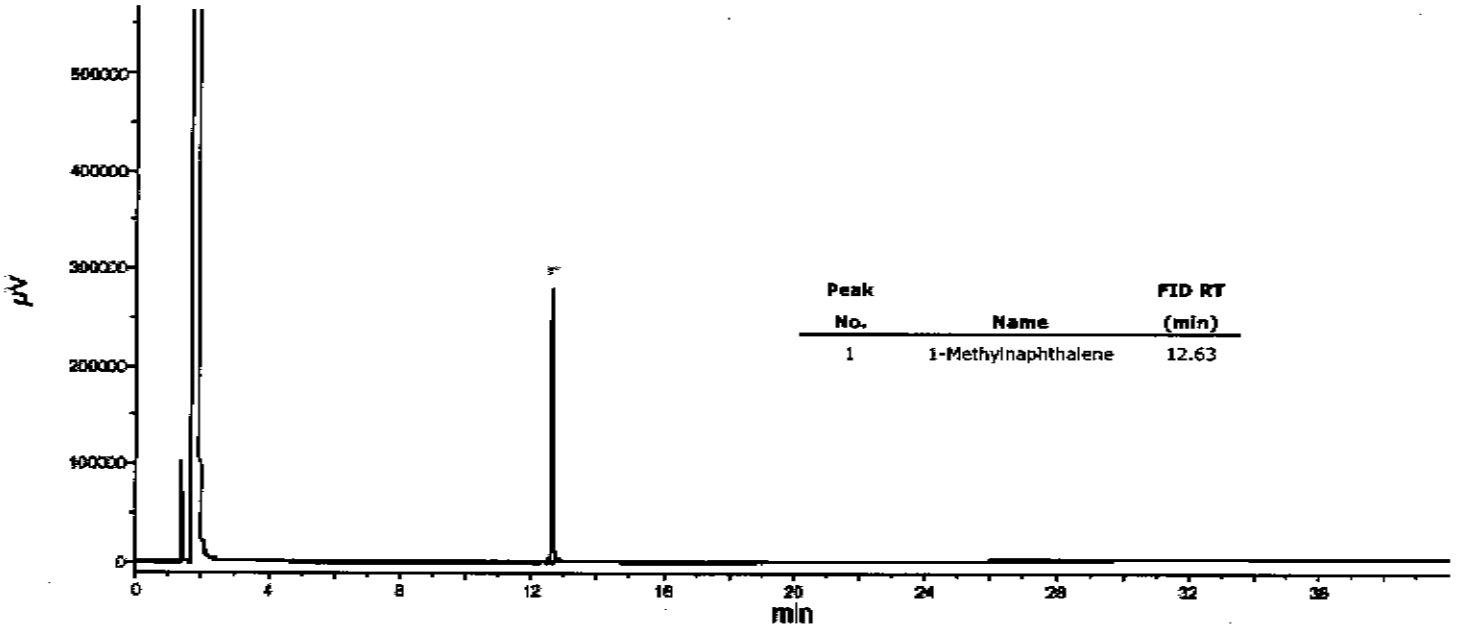




Run 49, "P90494 L070314 [2000µg/mL in MeCl2]"

Run Length: 39.99 min, 23997 points at 10 points/second.
Created: Thu, Jul 10, 2014 at 12:38:44 AM.
Sampled: Sequence "070814-GC9M2", Method "GC9-M2".
Analyzed using Method "GC9-M2".

Comments
GC9M2 Analysis by Melissa Stonier
SPB-5 30 meter x 0.53 µm x 1.5 df
Flow Rates; Total Flow = 300 mL/min, Helium (carrier)=6mL, Helium (makeup)=25mL, Hydrogen (detector)=30, Air (detector)=360
Oven Temp 1 = 50 C (1 min), Rate = 10 C/min, Oven Temp 2 = 300 (14 min), Total Run Time=40 min.
Injector Temp = 250 C, FID Temp = 300 C, FID Signal = Edaq Channel 1
Gas Chromatograph = HP5890, Injector = HP7673A, Standard Injection = 0.5 uL, Range = 4



Peak No.	Name	FID RT (min)
1	1-Methylnaphthalene	12.63

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ACCREDITED
ISO Guide 34 Accredited Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory
Certificate #3222.02

RCA 7/17/15

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Materiel is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30614 **Lot No.:** A0111152

Description : 1,4-dioxane-d8 Standard

1,4-dioxane-d8 Standard 2000 µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.I.; K=2)		
1	1,4-Dioxane-d8	2,004.0 µg/mL	+/- 11.7606	µg/mL	Gravimetric
	CAS # 17647-74-4 (Lot 1-19073)		+/- 42.5297	µg/mL	Unstressed
	Purity 99%		+/- 42.7181	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

54614
54615
54616
54617

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

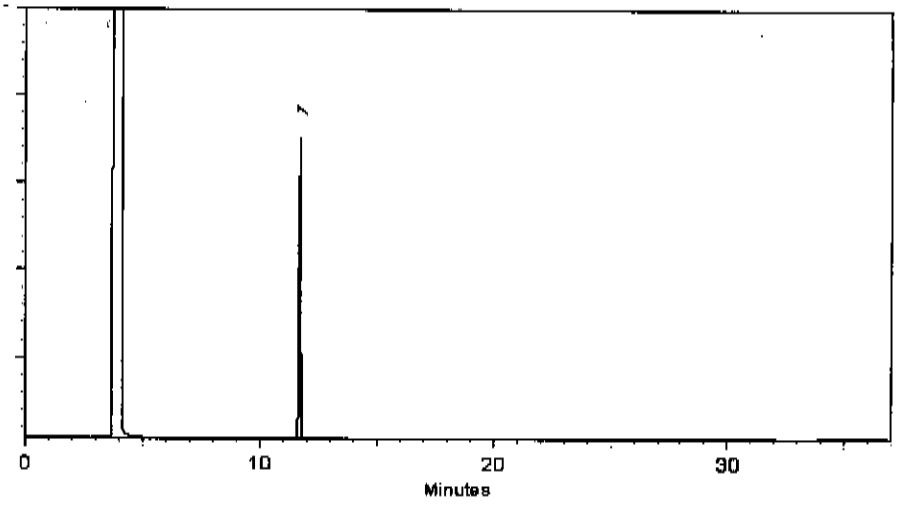
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Valerie S. Strohm - ARM R&D Chemist

Date Mixed: 15-May-2015 **Balance:** 1125113331

Jennifer L. Pollino - QC Analyst

Date Passed: 19-May-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommendad condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentretion of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes grevimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certifiad combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncartainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restak will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative fer details.
- If eny undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

02/19/15

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31084 **Lot No.:** A0108368

Description : B/N Matrix Spike Mix

Base Neutral Matrix Spike 5000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2018 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.I., K=2)		
1	1,4-Dichlorobenzene		5,001.3	µg/mL	+/- 29.3506	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBL3891V)			+/- 138.0486	µg/mL	Unstressed
	Purity 99%				+/- 138.0486	µg/mL	Stressed
2	N-Nitroso-di-n-propylamine		5,002.7	µg/mL	+/- 29.3585	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/- 138.0854	µg/mL	Unstressed
	Purity 99%				+/- 138.0854	µg/mL	Stressed
3	1,2,4-Trichlorobenzene		5,001.3	µg/mL	+/- 29.3502	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/- 138.0467	µg/mL	Unstressed
	Purity 98%				+/- 138.0467	µg/mL	Stressed
4	Acenaphthene		5,000.7	µg/mL	+/- 29.3467	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBJ4871V)			+/- 138.0302	µg/mL	Unstressed
	Purity 99%				+/- 138.0302	µg/mL	Stressed
5	2,4-Dinitrotoluene		5,001.3	µg/mL	+/- 29.3506	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/- 138.0486	µg/mL	Unstressed
	Purity 99%				+/- 138.0486	µg/mL	Stressed
6	Pyrene		5,000.3	µg/mL	+/- 29.3445	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBJ0984V)			+/- 138.0197	µg/mL	Unstressed
	Purity 98%				+/- 138.0197	µg/mL	Stressed

54228
54229

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

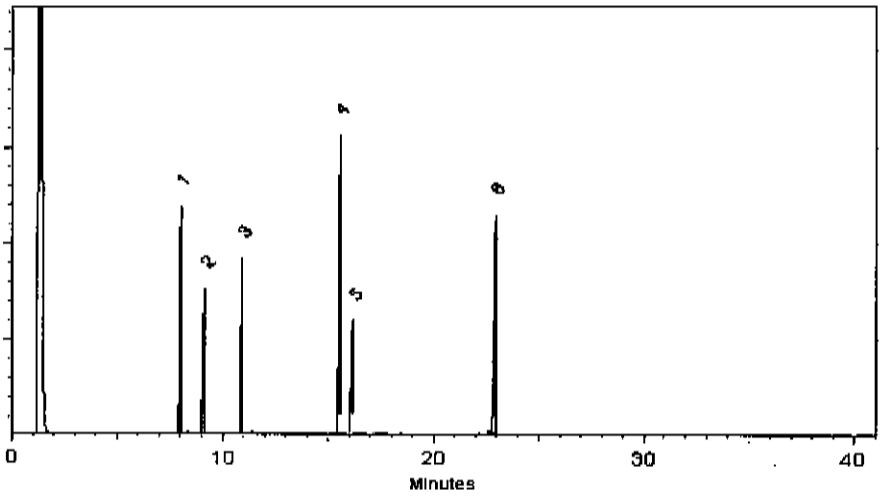
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Connor Flannery - Mix Technician

Date Mixed: 18-Jan-2015 **Balance:** 1128360905

Tyler Brown - QA Analyst

Date Passed: 21-Jan-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constreints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 33913 **Lot No.:** A0106668

Description : SOM01.0 SIM Analysis Standard

SOM01.1 Deuterated Monitoring Compound Mix SIM Compounds
2000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.I., K=2)		
1	2-Methylnaphthalene-d10	2,003.1 µg/mL	+/- 18.6279	µg/mL	Gravimetric
	CAS # 7297-45-2 (Lot P364P4)		+/- 90.1793	µg/mL	Unstressed
	Purity 98%		+/- 98.8575	µg/mL	Stressed
2	Fluoranthene-d10	1,999.2 µg/mL	+/- 18.5915	µg/mL	Gravimetric
	CAS # 93951-69-0 (Lot PR-20668)		+/- 90.0028	µg/mL	Unstressed
	Purity 98%		+/- 98.6640	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

S 4226
S 4227

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

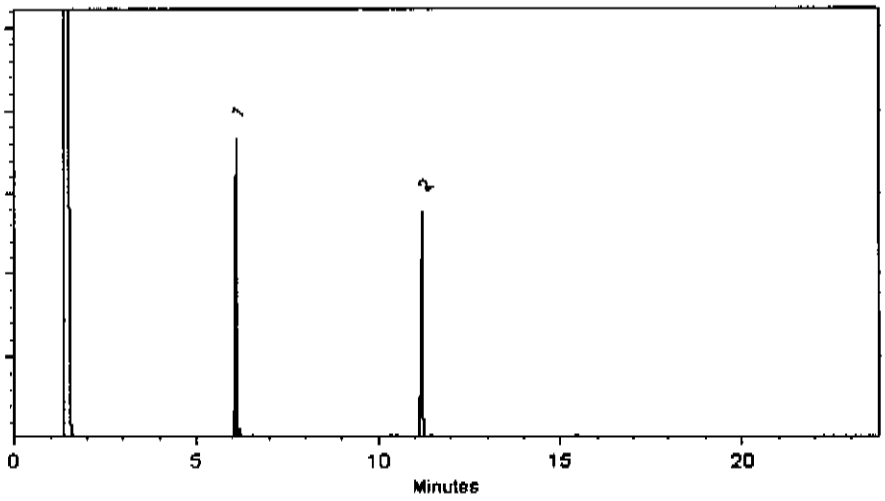
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael J Maye

Date Mixed: 17-Oct-2014 **Balance:** 1128353505

Jennifer L Pollino

Jennifer L. Pollino - QC Analyst

Date Passed: 21-Oct-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

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25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigarete)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31071 **Lot No.:** A0103147

Description : Acid Matrix Spike Mix (SW-846)

Acid Matrix Spike 10,000µg/mL, Methanol, 5mL/ampul

10/03/14

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Phenol **CAS #** 108-95-2 **Purity** 99%	(Lot SHBC6998V)	10,003.0	µg/mL	+/- 58.5698 +/- 249.3405 +/- 313.5161	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Chlorophenol **CAS #** 95-57-8 **Purity** 99%	(Lot MKBD3900V)	10,002.0	µg/mL	+/- 58.5639 +/- 249.3156 +/- 313.4848	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	4-Chloro-3-methylphenol **CAS #** 59-50-7 **Purity** 99%	(Lot STBC0769V)	10,004.0	µg/mL	+/- 58.5756 +/- 249.3654 +/- 313.5474	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	10,003.0	µg/mL	+/- 58.5698 +/- 249.3405 +/- 313.5161	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Pentachlorophenol **CAS #** 87-86-5 **Purity** 99%	(Lot 140226JLM)	10,003.0	µg/mL	+/- 58.5698 +/- 249.3405 +/- 313.5161	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

53852
53853

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

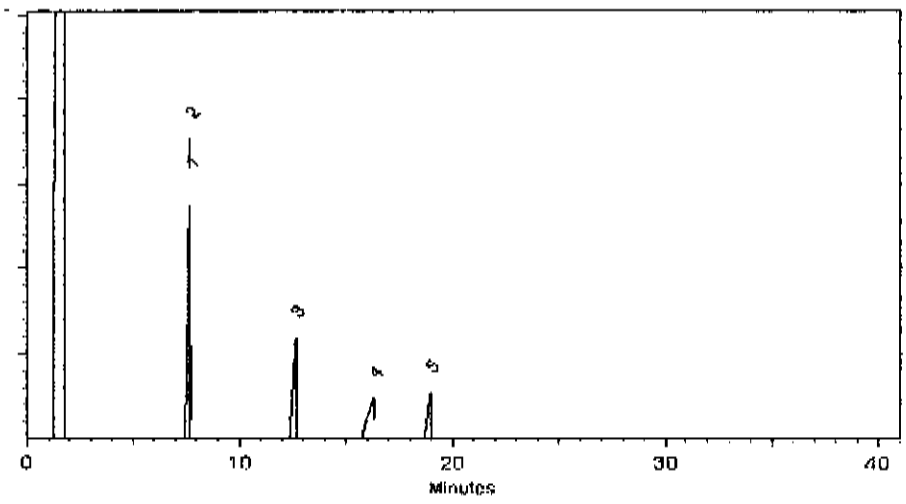
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
HID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 05-May-2014 **Balance:** 1125113331

Amanda Miller - QC Analyst

Date Passed: 07-May-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
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- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard cenditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec. 10/30/14

Catalog No. : 31001 **Lot No.:** A0103386

Description : SV Tuning Compound Standard

Tuning Std Decafluorotriphenylphosphine 2500µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.: K=2)		
1	DFTPP (Decafluorotriphenylphosphine)	2,500.0 µg/mL	+/- 14.8492	µg/mL	Gravimetric
	CAS # 5074-71-5 (Lot 10109917)		+/- 111.1178	µg/mL	Unstressed
	Purity 99%		+/- 122.0757	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

S 3957

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

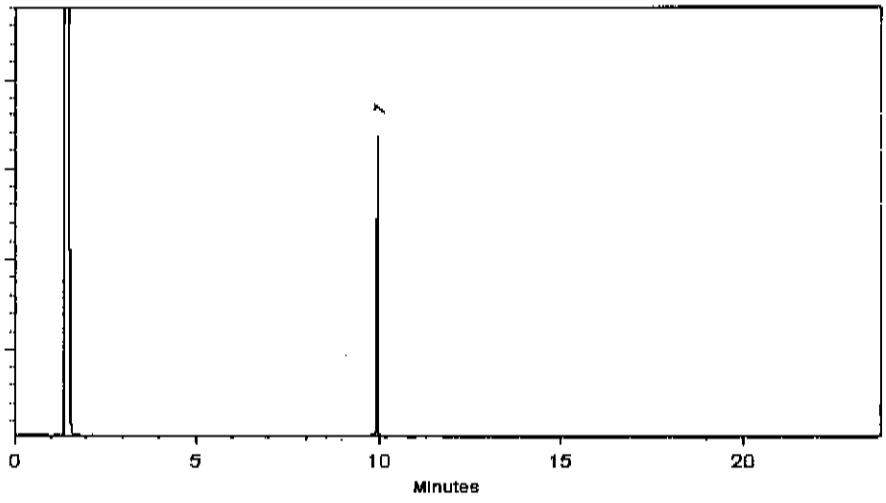
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 15-May-2014 **Balance:** 1128342313

Jennifer L. Pollino - QC Analyst

Date Passed: 19-May-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
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- Purity values are rounded to the nearest whole number.

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$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technicel Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

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Rec: 12/30/14
Lough

Catalog No. : 31833 **Lot No.:** A0105455

Description : Epsilon-Caprolactam Standard

Epsilon-caprolactam Std 2000µg/mL, Methylene Chloride(Methanol free), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2016 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	epsilon-Caprolactam	2,004.0 µg/mL	+/- 18.6361	µg/mL	Gravimetric
	CAS # 105-60-2 (Lot 10000218)		+/- 26.3242	µg/mL	Unstressed
	Purity 99%		+/- 39.9571	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

54066
54067

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

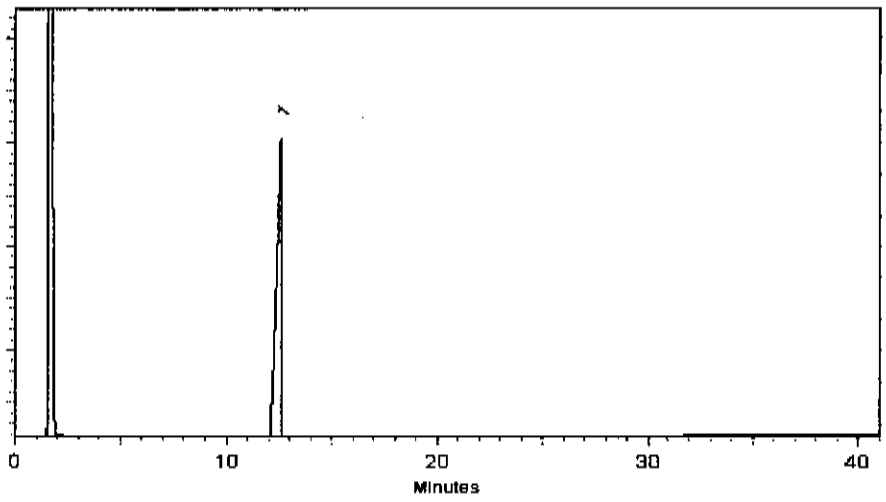
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Hauver

Date Mixed: 19-Aug-2014 **Balance:** 1128360905

Jodi E. Breon

Jodi E. Breon - QA Analyst

Date Passed: 27-Aug-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

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- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
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k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

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Manufacturing Notes:

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Handling Notes:

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UM
54671 OLM01.1
54672

Catalog No. : 31900 **Lot No.:** A0108223

Description : OLM 01.1 Revised SV MegaMix

OLM 01.1 Revised SV MegaMix 500-1000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2016 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Phenol **CAS #** 108-95-2 **Purity** 99%	(Lot SHBC6998V)	1,000.2 µg/mL	+/- 6.6856 µg/mL +/- 11.4365 µg/mL +/- 18.8643 µg/mL	Gravimetric Unstressed Stressed
2	Bis(2-chloroethyl)ether **CAS #** 111-44-4 **Purity** 99%	(Lot 45296HKV)	1,001.6 µg/mL	+/- 6.6949 µg/mL +/- 11.4525 µg/mL +/- 18.8907 µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol **CAS #** 95-57-8 **Purity** 99%	(Lot MKBD3900V)	1,000.1 µg/mL	+/- 6.6852 µg/mL +/- 11.4359 µg/mL +/- 18.8633 µg/mL	Gravimetric Unstressed Stressed
4	2,2'-oxybis(1-chloropropane) **CAS #** 108-60-1 **Purity** 99%	(Lot 7-XDD-199-6)	1,001.4 µg/mL	+/- 6.6936 µg/mL +/- 11.4502 µg/mL +/- 18.8869 µg/mL	Gravimetric Unstressed Stressed
5	2-Methylphenol (o-cresol) **CAS #** 95-48-7 **Purity** 99%	(Lot SHBC1479V)	1,002.4 µg/mL	+/- 6.7003 µg/mL +/- 11.4616 µg/mL +/- 18.9058 µg/mL	Gravimetric Unstressed Stressed
6	Acetophenone **CAS #** 98-86-2 **Purity** 99%	(Lot MKBR7156V)	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 11.0159 µg/mL +/- 18.6105 µg/mL	Gravimetric Unstressed Stressed
7	Hexachloroethane **CAS #** 67-72-1 **Purity** 99%	(Lot 4H3SF)	1,003.0 µg/mL	+/- 6.7043 µg/mL +/- 11.4685 µg/mL +/- 18.9171 µg/mL	Gravimetric Unstressed Stressed

24	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot MKBH7393V)	1,000.3	µg/mL	+/- 6.6866 +/- 11.4382 +/- 18.8671	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot FHM01)	1,000.1	µg/mL	+/- 6.6852 +/- 11.4359 +/- 18.8633	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	2-Chloronaphthalene **CAS #** 91-58-7 **Purity** 99%	(Lot FIJ01)	1,001.8	µg/mL	+/- 6.6963 +/- 11.4548 +/- 18.8944	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Biphenyl **CAS #** 92-52-4 **Purity** 99%	(Lot 1277976)	1,000.0	µg/mL	+/- 5.9397 +/- 11.0159 +/- 18.6105	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,000.5	µg/mL	+/- 6.7354 +/- 11.4683 +/- 18.8877	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Acenaphthylene **CAS #** 208-96-8 **Purity** 99%	(Lot ER030707-01)	1,000.9	µg/mL	+/- 6.6906 +/- 11.4451 +/- 18.8784	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,000.8	µg/mL	+/- 6.6896 +/- 11.4433 +/- 18.8756	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,000.5	µg/mL	+/- 6.6879 +/- 11.4405 +/- 18.8709	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKBJ4871V)	1,002.9	µg/mL	+/- 6.7040 +/- 11.4679 +/- 18.9161	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBH5131V)	1,002.5	µg/mL	+/- 6.7488 +/- 11.4912 +/- 18.9255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot MKBP5833V)	1,001.0	µg/mL	+/- 6.6909 +/- 11.4456 +/- 18.8794	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKBK2375V)	1,000.0	µg/mL	+/- 5.9397 +/- 11.0159 +/- 18.6105	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,002.5	µg/mL	+/- 6.7013 +/- 11.4634 +/- 18.9086	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	1,000.3	µg/mL	+/- 6.6863 +/- 11.4376 +/- 18.8662	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot FN10221307)	1,001.5	µg/mL	+/- 6.7421 +/- 11.4798 +/- 18.9066	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,000.9	µg/mL	+/- 6.6907 +/- 11.4453 +/- 18.8789	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Chrysene		1,001.5 µg/mL	+/- 6.6943	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)		+/- 11.4514	µg/mL	Unstressed
	Purity 99%			+/- 18.8888	µg/mL	Stressed
57	3,3'-Dichlorobenzidine		1,002.5 µg/mL	+/- 6.7488	µg/mL	Gravimetric
	CAS # 91-94-1	(Lot 141205JLM)		+/- 11.4912	µg/mL	Unstressed
	Purity 99%			+/- 18.9255	µg/mL	Stressed
58	Bis(2-ethylhexyl)phthalate		1,006.9 µg/mL	+/- 6.7304	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)		+/- 11.5131	µg/mL	Unstressed
	Purity 99%			+/- 18.9906	µg/mL	Stressed
59	Di-n-octyl phthalate		1,003.2 µg/mL	+/- 6.7060	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3128600)		+/- 11.4714	µg/mL	Unstressed
	Purity 99%			+/- 18.9218	µg/mL	Stressed
60	Benzo(b)fluoranthene		1,003.8 µg/mL	+/- 6.7100	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER022008-02)		+/- 11.4782	µg/mL	Unstressed
	Purity 99%			+/- 18.9331	µg/mL	Stressed
61	Benzo(k)fluoranthene		1,004.3 µg/mL	+/- 6.7130	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot ER041513-01)		+/- 11.4834	µg/mL	Unstressed
	Purity 99%			+/- 18.9416	µg/mL	Stressed
62	Benzo(a)pyrene		1,002.7 µg/mL	+/- 6.7026	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)		+/- 11.4656	µg/mL	Unstressed
	Purity 99%			+/- 18.9124	µg/mL	Stressed
63	Indeno(1,2,3-cd)pyrene		1,002.9 µg/mL	+/- 6.7036	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)		+/- 11.4674	µg/mL	Unstressed
	Purity 99%			+/- 18.9152	µg/mL	Stressed
64	Dibenz(a,h)anthracene		1,001.5 µg/mL	+/- 6.6943	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)		+/- 11.4514	µg/mL	Unstressed
	Purity 99%			+/- 18.8888	µg/mL	Stressed
65	Benzo(g,h,i)perylene		1,004.3 µg/mL	+/- 6.7130	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER020708-08)		+/- 11.4834	µg/mL	Unstressed
	Purity 99%			+/- 18.9416	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

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Certificate of Analysis

04107715

UM

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Catalog No. : 31853 **Lot No.:** A0110448

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

S4604

S4605

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane	2,005.0 µg/mL	+/- 11.7665	µg/mL	Gravimetric
	CAS # 123-91-1 (Lot SHBF2002V)		+/- 42.5509	µg/mL	Unstressed
	Purity 99%		+/- 42.7394	µg/mL	Stressed

Solvent: Methylene Chloride (MEOH FREE)
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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S4814
1
S4838
NP
10/20/15

Catalog No. : 30614 **Lot No.:** A0111152

Description : 1,4-dioxane-d8 Standard

1,4-dioxane-d8 Standard 2000 µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane-d8	2,004.0 µg/mL	+/- 11.7606	µg/mL	Gravimetric
	CAS # 17647-74-4 (Lot 1-19073)		+/- 42.5297	µg/mL	Unstressed
	Purity 99%		+/- 42.7181	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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S4709
S4710
S4711
S4712
S4713 um 09/09/15

Catalog No. : 33017 **Lot No.:** A0111289

Description : Benzaldehyde Standard

Benzaldehyde 2000µg/mL Methylene Chloride (Methanol free), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzaldehyde **CAS #** 100-52-7 (Lot SHBD3510V) **Purity** 99%	2,012.0 µg/mL	+/- 11.8075 +/- 64.5160 +/- 74.9913	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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S4991 SJ 11/23/15 ↓ S4995

Catalog No. : 32208 **Lot No.:** A0112545

Description : Atrazine Standard

Atrazine Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav Conc. (weight/volume)	Expanded Uncertainty (95% C.L. ; K=2)		
1	Atrazine	1,009.4 µg/mL	+/- 5.9955	µg/mL	Gravimetric
	CAS # 1912-24-9 (Lot TZ8ED)		+/- 39.4963	µg/mL	Unstressed
	Purity 98%		+/- 62.6664	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
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54976 – 54990

SJ
11/16/2015

Catalog No. : 31810 **Lot No.:** A0112586

Description : OLC03.2 SVOA Deuterated Monitoring Compounds Mix

OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL/ampul, Methylene Chloride, 2000µg/mL

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2019 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Phenol-d5	2,003.3 µg/mL	+/- 11.7567 µg/mL	Gravimetric
	CAS # 4165-62-2 (Lot X479P8)		+/- 49.9425 µg/mL	Unstressed
	Purity 99%		+/- 62.7939 µg/mL	Stressed
2	bis(2-Chloroethyl) ether-d8	2,005.3 µg/mL	+/- 11.7683 µg/mL	Gravimetric
	CAS # 93952-02-4 (Lot X485P12)		+/- 49.9919 µg/mL	Unstressed
	Purity 97%		+/- 62.8559 µg/mL	Stressed
3	2-Chlorophenol-d4	2,004.7 µg/mL	+/- 11.7645 µg/mL	Gravimetric
	CAS # 93951-73-6 (Lot PR-20630)		+/- 49.9758 µg/mL	Unstressed
	Purity 99%		+/- 62.8357 µg/mL	Stressed
4	4-Methylphenol-d8	2,004.0 µg/mL	+/- 11.7606 µg/mL	Gravimetric
	CAS # 190780-66-6 (Lot W519P30)		+/- 49.9591 µg/mL	Unstressed
	Purity 99%		+/- 62.8148 µg/mL	Stressed
5	Nitrobenzene-d5	2,005.3 µg/mL	+/- 11.7684 µg/mL	Gravimetric
	CAS # 4165-60-0 (Lot PR-24042)		+/- 49.9924 µg/mL	Unstressed
	Purity 99%		+/- 62.8566 µg/mL	Stressed
6	2-Nitrophenol-d4	2,002.0 µg/mL	+/- 11.7489 µg/mL	Gravimetric
	CAS # 93951-78-1 (Lot L184P31)		+/- 49.9093 µg/mL	Unstressed
	Purity 99%		+/- 62.7521 µg/mL	Stressed
7	2,4-Dichlorophenol-d3	2,000.0 µg/mL	+/- 11.7371 µg/mL	Gravimetric
	CAS # 93951-74-7 (Lot AB210P9)		+/- 49.8594 µg/mL	Unstressed
	Purity 99%		+/- 62.6894 µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

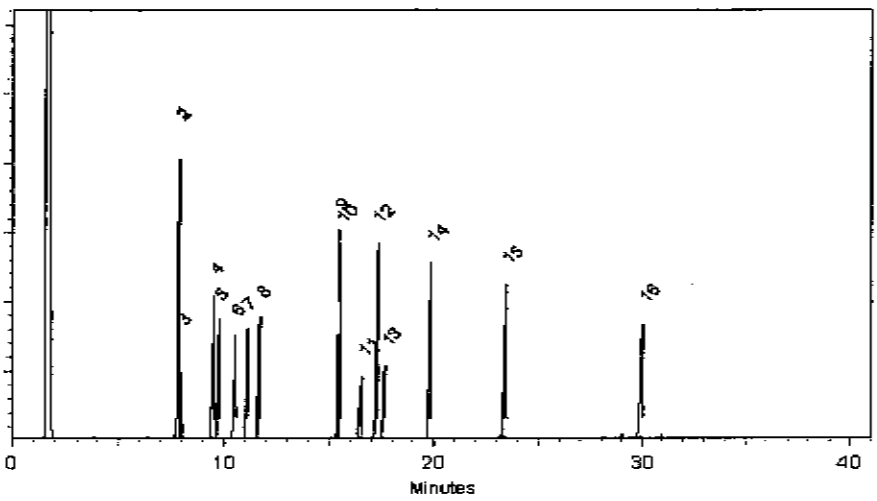
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael J Maye

Jennifer L. Pollino - QC Analyst

Date Mixed: 16-Jul-2015 **Balance:** 1128353505

Date Passed: 20-Jul-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

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Catalog No. : 31900 **Lot No.:** A0112856

Description : OLM 01.1 Revised SV MegaMix

OLM 01.1 Revised SV MegaMix 500-1000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2017 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive.

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04/15/16
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55195

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Phenol **CAS #** 108-95-2 **Purity** 99% (Lot SHBC6998V)	1,005.3 µg/mL.	+/- 6.7197 µg/mL +/- 11.4948 µg/mL +/- 18.9605 µg/mL	Gravimetric Unstressed Stressed
2	Bis(2-chlorocthyl)ether **CAS #** 111-44-4 **Purity** 99% (Lot 45296HKV)	1,005.7 µg/mL	+/- 6.7223 µg/mL +/- 11.4994 µg/mL +/- 18.9680 µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol **CAS #** 95-57-8 **Purity** 99% (Lot MKBD3900V)	1,000.0 µg/mL	+/- 6.6846 µg/mL +/- 11.4348 µg/mL +/- 18.8614 µg/mL	Gravimetric Unstressed Stressed
4	2,2'-oxybis(1-chloropropane) **CAS #** 108-60-1 **Purity** 99% (Lot 2-KMW-57-8)	1,004.5 µg/mL	+/- 6.7147 µg/mL +/- 11.4862 µg/mL +/- 18.9463 µg/mL	Gravimetric Unstressed Stressed
5	2-Methylphenol (o-cresol) **CAS #** 95-48-7 **Purity** 99% (Lot SHBC1479V)	1,001.8 µg/mL	+/- 6.6966 µg/mL +/- 11.4554 µg/mL +/- 18.8954 µg/mL	Gravimetric Unstressed Stressed
6	Acctophenone **CAS #** 98-86-2 **Purity** 99% (Lot MKBR7156V)	1,008.0 µg/mL	+/- 5.9872 µg/mL +/- 11.1040 µg/mL +/- 18.7594 µg/mL	Gravimetric Unstressed Stressed
7	Hexachloroethane **CAS #** 67-72-1 **Purity** 99% (Lot 4H3SF)	1,003.3 µg/mL	+/- 6.7066 µg/mL +/- 11.4725 µg/mL +/- 18.9237 µg/mL	Gravimetric Unstressed Stressed

8	N-Nitroso-di-n-propylamine		1,008.0	µg/mL	+/-	6.7859	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.5543	µg/mL	Unstressed
	Purity 99%				+/-	19.0293	µg/mL	Stressed
9	4-Methylphenol (p-cresol)		501.9	µg/mL	+/-	3.3547	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.7385	µg/mL	Unstressed
	Purity 99%				+/-	9.4656	µg/mL	Stressed
10	3-Methylphenol (m-cresol)		501.3	µg/mL	+/-	3.3506	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.7317	µg/mL	Unstressed
	Purity 99%				+/-	9.4543	µg/mL	Stressed
11	Nitrobenzene		1,003.2	µg/mL	+/-	6.7056	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBB0246V)			+/-	11.4708	µg/mL	Unstressed
	Purity 99%				+/-	18.9209	µg/mL	Stressed
12	Isophorone		1,004.1	µg/mL	+/-	6.7117	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.4811	µg/mL	Unstressed
	Purity 99%				+/-	18.9378	µg/mL	Stressed
13	2-Nitrophenol		1,002.1	µg/mL	+/-	6.6983	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.4582	µg/mL	Unstressed
	Purity 99%				+/-	18.9001	µg/mL	Stressed
14	2,4-Dimethylphenol		1,001.6	µg/mL	+/-	6.6953	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.4531	µg/mL	Unstressed
	Purity 99%				+/-	18.8916	µg/mL	Stressed
15	Bis(2-chloroethoxy)methane		1,002.9	µg/mL	+/-	6.7040	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 2238100)			+/-	11.4679	µg/mL	Unstressed
	Purity 99%				+/-	18.9161	µg/mL	Stressed
16	2,4-Dichlorophenol		1,003.2	µg/mL	+/-	6.7056	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.4708	µg/mL	Unstressed
	Purity 99%				+/-	18.9209	µg/mL	Stressed
17	Naphthalene		1,007.3	µg/mL	+/-	6.7334	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.5182	µg/mL	Unstressed
	Purity 99%				+/-	18.9991	µg/mL	Stressed
18	4-Chloroaniline		1,005.0	µg/mL	+/-	6.7657	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.5199	µg/mL	Unstressed
	Purity 99%				+/-	18.9727	µg/mL	Stressed
19	Hexachlorobutadiene		1,001.4	µg/mL	+/-	6.6937	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.4504	µg/mL	Unstressed
	Purity 98%				+/-	18.8872	µg/mL	Stressed
20	2-Methylnaphthalene		1,000.4	µg/mL	+/-	6.7344	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	11.4666	µg/mL	Unstressed
	Purity 95%				+/-	18.8849	µg/mL	Stressed
21	4-Chloro-3-methylphenol		1,000.4	µg/mL	+/-	6.6873	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.4393	µg/mL	Unstressed
	Purity 99%				+/-	18.8690	µg/mL	Stressed
22	1,2,4,5-Tetrachlorobenzene		1,008.5	µg/mL	+/-	6.7892	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AJV)			+/-	11.5600	µg/mL	Unstressed
	Purity 99%				+/-	19.0388	µg/mL	Stressed
23	Hexachlorocyclopentadiene		1,009.2	µg/mL	+/-	6.7457	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 3488800)			+/-	11.5394	µg/mL	Unstressed
	Purity 99%				+/-	19.0340	µg/mL	Stressed

24	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot MKBH7393V)	1,004.0	µg/mL	+/- 6.7110 +/- 11.4799 +/- 18.9359	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot FHM01)	1,007.6	µg/mL	+/- 6.7350 +/- 11.5211 +/- 19.0038	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	2-Chloronaphthalene **CAS #** 91-58-7 **Purity** 99%	(Lot FIJ01)	1,005.6	µg/mL	+/- 6.7220 +/- 11.4988 +/- 18.9671	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Biphenyl **CAS #** 92-52-4 **Purity** 99%	(Lot 1277976)	1,010.0	µg/mL	+/- 5.9991 +/- 11.1261 +/- 18.7966	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.0	µg/mL	+/- 6.7791 +/- 11.5428 +/- 19.0105	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Acenaphthylene **CAS #** 208-96-8 **Purity** 99%	(Lot ER030707-01)	1,000.9	µg/mL	+/- 6.6906 +/- 11.4451 +/- 18.8784	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,004.1	µg/mL	+/- 6.7117 +/- 11.4811 +/- 18.9378	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,002.2	µg/mL	+/- 6.6990 +/- 11.4594 +/- 18.9020	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKBP0384V)	1,005.5	µg/mL	+/- 6.7210 +/- 11.4971 +/- 18.9642	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	3-Nitroaniline **CAS #** 99-09-2 **Purity** 97%	(Lot MKBH5131V)	1,004.9	µg/mL	+/- 6.7651 +/- 11.5190 +/- 18.9712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBD8351V)	1,006.6	µg/mL	+/- 6.7284 +/- 11.5097 +/- 18.9850	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKBH8392V)	1,002.0	µg/mL	+/- 5.9516 +/- 11.0379 +/- 18.6477	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,004.2	µg/mL	+/- 6.7123 +/- 11.4822 +/- 18.9397	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBP6945V)	1,000.0	µg/mL	+/- 6.6846 +/- 11.4348 +/- 18.8614	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot Er100206-01)	1,009.5	µg/mL	+/- 6.7960 +/- 11.5715 +/- 19.0576	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,003.8	µg/mL	+/- 6.7101 +/- 11.4784 +/- 18.9334	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

40	4-Chlorophenyl phenyl ether		1,002.4	µg/mL	+/- 6.7006	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/- 11.4622	µg/mL	Unstressed
	Purity 99%				+/- 18.9067	µg/mL	Stressed
41	Diethylphthalate		1,005.3	µg/mL	+/- 6.7197	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/- 11.4948	µg/mL	Unstressed
	Purity 99%				+/- 18.9605	µg/mL	Stressed
42	4-Nitroaniline		1,007.5	µg/mL	+/- 6.7825	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/- 11.5485	µg/mL	Unstressed
	Purity 99%				+/- 19.0199	µg/mL	Stressed
43	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		1,000.0	µg/mL	+/- 6.6846	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC06195V)			+/- 11.4348	µg/mL	Unstressed
	Purity 99%				+/- 18.8614	µg/mL	Stressed
44	Diphenylamine		1,007.5	µg/mL	+/- 6.7825	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/- 11.5485	µg/mL	Unstressed
	Purity 99%				+/- 19.0199	µg/mL	Stressed
45	4-Bromophenyl phenyl ether		1,001.5	µg/mL	+/- 6.6944	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/- 11.4515	µg/mL	Unstressed
	Purity 98%				+/- 18.8890	µg/mL	Stressed
46	Hexachlorobenzene		1,004.0	µg/mL	+/- 6.7111	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC04221V)			+/- 11.4801	µg/mL	Unstressed
	Purity 98%				+/- 18.9362	µg/mL	Stressed
47	Pentachlorophenol		1,002.2	µg/mL	+/- 6.6990	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 140626JLM)			+/- 11.4594	µg/mL	Unstressed
	Purity 99%				+/- 18.9020	µg/mL	Stressed
48	Phenanthrene		1,000.3	µg/mL	+/- 6.6865	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBQ8219V)			+/- 11.4380	µg/mL	Unstressed
	Purity 98%				+/- 18.8668	µg/mL	Stressed
49	Anthracene		1,001.1	µg/mL	+/- 6.6919	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/- 11.4473	µg/mL	Unstressed
	Purity 99%				+/- 18.8822	µg/mL	Stressed
50	Carbazole		1,007.9	µg/mL	+/- 6.7854	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/- 11.5535	µg/mL	Unstressed
	Purity 98%				+/- 19.0280	µg/mL	Stressed
51	Di-n-butylphthalate		1,002.4	µg/mL	+/- 6.7006	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/- 11.4622	µg/mL	Unstressed
	Purity 99%				+/- 18.9067	µg/mL	Stressed
52	Fluoranthene		1,000.2	µg/mL	+/- 6.6858	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot 00828AJ)			+/- 11.4369	µg/mL	Unstressed
	Purity 98%				+/- 18.8650	µg/mL	Stressed
53	Pyrene		1,001.1	µg/mL	+/- 6.6916	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/- 11.4468	µg/mL	Unstressed
	Purity 99%				+/- 18.8812	µg/mL	Stressed
54	Benzyl butyl phthalate		1,003.0	µg/mL	+/- 6.7046	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 0302711V)			+/- 11.4691	µg/mL	Unstressed
	Purity 99%				+/- 18.9180	µg/mL	Stressed
55	Benz(a)anthracene		1,002.9	µg/mL	+/- 6.7040	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/- 11.4679	µg/mL	Unstressed
	Purity 99%				+/- 18.9161	µg/mL	Stressed

56	Chrysene **CAS #** 218-01-9 **Purity** 99%	(Lot PR121912-01)	1,006.2	µg/mL	+/- 6.7260 +/- 11.5057 +/- 18.9784	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	3,3'-Dichlorobenzidine **CAS #** 91-94-1 **Purity** 99%	(Lot 150701JLMA)	1,009.5	µg/mL	+/- 6.7960 +/- 11.5715 +/- 19.0576	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	Bis(2-ethylhexyl)phthalate **CAS #** 117-81-7 **Purity** 99%	(Lot MKBK2695V)	1,002.6	µg/mL	+/- 6.7016 +/- 11.4639 +/- 18.9095	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	Di-n-octyl phthalate **CAS #** 117-84-0 **Purity** 99%	(Lot 3128600)	1,001.2	µg/mL	+/- 6.6923 +/- 11.4479 +/- 18.8831	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	Benzo(b)fluoranthene **CAS #** 205-99-2 **Purity** 99%	(Lot ER022008-02)	1,002.5	µg/mL	+/- 6.7013 +/- 11.4634 +/- 18.9086	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	Benzo(k)fluoranthene **CAS #** 207-08-9 **Purity** 99%	(Lot 012012k)	1,002.7	µg/mL	+/- 6.7023 +/- 11.4651 +/- 18.9114	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	Benzo(a)pyrene **CAS #** 50-32-8 **Purity** 99%	(Lot ER071309-02)	1,002.3	µg/mL	+/- 6.6996 +/- 11.4605 +/- 18.9039	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	Indeno(1,2,3-cd)pyrene **CAS #** 193-39-5 **Purity** 99%	(Lot ER082107-02)	1,005.7	µg/mL	+/- 6.7227 +/- 11.4999 +/- 18.9690	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	Dibenz(a,h)anthracene **CAS #** 53-70-3 **Purity** 99%	(Lot ER032211-01)	1,008.6	µg/mL	+/- 6.7421 +/- 11.5331 +/- 19.0237	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	Benzo(g,h,i)perylene **CAS #** 191-24-2 **Purity** 99%	(Lot ER020708-08)	1,003.0	µg/mL	+/- 6.7046 +/- 11.4691 +/- 18.9180	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

S 5001
/
S 5030 SJ 12/14/15

Catalog No. : 31206 **Lot No.:** A0115444

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2,000 µg/ml, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav Conc. (weight/volume)	Expanded Uncertainty (95% C.L. K=2)		
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99% (Lot PR-18488)	2,000.2 µg/mL	+/- 11.6293 +/- 90.0902 +/- 99.9662	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 **Purity** 99% (Lot M-1452)	2,000.3 µg/mL	+/- 11.6299 +/- 90.0947 +/- 99.9712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 **Purity** 99% (Lot PR-25444)	2,000.3 µg/mL	+/- 11.6299 +/- 90.0947 +/- 99.9712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 **Purity** 99% (Lot PR-23065)	2,000.2 µg/mL	+/- 11.6293 +/- 90.0902 +/- 99.9662	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 **Purity** 99% (Lot I-19260)	2,000.9 µg/mL	+/- 11.6334 +/- 90.1217 +/- 100.0012	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 **Purity** 99% (Lot PR-24113)	2,000.3 µg/mL	+/- 11.6299 +/- 90.0947 +/- 99.9712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	4-Chloroaniline-d4 **CAS #** 191656-33-4 **Purity** 99%	(Lot C190P48)	2,008.7	µg/mL	+/- 11.7880 +/- 58.6415 +/- 71.1507	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Dimethylphthalate-d6 **CAS #** 85448-30-2 **Purity** 99%	(Lot X477P10)	2,009.3	µg/mL	+/- 11.7919 +/- 58.6610 +/- 71.1743	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Acenaphthylene-d8 **CAS #** 93951-97-4 **Purity** 99%	(Lot I-102)	2,007.3	µg/mL	+/- 11.7802 +/- 58.6026 +/- 71.1035	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	4-Nitrophenol-d4 **CAS #** 93951-79-2 **Purity** 99%	(Lot P-141)	2,010.0	µg/mL	+/- 11.7958 +/- 58.6804 +/- 71.1979	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Fluorene-d10 **CAS #** 81103-79-9 **Purity** 98%	(Lot M149P26)	2,005.7	µg/mL	+/- 11.7708 +/- 58.5559 +/- 71.0468	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	4,6-Dinitro-2-methylphenol-d2 **CAS #** 93951-76-9 **Purity** 99%	(Lot AB-322)	2,008.0	µg/mL	+/- 11.7841 +/- 58.6221 +/- 71.1271	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	Anthracene-d10 **CAS #** 1719-06-8 **Purity** 99%	(Lot PR-20576)	2,008.7	µg/mL	+/- 11.7880 +/- 58.6415 +/- 71.1507	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Pyrene-d10 **CAS #** 1718-52-1 **Purity** 98%	(Lot PR-14089)	2,010.3	µg/mL	+/- 11.7976 +/- 58.6894 +/- 71.2088	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Benzo(a)pyrene-d12 **CAS #** 63466-71-7 **Purity** 99%	(Lot PR-25741)	2,008.0	µg/mL	+/- 11.7841 +/- 58.6221 +/- 71.1271	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
Solvent:	Methylene Chloride **CAS #** 75-09-2 **Purity** 99%						

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110 Banner Circle
Bellefonte, PA 16823-8812
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Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

S5114 – S5143

UH 04/07/16

Catalog No. : 31810 **Lot No.:** A0115813

Description : OLC03.2 SVOA Deuterated Monitoring Compounds Mix

OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL/ampul, Methylene Chloride, 2000µg/mL

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Phenol-d5 **CAS #** 4165-62-2 (Lot X479P8) **Purity** 99%	2,010.7 µg/mL	+/- 11.7997 µg/mL +/- 58.6999 µg/mL +/- 71.2215 µg/mL	Gravimetric Unstressed Stressed
2	bis(2-Chloroethyl) ether-d8 **CAS #** 93952-02-4 (Lot X-485) **Purity** 98%	2,004.4 µg/mL	+/- 11.7631 µg/mL +/- 58.5177 µg/mL +/- 71.0005 µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 (Lot PR-20630) **Purity** 99%	2,011.3 µg/mL	+/- 11.8036 µg/mL +/- 58.7194 µg/mL +/- 71.2452 µg/mL	Gravimetric Unstressed Stressed
4	4-Methylphenol-d8 **CAS #** 190780-66-6 (Lot W519P34) **Purity** 99%	2,012.0 µg/mL	+/- 11.8075 µg/mL +/- 58.7388 µg/mL +/- 71.2688 µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-24042) **Purity** 99%	2,008.7 µg/mL	+/- 11.7880 µg/mL +/- 58.6415 µg/mL +/- 71.1507 µg/mL	Gravimetric Unstressed Stressed
6	2-Nitrophenol-d4 **CAS #** 93951-78-1 (Lot H-151) **Purity** 99%	2,012.0 µg/mL	+/- 11.8075 µg/mL +/- 58.7388 µg/mL +/- 71.2688 µg/mL	Gravimetric Unstressed Stressed
7	2,4-Dichlorophenol-d3 **CAS #** 93951-74-7 (Lot AB210P6) **Purity** 99%	2,009.3 µg/mL	+/- 11.7919 µg/mL +/- 58.6610 µg/mL +/- 71.1743 µg/mL	Gravimetric Unstressed Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

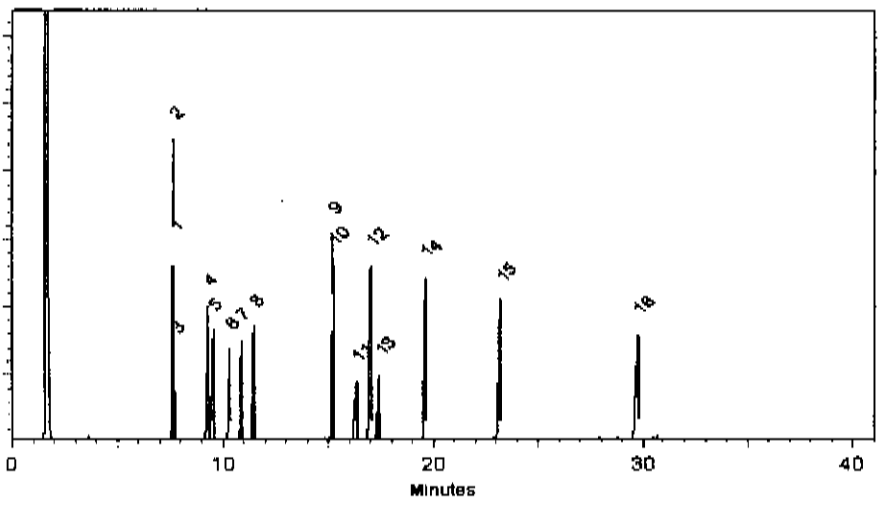
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 07-Dec-2015 **Balance:** B442140311

Jennifer L. Pollino - QC Analyst

Date Passed: 09-Dec-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

PCI SCIENTIFIC SUPPLY, INC.

41 PLYMOUTH STREET
FAIRFIELD, NJ 07004
P# (973) 244-9002
F# (973) 244-9448

CERTIFICATE OF ANALYSIS

PRODUCT :	SODIUM SULFATE ANHYDROUS		
QUALITY :	ACS	FORMULA :	Na_2SO_4
SPECIFICATION NUMBER :	6390	RELEASE DATE:	AGO/25/2014
LOT NUMBER :	433101		

TEST	SPECIFICATIONS	LOT VALUES
Insoluble matter	Max. 0.01%	0.006 %
Loss on ignition	Max. 0.5%	0.3 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.1
Chloride (Cl)	Max. 0.001%	<0.001 %
Nitrogen compounds (como N)	Max. 5 ppm	<5 ppm
Assay (Na_2SO_4)	Min. 99.0%	99.5 %
Iron (Fe)	Max. 0.001%	<0.001 %
Heavy metals (como Pb)	Max. 5 ppm	<5 ppm
Potassium (K)	Max. 0.008%	0.001 %
Calcium (Ca)	Max. 0.01%	0.001 %
Magnesium (Mg)	Max. 0.005%	0.002 %
Phosphate (PO_4)	Max. 0.001%	<0.001 %
Appearance	Crystals	Crystals
Retained on US Standard No. 10 sieve	Max. 1.0%	0.0 %
Retained on US Standard No. 60 sieve	Min. 80.0%	98.3 %
Through US Standard No. 60 sieve	Max. 19.0%	1.5 %
Through US Standard No. 100 sieve	Max. 10.0%	0.2 %

E 2036

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9266-A4
Batch No.: 0000131014
Manufactured Date: 2015/11/25
Expiration Date: 2017/02/23

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	2
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	>= 99.8 %	100.0
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0000 ppm	0.1000
Titrable Acid (µeq/g)	<= 0.3	< 0.1
Chloride (Cl)	<= 10 ppm	< 5
Water (by KF, coulometric)	<= 0.02 %	< 0.01

For Laboratory, Research or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

E2072

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Debradun, India. 9001:2008 14001:2004, 13485:2003
Mumbai, India. 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway. Suite #200. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Certificate of Analysis

Date of Release:	2/26/2016
Name:	Dichloromethane OmniSolv®
Item No:	DX0831 all size codes
Lot / Batch No:	56056
Country of Origin:	USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
Assay (GC)	99.9		99.95	%
Capillary ECD responsive substances (as PCNB)		2	0.32	ng/L
Capillary FID responsive substances (as decane)		3	< 0.10	µg/L
Color (APHA)		10	<10	
Filtered through 0.2 µm filter			Passes test	
Fluorescence (as quinine base)		500	78	ppt
Form			Clear liquid	
Free halogens			Passes test	
Identity (IR-spectrum)			Conforms	
Refractive index (n 20/D)			1.4240	
Residue after evaporation		1	<0.5	ppm
Titrable acid		0.2	0.09	µeq/g
UV Abs. at 231 nm		1.00	0.726	AU
UV Abs. at 235 nm		0.40	0.280	AU
UV Abs. at 240 nm		0.20	0.080	AU
UV Abs. at 250 nm		0.01	0.005	AU
UV Abs. at 260 nm		0.005	< 0.001	AU
UV Cut-off		231	229.6	nm
Water (H2O)		0.005	0.0003	%

Gene Desolelle

Quality Control Manager

This document has been produced electronically and is valid without a signature.

E 2087

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821
U.S.A

Certificate of Analysis

Date of Release: 2/26/2016

Name: Dichloromethane
OmniSolv®

Item No: DX0831 all size codes

Lot / Batch No: 56056

Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
Assay (GC)	99.9		99.95	%
Capillary ECD responsive substances (as PCNB)		2	0.32	ng/L
Capillary FID responsive substances (as decane)		3	< 0.10	µg/L
Color (APHA)		10	<10	
Filtered through 0.2 µm filter			Passes test	
Fluorescence (as quinine base)		500	78	ppt
Form			Clear liquid	
Free halogens			Passes test	
Identity (IR-spectrum)			Conforms	
Refractive index (n 20/D)			1.4240	
Residue after evaporation		1	<0.5	ppm
Titrable acid		0.2	0.09	µeq/g
UV Abs. at 231 nm		1.00	0.726	AU
UV Abs. at 235 nm		0.40	0.280	AU
UV Abs. at 240 nm		0.20	0.080	AU
UV Abs. at 250 nm		0.01	0.005	AU
UV Abs. at 260 nm		0.005	< 0.001	AU
UV Cut-off		231	229.6	nm
Water (H2O)		0.005	0.0003	%

Gene Desotelle

Quality Control Manager
This document has been produced electronically and is valid without a signature.

EMD Millipore is a division of Merck KGaA,Darmstadt, Germany
EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821
U.S.A

E 2105

Acetone
ULTRA RESI-ANALYZED
For Organic Residue Analysis

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9254-03
Batch No.: 0000133024
Manufactured Date: 2015/11/03
Expiration Date: 2018/11/02

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	>= 99.4 %	99.7
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0000 ppm	0.1000
Substances Reducing Permanganate	Passes Test	PT
Titrable Acid (µeq/g)	<= 0.3	0.1
Titrable Base (µeq/g)	<= 0.6	< 0.1
Water (H_2O)	<= 0.5 %	0.3
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	1

For Laboratory, Research or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

E 2106

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James T Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

SAFETY DATA SHEET

1. Identification

Product identifier: ACETONE

Other means of identification

Synonyms: 2-Propanone, Dimethyl ketone

Product No.: 2462, 2572, 2570, 9422, 9036, 9015, 9010, 9009, 9008, 9006, 9005, 9003, 9002, 2443, 2437, 2435, 2432, H580, 5975, 5965, H451, 2440, A134, 5580, 5356, 5018, 5008, 9271, 9254, 70444, 10654

Recommended use and restriction on use

Recommended use: Not available.
Restrictions on use: Not known.

Details of the supplier of the safety data sheet

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax: 610-573-2610
Contact Person: Environmental Health & Safety
E-mail: info@avantormaterials.com

Emergency telephone number:
CHEMTREC: 1-800-424-9300 within US and Canada
CHEMTREC: 1-703-527-3887 outside US and Canada

2. Hazard(s) identification

Hazard Classification

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement:
Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May be harmful if swallowed and enters airways.

Precautionary Statement

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting/equipment. Ground and bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Avoid breathing dust/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Response: In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
ACETONE		67-64-1	99 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Call a physician or poison control center immediately. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

Skin Contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.

Most important symptoms/effects, acute and delayed

Symptoms: Narcotic effect.

Indication of immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed. Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: Flammable liquid and vapor.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Heat may cause the containers to explode.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a profected location. Move containers from fire area if you can do so without risk.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind.
Methods and meterial for containment and cleaning up:	Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharges. Stop leak if possible without any risk. Use only non-sparking tools. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
Notification Procedures:	Inform authorities if large amounts are involved.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground and bond container and receiving equipment. Use personal protective equipment as required. Do not get in eyes, on skin, on clothing. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

Conditions for safe storage, including any incompatibilities: Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a cool, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
ACETONE	REL	250 ppm 590 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	1,000 ppm 2,400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	750 ppm 1,800 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	1,000 ppm 2,400 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	250 ppm	US. ACGIH Threshold Limit Values (03 2015)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (03 2015)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
ACETONE (acetone: Sampling time: End of shift.)	25 mg/l (Urine)	ACGIH BEL (03 2015)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: Chemical resistant gloves

Other: Wear suitable protective clothing and gloves.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.

Hygiene measures: Provide eyewash station and safety shower. Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Avoid contact with eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Sweet, mint-like
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	-94.7 °C
Initial boiling point and boiling range:	56 °C (101.3 kPa)
Flash Point:	-20 °C (Closed Cup)
Evaporation rate:	No data available.
Flammability (solid, gas):	Class IB Flammable Liquid
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	12.8 %(V)
Flammability limit - lower (%):	2.6 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	30.9 kPa (25 °C)
Vapor density:	2
Relative density:	0.7899 (4 °C)
Solubility(ies)	
Solubility in water:	Miscible with water.
Solubility (other):	alcohol: Very Soluble benzene: Soluble chloroform: Very Soluble ether: Very Soluble
Partition coefficient (n-octanol/water):	-0.24
Auto-ignition temperature:	869 °F
Decomposition temperature:	No data available.
Viscosity:	No data available.

Other information

Liquid conductivity:	0.06 µS/cm
Molecular weight:	58.08 g/mol (C3H6O)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.

Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Oxidizers, acids
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Harmful if swallowed.
Inhalation:	May cause irritation to the respiratory system.
Skin Contact:	Causes mild skin irritation. Prolonged or repeated skin contact may cause drying, cracking, or irritation.
Eye contact:	Causes eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: LD 50 (Rat): 5,800 mg/kg

Dermal
Product: LD 50 (Rabbit): 20,000 mg/kg

Inhalation
Product: LC 50 (Rat, 4 h): 76 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: Prolonged or repeated contact may cause irritation.

Serious Eye Damage/Eye Irritation
Product: Irritating to eyes.

Respiratory or Skin Sensitization
Product: Not a skin sensitizer.

Carcinogenicity
Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No mutagenic components identified

In vivo
Product: No mutagenic components identified

Reproductive toxicity
Product: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure
Product: Respiratory tract irritation. Narcotic effect.

Specific Target Organ Toxicity - Repeated Exposure
Product: None known.

Aspiration Hazard
Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: LC 50 (Fathead minnow (Pimephales promelas), 96 h): 5,490 - 7,030 mg/l Mortality
LC 50 (Bluegill (Lepomis macrochirus), 96 h): 8,300 mg/l Mortality

Aquatic Invertebrates
Product: LC 50 (Brine shrimp (Artemia salina), 24 h): 2,100 mg/l Mortality
LC 50 (Water flea (Daphnia magna), 48 h): 12,100 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: Expected to be readily biodegradable.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential
Bioconcentration Factor (BCF)
Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)
Product: Log Kow: -0.24

Mobility in Soil:	No data available.
Other Adverse Effects:	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions:	Discharge, treatment, or disposal may be subject to national, state, or local laws.
Contaminated Packaging:	Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN Number:	UN 1090
UN Proper Shipping Name:	Acetone
Transport Hazard Class(es)	
Class(es):	3
Label(s):	3
Packing Group:	II
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	–

IMDG

UN Number:	UN 1090
UN Proper Shipping Name:	ACETONE
Transport Hazard Class(es)	
Class(es):	3
Label(s):	3
EmS No.:	F-E, S-D
Packing Group:	II
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	–

IATA

UN Number:	UN 1090
Proper Shipping Name:	Acetone
Transport Hazard Class(es):	
Class(es):	3
Label(s):	3
Marine Pollutant:	Not a Marine Pollutant
Packing Group:	II
Special precautions for user:	–

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
ACETONE	5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Acute (Immediate)
Fire

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
ACETONE	5000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
ACETONE	10000 lbs

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
ACETONE

US. Massachusetts RTK - Substance List

Chemical Identity
ACETONE

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
ACETONE

US. Rhode Island RTK

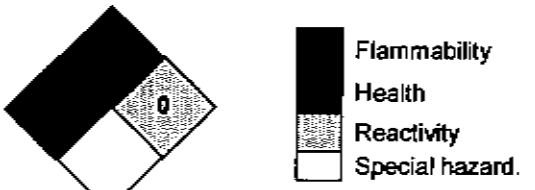
Chemical Identity
ACETONE

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	04-14-2016
Revision Date:	No data available.
Version #:	2.0
Further Information:	No data available.

Disclaimer:

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Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

M357 8
Reagan 11/18/15
Exp. 2019/11/02
MB

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9673-33
Batch No.: 0000095945
Manufactured Date: 2014/11/03
Retest Date: 2019/11/02

Certificate of Analysis

Test	Specification	Result
ACS - Assay (H_2SO_4)	95.0 - 98.0 %	95.9
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	6
ACS - Residue after Ignition	<= 3 ppm	< 1
ACS - Substances Reducing Permanganate (as SO_2)	<= 2 ppm	< 2
Ammonium (NH_4)	<= 1 ppm	< 1
Chloride (Cl)	<= 0.1 ppm	< 0.1
Nitrate (NO_3)	<= 0.2 ppm	< 0.2
Phosphate (PO_4)	<= 0.5 ppm	< 0.5
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	1.3
Arsenic and Antimony (as As)	<= 4 ppb	< 3
Trace Impurities - Barium (Ba)	<= 10.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 10.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 10.0 ppb	< 0.7
Trace Impurities - Cadmium (Cd)	<= 2.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	7.2
Trace Impurities - Chromium (Cr)	<= 6.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 0.5 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	0.2
Trace Impurities - Gallium (Ga)	<= 10.0 ppb	< 0.2
Trace Impurities - Germanium (Ge)	<= 10.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 10.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 500 ppb	< 300

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Material No.: 9673-33
Batch No.: 0000095945

Test	Specification	Result
Trace Impurities - Iron (Fe)	<= 50.0 ppb	29.9
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 10.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	0.4
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	< 0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 3.0
Trace Impurities - Nickel (Ni)	<= 2.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 10.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 500.0 ppb	< 2.0
Trace Impurities - Selenium (Se)	<= 50.0 ppb	< 10.0
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 0.4
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 500.0 ppb	4.4
Trace Impurities - Strontium (Sr)	<= 5.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 10.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 20.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	0.9
Trace Impurities - Titanium (Ti)	<= 10.0 ppb	1.7
Trace Impurities - Vanadium (V)	<= 10.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	1.1
Trace Impurities - Zirconium (Zr)	<= 10.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008, 17025:2005
Selangor, Malaysia 9001:2008
Dehradun, India 9001:2008, 14001:2004, 13485:2003
Mumbai, India 9001:2008, 17025:2005
Panoli, India 9001:2008

Richard M Siberski
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600

Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 , Fax: 610.573.2610

CHEMTECH **EXTRACTION LOGPAGE**

PB90330

SOP ID: M SOM02.2

Matrix : Water

Clean Up SOP #: N/A

Weigh By: N/A **Extraction By:** RP

Balance check: N/A

Balance ID: 2 **Weight 1:** (2) 2 **Weight 2:** (2) 2

Batch# PB90330

Extraction Date : 05/05/16

Extraction Start Time : 11:30

Extraction End Time : 18:50

Review By : L

Filter By: RP **Concentration By:** JUM

Method of Extraction

☐ Seperatory Funne ☑ Continious Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☐ Soxhlet

Standared Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike	0.5ML	80 PPM	SP3536
Surrogate	0.5ML	80+0.8 PPM	SP3652

Chemical Used	ML/SAMPLE USED	Lot Number
Methylene Chloride		E2105
Baked Na2SO4		EP1653
H2SO4 1:1		EP1663

RP 5/5

Extraction Conformance/Non-Conformance Comments:

NH Strip Lot No. E2056

Extraction End Time: 18:50

RP 5/5

KD Bath Temperature: 60.1 c

Received Dete: 05/06/16

Delivered Date: 05/05/16

Delivered Time: 18:55

Envap Temperature: 40 c

Received By: UM

Delivered By: JUM

Analysis Group:

Extraction Group: , RS, SJ, MM, UA, RP, JP, NP, UM

CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID** **PB90330**

Analytical Method: 8270D-2 SVOC **Extraction Date:** 05/05/2016-11:30 **Concentration Date:** 05/05/16

Lab Sample ID	Client Sample ID	Test	g (mL)	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
	2	2			Added By	Verified By			
PB90330BL	SBLK30	SVOC-TCL BNA -20	1000	6	RS	N	1	Bottle	
H2834-01	H4002	SVOC-TCL BNA -20	1000	6				E	
H2834-02	H4002MS	SVOC-TCL BNA -20	1000	6				E	
H2834-03	H4002MSD	SVOC-TCL BNA -20	1000	6				E	
H2834-18	H4102	SVOC-TCL BNA -20	1000	6				E	
H2834-19	H4116	SVOC-TCL BNA -20	1000	6				D	
H2834-20	H4117	SVOC-TCL BNA -20	1000	6				D	
H2834-21	H4118	SVOC-TCL BNA -20	1000	6			1	D	

PH adjusted for Acid 22

* Extracts relinquished on the same date as received.

CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID : PB90330**

Analytical Method: 2 **Extraction Date:** 05/05/2016-11:30 **Concentration Date:** __/__/__

Lab Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol (mL)	Comments	Prep Pos
		2 2			Added By	Verified By			
PB90330BL	SBLK30	SVOC-TCL BNA -20	1000.0	6	RUPESH	rajesh	1		
H2834-01	H4002	SVOC-TCL BNA -20	1000.0	6	RUPESH	rajesh	1		
H2834-02	H4002MS	SVOC-TCL BNA -20	1000.0	6	RUPESH	rajesh	1		
H2834-03	H4002MSD	SVOC-TCL BNA -20	1000.0	6	RUPESH	rajesh	1		
H2834-18	H4102	SVOC-TCL BNA -20	1000.0	6	RUPESH	rajesh	1		
H2834-19	H4116	SVOC-TCL BNA -20	1000.0	6	RUPESH	rajesh	1		
H2834-20	H4117	SVOC-TCL BNA -20	1000.0	6	RUPESH	rajesh	1		
H2834-21	H4118	SVOC-TCL BNA -20	1000.0	6	RUPESH	rajesh	1		

pH adjusted for Acid <2

5/5

* Extracts relinquished on the same date as received.

5/5

CHEMTECH **EXTRACTION LOGPAGE**

PB90332

SOP ID: M SOM02.2

Matrix : Solid

Clean Up SOP #: GPC Cleanup

Weigh By: RS **Extraction By:** RS

Balance check: RS

Balance ID: Ex-SC-1

Batch# PB90332

Extraction Date : 05/05/16

Extraction Start Time : 15:12

Extraction End Time 10:00 (5/6/16)

Review By :

Filter By: RS **Concentration By:** MM

Weight 1: (20.00) 20.00 **Weight 2:** (10.00) 10.00

Method of Extraction

☐ Seperatory Funne ☐ Continious Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☑ Soxhlet

Standared Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike	0.5ML	80 ppm	SP3536
Surrogate	0.5ML	80 + 0.8 ppm	SP3652

Chemical Used	ML/SAMPLE USED	Lot Number
Mcl2/Acetone/1:1		EP1671
Methylene Chloride		E2105
Sand		E1520
Baked Na2SO4		EP1653

5/6

5/6

Extraction Conformance/Non-Conformance Comments:

Extraction End Time: 10:00 (5/6/16) Crrc Project H 2798 & H 2694

KD Bath Temperature: 60.1 c

Received Date: 05/06/16

Delivered Date: 05/06/16

Delivered Time: 10:05

Envap Temperature: 40 c

Received By: UM

Delivered By: MM

Analysis Group:

Extraction Group: , RS, SJ, MM, UA, RP, JP, NP, UM

CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID** **PB90332**

Analytical Method: SOM02.2 SVOC **Extraction Date:** 05/05/2016-15:12 **Concentration Date:** 05/06/16

Lab Sample ID	Client Sample ID	Test	g / mL	PM	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
			2		Added By	Verified By			
PB90332BL	SBLK32	SVOC-TCL BNA -20	30.02		RS	M	0.5		01
H2834-13	H4061	SVOC-TCL BNA -20	30.10		↓	↓	↓	Jar E	02
H2834-14	H4061MS	SVOC-TCL BNA -20	30.03		↓	↓	↓	E	03
H2834-15	H4061MSD	SVOC-TCL BNA -20	30.06		↓	↓	↓	E	04
H2834-16	H4076	SVOC-TCL BNA -20	30.08		↓	↓	↓	E	05

* Extracts relinquished on the same date as received.

STL

CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID : PB90332**

Analytical Method: 2 **Extraction Date:** 05/05/2016-15:12 **Concentration Date:** __/__/__

Lab Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Bas
		2	2		Added By	Verified By			
PB90332BL	SBLK32	SVOC-TCL BNA -20	30.02		RUPESH	rajesh	0.5		
H2834-13	H4061	SVOC-TCL BNA -20	30.10		RUPESH	rajesh	0.5		
H2834-14	H4061MS	SVOC-TCL BNA -20	30.03		RUPESH	rajesh	0.5		
H2834-15	H4061MSD	SVOC-TCL BNA -20	30.06		RUPESH	rajesh	0.5		
H2834-16	H4076	SVOC-TCL BNA -20	30.08		RUPESH	rajesh	0.5		

5/6

* Extracts relinquished on the same date as received.

5/6

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: MSVOA_I

Daily Analysis Runlog For Sequence/QCBatch ID # VI050416

Review By	mohammad	Review On	5/5/2016 9:02:17 AM		
SubDirectory	VI050416	HP Acquire Method	MOONMOON	HP Processing Method	SOMITR050416W.M

STD. NAME	STD REF.#
Tune/Reschk	VP52662
Initial Calibration Stds	VP52664,VP52665,VP52666,VP52667,VP52668
CCC	VP52669,VP52670
Internal Standard/PEM	VP52036,VP52453
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB32	VI049219.D	4 May 2016 8:57	FY/SY	Ok
2	VSTD0.533	VI049220.D	4 May 2016 11:27	FY/SY	Ok
3	VSTD00134	VI049221.D	4 May 2016 11:58	FY/SY	Ok
4	VSTD00535	VI049222.D	4 May 2016 12:30	FY/SY	Ok
5	VSTD01036	VI049223.D	4 May 2016 13:02	FY/SY	Ok
6	VSTD02037	VI049224.D	4 May 2016 13:33	FY/SY	Ok
7	VSTDCCC005	VI049225.D	4 May 2016 14:05	FY/SY	Ok
8	VI0504WBL01	VI049226.D	4 May 2016 15:13	FY/SY	Ok
9	H2799-02DL2	VI049227.D	4 May 2016 15:45	FY/SY	Ok,M
10	H2743-14	VI049228.D	4 May 2016 16:17	FY/SY	Ok
11	H2743-15	VI049229.D	4 May 2016 16:49	FY/SY	Ok,M
12	H2743-09DL	VI049230.D	4 May 2016 17:20	FY/SY	Ok
13	H2743-10DL	VI049231.D	4 May 2016 17:52	FY/SY	Ok,M
14	H2743-13DL	VI049232.D	4 May 2016 18:23	FY/SY	Ok
15	H2834-04	VI049233.D	4 May 2016 18:55	FY/SY	Ok,M
16	H2834-01	VI049234.D	4 May 2016 19:27	FY/SY	Dilution
17	H2834-02	VI049235.D	4 May 2016 19:58	FY/SY	Not Ok
18	H2834-03	VI049236.D	4 May 2016 20:30	FY/SY	Not Ok
19	H2834-05	VI049237.D	4 May 2016 21:02	FY/SY	Dilution
20	H2834-06	VI049238.D	4 May 2016 21:33	FY/SY	Dilution
21	H2834-07	VI049239.D	4 May 2016 22:05	FY/SY	Dilution
22	H2834-08	VI049240.D	4 May 2016 22:37	FY/SY	ReRun
23	H2834-09	VI049241.D	4 May 2016 23:08	FY/SY	Ok
24	H2834-10	VI049242.D	4 May 2016 23:40	FY/SY	Ok,M
25	VSTDCCC005EC	VI049243.D	5 May 2016 00:11	FY/SY	Ok,M

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Instrument ID: MSVOA_I

Daily Analysis Runlog For Sequence/QCBatch ID # VI050516

Review By	feifei	Review On	5/6/2016 11:44:01 AM		
SubDirectory	VI050516	HP Acquire Method	MOONMOON	HP Processing Method	SOMITR050416W.M

STD. NAME	STD REF.#
Tune/Reschk	VP52696
Initial Calibration Stds	VP52664,VP52665,VP52666,VP52667,VP52668
CCC	VP52698,VP52699,VP52700
Internal Standard/PEM	VP52036,VP52453
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB33	VI049244.D	5 May 2016 9:34	FY/SY	Ok
2	VSTDCCC005	VI049245.D	5 May 2016 10:15	FY/SY	Ok
3	VI0505WBL01	VI049246.D	5 May 2016 10:59	FY/SY	Ok,M
4	H2799-11	VI049247.D	5 May 2016 11:31	FY/SY	Ok
5	H2743-18	VI049248.D	5 May 2016 12:03	FY/SY	Ok
6	H2834-12	VI049249.D	5 May 2016 12:34	FY/SY	Ok,M
7	H2796-21	VI049250.D	5 May 2016 13:06	FY/SY	Ok,M
8	H2834-08RE	VI049251.D	5 May 2016 13:38	FY/SY	Confirms
9	H2834-01DL	VI049252.D	5 May 2016 14:09	FY/SY	Ok,M
10	H2834-02MS	VI049253.D	5 May 2016 15:13	FY/SY	Ok
11	H2834-03MSD	VI049254.D	5 May 2016 15:44	FY/SY	Ok
12	VSTDCCC005	VI049255.D	5 May 2016 16:16	FY/SY	Ok
13	VI0505WBL02	VI049256.D	5 May 2016 16:54	FY/SY	Ok,M
14	H2834-06DL	VI049257.D	5 May 2016 17:59	FY/SY	Ok
15	H2834-05DL	VI049258.D	5 May 2016 18:31	FY/SY	Ok
16	H2834-07DL	VI049259.D	5 May 2016 19:02	FY/SY	Ok,M
17	H2874-01	VI049260.D	5 May 2016 19:34	FY/SY	Ok
18	H2874-09	VI049261.D	5 May 2016 20:06	FY/SY	Dilution
19	H2874-10MS	VI049262.D	5 May 2016 20:37	FY/SY	Ok
20	H2874-11MSD	VI049263.D	5 May 2016 21:09	FY/SY	Ok,M
21	H2874-04	VI049264.D	5 May 2016 21:41	FY/SY	Not Ok
22	H2874-05	VI049265.D	5 May 2016 22:12	FY/SY	Ok,M
23	H2874-06	VI049266.D	5 May 2016 22:44	FY/SY	Ok,M
24	H2874-07	VI049267.D	5 May 2016 23:16	FY/SY	Ok,M
25	H2874-08	VI049268.D	5 May 2016 23:47	FY/SY	Ok,M
26	H2874-12	VI049269.D	6 May 2016 00:19	FY/SY	Ok

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Instrument ID: MSVOA_I

Daily Analysis Runlog For Sequence/QCBatch ID # VI050516

Review By	feifei	Review On	5/6/2016 11:44:01 AM		
SubDirectory	VI050516	HP Acquire Method	MOONMOON	HP Processing Method	SOMITR050416W.M

STD. NAME	STD REF.#
Tune/Reschk	VP52696
Initial Calibration Stds	VP52664,VP52665,VP52666,VP52667,VP52668
CCC	VP52698,VP52699,VP52700
Internal Standard/PEM	VP52036,VP52453
ICV/I.BLK	N/A

27	H2834-18	VI049270.D	6 May 2016 00:50	FY/SY	Dilution
28	H2834-19	VI049271.D	6 May 2016 1:22	FY/SY	Dilution
29	H2834-20	VI049272.D	6 May 2016 1:54	FY/SY	ReRun
30	H2834-21	VI049273.D	6 May 2016 2:25	FY/SY	Not Ok
31	VSTDCCC005EC	VI049274.D	6 May 2016 2:57	FY/SY	Ok

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Instrument ID: MSVOA_I

Daily Analysis Runlog For Sequence/QCBatch ID # VI050616

Review By	feifei	Review On	5/9/2016 12:05:45 PM		
SubDirectory	VI050616	HP Acquire Method	MOONMOON	HP Processing Method	SOMITR050416W.M

STD. NAME	STD REF.#
Tune/Reschk	VP52731
Initial Calibration Stds	VP52664,VP52665,VP52666,VP52667,VP52668
CCC	VP52733,VP52734,VP52735
Internal Standard/PEM	VP52036,VP52453
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB34	VI049275.D	6 May 2016 9:02	FY/SY	Ok
2	VSTDCCC005	VI049276.D	6 May 2016 10:21	FY/SY	Ok
3	VI0506WBL01	VI049277.D	6 May 2016 11:45	FY/SY	Ok
4	H2834-21	VI049278.D	6 May 2016 12:17	FY/SY	Ok
5	H2874-04	VI049279.D	6 May 2016 12:49	FY/SY	Ok,M
6	H2834-20	VI049280.D	6 May 2016 13:20	FY/SY	Ok
7	H2834-18DL	VI049281.D	6 May 2016 13:52	FY/SY	Ok,M
8	H2874-13	VI049282.D	6 May 2016 14:24	FY/SY	Ok,M
9	H2874-14	VI049283.D	6 May 2016 14:55	FY/SY	Dilution
10	H2874-14DL	VI049284.D	6 May 2016 16:05	FY/SY	Ok,M
11	H2874-09DL	VI049285.D	6 May 2016 16:37	FY/SY	Ok
12	H2834-19DL	VI049286.D	6 May 2016 17:09	FY/SY	Ok
13	H2874-15	VI049287.D	6 May 2016 17:40	FY/SY	Not Ok
14	H2834-11	VI049288.D	6 May 2016 18:12	FY/SY	Ok
15	VSTDCCC005EC	VI049289.D	6 May 2016 19:15	FY/SY	Ok

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Instrument ID: MSVOA_I

Daily Analysis Runlog For Sequence/QCBatch ID # VI050416

Review By	mohammad	Review On	5/5/2016 9:02:17 AM		
SubDirectory	VI050416	HP Acquire Method	MOONMOON	HP Processing Method	SOMITR050416W.M

STD. NAME	STD REF.#
Tune/Reschk	VP52662
Initial Calibration Stds	VP52664,VP52665,VP52666,VP52667,VP52668
CCC	VP52669,VP52670
Internal Standard/PEM	VP52036,VP52453
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB32	BFB32	VI049219.D		Ok
2	VSTD0.533	VSTD0.533	VI049220.D		Ok
3	VSTD00134	VSTD00134	VI049221.D		Ok
4	VSTD00535	VSTD00535	VI049222.D		Ok
5	VSTD01036	VSTD01036	VI049223.D	(V#6390)	Ok
6	VSTD02037	VSTD02037	VI049224.D		Ok
7	VSTDCCC005	VSTD00538	VI049225.D		Ok
8	VI0504WBL01	VBLK27	VI049226.D		Ok
9	H2799-02DL2	C0H63DL2	VI049227.D	pH#1.0 vial C	Ok,M
10	H2743-14	H4015	VI049228.D	pH#1.0 vial B	Ok
11	H2743-15	H4017	VI049229.D	pH#1.0 vial B	Ok,M
12	H2743-09DL	H4009DL	VI049230.D	pH#1.0 vial B	Ok
13	H2743-10DL	H4011DL	VI049231.D	pH#1.0 vial B	Ok,M
14	H2743-13DL	H4007DL	VI049232.D	pH#1.0 vial B	Ok
15	H2834-04	H4006	VI049233.D	pH#1.0 vial A	Ok,M
16	H2834-01	H4002	VI049234.D	pH#1.0A need 5X	Dilution
17	H2834-02	H4002	VI049235.D	pH#1.0A Need 5x,MS not spike	Not Ok
18	H2834-03	H4002	VI049236.D	pH#1.0A Need 5x,MSD not spike	Not Ok
19	H2834-05	H4094	VI049237.D	pH#1.0A Need 5x	Dilution
20	H2834-06	H4121	VI049238.D	pH#1.0A Need 2x	Dilution
21	H2834-07	H4123	VI049239.D	pH#1.0A Need 5x	Dilution
22	H2834-08	H4124	VI049240.D	pH#1.0A E flag in previous sample	ReRun

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Instrument ID: MSVOA_I

Daily Analysis Runlog For Sequence/QCBatch ID # VI050416

Review By	mohammad	Review On	5/5/2016 9:02:17 AM		
SubDirectory	VI050416	HP Acquire Method	MOONMOON	HP Processing Method	SOMITR050416W.M

STD. NAME	STD REF.#
Tune/Reschk	VP52662
Initial Calibration Stds	VP52664,VP52665,VP52666,VP52667,VP52668
CCC	VP52669,VP52670
Internal Standard/PEM	VP52036,VP52453
ICV/I.BLK	N/A

23	H2834-09	H4132	VI049241.D	pH#1.0 vial A	Ok
24	H2834-10	H4133	VI049242.D	pH#1.0 vial A	Ok,M
25	VSTDCCC005EC	VSTD00539	VI049243.D		Ok,M

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Instrument ID: MSVOA_I

Daily Analysis Runlog For Sequence/QCBatch ID # VI050516

Review By	feifei	Review On	5/6/2016 11:44:01 AM		
SubDirectory	VI050516	HP Acquire Method	MOONMOON	HP Processing Method	SOMITR050416W.M

STD. NAME	STD REF.#
Tune/Reschk	VP52696
Initial Calibration Stds	VP52664,VP52665,VP52666,VP52667,VP52668
CCC	VP52698,VP52699,VP52700
Internal Standard/PEM	VP52036,VP52453
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB33	BFB33	VI049244.D		Ok
2	VSTDCCC005	VSTD00540	VI049245.D		Ok
3	VI0505WBL01	VBLK28	VI049246.D	(V#6390)	Ok,M
4	H2799-11	VHBLK01	VI049247.D	pH#1.6A SB	Ok
5	H2743-18	VHBLK01	VI049248.D	pH#1.6A SB	Ok
6	H2834-12	H4004	VI049249.D	pH#1.0 vial A	Ok,M
7	H2796-21	VHBLK01	VI049250.D	pH#1.6B SB	Ok,M
8	H2834-08RE	H4124RE	VI049251.D	pH#1.0 vial B	Confirms
9	H2834-01DL	H4002DL	VI049252.D	pH#1.0 vial C	Ok,M
10	H2834-02MS	H4002MS	VI049253.D	pH#1.0 vial B	Ok
11	H2834-03MSD	H4002MSD	VI049254.D	pH#1.0 vial B	Ok
12	VSTDCCC005	VSTD00541	VI049255.D		Ok
13	VI0505WBL02	VBLK29	VI049256.D		Ok,M
14	H2834-06DL	H4121DL	VI049257.D	pH#1.0 vial B	Ok
15	H2834-05DL	H4094DL	VI049258.D	pH#1.0 vial B	Ok
16	H2834-07DL	H4123DL	VI049259.D	pH#1.0 vial B	Ok,M
17	H2874-01	H4010	VI049260.D	pH#1.0 vial A	Ok
18	H2874-09	H4113	VI049261.D	pH#1.0A Need 5x	Dilution
19	H2874-10MS	H4113MS	VI049262.D	pH#1.0 vial A	Ok
20	H2874-11MSD	H4113MSD	VI049263.D	pH#1.0 vial A	Ok,M
21	H2874-04	H4099	VI049264.D	pH#1.6 vial A, conform concentration	Not Ok
22	H2874-05	H4101	VI049265.D	pH#1.0 vial A	Ok,M

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Instrument ID: MSVOA_I

Daily Analysis Runlog For Sequence/QCBatch ID # VI050516

Review By	feifei	Review On	5/6/2016 11:44:01 AM		
SubDirectory	VI050516	HP Acquire Method	MOONMOON	HP Processing Method	SOMITR050416W.M

STD. NAME	STD REF.#
Tune/Reschk	VP52696
Initial Calibration Stds	VP52664,VP52665,VP52666,VP52667,VP52668
CCC	VP52698,VP52699,VP52700
Internal Standard/PEM	VP52036,VP52453
ICV/I.BLK	N/A

23	H2874-06	H4103	VI049266.D	pH#1.0 vial A	Ok,M
24	H2874-07	H4111	VI049267.D	pH#1.0 vial A	Ok,M
25	H2874-08	H4112	VI049268.D	pH#1.0 vial A	Ok,M
26	H2874-12	H4120	VI049269.D	pH#1.0 vial A	Ok
27	H2834-18	H4102	VI049270.D	pH#1.0A Need 5x	Dilution
28	H2834-19	H4116	VI049271.D	pH#1.0A Need 5x	Dilution
29	H2834-20	H4117	VI049272.D	pH#1.0A E flag in previous sample	ReRun
30	H2834-21	H4118	VI049273.D	pH#1.0A Confirm conc.	Not Ok
31	VSTDCCC005EC	VSTD00542	VI049274.D		Ok

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Instrument ID: MSVOA_I

Daily Analysis Runlog For Sequence/QCBatch ID # VI050616

Review By	feifei	Review On	5/9/2016 12:05:45 PM		
SubDirectory	VI050616	HP Acquire Method	MOONMOON	HP Processing Method	SOMITR050416W.M

STD. NAME	STD REF.#
Tune/Reschk	VP52731
Initial Calibration Stds	VP52664,VP52665,VP52666,VP52667,VP52668
CCC	VP52733,VP52734,VP52735
Internal Standard/PEM	VP52036,VP52453
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB34	BFB34	VI049275.D		Ok
2	VSTDCCC005	VSTD00543	VI049276.D		Ok
3	VI0506WBL01	VBLK30	VI049277.D	(V#6390)	Ok
4	H2834-21	H4118	VI049278.D	pH#1.0 vial B	Ok
5	H2874-04	H4099	VI049279.D	pH#1.0 vial B	Ok,M
6	H2834-20	H4117	VI049280.D	pH#1.0 vial B	Ok
7	H2834-18DL	H4102DL	VI049281.D	pH#1.0 vial B	Ok,M
8	H2874-13	H4126	VI049282.D	pH#1.0 vial A	Ok,M
9	H2874-14	H4129	VI049283.D	pH#1.6A Need 5x	Dilution
10	H2874-14DL	H4129DL	VI049284.D	pH#1.0 vial B	Ok,M
11	H2874-09DL	H4113DL	VI049285.D	pH#1.0 vial B	Ok
12	H2834-19DL	H4116DL	VI049286.D	pH#1.0 vial B	Ok
13	H2874-15	VHBLK01	VI049287.D	pH#1.6A SB, need to run adding sample	Not Ok
14	H2834-11	VHBLK01	VI049288.D	pH#1.0A SB	Ok
15	VSTDCCC005EC	VSTD00544	VI049289.D		Ok

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT041216

Review By	feifei	Review On	4/13/2016 9:55:35 AM		
SubDirectory	VT041216	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM041216S.M

STD. NAME	STD REF.#
Tune/Reschk	VP51900
Initial Calibration Stds	VP51901,VP51902,VP51904,VP51905,VP51906
CCC	VP51907
Internal Standard/PEM	VP51299,VP51899
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB96	VT013543.D	12 Apr 2016 12:19	FY/SY	Ok
2	VSTD2.585	VT013544.D	12 Apr 2016 12:45	FY/SY	Ok,M
3	VSTD00586	VT013545.D	12 Apr 2016 13:11	FY/SY	Ok,M
4	VSTD02587	VT013546.D	12 Apr 2016 13:37	FY/SY	Ok,M
5	VSTD05088	VT013547.D	12 Apr 2016 14:03	FY/SY	Ok,M
6	VSTD10089	VT013548.D	12 Apr 2016 14:29	FY/SY	Ok,M
7	VT0412SBL01	VT013549.D	12 Apr 2016 15:21	FY/SY	Ok
8	H2342-02	VT013550.D	12 Apr 2016 15:50	FY/SY	Ok,M
9	H2342-11	VT013551.D	12 Apr 2016 16:22	FY/SY	Ok
10	H2342-12	VT013552.D	12 Apr 2016 17:15	FY/SY	Ok
11	H2342-13	VT013553.D	12 Apr 2016 17:41	FY/SY	Ok,M
12	H2342-14	VT013554.D	12 Apr 2016 18:07	FY/SY	Ok
13	H2342-15	VT013555.D	12 Apr 2016 18:34	FY/SY	Ok,M
14	H2342-16	VT013556.D	12 Apr 2016 19:00	FY/SY	Ok
15	H2342-17	VT013557.D	12 Apr 2016 19:25	FY/SY	Ok
16	VSTDCCC025EC	VT013558.D	12 Apr 2016 19:52	FY/SY	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050516

Review By	feifei	Review On	5/6/2016 9:46:08 AM		
SubDirectory	VT050516	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM041216S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52692
Initial Calibration Stds	VP52211,VP52212,VP52213,VP52214,VP52215
CCC	VP52693,VP52694,VP52695
Internal Standard/PEM	VP52194,VP52017
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB87	VT013896.D	5 May 2016 9:36	FY/SY	Ok
2	VSTDCCC025	VT013897.D	5 May 2016 10:40	FY/SY	Ok,M
3	VT0505SBL01	VT013898.D	5 May 2016 11:48	FY/SY	Ok
4	H2849-03RE	VT013899.D	5 May 2016 12:22	FY/SY	Confirms
5	H2849-01RE	VT013900.D	5 May 2016 12:48	FY/SY	Confirms
6	H2849-04RE	VT013901.D	5 May 2016 13:15	FY/SY	Confirms
7	H2849-05RE	VT013902.D	5 May 2016 13:40	FY/SY	Confirms
8	H2849-06RE	VT013903.D	5 May 2016 14:06	FY/SY	Confirms
9	H2849-07RE	VT013904.D	5 May 2016 14:32	FY/SY	Confirms
10	H2849-08	VT013905.D	5 May 2016 14:58	FY/SY	Ok
11	H2849-09RE	VT013906.D	5 May 2016 15:24	FY/SY	Confirms
12	VSTDCCC025	VT013907.D	5 May 2016 15:50	FY/SY	Ok,M
13	VT0505SBL02	VT013908.D	5 May 2016 16:51	FY/SY	Ok,M
14	H2841-21	VT013909.D	5 May 2016 17:17	FY/SY	Ok,M
15	H2841-06	VT013910.D	5 May 2016 17:43	FY/SY	Ok
16	H2841-07MS	VT013911.D	5 May 2016 18:09	FY/SY	Not Ok
17	H2841-08MSD	VT013912.D	5 May 2016 18:35	FY/SY	Not Ok
18	H2834-13	VT013913.D	5 May 2016 19:01	FY/SY	Ok,M
19	H2834-14MS	VT013914.D	5 May 2016 19:27	FY/SY	Not Ok
20	H2834-15MSD	VT013915.D	5 May 2016 19:53	FY/SY	Not Ok
21	H2841-09	VT013916.D	5 May 2016 20:19	FY/SY	Ok
22	H2841-10	VT013917.D	5 May 2016 20:45	FY/SY	Ok,M
23	H2841-11	VT013918.D	5 May 2016 21:11	FY/SY	ReRun
24	H2841-12	VT013919.D	5 May 2016 22:03	FY/SY	Ok
25	H2841-13	VT013920.D	5 May 2016 22:29	FY/SY	Ok
26	H2841-14	VT013921.D	5 May 2016 22:55	FY/SY	ReRun

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050516

Review By	feifei	Review On	5/6/2016 9:46:08 AM		
SubDirectory	VT050516	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM041216S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52692
Initial Calibration Stds	VP52211,VP52212,VP52213,VP52214,VP52215
CCC	VP52693,VP52694,VP52695
Internal Standard/PEM	VP52194,VP52017
ICV/I.BLK	N/A

27	H2841-15	VT013922.D	5 May 2016 23:21	FY/SY	ReRun
28	H2841-16	VT013923.D	5 May 2016 23:47	FY/SY	ReRun
29	H2841-17	VT013924.D	6 May 2016 00:13	FY/SY	ReRun
30	H2841-18	VT013925.D	6 May 2016 00:39	FY/SY	Ok
31	H2841-19	VT013926.D	6 May 2016 1:05	FY/SY	Not Ok
32	H2841-20	VT013927.D	6 May 2016 1:31	FY/SY	Ok
33	H2834-16	VT013928.D	6 May 2016 1:57	FY/SY	ReRun
34	VSTDCCC025EC	VT013929.D	6 May 2016 2:23	FY/SY	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050616

Review By	feifei	Review On	5/9/2016 11:31:40 AM		
SubDirectory	VT050616	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52723
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52729,VP52730,VP52802
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB88	VT013930.D	6 May 2016 9:01	FY/SY	Ok
2	VSTD2.582	VT013931.D	6 May 2016 9:38	FY/SY	Ok,M
3	VSTD00583	VT013932.D	6 May 2016 10:05	FY/SY	Ok,M
4	VSTD02584	VT013933.D	6 May 2016 10:31	FY/SY	Ok,M
5	VSTD05085	VT013934.D	6 May 2016 10:57	FY/SY	Ok,M
6	VSTD10086	VT013935.D	6 May 2016 11:23	FY/SY	Ok,M
7	VT0506SBL01	VT013936.D	6 May 2016 12:16	FY/SY	Ok
8	H2841-04	VT013937.D	6 May 2016 13:23	FY/SY	Ok
9	H2841-07MS	VT013938.D	6 May 2016 14:04	FY/SY	Ok
10	H2841-08MSD	VT013939.D	6 May 2016 14:30	FY/SY	Ok
11	H2841-19	VT013940.D	6 May 2016 14:56	FY/SY	Ok
12	VSTDCCC025	VT013941.D	6 May 2016 15:22	FY/SY	Ok,M
13	VT0506SBL02	VT013942.D	6 May 2016 16:20	FY/SY	Ok,M
14	H2888-01	VT013943.D	6 May 2016 16:48	FY/SY	Ok,M
15	H2888-02	VT013944.D	6 May 2016 17:15	FY/SY	Not Ok
16	H2888-03	VT013945.D	6 May 2016 17:41	FY/SY	Ok
17	H2890-11	VT013946.D	6 May 2016 18:07	FY/SY	Ok,M
18	H2890-12MS	VT013947.D	6 May 2016 18:33	FY/SY	Ok
19	H2890-13MSD	VT013948.D	6 May 2016 19:00	FY/SY	Ok,M
20	H2888-04	VT013949.D	6 May 2016 19:26	FY/SY	Ok,M
21	H2888-05	VT013950.D	6 May 2016 19:52	FY/SY	ReRun
22	H2888-06	VT013951.D	6 May 2016 20:18	FY/SY	ReRun
23	H2888-07	VT013952.D	6 May 2016 20:44	FY/SY	Not Ok
24	H2888-08	VT013953.D	6 May 2016 21:37	FY/SY	Ok
25	H2888-09	VT013954.D	6 May 2016 22:03	FY/SY	Ok
26	H2888-10	VT013955.D	6 May 2016 22:29	FY/SY	ReRun

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050616

Review By	feifei	Review On	5/9/2016 11:31:40 AM		
SubDirectory	VT050616	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52723
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52729,VP52730,VP52802
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

27	H2888-11	VT013956.D	6 May 2016 22:55	FY/SY	ReRun
28	H2888-12	VT013957.D	6 May 2016 23:22	FY/SY	Ok,M
29	H2888-13	VT013958.D	6 May 2016 23:48	FY/SY	Ok,M
30	H2888-14	VT013959.D	7 May 2016 00:14	FY/SY	ReRun
31	H2888-15	VT013960.D	7 May 2016 00:40	FY/SY	ReRun
32	H2888-16	VT013961.D	7 May 2016 1:06	FY/SY	Ok
33	H2888-17	VT013962.D	7 May 2016 1:32	FY/SY	ReRun
34	VSTDCCC025	VT013963.D	7 May 2016 2:24	FY/SY	Ok,M
35	VT0506SBL03	VT013964.D	7 May 2016 3:16	FY/SY	Ok
36	H2890-04	VT013965.D	7 May 2016 3:42	FY/SY	Ok
37	H2890-18	VT013966.D	7 May 2016 4:09	FY/SY	Ok
38	H2888-21	VT013967.D	7 May 2016 4:35	FY/SY	ReRun
39	H2888-22	VT013968.D	7 May 2016 5:01	FY/SY	Ok,M
40	H2890-01	VT013969.D	7 May 2016 5:27	FY/SY	Not Ok
41	H2890-02	VT013970.D	7 May 2016 5:53	FY/SY	Ok,M
42	H2890-03	VT013971.D	7 May 2016 6:19	FY/SY	ReRun
43	H2890-06	VT013972.D	7 May 2016 6:45	FY/SY	Not Ok
44	H2890-07	VT013973.D	7 May 2016 7:11	FY/SY	ReRun
45	H2890-08	VT013974.D	7 May 2016 7:38	FY/SY	ReRun
46	H2890-09	VT013975.D	7 May 2016 8:29	FY/SY	Not Ok
47	H2890-10	VT013976.D	7 May 2016 8:56	FY/SY	ReRun
48	H2890-14	VT013977.D	7 May 2016 9:21	FY/SY	Not Ok
49	H2890-15	VT013978.D	7 May 2016 9:47	FY/SY	Ok
50	H2890-16	VT013979.D	7 May 2016 10:13	FY/SY	ReRun
51	H2847-13	VT013980.D	7 May 2016 10:39	FY/SY	Not Ok
52	H2847-14	VT013981.D	7 May 2016 11:06	FY/SY	Ok
53	H2847-15	VT013982.D	7 May 2016 11:32	FY/SY	Ok
54	H2847-16	VT013983.D	7 May 2016 11:58	FY/SY	ReRun

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050616

Review By	feifei	Review On	5/9/2016 11:31:40 AM		
SubDirectory	VT050616	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52723
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52729,VP52730,VP52802
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

55	H2847-17	VT013984.D	7 May 2016 12:24	FY/SY	Ok
56	VSTDCCC025EC	VT013985.D	7 May 2016 12:50	FY/SY	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050916

Review By	feifei	Review On	5/10/2016 10:47:44 AM		
SubDirectory	VT050916	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52809
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52810,VP52811,VP52812
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB89	VT013986.D	9 May 2016 9:40	FY/SY	Ok
2	VSTDCCC025	VT013987.D	9 May 2016 10:07	FY/SY	Ok,M
3	VT0509SBL01	VT013988.D	9 May 2016 11:22	FY/SY	Ok
4	H2834-16	VT013989.D	9 May 2016 11:48	FY/SY	Ok
5	H2834-14MS	VT013990.D	9 May 2016 12:14	FY/SY	Ok,M
6	H2834-15MSD	VT013991.D	9 May 2016 12:41	FY/SY	Ok,M
7	H2847-16	VT013992.D	9 May 2016 13:07	FY/SY	Ok,M
8	H2847-13	VT013993.D	9 May 2016 13:33	FY/SY	Ok,M
9	H2841-11RE	VT013994.D	9 May 2016 14:00	FY/SY	Confirms
10	H2841-14	VT013995.D	9 May 2016 14:26	FY/SY	Ok,M
11	H2841-15	VT013996.D	9 May 2016 14:52	FY/SY	Ok,M
12	H2841-16RE	VT013997.D	9 May 2016 15:18	FY/SY	Confirms
13	H2841-17RE	VT013998.D	9 May 2016 15:44	FY/SY	Confirms
14	VSTDCCC025	VT013999.D	9 May 2016 16:11	FY/SY	Ok,M
15	VT0509SBL02	VT014000.D	9 May 2016 17:05	FY/SY	Ok,M
16	H2834-17	VT014001.D	9 May 2016 17:32	FY/SY	Ok,M
17	H2909-04	VT014002.D	9 May 2016 17:58	FY/SY	Ok,M
18	H2909-05	VT014003.D	9 May 2016 18:24	FY/SY	Ok,M
19	H2909-06	VT014004.D	9 May 2016 18:50	FY/SY	Ok,M
20	H2909-07	VT014005.D	9 May 2016 19:15	FY/SY	Ok,M
21	H2909-08	VT014006.D	9 May 2016 19:41	FY/SY	Ok
22	H2909-09	VT014007.D	9 May 2016 20:07	FY/SY	Ok,M
23	H2909-10	VT014008.D	9 May 2016 20:33	FY/SY	Ok,M
24	H2909-11	VT014009.D	9 May 2016 20:59	FY/SY	Dilution
25	H2909-12	VT014010.D	9 May 2016 21:25	FY/SY	ReRun
26	H2909-13	VT014011.D	9 May 2016 21:51	FY/SY	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050916

Review By	feifei	Review On	5/10/2016 10:47:44 AM		
SubDirectory	VT050916	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52809
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52810,VP52811,VP52812
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

27	H2909-14	VT014012.D	9 May 2016 22:43	FY/SY	Dilution
28	H2909-15	VT014013.D	9 May 2016 23:09	FY/SY	Dilution
29	H2909-16	VT014014.D	9 May 2016 23:36	FY/SY	ReRun
30	H2909-17	VT014015.D	10 May 2016 00:02	FY/SY	Ok,M
31	H2909-18	VT014016.D	10 May 2016 00:27	FY/SY	Ok,M
32	H2909-19	VT014017.D	10 May 2016 00:54	FY/SY	Ok,M
33	H2909-20	VT014018.D	10 May 2016 1:20	FY/SY	ReRun
34	H2909-21	VT014019.D	10 May 2016 1:46	FY/SY	ReRun
35	H2909-22	VT014020.D	10 May 2016 2:12	FY/SY	Ok,M
36	VSTDCCC025EC	VT014021.D	10 May 2016 2:38	FY/SY	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT041216

Review By	feifei	Review On	4/13/2016 9:55:35 AM		
SubDirectory	VT041216	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM041216S.M

STD. NAME	STD REF.#
Tune/Reschk	VP51900
Initial Calibration Stds	VP51901,VP51902,VP51904,VP51905,VP51906
CCC	VP51907
Internal Standard/PEM	VP51299,VP51899
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB96	BFB96	VT013543.D		Ok
2	VSTD2.585	VSTD2.585	VT013544.D		Ok,M
3	VSTD00586	VSTD00586	VT013545.D		Ok,M
4	VSTD02587	VSTD02587	VT013546.D		Ok,M
5	VSTD05088	VSTD05088	VT013547.D		Ok,M
6	VSTD10089	VSTD10089	VT013548.D		Ok,M
7	VT0412SBL01	VBLK98	VT013549.D		Ok
8	H2342-02	D9T34	VT013550.D	PE	Ok,M
9	H2342-11	D9T40	VT013551.D	Vial A	Ok
10	H2342-12	D9T41	VT013552.D	Vial A	Ok
11	H2342-13	D9T42	VT013553.D	Vial A	Ok,M
12	H2342-14	D9T43	VT013554.D	Vial A	Ok
13	H2342-15	D9T44	VT013555.D	Vial A	Ok,M
14	H2342-16	D9T45	VT013556.D	Vial A	Ok
15	H2342-17	D9T46	VT013557.D	Vial A	Ok
16	VSTDCCC025EC	VSTD02590	VT013558.D		Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050516

Review By	feifei	Review On	5/6/2016 9:46:08 AM		
SubDirectory	VT050516	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM041216S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52692
Initial Calibration Stds	VP52211,VP52212,VP52213,VP52214,VP52215
CCC	VP52693,VP52694,VP52695
Internal Standard/PEM	VP52194,VP52017
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB87	BFB87	VT013896.D		Ok
2	VSTDCCC025	VSTD02579	VT013897.D		Ok,M
3	VT0505SBL01	VBLK97	VT013898.D		Ok
4	H2849-03RE	C0AA3RE	VT013899.D	Vial B, Internal standard fail	Confirms
5	H2849-01RE	C0AA0RE	VT013900.D	Vial B, Internal standard fail	Confirms
6	H2849-04RE	C0AA4RE	VT013901.D	Vial B, Internal standard fail	Confirms
7	H2849-05RE	C0AA5RE	VT013902.D	Vial B, Internal standard fail	Confirms
8	H2849-06RE	C0AA6RE	VT013903.D	Vial B, Surrogate Fail,Internal standard fail	Confirms
9	H2849-07RE	C0AA7RE	VT013904.D	Vial B, Internal standard fail	Confirms
10	H2849-08	C0AA8	VT013905.D	Vial B	Ok
11	H2849-09RE	C0AA9RE	VT013906.D	Vial B, Internal standard fail	Confirms
12	VSTDCCC025	VSTD02580	VT013907.D		Ok,M
13	VT0505SBL02	VBLK98	VT013908.D		Ok,M
14	H2841-21	D9WZ0	VT013909.D	Vial A	Ok,M
15	H2841-06	D9WS3	VT013910.D	Vial A	Ok
16	H2841-07MS	D9WS3MS	VT013911.D	Vial A, Internal standard fail	Not Ok
17	H2841-08MSD	D9WS3MSD	VT013912.D	Vial A, Not purge well	Not Ok
18	H2834-13	H4061	VT013913.D	Vial A	Ok,M
19	H2834-14MS	H4061MS	VT013914.D	Vial A, Internal standard fail	Not Ok
20	H2834-15MSD	H4061MSD	VT013915.D	Vial A, Internal standard fail	Not Ok
21	H2841-09	D9WS4	VT013916.D	Vial A	Ok
22	H2841-10	D9WS5	VT013917.D	Vial A	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050516

Review By	feifei	Review On	5/6/2016 9:46:08 AM		
SubDirectory	VT050516	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM041216S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52692
Initial Calibration Stds	VP52211,VP52212,VP52213,VP52214,VP52215
CCC	VP52693,VP52694,VP52695
Internal Standard/PEM	VP52194,VP52017
ICV/I.BLK	N/A

23	H2841-11	D9WS6	VT013918.D	Vial A, Internal standard fail	ReRun
24	H2841-12	D9WS7	VT013919.D	Vial A	Ok
25	H2841-13	D9WS8	VT013920.D	Vial A	Ok
26	H2841-14	D9WS9	VT013921.D	Vial A, Internal standard fail	ReRun
27	H2841-15	D9WT0	VT013922.D	Vial A, Internal standard fail	ReRun
28	H2841-16	D9WT1	VT013923.D	Vial A, Internal standard fail	ReRun
29	H2841-17	D9WW5	VT013924.D	Vial A, Internal standard fail	ReRun
30	H2841-18	D9WX4	VT013925.D	Vial A	Ok
31	H2841-19	D9WX5	VT013926.D	Vial A, Not purge well	Not Ok
32	H2841-20	D9WX6	VT013927.D	Vial A	Ok
33	H2834-16	H4076	VT013928.D	Vial A, Internal standard fail	ReRun
34	VSTDCCC025EC	VSTD02581	VT013929.D		Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050616

Review By	feifei	Review On	5/9/2016 11:31:40 AM		
SubDirectory	VT050616	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52723
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52729,VP52730,VP52802
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB88	BFB88	VT013930.D		Ok
2	VSTD2.582	VSTD2.582	VT013931.D		Ok,M
3	VSTD00583	VSTD00583	VT013932.D		Ok,M
4	VSTD02584	VSTD02584	VT013933.D		Ok,M
5	VSTD05085	VSTD05085	VT013934.D		Ok,M
6	VSTD10086	VSTD10086	VT013935.D		Ok,M
7	VT0506SBL01	VBLK99	VT013936.D		Ok
8	H2841-04	D9WR4	VT013937.D	PE	Ok
9	H2841-07MS	D9WS3MS	VT013938.D	Vial B	Ok
10	H2841-08MSD	D9WS3MSD	VT013939.D	Vial B	Ok
11	H2841-19	D9WX5	VT013940.D	Vial B, Internal standard fail	Ok
12	VSTDCCC025	VSTD02596	VT013941.D		Ok,M
13	VT0506SBL02	VBLK76	VT013942.D		Ok,M
14	H2888-01	D9WS2	VT013943.D	Vial A	Ok,M
15	H2888-02	D9WT9	VT013944.D	Vial A, Not purge well	Not Ok
16	H2888-03	D9WW0	VT013945.D	Vial A	Ok
17	H2890-11	D9WT7	VT013946.D	Vial A, Internal standard fail	Ok,M
18	H2890-12MS	D9WT7MS	VT013947.D	Vial A, Internal standard fail	Ok
19	H2890-13MSD	D9W7MSD	VT013948.D	Vial A, Internal standard fail	Ok,M
20	H2888-04	D9WW1	VT013949.D	Vial A	Ok,M
21	H2888-05	D9WW2	VT013950.D	Vial A, Internal standard fail	ReRun
22	H2888-06	D9WW3	VT013951.D	Vial A, Internal standard fail	ReRun

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050616

Review By	feifei	Review On	5/9/2016 11:31:40 AM		
SubDirectory	VT050616	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52723
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52729,VP52730,VP52802
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

23	H2888-07	D9WW4	VT013952.D	Vial A, Not purge well	Not Ok
24	H2888-08	D9WW6	VT013953.D	Vial A	Ok
25	H2888-09	D9WW7	VT013954.D	Vial A	Ok
26	H2888-10	D9WW8	VT013955.D	Vial A, Internal standard fail	ReRun
27	H2888-11	D9WW9	VT013956.D	Vial A, Internal standard fail	ReRun
28	H2888-12	D9WX0	VT013957.D	Vial A	Ok,M
29	H2888-13	D9WX2	VT013958.D	Vial A	Ok,M
30	H2888-14	D9WX3	VT013959.D	Vial A, Internal standard fail	ReRun
31	H2888-15	D9WX7	VT013960.D	Vial A, Internal standard fail	ReRun
32	H2888-16	D9WX8	VT013961.D	Vial A	Ok
33	H2888-17	D9WX9	VT013962.D	Vial A, Internal standard fail	ReRun
34	VSTDCCC025	VSTD02588	VT013963.D		Ok,M
35	VT0506SBL03	VBLK77	VT013964.D		Ok
36	H2890-04	D9WZ1	VT013965.D	Vial A	Ok
37	H2890-18	D9WZ2	VT013966.D	Vial A	Ok
38	H2888-21	D9WY1	VT013967.D	Vial A, Internal standard fail	ReRun
39	H2888-22	D9WY3	VT013968.D	Vial A	Ok,M
40	H2890-01	D9WY5	VT013969.D	Vial A, Not purge well	Not Ok
41	H2890-02	D9WY7	VT013970.D	Vial A	Ok,M
42	H2890-03	D9WY9	VT013971.D	Vial A, Internal standard fail	ReRun
43	H2890-06	D9WT2	VT013972.D	Vial A, Not purge well	Not Ok
44	H2890-07	D9WT3	VT013973.D	Vial A, Internal standard fail	ReRun
45	H2890-08	D9WT4	VT013974.D	Vial A, Internal standard fail	ReRun

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050616

Review By	feifei	Review On	5/9/2016 11:31:40 AM		
SubDirectory	VT050616	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52723
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52729,VP52730,VP52802
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

46	H2890-09	D9WT5	VT013975.D	Vial A, Not purge well	Not Ok
47	H2890-10	D9WT6	VT013976.D	Vial A, Internal standard fail,Surrogate Fail	ReRun
48	H2890-14	D9WT8	VT013977.D	Vial A, Not purge well	Not Ok
49	H2890-15	D9WY4	VT013978.D	Vial A	Ok
50	H2890-16	D9WY6	VT013979.D	Vial A, Internal standard fail	ReRun
51	H2847-13	BD3C1	VT013980.D	Vial A, Not purge well	Not Ok
52	H2847-14	BD3C2	VT013981.D	Vial A	Ok
53	H2847-15	BD3C3	VT013982.D	Vial A	Ok
54	H2847-16	BD3C4	VT013983.D	Vial A, Internal standard fail	ReRun
55	H2847-17	BD3E2	VT013984.D	Vial A	Ok
56	VSTDCCC025EC	VSTD02589	VT013985.D		Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050916

Review By	feifei	Review On	5/10/2016 10:47:44 AM		
SubDirectory	VT050916	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52809
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52810,VP52811,VP52812
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB89	BFB89	VT013986.D		Ok
2	VSTDCCC025	VSTD02590	VT013987.D		Ok,M
3	VT0509SBL01	VBLK78	VT013988.D		Ok
4	H2834-16	H4076	VT013989.D	Vial B	Ok
5	H2834-14MS	H4061MS	VT013990.D	Vial B	Ok,M
6	H2834-15MSD	H4061MSD	VT013991.D	Vial B	Ok,M
7	H2847-16	BD3C4	VT013992.D	Vial B	Ok,M
8	H2847-13	BD3C1	VT013993.D	Vial B	Ok,M
9	H2841-11RE	D9WS6RE	VT013994.D	Vial B, Internal standard fail	Confirms
10	H2841-14	D9WS9	VT013995.D	Vial B	Ok,M
11	H2841-15	D9WT0	VT013996.D	Vial B	Ok,M
12	H2841-16RE	D9WT1RE	VT013997.D	Vial B, Internal standard fail	Confirms
13	H2841-17RE	D9WW5RE	VT013998.D	Vial B, Internal standard fail	Confirms
14	VSTDCCC025	VSTD02591	VT013999.D		Ok,M
15	VT0509SBL02	VBLK79	VT014000.D		Ok,M
16	H2834-17	VHBLK02	VT014001.D	SB, vial A	Ok,M
17	H2909-04	G9HP2	VT014002.D	Vial A	Ok,M
18	H2909-05	G9HP3	VT014003.D	Vial A	Ok,M
19	H2909-06	G9HP4	VT014004.D	Vial A	Ok,M
20	H2909-07	G9HP5	VT014005.D	Vial A	Ok,M
21	H2909-08	G9HP6	VT014006.D	Vial A	Ok
22	H2909-09	G9HP7	VT014007.D	Vial A	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT050916

Review By	feifei	Review On	5/10/2016 10:47:44 AM		
SubDirectory	VT050916	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM050616S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52809
Initial Calibration Stds	VP52724,VP52725,VP52726,VP52727,VP52728
CCC	VP52810,VP52811,VP52812
Internal Standard/PEM	VP52194,VP52709
ICV/I.BLK	N/A

23	H2909-10	G9HP8	VT014008.D	Vial A	Ok,M
24	H2909-11	G9HP9	VT014009.D	Vial A, Need MEOH	Dilution
25	H2909-12	G9HQ0	VT014010.D	Vial A, Surrogate Fail	ReRun
26	H2909-13	G9HQ1	VT014011.D	Vial A	Ok,M
27	H2909-14	G9HQ2	VT014012.D	Vial A, Need MEOH	Dilution
28	H2909-15	G9HQ3	VT014013.D	Vial A, Need MEOH	Dilution
29	H2909-16	G9HQ4	VT014014.D	Vial A, E flag in previous sample	ReRun
30	H2909-17	G9HQ5	VT014015.D	Vial A	Ok,M
31	H2909-18	G9HQ6	VT014016.D	Vial A	Ok,M
32	H2909-19	G9HQ7	VT014017.D	Vial A	Ok,M
33	H2909-20	G9HQ8	VT014018.D	Vial A, Internal standard fail	ReRun
34	H2909-21	G9HQ9	VT014019.D	Vial A, Internal standard fail	ReRun
35	H2909-22	G9HR2	VT014020.D	Vial A	Ok,M
36	VSTDCCC025EC	VSTD02592	VT014021.D		Ok,M

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Encore Preservation Log

Date Preservation: H2834- 5/5/16 Analyst Signature:

Balance id: Mettler PE300 Supervisor Signature:

Lab ID	Preservation Time	Vial A weight	Vial B weight	Vial C weight Preserve with MeoH	Comments
H2834-13A	14:00	3.75g	—	—	
-13B	14:01	—	4.47g	—	
-13C	14:02	—	—	4.68g	V6670 - MeOH
-14A	14:04	5.04g	—	—	
-14B	14:06	—	4.64g	—	
-14C	14:07	—	—	4.31g	V6670
-15A	14:09	5.03g	—	—	
-15B	14:10	—	3.66g	—	
-15C	14:11	—	—	5.22g	V6670
-16A	14:13	4.50g	—	—	
-16B	14:15	—	4.45g	—	
-16C	14:16	—	—	4.39g	V6670
					5/5/16

Instructions: 5ml MeOH added for SOM02.2 method and 10ml for regular 8260.Water addition to vial A and B is done at time of analysis. Preserve samples immediately if the samples are not to be analyzed within 48hrs of sampling.

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM050516

Review By	sohil	Review On	5/6/2016 7:15:46 PM		
SubDirectory	BM050516	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5017,1ul IS/ 100ul sample
ICV/I.BLK	NA

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP64	BM005230.D	05 May 2016 10:23	UM/SJ	Ok
2	SSTD00540	BM005231.D	05 May 2016 11:09	UM/SJ	Ok
3	SSTD01041	BM005232.D	05 May 2016 11:45	UM/SJ	Ok
4	SSTD02042	BM005233.D	05 May 2016 12:21	UM/SJ	Ok,M
5	SSTD04043	BM005234.D	05 May 2016 12:57	UM/SJ	Ok,M
6	SSTD08044	BM005235.D	05 May 2016 13:33	UM/SJ	Ok,M
7	SSTD16045	BM005236.D	05 May 2016 15:53	UM/SJ	Ok,M
8	SSTDCCC020	BM005237.D	05 May 2016 16:30	UM/SJ	Ok,M
9	PB90262BL	BM005238.D	05 May 2016 17:06	UM/SJ	Ok,M
10	PB90297BL	BM005239.D	05 May 2016 17:42	UM/SJ	Ok
11	H2729-02ME	BM005240.D	05 May 2016 18:26	UM/SJ	Dilution
12	PB90263BL	BM005241.D	05 May 2016 19:02	UM/SJ	Ok,M
13	PB90285BL	BM005242.D	05 May 2016 19:39	UM/SJ	Ok,M
14	H2813-01	BM005243.D	05 May 2016 20:15	UM/SJ	Dilution
15	H2813-02	BM005244.D	05 May 2016 20:51	UM/SJ	Dilution
16	H2813-03	BM005245.D	05 May 2016 21:28	UM/SJ	Dilution
17	H2813-04	BM005246.D	05 May 2016 22:04	UM/SJ	Dilution
18	H2813-05	BM005247.D	05 May 2016 22:41	UM/SJ	Ok,M
19	H2813-06	BM005248.D	05 May 2016 23:17	UM/SJ	Dilution
20	H2813-07	BM005249.D	05 May 2016 23:53	UM/SJ	Dilution
21	H2813-08	BM005250.D	06 May 2016 00:30	UM/SJ	Ok,M
22	SSTDCCC020	BM005251.D	06 May 2016 01:06	UM/SJ	Ok,M
23	H2813-09	BM005252.D	06 May 2016 01:46	UM/SJ	Dilution
24	H2813-10	BM005253.D	06 May 2016 02:22	UM/SJ	Dilution
25	H2813-11	BM005254.D	06 May 2016 02:58	UM/SJ	Dilution
26	H2813-12	BM005255.D	06 May 2016 03:35	UM/SJ	Dilution

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM050516

Review By	sohil	Review On	5/6/2016 7:15:46 PM		
SubDirectory	BM050516	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5017,1ul IS/ 100ul sample
ICV/I.BLK	NA

27	H2813-13	BM005256.D	06 May 2016 04:11	UM/SJ	Dilution
28	H2813-14	BM005257.D	06 May 2016 04:47	UM/SJ	Dilution
29	H2813-19	BM005258.D	06 May 2016 05:24	UM/SJ	Ok,M
30	H2813-20	BM005259.D	06 May 2016 06:00	UM/SJ	Ok,M
31	H2813-17	BM005260.D	06 May 2016 08:35	UM/SJ	Ok
32	H2813-18	BM005261.D	06 May 2016 09:11	UM/SJ	Ok
33	H2729-02MEDL	BM005262.D	06 May 2016 09:47	UM/SJ	Ok,M
34	SSTDCCC020	BM005263.D	06 May 2016 10:24	UM/SJ	Ok,M
35	H2813-01DL	BM005264.D	06 May 2016 11:00	UM/SJ	Not Ok
36	H2813-02DL	BM005265.D	06 May 2016 11:36	UM/SJ	Not Ok
37	H2813-03DL	BM005266.D	06 May 2016 12:13	UM/SJ	Ok
38	H2813-04DL	BM005267.D	06 May 2016 12:49	UM/SJ	Ok
39	H2813-06DL	BM005268.D	06 May 2016 14:05	UM/SJ	Ok
40	H2813-07DL	BM005269.D	06 May 2016 14:41	UM/SJ	Ok
41	H2813-09DL	BM005270.D	06 May 2016 15:17	UM/SJ	Ok
42	H2813-10DL	BM005271.D	06 May 2016 15:53	UM/SJ	Ok
43	H2813-11DL	BM005272.D	06 May 2016 16:30	UM/SJ	Ok
44	H2813-12DL	BM005273.D	06 May 2016 17:06	UM/SJ	Ok
45	SSTDCCC020EC	BM005274.D	06 May 2016 17:42	UM/SJ	Ok,M

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051116

Review By	sohil	Review On	5/12/2016 7:22:26 PM		
SubDirectory	BM051116	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5020, 1ul IS/ 100ul sample
ICV/I.BLK	NA

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP36	BM005379.D	11 May 2016 08:24	UM/SJ	Ok
2	SSTDCCC020	BM005380.D	11 May 2016 09:01	UM/SJ	Ok,M
3	H2888-16	BM005381.D	11 May 2016 09:36	UM/SJ	Ok
4	H2888-17	BM005382.D	11 May 2016 10:13	UM/SJ	Ok
5	H2888-18	BM005383.D	11 May 2016 11:35	UM/SJ	Ok
6	H2888-19MS	BM005384.D	11 May 2016 12:47	UM/SJ	Ok
7	H2888-21	BM005385.D	11 May 2016 14:00	UM/SJ	Ok
8	H2888-20MSD	BM005386.D	11 May 2016 14:36	UM/SJ	Ok
9	H2888-22	BM005387.D	11 May 2016 15:13	UM/SJ	Ok,M
10	PB90332BL	BM005388.D	11 May 2016 15:49	UM/SJ	Ok
11	H2834-13	BM005389.D	11 May 2016 16:25	UM/SJ	Ok,M
12	H2834-14MS	BM005390.D	11 May 2016 17:02	UM/SJ	Not Ok
13	H2834-15MSD	BM005391.D	11 May 2016 17:38	UM/SJ	Not Ok
14	H2834-16	BM005392.D	11 May 2016 18:15	UM/SJ	Ok,M
15	SSTDCCC020EC	BM005393.D	11 May 2016 18:52	UM/SJ	Ok,M
16	H2918-05	BM005394.D	11 May 2016 19:28	UM/SJ	ReRun
17	H2918-10	BM005395.D	11 May 2016 20:05	UM/SJ	ReRun
18	PB90393BL	BM005396.D	11 May 2016 20:41	UM/SJ	Ok,M
19	H2847-10	BM005397.D	11 May 2016 21:18	UM/SJ	ReRun
20	H2890-19	BM005398.D	11 May 2016 21:54	UM/SJ	ReRun
21	H2890-20MS	BM005399.D	11 May 2016 22:31	UM/SJ	Ok
22	H2890-21MSD	BM005400.D	11 May 2016 23:07	UM/SJ	Ok,M
23	H2890-22	BM005401.D	11 May 2016 23:44	UM/SJ	ReRun
24	H2890-23	BM005402.D	12 May 2016 00:20	UM/SJ	Ok
25	PB90392BL	BM005403.D	12 May 2016 00:56	UM/SJ	Not Ok
26	H2846-01	BM005404.D	12 May 2016 01:33	UM/SJ	Not Ok

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051116

Review By	sohil	Review On	5/12/2016 7:22:26 PM		
SubDirectory	BM051116	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5020, 1ul IS/ 100ul sample
ICV/I.BLK	NA

27	H2846-02	BM005405.D	12 May 2016 02:09	UM/SJ	ReRun
28	PB90404BL	BM005406.D	12 May 2016 02:46	UM/SJ	ReRun
29	H2853-17	BM005407.D	12 May 2016 03:22	UM/SJ	Ok,M
30	H2943-02	BM005408.D	12 May 2016 03:58	UM/SJ	Ok,M
31	SSTDCCC020EC	BM005409.D	12 May 2016 05:11	UM/SJ	Ok,M

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051316

Review By	sohil	Review On	5/16/2016 7:02:56 PM		
SubDirectory	BM051316	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5022, 1ul IS/ 100ul sample
ICV/I.BLK	NA

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP38	BM005426.D	13 May 2016 11:10	UM/SJ	Ok
2	SSTDCCC020	BM005427.D	13 May 2016 11:46	UM/SJ	Ok,M
3	PB90403BL	BM005428.D	13 May 2016 12:23	UM/SJ	Ok
4	H2874-07	BM005429.D	13 May 2016 12:59	UM/SJ	Ok
5	H2874-09	BM005430.D	13 May 2016 13:36	UM/SJ	Ok,M
6	H2874-10MS	BM005431.D	13 May 2016 14:12	UM/SJ	Ok,M
7	H2874-11MSD	BM005432.D	13 May 2016 14:49	UM/SJ	Ok,M
8	H2874-17	BM005433.D	13 May 2016 15:25	UM/SJ	Ok,M
9	H2874-24	BM005434.D	13 May 2016 16:02	UM/SJ	Ok,M
10	SSTDCCC020	BM005435.D	13 May 2016 17:05	UM/SJ	Ok,M
11	PB90371BL	BM005436.D	13 May 2016 17:42	UM/SJ	Ok
12	H2847-14	BM005437.D	13 May 2016 18:19	UM/SJ	Ok,M
13	H2847-02	BM005438.D	13 May 2016 18:55	UM/SJ	Ok,M
14	H2847-05	BM005439.D	13 May 2016 19:32	UM/SJ	Ok,M
15	H2847-06	BM005440.D	13 May 2016 20:09	UM/SJ	Ok,M
16	H2847-07	BM005441.D	13 May 2016 20:45	UM/SJ	Ok,M
17	H2847-08	BM005442.D	13 May 2016 21:22	UM/SJ	Ok,M
18	H2847-09	BM005443.D	13 May 2016 21:58	UM/SJ	Ok,M
19	H2847-13	BM005444.D	13 May 2016 22:35	UM/SJ	Ok,M
20	H2847-01	BM005445.D	13 May 2016 23:11	UM/SJ	Ok,M
21	H2847-15	BM005446.D	13 May 2016 23:48	UM/SJ	Ok,M
22	H2847-16	BM005447.D	14 May 2016 00:24	UM/SJ	Ok,M
23	H2847-17	BM005448.D	14 May 2016 01:00	UM/SJ	Ok,M
24	SSTDCCC020	BM005449.D	14 May 2016 04:32	UM/SJ	Ok,M
25	PB90330BL	BM005450.D	14 May 2016 05:09	UM/SJ	Ok,M
26	H2834-01	BM005451.D	14 May 2016 05:45	UM/SJ	Ok,M

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051316

Review By	sohil	Review On	5/16/2016 7:02:56 PM		
SubDirectory	BM051316	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5022, 1ul IS/ 100ul sample
ICV/I.BLK	NA

27	H2834-02MS	BM005452.D	14 May 2016 06:21	UM/SJ	Ok,M
28	H2834-03MSD	BM005453.D	14 May 2016 06:58	UM/SJ	Ok,M
29	H2834-18	BM005454.D	14 May 2016 07:34	UM/SJ	Ok,M
30	H2834-19	BM005455.D	14 May 2016 08:10	UM/SJ	Ok,M
31	H2834-20	BM005456.D	14 May 2016 08:47	UM/SJ	Ok,M
32	H2834-21	BM005457.D	14 May 2016 09:23	UM/SJ	Ok,M
33	H2853-18	BM005458.D	14 May 2016 09:59	UM/SJ	Ok,M
34	H2834-14MS	BM005459.D	14 May 2016 10:36	UM/SJ	Ok,M
35	H2834-15MSD	BM005460.D	14 May 2016 11:12	UM/SJ	Ok,M
36	SSTDCCC020EC	BM005461.D	14 May 2016 13:09	UM/SJ	Ok

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM050516

Review By	sohil	Review On	5/6/2016 7:15:46 PM		
SubDirectory	BM050516	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5017,1ul IS/ 100ul sample
ICV/I.BLK	NA

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP64	DFTPP64	BM005230.D		Ok
2	SSTD00540	SSTD00540	BM005231.D		Ok
3	SSTD01041	SSTD01041	BM005232.D		Ok
4	SSTD02042	SSTD02042	BM005233.D		Ok,M
5	SSTD04043	SSTD04043	BM005234.D		Ok,M
6	SSTD08044	SSTD08044	BM005235.D		Ok,M
7	SSTD16045	SSTD16045	BM005236.D		Ok,M
8	SSTDCCC020	SSTD02046	BM005237.D		Ok,M
9	PB90262BL	SBLK62	BM005238.D		Ok,M
10	PB90297BL	SBLK97	BM005239.D		Ok
11	H2729-02ME	BD3D0ME	BM005240.D	Need 2X	Dilution
12	PB90263BL	SBLK63	BM005241.D		Ok,M
13	PB90285BL	SBLK85	BM005242.D		Ok,M
14	H2813-01	BC7M6	BM005243.D	Need 20X	Dilution
15	H2813-02	BC7M7	BM005244.D	Need 10X	Dilution
16	H2813-03	BC7P2	BM005245.D	Need 10X	Dilution
17	H2813-04	BC7P3	BM005246.D	Need 10X	Dilution
18	H2813-05	BC7Q4	BM005247.D		Ok,M
19	H2813-06	BC7R8	BM005248.D	Need 10X	Dilution
20	H2813-07	BC7R9	BM005249.D	Need 10X	Dilution
21	H2813-08	BC7S5	BM005250.D		Ok,M
22	SSTDCCC020	SSTD02047	BM005251.D		Ok,M

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM050516

Review By	sohil	Review On	5/6/2016 7:15:46 PM		
SubDirectory	BM050516	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5017,1ul IS/ 100ul sample
ICV/I.BLK	NA

23	H2813-09	BC7S7	BM005252.D	Need 10X	Dilution
24	H2813-10	BC7S8	BM005253.D	Need 10X	Dilution
25	H2813-11	BC7T1	BM005254.D	Need 10X	Dilution
26	H2813-12	BC7T2	BM005255.D	Need 10X	Dilution
27	H2813-13	BC7T4	BM005256.D	Need 10X	Dilution
28	H2813-14	BC7T5	BM005257.D	Need 10X	Dilution
29	H2813-19	BC812	BM005258.D		Ok,M
30	H2813-20	BC813	BM005259.D		Ok,M
31	H2813-17	BC810	BM005260.D		Ok
32	H2813-18	BC811	BM005261.D		Ok
33	H2729-02MEDL	BD3D0MEDL	BM005262.D		Ok,M
34	SSTDCCC020	SSTD02048	BM005263.D		Ok,M
35	H2813-01DL	BC7M6DL	BM005264.D	Need further dilution	Not Ok
36	H2813-02DL	BC7M7DL	BM005265.D	wrong dilution	Not Ok
37	H2813-03DL	BC7P2DL	BM005266.D		Ok
38	H2813-04DL	BC7P3DL	BM005267.D		Ok
39	H2813-06DL	BC7R8DL	BM005268.D		Ok
40	H2813-07DL	BC7R9DL	BM005269.D		Ok
41	H2813-09DL	BC7S7DL	BM005270.D		Ok
42	H2813-10DL	BC7S8DL	BM005271.D		Ok
43	H2813-11DL	BC7T1DL	BM005272.D		Ok
44	H2813-12DL	BC7T2DL	BM005273.D		Ok
45	SSTDCCC020EC	SSTD02049	BM005274.D		Ok,M

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051116

Review By	sohil	Review On	5/12/2016 7:22:26 PM		
SubDirectory	BM051116	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5020, 1ul IS/ 100ul sample
ICV/I.BLK	NA

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP36	DFTPP36	BM005379.D		Ok
2	SSTDCCC020	SSTD02061	BM005380.D		Ok,M
3	H2888-16	D9WX8	BM005381.D		Ok
4	H2888-17	D9WX9	BM005382.D		Ok
5	H2888-18	D9WY0	BM005383.D		Ok
6	H2888-19MS	D9WY0MS	BM005384.D		Ok
7	H2888-21	D9WY1	BM005385.D		Ok
8	H2888-20MSD	D9WY0MSD	BM005386.D	compound # 49,77 fail for recovery	Ok
9	H2888-22	D9WY3	BM005387.D		Ok,M
10	PB90332BL	SBLK32	BM005388.D		Ok
11	H2834-13	H4061	BM005389.D		Ok,M
12	H2834-14MS	H4061MS	BM005390.D	Internal standard fail	Not Ok
13	H2834-15MSD	H4061MSD	BM005391.D	Internal Standard fail	Not Ok
14	H2834-16	H4076	BM005392.D		Ok,M
15	SSTDCCC020EC	SSTD02062	BM005393.D		Ok,M
16	H2918-05	SVOC-GPC-BLANK	BM005394.D	Internal standard fail	ReRun
17	H2918-10	SVOC-GPC2-BLANK	BM005395.D	Internal standard fail	ReRun
18	PB90393BL	SBLK93	BM005396.D		Ok,M
19	H2847-10	BD3J6	BM005397.D	Internal standard fail	ReRun
20	H2890-19	D9X06	BM005398.D	Internal standard fail	ReRun
21	H2890-20MS	D9X06MS	BM005399.D	compound # 52,49,15,6 fail for recovery	Ok
22	H2890-21MSD	D9X06MSD	BM005400.D	compound # 52,49,15,6 fail for recovery	Ok,M

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051116

Review By	sohil	Review On	5/12/2016 7:22:26 PM		
SubDirectory	BM051116	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5020, 1ul IS/ 100ul sample
ICV/I.BLK	NA

23	H2890-22	D9X07	BM005401.D	Surrogate fail	ReRun
24	H2890-23	D9X12	BM005402.D		Ok
25	PB90392BL	SBLK92	BM005403.D	Internal standard fail	Not Ok
26	H2846-01	C0AC7	BM005404.D	Need straight	Not Ok
27	H2846-02	C0AC8	BM005405.D	Internal standard fail	ReRun
28	PB90404BL	SBLK04	BM005406.D	Internal standard fail	ReRun
29	H2853-17	D9X08	BM005407.D		Ok,M
30	H2943-02	H4105	BM005408.D		Ok,M
31	SSTDCCC020EC	SSTD02063	BM005409.D		Ok,M

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Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051316

Review By	sohil	Review On	5/16/2016 7:02:56 PM		
SubDirectory	BM051316	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5022, 1ul IS/ 100ul sample
ICV/I.BLK	NA

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP38	DFTPP38	BM005426.D		Ok
2	SSTDCCC020	SSTD02066	BM005427.D		Ok,M
3	PB90403BL	SBLK03	BM005428.D		Ok
4	H2874-07	H4111	BM005429.D		Ok
5	H2874-09	H4113	BM005430.D		Ok,M
6	H2874-10MS	H4113MS	BM005431.D		Ok,M
7	H2874-11MSD	H4113MSD	BM005432.D		Ok,M
8	H2874-17	H4013	BM005433.D		Ok,M
9	H2874-24	H4097	BM005434.D		Ok,M
10	SSTDCCC020	SSTD02034	BM005435.D		Ok,M
11	PB90371BL	SBLK71	BM005436.D		Ok
12	H2847-14	BD3C2	BM005437.D		Ok,M
13	H2847-02	BD371	BM005438.D		Ok,M
14	H2847-05	BD373	BM005439.D		Ok,M
15	H2847-06	BD374	BM005440.D		Ok,M
16	H2847-07	BD376	BM005441.D		Ok,M
17	H2847-08	BD377	BM005442.D		Ok,M
18	H2847-09	BD378	BM005443.D		Ok,M
19	H2847-13	BD3C1	BM005444.D		Ok,M
20	H2847-01	B0AR7	BM005445.D		Ok,M
21	H2847-15	BD3C3	BM005446.D		Ok,M
22	H2847-16	BD3C4	BM005447.D		Ok,M

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051316

Review By	sohil	Review On	5/16/2016 7:02:56 PM		
SubDirectory	BM051316	HP Acquire Method	BNA_M	HP Processing Method	BM050516

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5022, 1ul IS/ 100ul sample
ICV/I.BLK	NA

23	H2847-17	BD3E2	BM005448.D		Ok,M
24	SSTDCCC020	SSTD02035	BM005449.D		Ok,M
25	PB90330BL	SBLK30	BM005450.D		Ok,M
26	H2834-01	H4002	BM005451.D		Ok,M
27	H2834-02MS	H4002MS	BM005452.D		Ok,M
28	H2834-03MSD	H4002MSD	BM005453.D		Ok,M
29	H2834-18	H4102	BM005454.D		Ok,M
30	H2834-19	H4116	BM005455.D		Ok,M
31	H2834-20	H4117	BM005456.D		Ok,M
32	H2834-21	H4118	BM005457.D		Ok,M
33	H2853-18	D9X09	BM005458.D		Ok,M
34	H2834-14MS	H4061MS	BM005459.D		Ok,M
35	H2834-15MSD	H4061MSD	BM005460.D		Ok,M
36	SSTDCCC020EC	SSTD02036	BM005461.D		Ok

CHEMTECH

PERCENT SOLIDS

Analyst Name: jignesh

Date: 5/6/2016

OVEN TEMP IN Celsius (°C) :	109	OVEN TEMP OUT Celsius (°C):	103
Time IN	17:20	Time OUT:	08:19
In Date:	05/05/2016	Out Date:	05/06/2016
Weight Check 1.0g=	1.00 g	Weight Check 1.0g=	1.00 g
Weight Check 10g=	10.00 g	Weight Check 10g=	10.00 g

QC: LB81430

Lab ID	Client Sample ID	Dish#	Dish Weight (g) (A)	Dish + Sample Wt. (g) (B)	Dish + Dry Sample Wt. (g) (C)	% Solid
H2834-13	H4061	1	1.17	9.52	6.5	63.8
H2834-14	H4061MS	2	1.17	9.52	6.5	63.8
H2834-15	H4061MSD	3	1.17	9.52	6.5	63.8
H2834-16	H4076	4	1.19	9.68	5.97	56.3
H2834-17	VHBLK02	5	1.00	2.00	2.00	100

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

WORKLIST(Hardcopy Internal Chain)

LB81430

WorkList Name : %1-h2834 WorkList ID : 86692 Date : 5/5/2016 4:53:33 PM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/13/2016	Solid	H2834-13	Percent Solids	Cool 4 deg C	USEP04	R11	H4061	05/03/2016	Chemtech -SO
05/13/2016	Solid	H2834-14	Percent Solids	Cool 4 deg C	USEP04	R11	H4061MS	05/03/2016	Chemtech -SO
05/13/2016	Solid	H2834-15	Percent Solids	Cool 4 deg C	USEP04	R11	H4061MSD	05/03/2016	Chemtech -SO
05/13/2016	Solid	H2834-16	Percent Solids	Cool 4 deg C	USEP04	R11	H4076	05/03/2016	Chemtech -SO
05/13/2016	Solid	H2834-17	Percent Solids	Cool 4 deg C	USEP04	R11	VHBLK02	05/03/2016	Chemtech -SO

1519

Date/Time 05/05/16 5:00 pm

Received by:

Relinquished by:

Date/Time 05/05/16 5:35 pm

Received by:

Relinquished by:

ORIGIN ID:APAA (303) 590-9145
EDWARD LUNDVALL
ENGINEERING, SCIENCE & TECH
7995 EAST PRENTICE AVENUE
SUITE 206E
GREENWOOD VILLAGE, CO 80111
UNITED STATES US

SHIP DATE: 02MAY16
ACTWGT: 80.00 LB
CAD: 5873190/NET3730

BILL SENDER

TO **DIVYA MEHTA**
CHEMTECH CONSULTING GROUP
284 SHEFFIELD ST
MOUNTAINSIDE NJ 07092
(908) 789-8900
INV:
PO:
REF: EQ0956 5SWFE
DEPT

540J/6232/27ZF

FedEx Express

TUE - 03 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7762 4514 8907

NE CDWA

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NJ-US EWR

George Vegran 5f3fe 920 4.90C

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GREENWOOD VILLAGE, CO 80111
UNITED STATES US

SHIP DATE: 02MAY16
ACTWGT: 20.00 LB
CAD: 5873150/INET3730

BILL SENDER

TO DIVYA MEHTA
CHEMTECH CONSULTING GROUP
284 SHEFFIELD ST
MOUNTAINSIDE NJ 07092
(908) 789-8900
INV:
PO:
REF: 620869.5SWFE
DEPT:

540J1632J7ZE

FedEx Express

TRK# 7762 4570 8347
0201

NE CDWA

07092
NJ-US EWR

TUE - 03 MAY 10:30A
PRIORITY OVERNIGHT

Garage Veggies 5/3/16 920 5-3°C

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GREENWOOD VILLAGE, CO 80111
UNITED STATES US

SHIP DATE: 03MAY16
ACTWGT: 40.00 LB
CAD: 3873190/INET3730

BILL SENDER

TO DIVYA MEHTA
CHEMTECH CONSULTING GROUP
284 SHEFFIELD ST
MOUNTAINSIDE NJ 07092
(908) 789-8900
INV:
PO:
REF: 520666.6SWFE
DEPT:

5401/6323/ZFE

C Jenkins 9:28 5-4-16 3.6 C

FedEx Express

TRK# 7762 5565 8133
0201

WED - 04 MAY 10:30A
PRIORITY OVERNIGHT

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07092
NJ-US EWR

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3

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EA ENGINEERING SCIENCE &TECH
7995 EAST PRENTICE AVENUE
SUITE 206E
GREENWOOD VILLAGE, CO 80111
UNITED STATES US

SHIP DATE: 04MAY16
ACTWGT: 80.00 LB
CAD: 5873190/INET3730

BILL SENDER

TO **DIVYA MEHTA**
CHEMTECH CONSULTING GROUP
284 SHEFFIELD ST

MOUNTAINSIDE NJ 07092
(908) 789-9900
REF: 6200899.5SWRE
INV:
PO: DEPT:

540J1/5323/ZZFE

FedEx Express

Cooler Origin shipping 925 . 31°C

THU - 05 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7762 5738 0633**

NE CDWA

07092
NJ-US EWR

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CAD: 5873190/NET3730

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5

5

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Login Summary Report

Order ID :	H2834	Order Date :	5/5/2016 9:25:00 AM	Project Mgr :	Mohammad
Client :	USEPA CLP Organics	Project :	46114	Report Type :	USEPA CLP
Contact :	Anita Kapadia	Receive Date :	5/5/2016 9:25:00 AM	EDD Type :	EPA CLP
Date Sign Off :	5/5/2016 3:55:03 PM				

Sample ID	Client ID	Matrix	Sampling Date	Test	Test Group	Method	TAT Days	Fax Due Date	HC Due Date
H2834-01	H4002	Water	05/02/2016						
				SVOC-TCL BNA -20		SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-02	H4002MS	Water	05/02/2016						
				SVOC-TCL BNA -20		SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-03	H4002MSD	Water	05/02/2016						
				SVOC-TCL BNA -20		SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-04	H4006	Water	05/02/2016		TB				
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-05	H4094	Water	05/02/2016						
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-06	H4121	Water	05/02/2016						
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-07	H4123	Water	05/02/2016						
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-08	H4124	Water	05/02/2016						
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-09	H4132	Water	05/02/2016						
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-10	H4133	Water	05/02/2016						
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-11	VHBLK01	Water	05/02/2016						
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-12	H4004	Water	05/03/2016		TB				
				VOC-Low Level -15		SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-13	H4061	Solid	05/03/2016						
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016

				SVOC-TCL BNA -20	SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-TCLVOA-10	SOM02.2_VOC	15	05/26/2016	05/26/2016
H2834-14	H4061MS	Solid	05/03/2016					
				Percent Solids	Chemtech -SOP	15	05/26/2016	05/26/2016
				SVOC-TCL BNA -20	SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-TCLVOA-10	SOM02.2_VOC	15	05/26/2016	05/26/2016
H2834-15	H4061MSD	Solid	05/03/2016					
				Percent Solids	Chemtech -SOP	15	05/26/2016	05/26/2016
				SVOC-TCL BNA -20	SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-TCLVOA-10	SOM02.2_VOC	15	05/26/2016	05/26/2016
H2834-16	H4076	Solid	05/03/2016					
				Percent Solids	Chemtech -SOP	15	05/26/2016	05/26/2016
				SVOC-TCL BNA -20	SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-TCLVOA-10	SOM02.2_VOC	15	05/26/2016	05/26/2016
H2834-17	VHBLK02	Solid	05/03/2016					
				Percent Solids	Chemtech -SOP	15	05/26/2016	05/26/2016
				VOC-TCLVOA-10	SOM02.2_VOC	15	05/26/2016	05/26/2016
H2834-18	H4102	Water	05/03/2016					
				SVOC-TCL BNA -20	SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-Low Level -15	SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-19	H4116	Water	05/03/2016					
				SVOC-TCL BNA -20	SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-Low Level -15	SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-20	H4117	Water	05/03/2016					
				SVOC-TCL BNA -20	SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-Low Level -15	SOM02.2_Trace	15	05/26/2016	05/26/2016
H2834-21	H4118	Water	05/03/2016					
				SVOC-TCL BNA -20	SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-Low Level -15	SOM02.2_Trace	15	05/26/2016	05/26/2016

LOGIN REPORT/SAMPLE TRANSFER

Order ID:	H2834 USEP04	**Order Date:**	5/3/2016	**Project Mgr:**	mohammad
Client Name:	USEPA CLP Organics	**Project Name:**	46114	**Report Type:**	USEPA CLP
Client Contact:	Anita Kapadia	**Rec DateTime**	5/3/2016 9:20:00 AM	**EDD:**	EPA CLP
Invoice Name:	USEPA CLP Organics	**Purchase Order:**		**Hard Copy Date:**	1,2
Invoice Contact	Anita Kapadia	**Login Tech:**	Nikul	**Date Signoff:**	5/5/2016 3:55:03 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	QTY	TEST	TEST GROUP	METHOD	COMMENT	FAX DATE	Due Dates
H2834-01	H4002	Water	5/2/2016	9:00	5	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20
H2834-02	H4002MS	Water	5/2/2016	9:00	5	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20
H2834-03	H4002MSD	Water	5/2/2016	9:00	5	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20
H2834-04	H4006	Water	5/2/2016	7:00	3	VOC-Low Level -15		SOM02.2_Trace	TB	15 Bus. 5/16/2016	5/16/20
H2834-05	H4094	Water	5/2/2016	13:40	3	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20
H2834-06	H4121	Water	5/2/2016	15:10	3	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20
H2834-07	H4123	Water	5/2/2016	14:00	3	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20
H2834-08	H4124	Water	5/2/2016	14:30	3	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20

1527

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LOGIN REPORT/SAMPLE TRANSFER

Order ID:	H2834 USEP04	**Order Date:**	5/3/2016	**Project Mgr:**	mohammad
Client Name:	USEPA CLP Organics	**Project Name:**	46114	**Report Type:**	USEPA CLP
Client Contact:	Anita Kapadia	**Rec DateTime**	5/3/2016 9:20:00 AM	**EDD:**	EPA CLP
Invoice Name:	USEPA CLP Organics	**Purchase Order:**		**Hard Copy Date:**	2
Invoice Contact	Anita Kapadia	**Login Tech:**	Nikul	**Date Signoff:**	5/5/2016 3:55:03 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	QTY	TEST	TEST GROUP	METHOD	COMMENT	FAX DATE	Due Dates
H2834-09	H4132	Water	5/2/2016	14:20	3	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20
H2834-10	H4133	Water	5/2/2016	13:15	3	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20
H2834-11	VHBLK01	Water	5/2/2016	0:00	3	VOC-Low Level -15		SOM02.2_Trace		15 Bus. 5/16/2016	5/16/20
H2834-12	H4004	Water	5/3/2016	7:30	3	VOC-Low Level -15		SOM02.2_Trace	TB	15 Bus. 5/17/2016	5/17/20
H2834-13	H4061	Solid	5/3/2016	8:55	5	VOC-TCLVOA-10		SOM02.2_VOC		15 Bus. 5/17/2016	5/17/20
H2834-14	H4061MS	Solid	5/3/2016	8:55	5	VOC-TCLVOA-10		SOM02.2_VOC		15 Bus. 5/17/2016	5/17/20
H2834-15	H4061MSD	Solid	5/3/2016	8:55	5	VOC-TCLVOA-10		SOM02.2_VOC		15 Bus. 5/17/2016	5/17/20
H2834-16	H4076	Solid	5/3/2016	13:45	5	VOC-TCLVOA-10		SOM02.2_VOC		15 Bus. 5/17/2016	5/17/20
H2834-17	VHBLK02	Solid	5/3/2016	0:00	3	VOC-TCLVOA-10		SOM02.2_VOC		15 Bus. 5/17/2016	5/17/20

1528

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LOGIN REPORT/SAMPLE TRANSFER

Order ID:	H2834 USEP04	**Order Date:**	5/3/2016	**Project Mgr:**	mohammad
Client Name:	USEPA CLP Organics	**Project Name:**	46114	**Report Type:**	USEPA CLP
Client Contact:	Anita Kapadia	**Rec DateTime**	5/5/2016 9:25:00 AM	**EDD:**	EPA CLP
Invoice Name:	USEPA CLP Organics	**Purchase Order:**		**Hard Copy Date:**	4.5
Invoice Contact	Anita Kapadia	**Login Tech:**	Nikul	**Date Signoff:**	5/5/2016 3:55:03 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	QTY	TEST	TEST GROUP	METHOD	COMMENT	FAX DATE	Due Dates
H2834-18	H4102	Water	5/3/2016	10:30	5	VOC-Low Level -15		SOM02.2_Trace	15 Bus.	5/17/2016	5/17/20
H2834-19	H4116	Water	5/3/2016	13:45	5	VOC-Low Level -15		SOM02.2_Trace	15 Bus.	5/17/2016	5/17/20
H2834-20	H4117	Water	5/3/2016	11:20	5	VOC-Low Level -15		SOM02.2_Trace	15 Bus.	5/17/2016	5/17/20
H2834-21	H4118	Water	5/3/2016	12:00	5	VOC-Low Level -15		SOM02.2_Trace	15 Bus.	5/17/2016	5/17/20

1529

LOGIN REPORT/SAMPLE TRANSFER

Order ID:	H2834 USEP04	**Order Date:**	5/3/2016	**Project Mgr:**	mohammad
Client Name:	USEPA CLP Organics	**Project Name:**	46114	**Report Type:**	USEPA CLP
Client Contact:	Anita Kapadia	**Rec DateTime**	5/5/2016 9:25:00 AM	**EDD:**	EPA CLP
Invoice Name:	USEPA CLP Organics	**Purchase Order:**		**Hard Copy Date:**	4,5
Invoice Contact	Anita Kapadia	**Login Tech:**	Nikul	**Date Signoff:**	5/5/2016 3:55:03 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	QTY	TEST	TEST GROUP	METHOD	COMMENT	FAX DATE	Due Dates

SAMPLE CONDITION RECORD

Are samples submitted with a chain of custody?	Yes
Are the number of samples the same as stated on the chain of custody?	Yes
Are bottle caps tight and securely in place?	Yes
Were all containers intact when received?	Yes
Were samples submitted in an ice chest?	Yes
Were samples received cold?	Yes
Were samples within the holding time for the requested test(s)?	Yes
Is the volume of sample submitted sufficient for the requested test(s)?	Yes
Are all samples for volatile organic analyses free of headspace?	Yes

ORDER COMMENT

CASE:46114, SDG: H4002 NO MA REQUIRED

Relinguished By: _____

Date / Time: 5.5.16 4:00

Received By: _____

Date / Time: 5/5/16 400

Storage Area: VOA Refridgerator Room

1530

WORKLIST(Hardcopy Internal Chain)

WorkList Name : H2834 SVOC 2.2 W WorkList ID : 86697 Date : 5/5/2016 11:15:56 AM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/09/2016	Water	H2834-01	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4002	05/02/2016	SOM02.2_SVC
05/09/2016	Water	H2834-02	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4002MS	05/02/2016	SOM02.2_SVC
05/09/2016	Water	H2834-03	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4002MSD	05/02/2016	SOM02.2_SVC
05/10/2016	Water	H2834-18	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4102	05/03/2016	SOM02.2_SVC
05/10/2016	Water	H2834-19	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4116	05/03/2016	SOM02.2_SVC
05/10/2016	Water	H2834-20	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4117	05/03/2016	SOM02.2_SVC
05/10/2016	Water	H2834-21	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4118	05/03/2016	SOM02.2_SVC

Date/Time 05/05/16
Received by: [signature]
Relinquished by: CP

Date/Time 05/05/16
Received by: CP
Relinquished by: [signature]

WORKLIST(Hardcopy Internal Chain)

WorkList Name : H2834 SVOC 2.2 WorkList ID : 86721 Date : 5/5/2016 3:01:20 PM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/17/2016	Solid	H2834-13	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4061	05/03/2016	SOM02.2_SVC
05/17/2016	Solid	H2834-14	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4061MS	05/03/2016	SOM02.2_SVC
05/17/2016	Solid	H2634-15	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4061MSD	05/03/2016	SOM02.2_SVC
05/17/2016	Solid	H2834-16	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4076	05/03/2016	SOM02.2_SVC

Date/Time 05/05/16
Received by:
Relinquished by: CP

Date/Time 05/05/16
Received by: CP
Relinquished by:

mildred V. Reyes

From: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Sent: Wednesday, May 04, 2016 11:09 AM
To: epa@chemtech.net
Cc: "Goodrich, Donald"
Subject: Region 08 | Case 46114 | Lab CHM | Issue Multiple | FINAL
Attachments: COC - 8-050216-102658-0009_MSD.PDF; COC - 8-050216-163402-0010_MSD.PDF; COC- 8-042516-142347-0005.pdf

Sohil,

Incorrect/duplicated sample IDs
Issue 1: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of including them under one sample ID. The laboratory is requesting to use the sample IDs as listed below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	H4002, H4002MS, H4002MSD
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	MH4001 MH4001D MH1001S
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	MH4002 MH4002D MH1002S
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

Resolution: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples using the attached revised COCs.

pH outside allowable limit
Issue 2: The samples listed below appear to be received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005
MH4014
MH4016
MH4017
Resolution 2: Per Region 8, the laboratory shall preserve the unpreserved samples to an acceptable pH level of <2. This resolution applies to the remainder of the samples associated with this Case when the pH exceeds acceptable levels. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Please let me know if you have any questions. To waive any defect(s) associated with this issue, please contact your Regional CLP COR.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Moss, Pamela [mailto:pmoss@eaest.com]
Sent: Wednesday, May 04, 2016 10:11 AM
To: Don Goodrich (Goodrich.Donald@epa.gov); Vanaman, Alexandra
Subject: RE: Region 08 | Case 46114 | Lab CHM - Corrected COCs for MS/MSD

Plz see attached corrected COCs for samples collected April 25 and May 2 with associated MS/MSD samples. These have been revised per your email. Plz let me know if you have any questions. thanks.

Pam

PLZ NOTE NEW ADDRESS BELOW

Pamela J. Moss
Senior Scientist
EA Engineering, Science, and Technology, Inc., PBC
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111
303-590-9143 (office)
303-810-6903 (cell)
pmoss@eaest.com

EA Engineering, Science, and Technology, Inc.

IMPROVING THE QUALITY OF THE ENVIRONMENT IN WHICH WE LIVE, ONE PROJECT AT A TIME®

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8

CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Vanaman, Alexandra
Sent: Tuesday, May 03, 2016 3:20 PM
To: 'epa@chemtech.net'
Subject: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Sohil,

Please see the resolutions below. Please note that this ROC has not been finalized. I will finalize the ROC once I receive the revised COC from the sampler for issue 1, however, the numbers proposed will be submitted on the COCs so you can log the samples in and start with sample prep and analyses.

Incorrect/duplicated sample IDs
Issue 1: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of including them under one sample ID. The laboratory is requesting to use the sample IDs as listed below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	H4002, H4002MS, H4002MSD
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	MH4001 MH4001D MH1001S
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	MH4002 MH4002D MH1002S
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

pH outside allowable limit
Issue 2: The samples listed below appear to be received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005
MH4014
MH4016

MH4017
Resolution 2: Per Region 8, the laboratory shall preserve the unpreserved samples to an acceptable pH level of <2. This resolution applies to the remainder of the samples associated with this Case when the pH exceeds acceptable levels. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Tuesday, May 03, 2016 3:04 PM
To: Vanaman, Alexandra
Cc: Moss, Pamela
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Ali, resolve the second issue as follows:

Issue 2: the laboratory shall preserve the unpreserved samples to an acceptable pH level of <2. This resolution applies to the remainder of the samples associated with this Case when the pH exceeds acceptable levels.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Tuesday, May 03, 2016 2:58 PM
To: Moss, Pamela; Vanaman, Alexandra
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Ali, Pam and I discussed the COC issue this morning. Pam will be revising the COCs just as the lab proposed. You can notify the lab that the numbers they proposed will be submitted on the COCs so they can log the samples in and start with sample prep and analyses.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Tuesday, May 03, 2016 12:07 PM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Cc: Moss, Pamela <pmoss@eaest.com>
Subject: Region 08 | Case 46114 | Lab CHM | Issue Multiple

Good afternoon,

CHM is reporting the following issue regarding Case 46114. Please advise. Also, please advise if the resolution for issue 2 should be applied to the remainder of samples for this Case when the pH exceeds allowable the limits.

Incorrect/duplicated sample IDs
Issue 1: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of including them under one sample ID. The laboratory is requesting to use the sample IDs as listed below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	H4002, H4002MS, H4002MSD
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	MH4001 MH4001D MH1001S
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	MH4002 MH4002D MH1002S
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

pH outside allowable limit
Issue 2: The samples listed below appear to be received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005
MH4014
MH4016
MH4017

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8

CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Sohil Jodhani [mailto:Sohil@chemtech.net]
Sent: Tuesday, May 03, 2016 12:49 PM
To: Vanaman, Alexandra
Cc: DASSsupport; Mohammad@chemtech.net
Subject: Region 08 | Case 46114 | Lab CHM | SDG H4002, MH4001 & MH4002 | Issue Incorrect/duplicated sample IDs

Hi Alexandra,

Sample received with 05/03 shipment has below discrepancies,

Issue1: The COC lists individual sample for each laboratory QC sample (MS/MSD), instead of including them under one sample ID. The laboratory is requesting the use the sample IDs below for each parent sample and laboratory QC sample.

Sample Identifier	CLP No.	Location	Sample Type	Lab will use
A-GW-MTO-MS	H4001	Mt Olivet	Lab QC	**H4002, H4002MS, H4002MSD**
A-GW-MTO	H4002	Mt Olivet	Parent Sample	
A-GW-MTO-MSD	H4003	Mt Olivet	Lab QC	
A-GW-MTO	MH4001	Mt Olivet	Parent Sample	**MH4001 MH4001D MH1001S**
A-GW-MTO-MS	MH4005	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4016	Mt Olivet	Lab QC	
A-GW-MTO	MH4002	Mt Olivet	Parent Sample	**MH4002 MH4002D MH1002S**
A-GW-MTO-MS	MH4014	Mt Olivet	Lab QC	
A-GW-MTO-MSD	MH4017	Mt Olivet	Lab QC	

Issue 2: The laboratory has received three water samples for Total Metals and three water samples for Dissolved metals on 05/03. The samples listed below were received unpreserved. The laboratory like to preserve these samples in-house.
MH4001
MH4002
MH4005
MH4014
MH4016
MH4017

Please see attachment for your reference.

Thanks & Regards,

Sohil Jodhani
QC-Analyst
Direct Line: (908)728-3148
General Number: (908)789-8900
Fax: (908)789-8922

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mildred V. Reyes

From: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Sent: Monday, May 09, 2016 11:20 AM
To: epa@chemtech.net
Cc: "Goodrich, Donald"; Moss, Pamela
Subject: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC | FINAL
Attachments: 46114-0507.pdf

Sohil,

Issue: The water samples for this Case are scheduled for 86 TVOA and 17 SVOA analysis; however, the COCs list VOA=TCL VOCs by CLP.

Resolution: Per Region 8, the samples in question shall be analyzed as scheduled for TVOA. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples. This resolution may be applied to all COCs received for this Case with this issue.

Please let me know if you have any questions. To waive any defect(s) associated with this issue, please contact your Regional CLP COR.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2, 7, and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Monday, May 09, 2016 11:15 AM
To: Vanaman, Alexandra
Cc: Moss, Pamela
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Correct, thanks.
-dgg

Don Goodrich

US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Monday, May 09, 2016 9:14 AM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Cc: Moss, Pamela <pmoss@eaest.com>
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Hi Don,

Should this resolution be applied to all COCs received for this Case with this issue?

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2, 7, and 8
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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Monday, May 09, 2016 11:12 AM
To: Vanaman, Alexandra
Cc: Moss, Pamela
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Ali, the samples in question shall be analyzed as scheduled for TVOA.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Monday, May 09, 2016 7:52 AM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>

Cc: Moss, Pamela <pmoss@eaest.com>
Subject: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Good morning,

CHM is reporting the following issue regarding Case 46114. Please advise.

Issue: The water samples for this Case are scheduled for 86 TVOA and 17 SVOA analysis; however, the COCs list VOA=TCL VOCs by CLP.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8
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From: Sohil Jodhani [mailto:Sohil@chemtech.net]
Sent: Saturday, May 07, 2016 11:29 AM
To: Vanaman, Alexandra
Cc: DASSsupport; Mohammad@chemtech.net
Subject: Region 08 | Case 46114 | Lab CHM | SDG multiple | Issue Discrepancies with tags, jars, and/or COC

Hi Alexandra,

Samples received today with 05/07 shipment and lab would like to confirm below.

Issue: As per ASR, water samples are scheduled for TVOA analysis but analysis key written on the COC is VOA=TCL VOCs by CLP so lab would like to confirm that Lab is following the ASR and doing analysis for TVOA for water samples, Please advise.

This issue is addressing for all previous shipments also.

Thanks & Regards,

Sohil Jodhani
QC-Analyst
Direct Line: (908)728-3148
General Number: (908)789-8900
Fax: (908)789-8922

CHEMTECH
284 Sheffield Street,
Mountainside, New Jersey 07092
Phone: (908) 789 8900
Fax: (908) 789 8922

ACCREDITED IN ACCORDANCE WITH nelac

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SDG COVER PAGE

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Cas No.: 46114 MA No. : SDG No.: H4082

SOW No. : SOM02.3

EPA Sample No.	Lab Sample ID	Analysis Method: Trace VOA	Low Med VOA	SVOA	SVOA SIM	PEST	ARO
H4082	H2954-01		X	X			
H4086	H2954-02		X	X			
VHBLK01	H2954-03		X				
H4086MS	H2954-04			X			
H4086MSD	H2954-05			X			

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative.Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee,as verified by the following signature.

Signature: Raymond Padilla, K-C Name: Raymond Padilla

Date: 05/24/16 Title: QA Chemist

SDG # H4062

USEPA CLP COC (LAB COPY)
DateShipped: 5/4/2016
CarrierName: FedEx
AirbillNo: 776257380633

CHAIN OF CUSTODY RECORD

Case #: 46114

No: 8-050416-122017-0019
Lab: Chemtech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
A-TB-008	H4010	Water/ Ned Lundvall		VOC(21)	1473 (HCL), 1474 (HCL), 1475 (HCL) (3)	A-TB-008	05/04/2016 07:45	
A-SS-01-D	H4062	Soil/ Ned Lundvall	Grab	VOC(21), SVOC(21)	1033 (6 C), 1034 (6 C), 1035 (6 C), 1036 (6 C), 1037 (6 C) (5)	A-SW-~~18~~ 01	05/04/2016 13:40	
A-SS-01	H4086	Soil/ Ned Lundvall	Grab	VOC(21), SVOC(21)	1000 (6 C), 1001 (6 C), 1009 (6 C), 1010 (6 C), 1011 (6 C) (5)	A-SW-~~18~~ 01	05/04/2016 13:40	
A-SW-009	H4099	Surface Water/ Ned Lundvall	Grab	VOC(21)	1156 (HCL), 1157 (HCL), 1158 (HCL) (3)	A-SW-09	05/03/2016 08:55	
A-SW-011	H4101	Surface Water/ Ned Lundvall	Grab	VOC(21)	1162 (HCL), 1163 (HCL), 1164 (HCL) (3)	A-SW-11	05/03/2016 12:30	
A-SW-012	H4102	Surface Water/ Ned Lundvall	Grab	VOC(21)	1165 (HCL), 1166 (HCL), 1167 (HCL) (3)	A-SW-12	05/03/2016 10:30	
A-SW-013	H4103	Surface Water/ Ned Lundvall	Grab	VOC(21)	1168 (HCL), 1169 (HCL), 1170 (HCL) (3)	A-SW-13	05/03/2016 14:30	
A-SW-021	H4111	Surface Water/ Ned Lundvall	Grab	VOC(21)	1192 (HCL), 1193 (HCL), 1194 (HCL) (3)	A-SW-21	05/03/2016 13:20	
A-SW-022	H4112	Surface Water/ Ned Lundvall	Grab	VOC(21)	1195 (HCL), 1196 (HCL), 1197 (HCL) (3)	A-SW-22	05/03/2016 15:50	
A-SW-023	H4113	Surface Water/ Ned Lundvall	Grab	VOC(21)	1198 (HCL), 1199 (HCL), 1200 (HCL) (3)	A-SW-23	05/03/2016 09:30	

Original Documents are Included in CSF H4062
Copy
Signature
5/5/16
Date

Sample(s) to be used for Lab QC: A-SW-023-MS Tag 1376, A-SW-023-MS Tag 1377, A-SW-023-MS Tag 1378

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: VOC=TCL VOCs by CLP, SVOC=TCL SVOCs by CLP

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
		5/4/16 1600	Fedex		
			George Nguyen	5/5/16 925	3.1°C

2

Sample Delivery Group (SDG) Cover Sheet

SDG Number	H4082	Case Number	46114	Contract Number	EP-W-14-030
Lab Code	CHM	SDG Turnaround	21 Days	Delivery CLIN(s)	[illegible]

First Sample Received in SDG	H4082	Last Sample Received in SDG	H4086MSD
First Sample Receipt Date	5/5/2016 9:25:00 AM	Last Sample Receipt Date	5/5/2016 9:25:00 AM

USEPA Sample Numbers in SDG (Listed in Numerical Order)

CLP Sample ID	Sample Type	Requested Analytical CLIN(s)/SubCLIN(s)	Solicitation Number	MA Number(s)
H4082	Field Sample	0014AB,0012AB	N/A	N/A
H4086	Field Sample	0012AB,0014AB	N/A	N/A
H4086MS	Field Sample	0014AB	N/A	N/A
H4086MSD	Field Sample	0014AB	N/A	N/A

Note: *There are a maximum of 20* ***field*** *samples (excluding PE samples) in an SDG. Attach TR/COC Records to this form in alphanumeric order (the order listed above on this form).*

Signature [signature] Date 5/12/16

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP		Page 1 of 1
Received By (Print Name)		Log-in Date **5/5/2016**
Received By (Signature)		
Case Number 46114	SDG No. H4082	MA No. N/A

Remarks:	
1. Custody Seal (s)	Yes
2. Custody Seal Nos.	N/A
3. Traffic Reports/Chain Of Custody Records	Yes
4. Airbill	Airbill
5. Airbill No.	776257380633
6. Sample Tags Sample Tag #	N/A
7. Sample Condition	Yes
8. Shipping Container Temperature Indicator Bottle	Present
9. Shipping Container Temperature	3.1 Degree C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree ?	Yes
11. Date Received at Lab	05/05/2016
12.Time Received	09:25

	EPA Sample #	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample shipment, etc.
1	H4082	1033,34,35,36,37	H2954-01	
2	H4086	1000,01,09,10,11	H2954-02	
3	H4086MS	1000,01,09,10,11	H2954-04	
4	H4086MSD	1000,01,09,10,11	H2954-05	
5				
6				
7				
8				
9				
10				
11				
12				
13				
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16				
17				
18				
19				
20				
21				
22				
23				

* Contact SMO and attach record of resolution

Reviewed By	Logbook No.
Date	Logbook Page No.

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

LAB NAME CHEMTECH CONSULTING GROUP
LAB CODE CHM
CONTRACT NO. EPW14030
CASE NO. 46114 SDG NO. H4082
MA NO.
SOW NO. SOM02.3

All documents delivered in the complete SDG File must be original documents where possible. (Reference - Exhibit B Section 2.4)

		PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
1.	SDG Cover Page	1	1	✓	
2.	Traffic Report/Chain of Custody Record(s)	2	3	✓	
3.	Sample Log-In Sheet (DC-1)	4	4	✓	
4.	CSF Inventory Sheet (DC-2)	5	11	✓	
5.	SDG Narrative	12	24	✓	
Organic Analysis					
Trace Volatiles					
	Quality Control Summary				
6.	Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)	NA	NA	✓	
7.	Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR)(if requeste by the EPA Region)	NA	NA	✓	
8.	Method Blank Summary (Form 4-OR)	NA	NA	✓	
9.	GC/MS Instrument Performance Check (Form 5-OR)	NA	NA	✓	
10.	Internal Standard Area and Retention Summary (Form 8A-OR)	NA	NA	✓	
	Sample Data				
11.	TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	NA	NA	✓	
12.	Tentatively Identified Compounds (Form 1B-OR)				
13.	Raw Data for each sample:				
	Reconstructed total ion chromatograms (RICs) for each sample				
	Raw Spectra and bacground-subtracted mass spectra of target analytes identified				
	Quantitation Reports				
	Mass Spectra of all reported TICs with three best library matches				
	Standards Data (All Instruments)				
14.	GC/MS Initial Calibration Data (Form 6A-OR)	NA	NA	✓	
15.	RICs and Quantitation Reports for all Standards				

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
16. Continuing Calibration Verification for GC/MS (Form 7-OR)	NA	NA	✓	
17. RICs and Quantitation Reports for all Standards				
Quality Control Data				
18. Performance Check	NA	NA	✓	
19. Blank Data	NA	NA	✓	
20. Matrix Spike/Matrix Spike Duplicate Data (Form 3A-OR) (if requested by EPA Region)	NA	NA	✓	
21. Original Preparation and analysis forms or copies of preparation and analysis logbook pages (including screening records if applicable)	NA	NA	✓	
Low-Medium Volatiles				
Quality Control Summary				
22. Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)	25	26	✓	
23. Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR) (if requested by EPA Region)	NA	NA	✓	
24. Method Blank Summary (Form 4-OR)	27	28	✓	
25. GC/MS Instrument Performance Check (Form 5-OR)	29	31	✓	
26. Internal Standard Area and Retention Time Summary (Form 8A-OR)	32	33	✓	
Sample Data				
27. TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	34	92	✓	
28. Tentatively Identified Compounds (Form 1B-OR)				
29. Raw Data for Each Sample:				
Reconstructed total ion chromatograms (RICs) for each sample				
Raw Spectra and background-subtracted mass spectra of target analytes identified				
Quantitation Reports				
Mass Spectra of all reported TICs with three best library matches				
Standards Data (All Instruments)				
30. GC/MS Initial Calibration Data (Form 6A-OR)	93	218	✓	
31. RICs and Quantitation Reports for all Standards				
32. Continuing Calibration Verification for GC/MS (Form 7A-OR)	219	285	✓	
33. RICs and Quantitation Reports for all Standards				
Quality Control Data				
34. Performance Check	286	293	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
35. Blank Data	294	347	✓	
36. Matrix Spike/Matrix Spike Duplicate Data (if requested by EPA Region)	NA	NA	✓	
37. Original preparation and analysis forms or copies of preparation and analysis logbook pages (including TCLP/SPLP logs, Percent Solid Determinations logs, and screening records if applicable)	511	644	✓	
Semivolatiles				
Quality Control Summary				
38. Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)	348	349	✓	
39. Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR) (if requested by EPA Region)	350	350	✓	
40. Method Blank Summary (Form 4-OR)	351	351	✓	
41. GC/MS Instrument Performance Check (Form 5-OR)	352	352	✓	
42. Internal Standard Area and Retention Time Summary (Form 8A-OR)	353	354	✓	
Sample Data				
43. TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	355	401	✓	
44. Tentatively Identified Compounds (Form 1B-OR)				
45. Raw Data for Each sample:				
Reconstructed total ion chromatograms (RICs) for each sample	NA	NA	✓	
Raw Spectra and background-subtracted mass spectra of target analytes identified				
Quantitation Reports				
Mass Spectra of all reported TICs with three best library matches				
GPC chromatograms (if GPC is required)				
Standards Data (All Instruments)				
46. GC/MS Initial Calibration Data (Form 6A-OR)	402	439	✓	
47. RICs and Quantitation Reports for all Standards				
48. Continuing Calibration Verification for GC/MS (Form 7A-OR)	440	460	✓	
49. RICs and Quantitation Reports for all Standards				
Quality Control Data				
50. Performance Check	461	471	✓	
51. Blank Data	472	481	✓	
52. Matrix Spike/Matrix Spike Duplicate Data (if requested by EPA Region)	482	503	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
53. Raw GPC Data	504	510	✓	
54. For SIM analysis (if requested), at the same sequence as listed above, except for that Form 1B-OR and TIC spectra data which are not required for SIM method.	NA	NA	✓	
55. Original preparation and analysis forms or copies of preparation and analysis logbook pages (including TCLP/SPLP logs, Percent Solid Determinations logs, and screening records if applicable)	511	644	✓	
Pesticides				
Quality Control Summary				
56. Surrogate Recovery (Form 2C-OR)	NA	NA	✓	
57. Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR each columns)	NA	NA	✓	
58. Laboratory Control Sample Recovery (Form 3B-OR each column)	NA	NA	✓	
59. Method Blank Summary (Form 4-OR)	NA	NA	✓	
Sample Data				
60. TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	NA	NA	✓	
61. Raw Data for Each Sample:				
Chromatograms (Primary Column)				
Chromatograms (Secondary Column)				
Quantitation Reports				
Manual Worksheets				
62. For Pesticides by GC/MS Confirmation:				
Copies of raw spectra and copies of background-subtracted mass spectra of target analytes (samples & standards)				
Standards Data				
63. Initial Calibration of Single Component Analytes (Form 6B-OR and 6C-OR)	NA	NA	✓	
64. Initial Calibration of Multicomponent Analytes (Form 6D-OR and 6E-OR)	NA	NA	✓	
65. Analyte Resolution Summary (Form 6G-OR)	NA	NA	✓	
66. Pesticide Performance Evaluation Mixture Calibration Verification Summary (Form 7B-OR)	NA	NA	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
67. Continuing Calibration Verification Summary (Form 7C-OR)	NA	NA	✓	
68. Multicomponent Coninuing Calibration Verification Summary (Form 7D-OR)	NA	NA	✓	
69. Analytical Sequence (Form 8B-OR)	NA	NA	✓	
70. Florisil Cartridge Check (Form 9A-OR)	NA	NA	✓	
71. GPC Calibration Verification (Form 9B-OR)	NA	NA	✓	
72. Identification Summary for Single Component Analytes (Form 10A-OR)	NA	NA	✓	
73. Identification Summary for Multicomponent Analytes (Form 10B-OR)				
74. Chromatograms and Quantitation Reports:	NA	NA	✓	
A printout of Retention Times and corresponding peak areas or peak heights				
Quality Control Data				
75. Blank Data	NA	NA	✓	
76. Matrix Spike/Matrix Spike Duplicate Data	NA	NA	✓	
77. Laboratory Control Sample	NA	NA	✓	
78. Raw GPC Data	NA	NA	✓	
79. Raw Florisil Data	NA	NA	✓	
80. Original preparation and analysis forms or copies of preparation and analysis logbook pages (including TCLP/SPLP logs, Percent Solid Determinations logs, and screening records if applicable)	NA	NA	✓	
Aroclor Data				
Quality Control Summary				
81. Surrogate Recovery (Form 2C-OR)	NA	NA	✓	
82. Matrix Spike/Matrix Spike Duplicate Summary (Form 3A-OR)	NA	NA	✓	
83. Laboratory Control Sample Recovery (Form 3B-OR for each column)	NA	NA	✓	
84. Method Blank Summary (Form 4-OR)	NA	NA	✓	
Sample Data				
85. TAL Results - Organics Analysis Data Sheet (Form 1A-OR)	NA	NA	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
86. Raw Data for Each Sample:	NA	NA	✓	
Chromatograms (Primary Column)	NA	NA	✓	
Chromatograms (Secondary Column)	NA	NA	✓	
Quantitation Reports	NA	NA	✓	
Manual Worksheets	NA	NA	✓	
87. For Aroclors by GC/MS Confirmation:	NA	NA	✓	
Copies of raw spectra and copies of background-subtracted mass spectra of target analytes (samples & standards)	NA	NA	✓	
Standards Data				
88. Initial Calibration of Multicomponent Analytes(Form 6D-OR, Form 6E-OR, and Form 6F-OR)	NA	NA	✓	
89. Multicomponent Continuing Calibration Verification Summary (Form 7D-OR)	NA	NA	✓	
90. Analytical Sequence (Form 8B-OR)	NA	NA	✓	
91. Identification Summary for Multicomponent Analytes (Form 10B-OR)	NA	NA	✓	
92. Chromatograms and data system printouts:	NA	NA	✓	
A printout of Retention Times and corresponding peak areas or peak heights				
Qaulity Control Data				
93. Blank Data	NA	NA	✓	
94. Matrix Spike/Matrix Spike Duplicate Data	NA	NA	✓	
95. Laboratory Control Sample (LCS) Data	NA	NA	✓	
96. Raw GPC Data (if performed)	NA	NA	✓	
97. Original preparation and analysis forms or copies of preparation and analysis logbook pages (including Percent Solid Determinations logs and screening records if applicable)	NA	NA	✓	
Additional				
98. EPA Shipping/Receiving Documents Airbills (No. of shipments 1)	645	645	✓	
Sample Tags	NA	NA	✓	
Sample Log-In Sheet (Lab)	646	646	✓	

FORM DC-2
FULL ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
99. Misc. Shipping/Receiving Records (list all individual records) Communication Logs	NA	NA	✓	
100. Internal Lab Sample Transfer Records & Tracking Sheets (describe or list)	647	648	✓	
101. PE/PT Instruction Forms	NA	NA	✓	
102. Other Records (describe or list)				
Communication Log	649	656	✓	
103. Comments				

Completed by: Raytheon, RSC (CLP Lab) (Signature) Kee Yong Raytheon (all RSC) (Printed Name/Title) 05/24/16 (Date)

Audited by: (EPA) (Signature) (Printed Name/Title) (Date)

SDG NARRATIVE

LAB NAME: CHEMTECH CONSULTING GROUP
CASE# 46114
SDG# H4082
CONTRACT# EPW14030
LAB CODE: CHM
CHEMTECH PROJECT # H2954
MODIFICATION REF. NUMBER: N/A

Sample ID	Test	EPA Sample ID	pH
H2954-01		H4082	
H2954-02		H4086	
H2954-02RE	VOC	H4086RE	
H2954-04		H4086MS	
H2954-05		H4086MSD	

4 Soil samples were delivered to the laboratory intact on 05/05/2016.

Test requested on the Chain of Custody was Volatile Organic and Semi Volatile Organic by Method SOM02.3.

Samples for Volatile Organic analyses were transferred unopened to the Volatile Laboratory. Sample Tags were not received with the samples.

The temperature of the samples was measured using an I R Gun. The samples temperature was 3.1 degrees Celsius.

Shipping Discrepancies and/or QC issues:

Issue 1 : Sample tags were not received with samples at the laboratory. Sample tag numbers may or may not be listed on the TR/COC.

Resolution 1: In accordance with previous direction from Region 8, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the sample. The Resolution will be applied to all samples received for this Case.

Issue 2: The water samples for this Case are scheduled for 86 TVOA and 17 SVOA analysis; however, the COCs list VOA=TCL VOCs by CLP.

Resolution 2: Per Region 8, the samples in question shall be analyzed as scheduled for TVOA. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples. This resolution may be applied to all COCs received for this Case with this issue.

Issue 3: The laboratory received two soil samples for VOA and SVOA analysis. Lab QC is required; however, no sample was designated for Lab QC for soil matrix in the COC. The laboratory would like to select sample H4086 for SVOA analysis. The laboratory does not have sufficient volume for VOA Laboratory QC, even at reduced volume.

Resolution 3: Per Region 8, sample H4086 selected for SVOA laboratory QC is acceptable to the Region. Cancel VOA laboratory QC due to insufficient volume along with noting the issue in the SDG Narrative.

Low Volatiles:

The analyses for Low Volatile Organics soil sample was performed on instrument MSVOA_T using GC column RXI-624SIL MS 30m 0.25mm 1.4um 872456. The Trap was supplied by OI Analytical, OI #10 Trap, OI Eclipse 4660 Concentrator.

The analysis of VOC-Low Level -10 was based on method SOM02.3_Low

Surrogate recoveries met the criteria.
.Holding Times were met.
Instrument Performance Check met requirements.
Retention Times met requirements.
The Internal Standards Areas met the acceptable requirements except for H4086, H4086RE.
The failure sample in internal standard were reanalyzed to confirm the results.

Trans-1, 3-Dichloropropene-d4 fails to meet criteria for the minimum RRF in the run dated 05/11/2016, ,05/13/.2016 with T instrument,

As per the method up to two compounds are allow to fail to meet the minimum criteria for the RRF as long as the compound meets the maximum of 40% RSD. No further corrective action was required.

The Continuing Calibration in file id VT014119.D, VT014141.D, VT014152.D which is fail to meet the minimum RRF of 0.200 for Trans-1, 3-Dichloropropene-d4.
As per method, the % D of 2 compounds can be fail, therefore no correction required.

The Blank analysis indicated presence of Methylene chloride[1.4 ug/Kg] FileID: VT014148.D{ VBLK86) due to possible lab contamination.

The Storage Blank indicated presence of Methylene chloride[1.1 ug/Kg] File ID: VT014151.D{ VHBLK01,H2954-03,} due to possible lab contamination. and the concentration of this compound is below CRQL ,therefore as per method no corrective action was required.

See **Manual Integration** report for the manual integration information at the end of the case narrative.

Calculation for soil samples:

Low/Med Level Soil/Sediment Calculation

(Concentration in ug/Kg dry Weight basis) $\frac{(A_x)(I_s)(Df)}{(Ais)(\overline{RRF})(Ws)(D)}$

Where,

Ax = Area for the compound to be measured
Ais = Area for the specific internal standard
Is = Amount of internal standard added in nanograms (ng)

$\overline{RRF}$ = Relative response factor of the calibration standard.
Df = Dilution factor
Ws= Weight of sample
D= $\frac{100 - \%moisture}{100}$

Example Calculation for sample # H4082 for Methylene chloride:

Ax= 30964
Is= 250
RRF= 0.463
DF=1
Ais= 985497
Ws= 2.76
D= 0.332

Concentration in ug/KG = $\frac{(30964)(250)(1)}{(985497)(0.463)(2.76)(0.332)}$

= 18.51 ug/Kg

Reported Results = 19 ug/Kg

Relative Response Factor = Methylene chloride: RUN # VT051316 for 25 ppb

$$RRF = \frac{\text{Area of compound}}{\text{Area of Internal Standard}} \times \frac{\text{Conc. of Internal Standard}}{\text{Conc. of Compound}}$$

$$RRF = \frac{396857}{1010444} \times \frac{25}{25} = 0.3927$$

RRF= 0.393

Semivolatiles

The samples were analyzed on instrument BNA_M using GC Column ZB-Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA.

Semi volatile Organic samples for Soil were extracted by Method SOM02.3 on 05/12/16.

The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for H4082 [1,4-Dioxane-d8 - 18%], H4086 [1,4-Dioxane-d8 - 33%], H4086MS [1,4-Dioxane-d8 - 16%], H4086MSD [1 and4-Dioxane-d8 - 9%]. As per method four surrogates are allowed to fail. No further corrective action was taken.
The MS {H4086MS} with File ID: BM005495.D recoveries met the requirements for all compounds except for N-Nitroso-di-n-propylamine[29%], Pyrene[31%] .
The MSD {H4086MSD} with File ID: BM005496.D recoveries met the acceptable requirements except for 2,4-Dinitrotoluene[24%], 2-Chlorophenol[21%], 4-Chloro-3-methylphenol[25%], Acenaphthene[26%], N-Nitroso-di-n-propylamine[24%], Phenol[23%] and Pyrene [25%].
Recovery of MS and recovery of MSD failed for some compounds due to bad sample matrix interference.
The RPD recoveries met criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements.
The Continuous Calibration met the requirements.
The Tuning criteria met requirements.

See **Manual Integration report** for the manual integration information at the end of the case narrative.

Concentration of SOIL Sample:

Concentration ug/Kg,
(dry weight basis) = $\frac{(Ax)\ (Is)\ (Vt)\ (DF)\ (GPC)}{(Ais)\ (\overline{RRF})\ (Vi)\ (Wt)\ (D)}$

Where,

Ax = Area of the characteristic ion for the compound to be measured.
Ais = Area of the characteristic ion for the internal standard.
Is = Amount of internal standard injected in ng.
V_i = Volume of extract injected in microliters (uL)
V_t = Volume of concentrated extract in microliters (uL)
W_t = Weight of the original sample extracted in g
Df = Dilution factor

$\overline{RRF}$ = Mean Relative Response Factor determined from the initial calibration standard.
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)
Vout = Volume of extract collected after GPC cleanup.
D = % dry weight or $\frac{100 - \%Moisture}{100}$

Example calculation of BD381 for Dimethylphthalate:

Ax = 16917
Ais = 71738
Is = 20
V_i = 500
V_t = 1
W_t = 30.0
Df = 1

$\overline{RRF}$ = 1.676
GPC = 2
D=0.332

Concentration ug/Kg,
(dry weight basis) = $\frac{(16917)\ (20)\ (500)\ (1)\ (2)}{(71738)\ (1.676)\ (1)\ (30.0)\ (0.332)}$

= 280 ug/Kg

RRF Calculation of standard 20 ppb for Dimethylphthalate with M instrument for method 05/18/16

RRF= Area of compound / Area of Internal Standard X Conc. of Internal Standard / Conc. of Compound

= 273949/ 163609 X 20/20

= 1.674 (Reported RRF)

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature _____ Name: Mildred V. Reyes

Date: 5/24/16 Title: Document Control Officer

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Manual Integration Report

Sequence:	VT051116	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTD2.596/ VSTD2.596	VT014057.D	2-Butanone	feifei	5/12/2016 3:10:54 PM	MMdadoda	5/13/2016 5:55:35 PM	Peak Integrated by Software incorrectly
VSTD2.596/ VSTD2.596	VT014057.D	Carbon disulfide	feifei	5/12/2016 3:10:54 PM	MMdadoda	5/13/2016 5:55:35 PM	Peak Integrated by Software incorrectly
VSTD2.596/ VSTD2.596	VT014057.D	Trichlorofluoromethane	feifei	5/12/2016 3:10:54 PM	MMdadoda	5/13/2016 5:55:35 PM	Peak Integrated by Software incorrectly
VSTD00597/ VSTD00597	VT014058.D	Trichlorofluoromethane	feifei	5/12/2016 3:10:56 PM	MMdadoda	5/13/2016 5:55:37 PM	Peak Integrated by Software incorrectly
VSTD02598/ VSTD02598	VT014059.D	Trichlorofluoromethane	feifei	5/12/2016 3:10:57 PM	MMdadoda	5/13/2016 5:55:44 PM	Peak Integrated by Software incorrectly
VSTD05099/ VSTD05099	VT014060.D	Trichlorofluoromethane	feifei	5/12/2016 3:10:59 PM	MMdadoda	5/13/2016 5:55:38 PM	Peak Integrated by Software incorrectly
VSTD10076/ VSTD10076	VT014061.D	1,1-Dichloroethene	feifei	5/12/2016 3:11:01 PM	MMdadoda	5/13/2016 5:55:44 PM	Peak Integrated by Software incorrectly
VSTD10076/ VSTD10076	VT014061.D	Trichlorofluoromethane	feifei	5/12/2016 3:11:01 PM	MMdadoda	5/13/2016 5:55:44 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02588	VT014062.D	Trichlorofluoromethane	feifei	5/12/2016 3:11:02 PM	MMdadoda	5/13/2016 5:55:43 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02589	VT014078.D	1,1-Dichloroethene	feifei	5/12/2016 3:12:28 PM	MMdadoda	5/13/2016 5:56:16 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02589	VT014078.D	1,1-Dichloroethene-d2	feifei	5/12/2016 3:12:28 PM	MMdadoda	5/13/2016 5:56:16 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02589	VT014078.D	Carbon disulfide	feifei	5/12/2016 3:12:28 PM	MMdadoda	5/13/2016 5:56:16 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02589	VT014078.D	Methylene chloride	feifei	5/12/2016 3:12:28 PM	MMdadoda	5/13/2016 5:56:16 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT051116	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC025/ VSTD02589	VT014078.D	Trichlorofluoromethane	feifei	5/12/2016 3:12:28 PM	MMdadoda	5/13/2016 5:56:16 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02590	VT014100.D	1,1-Dichloroethene	feifei	5/12/2016 3:46:17 PM	MMdadoda	5/13/2016 5:56:49 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02590	VT014100.D	Carbon disulfide	feifei	5/12/2016 3:46:17 PM	MMdadoda	5/13/2016 5:56:49 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02590	VT014100.D	Methylene chloride	feifei	5/12/2016 3:46:17 PM	MMdadoda	5/13/2016 5:56:49 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02590	VT014100.D	Trichlorofluoromethane	feifei	5/12/2016 3:46:17 PM	MMdadoda	5/13/2016 5:56:49 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02591	VT014117.D	1,1-Dichloroethene	feifei	5/13/2016 11:52:19 AM	MMdadoda	5/13/2016 5:58:10 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02591	VT014117.D	1,1-Dichloroethene-d2	feifei	5/13/2016 11:52:19 AM	MMdadoda	5/13/2016 5:58:10 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02591	VT014117.D	Carbon disulfide	feifei	5/13/2016 11:52:19 AM	MMdadoda	5/13/2016 5:58:10 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02591	VT014117.D	Methylene chloride	feifei	5/13/2016 11:52:19 AM	MMdadoda	5/13/2016 5:58:10 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02591	VT014117.D	Trichlorofluoromethane	feifei	5/13/2016 11:52:19 AM	MMdadoda	5/13/2016 5:58:10 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT051216	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC025/ VSTD02581	VT014119.D	1,1-Dichloroethene	feifei	5/13/2016 10:54:04 AM	MMdadoda	5/13/2016 5:59:31 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02581	VT014119.D	Carbon disulfide	feifei	5/13/2016 10:54:04 AM	MMdadoda	5/13/2016 5:59:31 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02581	VT014119.D	Methylene chloride	feifei	5/13/2016 10:54:04 AM	MMdadoda	5/13/2016 5:59:31 PM	Peak Integrated by Software incorrectly
VSTDCCC025/ VSTD02581	VT014119.D	Trichlorofluoromethane	feifei	5/13/2016 10:54:04 AM	MMdadoda	5/13/2016 5:59:31 PM	Peak Integrated by Software incorrectly
VT0512SBL01/ VBLK85	VT014120.D	1,1-Dichloroethene-d2	feifei	5/13/2016 10:54:06 AM	MMdadoda	5/13/2016 5:59:32 PM	Peak Integrated by Software incorrectly
H2954-02/ H4086	VT014136.D	1,1-Dichloroethene-d2	feifei	5/13/2016 10:54:30 AM	MMdadoda	5/13/2016 6:00:08 PM	Peak Integrated by Software incorrectly
H2954-02/ H4086	VT014136.D	Methylene chloride	feifei	5/13/2016 10:54:30 AM	MMdadoda	5/13/2016 6:00:08 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02582	VT014141.D	1,1-Dichloroethene	feifei	5/13/2016 10:54:39 AM	MMdadoda	5/13/2016 6:00:13 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02582	VT014141.D	Carbon disulfide	feifei	5/13/2016 10:54:39 AM	MMdadoda	5/13/2016 6:00:13 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02582	VT014141.D	Methylene chloride	feifei	5/13/2016 10:54:39 AM	MMdadoda	5/13/2016 6:00:13 PM	Peak Integrated by Software incorrectly
VSTDCCC025EC/ VSTD02582	VT014141.D	Trichlorofluoromethane	feifei	5/13/2016 10:54:39 AM	MMdadoda	5/13/2016 6:00:13 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT051316	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTD2.583/ VSTD2.583	VT014143.D	1,1-Dichloroethene	feifei	5/16/2016 10:17:32 AM	mmdadoda	5/16/2016 6:44:39 PM	Peak Integrated by Software incorrectly
VSTD2.583/ VSTD2.583	VT014143.D	1,1-Dichloroethene-d2	feifei	5/16/2016 10:17:32 AM	mmdadoda	5/16/2016 6:44:39 PM	Peak Integrated by Software incorrectly
VSTD2.583/ VSTD2.583	VT014143.D	Carbon disulfide	feifei	5/16/2016 10:17:32 AM	mmdadoda	5/16/2016 6:44:39 PM	Peak Integrated by Software incorrectly
VSTD2.583/ VSTD2.583	VT014143.D	Methylene chloride	feifei	5/16/2016 10:17:32 AM	mmdadoda	5/16/2016 6:44:39 PM	Peak Integrated by Software incorrectly
VSTD2.583/ VSTD2.583	VT014143.D	Trichlorofluoromethane	feifei	5/16/2016 10:17:32 AM	mmdadoda	5/16/2016 6:44:39 PM	Peak Integrated by Software incorrectly
VSTD00584/ VSTD00584	VT014144.D	1,1-Dichloroethene	feifei	5/16/2016 10:17:34 AM	mmdadoda	5/16/2016 6:44:41 PM	Peak Integrated by Software incorrectly
VSTD00584/ VSTD00584	VT014144.D	Methylene chloride	feifei	5/16/2016 10:17:34 AM	mmdadoda	5/16/2016 6:44:41 PM	Peak Integrated by Software incorrectly
VSTD00584/ VSTD00584	VT014144.D	Trichlorofluoromethane	feifei	5/16/2016 10:17:34 AM	mmdadoda	5/16/2016 6:44:41 PM	Peak Integrated by Software incorrectly
VSTD02585/ VSTD02585	VT014145.D	1,1-Dichloroethene	feifei	5/16/2016 10:17:35 AM	mmdadoda	5/16/2016 6:44:43 PM	Peak Integrated by Software incorrectly
VSTD02585/ VSTD02585	VT014145.D	1,1-Dichloroethene-d2	feifei	5/16/2016 10:17:35 AM	mmdadoda	5/16/2016 6:44:43 PM	Peak Integrated by Software incorrectly
VSTD02585/ VSTD02585	VT014145.D	Carbon disulfide	feifei	5/16/2016 10:17:35 AM	mmdadoda	5/16/2016 6:44:43 PM	Peak Integrated by Software incorrectly
VSTD02585/ VSTD02585	VT014145.D	Methylene chloride	feifei	5/16/2016 10:17:35 AM	mmdadoda	5/16/2016 6:44:43 PM	Peak Integrated by Software incorrectly
VSTD02585/ VSTD02585	VT014145.D	Trichlorofluoromethane	feifei	5/16/2016 10:17:35 AM	mmdadoda	5/16/2016 6:44:43 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT051316	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTD05086/ VSTD05086	VT014146.D	1,1-Dichloroethene	feifei	5/16/2016 10:17:36 AM	mmdadoda	5/16/2016 6:44:45 PM	Peak Integrated by Software incorrectly
VSTD05086/ VSTD05086	VT014146.D	1,1-Dichloroethene-d2	feifei	5/16/2016 10:17:36 AM	mmdadoda	5/16/2016 6:44:45 PM	Peak Integrated by Software incorrectly
VSTD05086/ VSTD05086	VT014146.D	Carbon disulfide	feifei	5/16/2016 10:17:36 AM	mmdadoda	5/16/2016 6:44:45 PM	Peak Integrated by Software incorrectly
VSTD05086/ VSTD05086	VT014146.D	Methylene chloride	feifei	5/16/2016 10:17:36 AM	mmdadoda	5/16/2016 6:44:45 PM	Peak Integrated by Software incorrectly
VSTD05086/ VSTD05086	VT014146.D	Trichlorofluoromethane	feifei	5/16/2016 10:17:36 AM	mmdadoda	5/16/2016 6:44:45 PM	Peak Integrated by Software incorrectly
VSTD10087/ VSTD10087	VT014147.D	1,1-Dichloroethene	feifei	5/16/2016 10:17:38 AM	mmdadoda	5/16/2016 6:44:50 PM	Peak Integrated by Software incorrectly
VSTD10087/ VSTD10087	VT014147.D	1,1-Dichloroethene-d2	feifei	5/16/2016 10:17:38 AM	mmdadoda	5/16/2016 6:44:50 PM	Peak Integrated by Software incorrectly
VSTD10087/ VSTD10087	VT014147.D	Carbon disulfide	feifei	5/16/2016 10:17:38 AM	mmdadoda	5/16/2016 6:44:50 PM	Peak Integrated by Software incorrectly
VSTD10087/ VSTD10087	VT014147.D	Methylene chloride	feifei	5/16/2016 10:17:38 AM	mmdadoda	5/16/2016 6:44:50 PM	Peak Integrated by Software incorrectly
VSTD10087/ VSTD10087	VT014147.D	Trichlorofluoromethane	feifei	5/16/2016 10:17:38 AM	mmdadoda	5/16/2016 6:44:50 PM	Peak Integrated by Software incorrectly
VT0513SBL01/ VBLK86	VT014148.D	1,1-Dichloroethene-d2	feifei	5/16/2016 10:17:40 AM	mmdadoda	5/16/2016 6:45:13 PM	Peak Integrated by Software incorrectly
VT0513SBL01/ VBLK86	VT014148.D	Methylene chloride	feifei	5/16/2016 10:17:40 AM	mmdadoda	5/16/2016 6:45:13 PM	Peak Integrated by Software incorrectly
H2954-01/ H4082	VT014149.D	1,1-Dichloroethene-d2	feifei	5/16/2016 10:17:44 AM	mmdadoda	5/16/2016 6:44:52 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VT051316	Instrument	MSVOA_t

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
H2954-01/ H4082	VT014149.D	Methylene chloride	feifei	5/16/2016 10:17:44 AM	mmdadoda	5/16/2016 6:44:52 PM	Peak Integrated by Software incorrectly
H2954-02RE/ H4086RE	VT014150.D	1,1-Dichloroethene-d2	feifei	5/16/2016 10:17:45 AM	mmdadoda	5/16/2016 6:44:54 PM	Peak Integrated by Software incorrectly
H2954-02RE/ H4086RE	VT014150.D	Methylene chloride	feifei	5/16/2016 10:17:45 AM	mmdadoda	5/16/2016 6:44:54 PM	Peak Integrated by Software incorrectly
H2954-03/ VHBLK01	VT014151.D	1,1-Dichloroethene-d2	feifei	5/16/2016 10:17:47 AM	mmdadoda	5/16/2016 6:44:56 PM	Peak Integrated by Software incorrectly
H2954-03/ VHBLK01	VT014151.D	Methylene chloride	feifei	5/16/2016 10:17:47 AM	mmdadoda	5/16/2016 6:44:56 PM	Peak Integrated by Software incorrectly
VSTDCCC025E C/ VSTD02583	VT014152.D	1,1-Dichloroethene	feifei	5/16/2016 10:17:49 AM	mmdadoda	5/16/2016 6:44:59 PM	Peak Integrated by Software incorrectly
VSTDCCC025E C/ VSTD02583	VT014152.D	Carbon disulfide	feifei	5/16/2016 10:17:49 AM	mmdadoda	5/16/2016 6:44:59 PM	Peak Integrated by Software incorrectly
VSTDCCC025E C/ VSTD02583	VT014152.D	Methylene chloride	feifei	5/16/2016 10:17:49 AM	mmdadoda	5/16/2016 6:44:59 PM	Peak Integrated by Software incorrectly
VSTDCCC025E C/ VSTD02583	VT014152.D	Trichlorofluoromethane	feifei	5/16/2016 10:17:49 AM	mmdadoda	5/16/2016 6:44:59 PM	Peak Integrated by Software incorrectly

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Manual Integration Report

Sequence:	BM051816	Instrument	BNA_m

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTD04041/ SSTD04041	BM005466.D	Caprolactam	sohil	5/19/2016 7:12:42 PM	umangi	5/19/2016 7:15:08 PM	Peak Integrated by Software incorrectly
SSTD08042/ SSTD08042	BM005467.D	Benzaldehyde	sohil	5/19/2016 7:12:48 PM	umangi	5/19/2016 7:15:16 PM	Peak Integrated by Software incorrectly
SSTD08042/ SSTD08042	BM005467.D	Caprolactam	sohil	5/19/2016 7:12:48 PM	umangi	5/19/2016 7:15:16 PM	Peak Integrated by Software incorrectly
SSTD16043/ SSTD16043	BM005468.D	Caprolactam	sohil	5/19/2016 7:12:54 PM	umangi	5/19/2016 7:15:21 PM	Peak Integrated by Software incorrectly

FORM 2A-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4082

Analytical Method : VOA Level : LOW

Matrix : Soil

EPA Sample No .	DMC1 (VCL)	DMC2 (CLA)	DMC3 (DCE)	DMC4 (BUT)	DMC5 (CLF)	DMC6 (DCA)	DMC7 (BEN)	DMC8 (DPA)
VBLK85	91	89	61	82	81	79	88	88
H4086	106	103	67	42	88	89	97	94
VBLK86	95	95	64	81	84	86	88	88
H4082	104	100	66	58	86	88	106	105
H4086RE	107	102	66	45	84	87	111	107
VHBLK01	100	99	65	80	88	90	90	90

	QC LIMITS
DMC1 (VCL) = Vinyl Chloride-d3	(30-150)
DMC2 (CLA) = Chloroethane-d5	(30-150)
DMC3 (DCE) = 1,1-Dichloroethene-d2	(45-110)
DMC4 (BUT) = 2-Butanone-d5	(20-135)
DMC5 (CLF) = Chloroform-d	(40-150)
DMC6 (DCA) = 1,2-Dichloroethane-d4	(70-130)
DMC7 (BEN) = Benzene-d6	(20-135)
DMC8 (DPA) = 1,2-Dichloropropane-d6	(70-120)

FORM 2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030
Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4082
Analytical Method : VOA Level : LOW
Matrix : Soil

EPA Sample No .	DMC9 (TOL)	DMC10 (TDP)	DMC11 (HEX)	DMC12 (TCA)	DMC13 (DCZ)	DMC14	DMC15	DMC16	TOT OUT
VBLK85	86	82	89	82	84				0
H4086	89	69	49	69	79				0
VBLK86	88	82	89	81	87				0
H4082	92	84	73	82	81				0
H4086RE	94	82	58	76	80				0
VHBLK01	90	84	88	83	91				0

	QC LIMITS
DMC9 (TOL) = Toluene-d8	(30-130)
DMC10 (TDP) = trans-1,3-Dichloropropene-d4	(30-135)
DMC11 (HEX) = 2-Hexanone-d5	(20-135)
DMC12 (TCA) = 1,1,2,2-Tetrachloroethane-d2	(45-120)
DMC13 (DCZ) = 1,2-Dichlorobenzene-d4	(75-120)

EPA SAMPLE NO.

VBLK85

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM
Case No.: 46114
MA No. :
SDG No.: H4082
Analytical Method: VOA
Level : LOW
Matrix : Soil
Lab Sample ID: VT0512SBL01
Instrument ID: MSVOA_T
Lab File ID : VT014120.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : RXI-624 ID : 0.25 (mm)
Date Analyzed : 05/12/2016
GC Column ( ) : ID : (mm)
Time Analyzed : 13:36
Heated Purge: (Y/N) Y
Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
H4086	H2954-02	VT014136.D	05/12/2016 21:01

EPA SAMPLE NO.

VBLK86

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM
Case No.: 46114
MA No. :
SDG No.: H4082
Analytical Method: VOA
Level : LOW
Matrix : Soil
Lab Sample ID: VT0513SBL01
Instrument ID: MSVOA_T
Lab File ID : VT014148.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : RXI-624 ID : 0.25 (mm)
Date Analyzed : 05/13/2016
GC Column ( ) : ID : (mm)
Time Analyzed : 17:42
Heated Purge: (Y/N) Y
Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
H4082	H2954-01	VT014149.D	05/13/2016 18:08
H4086RE	H2954-02RE	VT014150.D	05/13/2016 18:34
VHBLK01	H2954-03	VT014151.D	05/13/2016 19:00

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB91

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method : VOA Lab File ID : VT014056.D

Instrument ID: MSVOA_T BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 05/11/2016 Injection Time: 04:25

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	25.4	
75	30.0 - 80.0% of mass 95	57.7	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.9	
173	Less than 2.0% of mass 174	0.0(0.0)	1
174	50.0 - 120% of mass 95	73.3	
175	5.0 - 9.0% of mass 174	4(5.5)	1
176	95.0 - 101% of mass 174	70.3(95.9)	1
177	5.0 - 9.0% of mass 176	4.8(6.9)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD2.596	VSTD2.596	VT014057.D	05/11/2016	04:51
VSTD00597	VSTD00597	VT014058.D	05/11/2016	05:17
VSTD02598	VSTD02598	VT014059.D	05/11/2016	05:43
VSTD05099	VSTD05099	VT014060.D	05/11/2016	06:09
VSTD10076	VSTD10076	VT014061.D	05/11/2016	06:35

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB92

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method : VOA Lab File ID : VT014118.D

Instrument ID: MSVOA_T BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 05/12/2016 Injection Time: 12:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	24.3	
75	30.0 - 80.0% of mass 95	55.3	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.9	
173	Less than 2.0% of mass 174	0.0(0.0)	1
174	50.0 - 120% of mass 95	73.4	
175	5.0 - 9.0% of mass 174	5.9(8)	1
176	95.0 - 101% of mass 174	72(98.1)	1
177	5.0 - 9.0% of mass 176	4.8(6.7)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD02581	VSTDCCC025	VT014119.D	05/12/2016	13:10
VBLK85	VT0512SBL01	VT014120.D	05/12/2016	13:36
H4086	H2954-02	VT014136.D	05/12/2016	21:01
VSTD02582	VSTDCCC025EC	VT014141.D	05/12/2016	23:12

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB93

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method : VOA Lab File ID : VT014142.D

Instrument ID: MSVOA_T BFB / DFTPP : BFB

GC Column : RXI-624 ID : 0.25 (mm) :

Injection Date : 05/13/2016 Injection Time: 13:01

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	27.9	
75	30.0 - 80.0% of mass 95	62.3	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.8	
173	Less than 2.0% of mass 174	0.0(0.0)	1
174	50.0 - 120% of mass 95	70.4	
175	5.0 - 9.0% of mass 174	5.8(8.2)	1
176	95.0 - 101% of mass 174	68.7(97.7)	1
177	5.0 - 9.0% of mass 176	4.5(6.6)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD2.583	VSTD2.583	VT014143.D	05/13/2016	14:37
VSTD00584	VSTD00584	VT014144.D	05/13/2016	15:03
VSTD02585	VSTD02585	VT014145.D	05/13/2016	15:30
VSTD05086	VSTD05086	VT014146.D	05/13/2016	15:57
VSTD10087	VSTD10087	VT014147.D	05/13/2016	16:23
VBLK86	VT0513SBL01	VT014148.D	05/13/2016	17:42
H4082	H2954-01	VT014149.D	05/13/2016	18:08
H4086RE	H2954-02RE	VT014150.D	05/13/2016	18:34
VHBLK01	H2954-03	VT014151.D	05/13/2016	19:00
VSTD02583	VSTDCCC025EC	VT014152.D	05/13/2016	19:26

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030

Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4082

Analytical Method: VOA | Level : LOW

EPA Sample No. : VSTD02581 | Lab File ID (Standard) : VT014119.D

Instrument ID : MSVOA_T | Init.Calib.Date(s):

GC Column : RXI-624 | ID: 0.25 (mm) | Date Analyzed : 05/12/2016

Heated Purge: (Y/N) Y | Time Analyzed : 13:10

	IS1 (DFB) AREA	RT	IS2 (CBZ) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1571310	8.36	1269550	11.19	638039	13.12
UPPER LIMIT	3142620	8.53	2539090	11.36	1276080	13.29
LOWER LIMIT	785656	8.19	634774	11.02	319020	12.95
EPA SAMPLE NO.						
VBLK85	1622116	8.36	1275965	11.19	621501	13.12
H4086	1081527	8.36	759973	11.19	300912 *	13.12

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene -d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4082
Analytical Method: VOA | Level : LOW
EPA Sample No. : VSTD02585 | Lab File ID (Standard) : VT014145.D
Instrument ID : MSVOA_T | Init.Calib.Date(s): 05/13/2016
GC Column : RXI-624 | ID: 0.25 (mm) | Date Analyzed : 05/13/2016
Heated Purge: (Y/N) Y | Time Analyzed : 15:30

	IS1 (DFB) AREA	RT	IS2 (CBZ) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1010440	8.36	845709	11.19	435203	13.12
UPPER LIMIT	2020890	8.53	1691420	11.36	870406	13.29
LOWER LIMIT	505222	8.19	422855	11.02	217602	12.95
EPA SAMPLE NO.						
VBLK86	1030650	8.36	824945	11.19	379886	13.12
H4082	985497	8.36	672292	11.19	218561	13.12
H4086RE	921158	8.36	594064	11.19	168502 *	13.12
VHBLK01	970651	8.36	779709	11.19	367210	13.12

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene -d4

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 2.76 (g/mL): g
Lab File ID : VT014149.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	27	U
74-87-3	Chloromethane	27	U
75-01-4	Vinyl chloride	27	U
74-83-9	Bromomethane	27	U
75-00-3	Chloroethane	27	U
75-69-4	Trichlorofluoromethane	27	U
75-35-4	1,1-Dichloroethene	27	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	27	U
67-64-1	Acetone	180	
75-15-0	Carbon disulfide	27	U
79-20-9	Methyl Acetate	27	U
75-09-2	Methylene chloride	19	JB
156-60-5	trans-1,2-Dichloroethene	27	U
1634-04-4	Methyl tert-butyl Ether	27	U
75-34-3	1,1-Dichloroethane	27	U
156-59-2	cis-1,2-Dichloroethene	27	U
78-93-3	2-Butanone	55	U
74-97-5	Bromochloromethane	27	U
67-66-3	Chloroform	27	U
71-55-6	1,1,1-Trichloroethane	27	U
110-82-7	Cyclohexane	27	U
56-23-5	Carbon tetrachloride	27	U
71-43-2	Benzene	27	U
107-06-2	1,2-Dichloroethane	27	U
79-01-6	Trichloroethene	27	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 2.76 (g/mL): g
Lab File ID : VT014149.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	27	U
78-87-5	1,2-Dichloropropane	27	U
75-27-4	Bromodichloromethane	27	U
10061-01-5	cis-1,3-Dichloropropene	27	U
108-10-1	4-Methyl-2-pentanone	55	U
108-88-3	Toluene	27	U
10061-02-6	trans-1,3-Dichloropropene	27	U
79-00-5	1,1,2-Trichloroethane	27	U
127-18-4	Tetrachloroethene	27	U
591-78-6	2-Hexanone	55	U
124-48-1	Dibromochloromethane	27	U
106-93-4	1,2-Dibromoethane	27	U
108-90-7	Chlorobenzene	27	U
100-41-4	Ethylbenzene	27	U
95-47-6	o-xylene	27	U
179601-23-1	m,p-Xylene	27	U
100-42-5	Styrene	27	U
75-25-2	Bromoform	27	U
98-82-8	Isopropylbenzene	27	U
79-34-5	1,1,2,2-Tetrachloroethane	27	U
541-73-1	1,3-Dichlorobenzene	27	U
106-46-7	1,4-Dichlorobenzene	27	U
95-50-1	1,2-Dichlorobenzene	27	U
96-12-8	1,2-Dibromo-3-chloropropane	27	U
120-82-1	1,2,4-trichlorobenzene	27	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 2.76 (g/mL): g
Lab File ID : VT014149.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	27	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 2.76 (g/mL): g
Lab File ID : VT014149.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/13/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

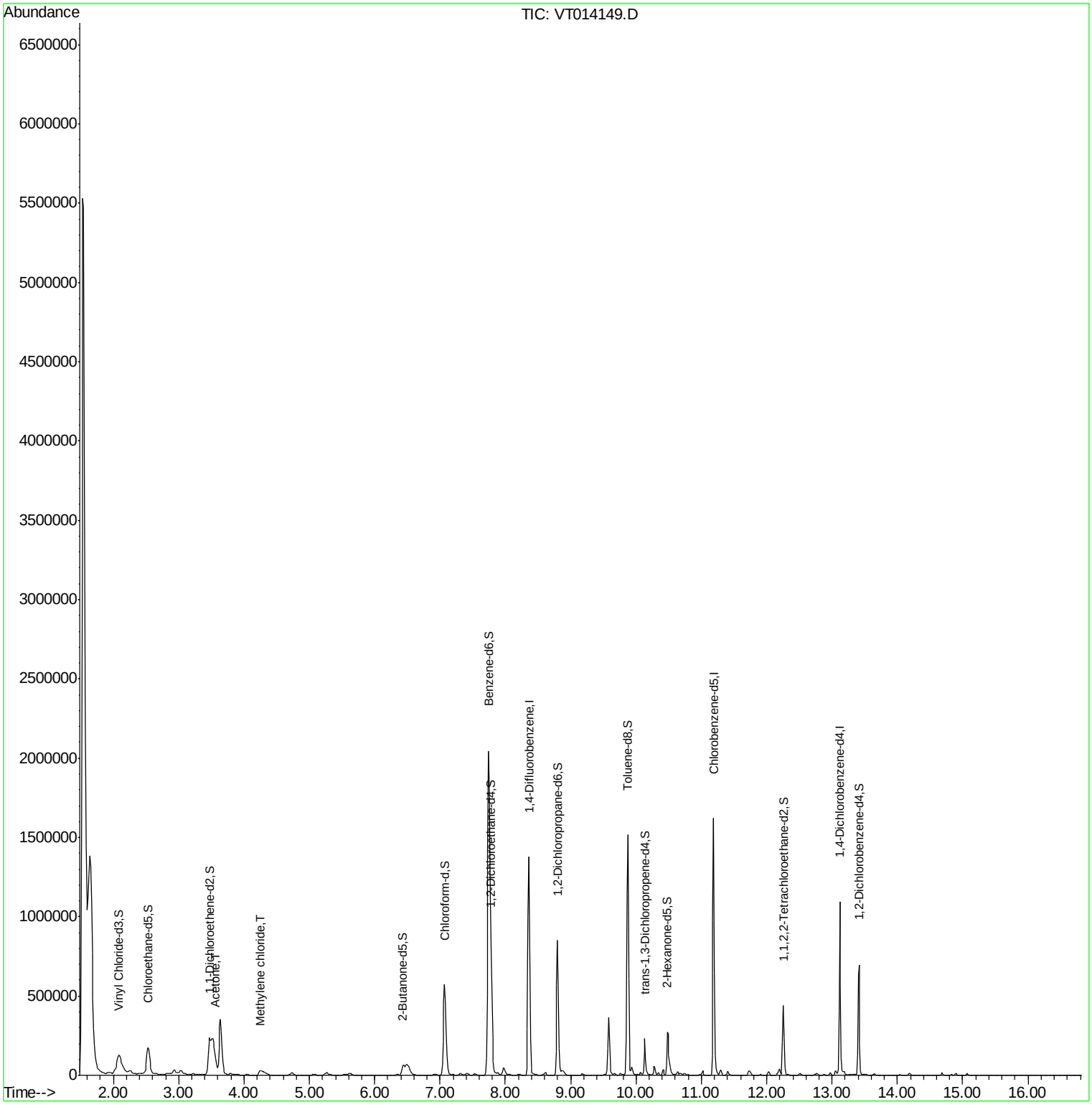
Quantitation Report (QT/LSC Reviewed)

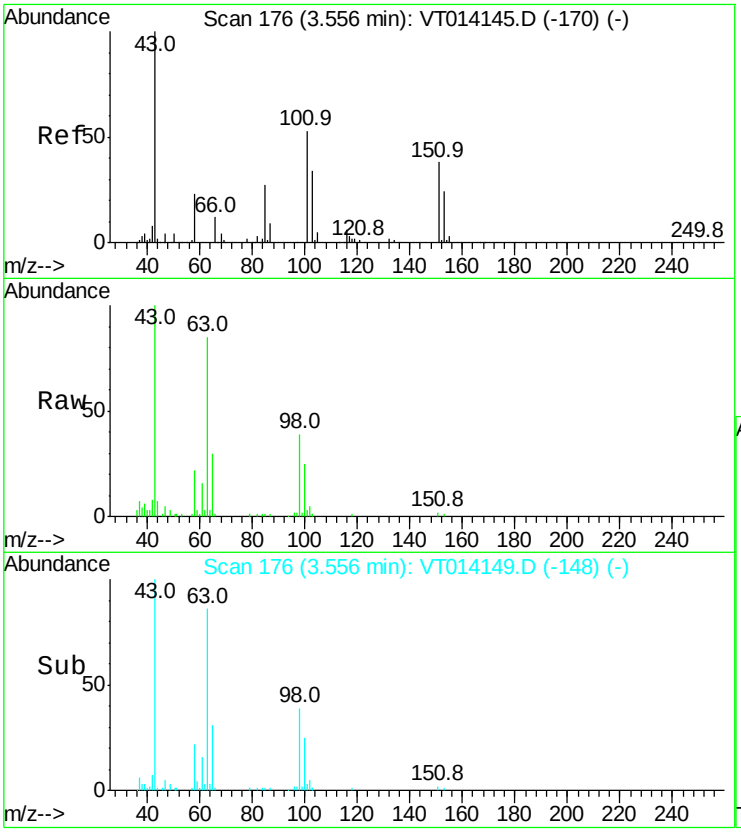
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 16 10:10:30 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4082

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:52 PM

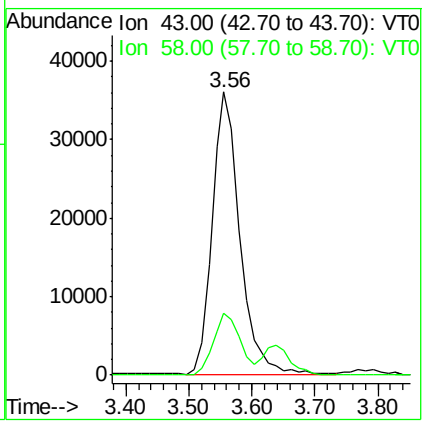




#13
Acetone
Concen: 16.27 ug/L
RT: 3.56 min Scan# 176
Delta R.T. -0.00 min
Lab File: VT014149.D
Acq: 13 May 2016 18:08

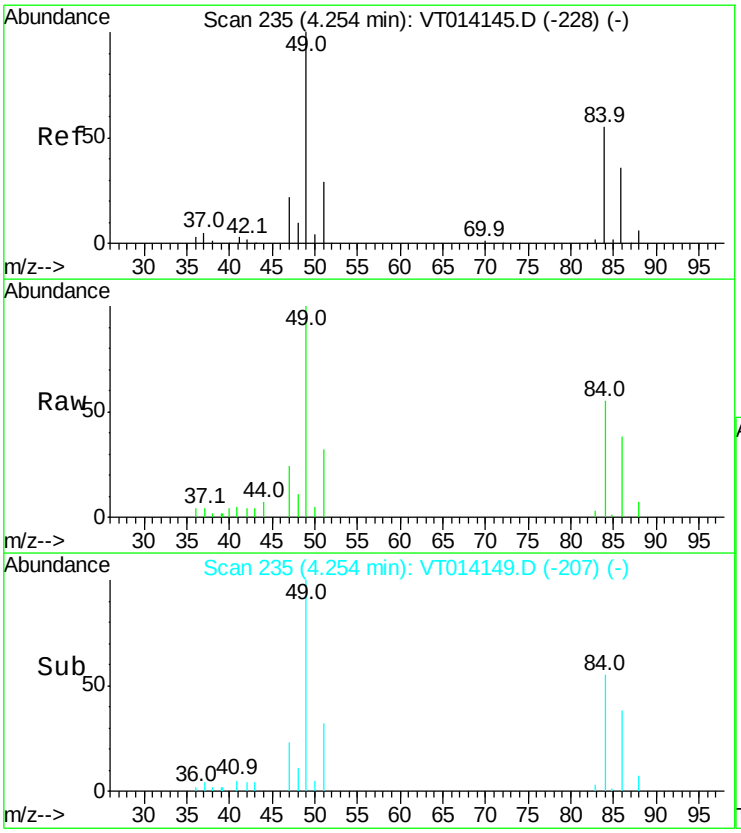
Tgt Ion: 43 Resp: 111010

Ion	Ratio	Lower	Upper
43	100		
58	20.9	0.0	44.4



Instrument :
MSVOA_T
ClientSampleId :
H4082

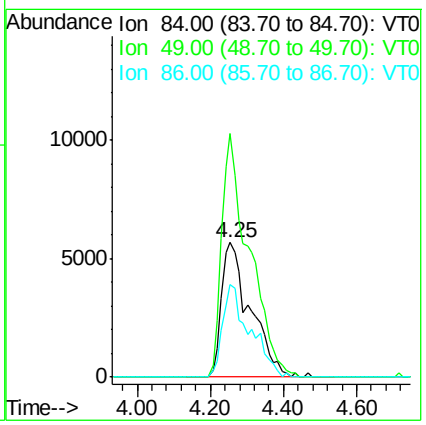
Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:52 PM



#16
Methylene chloride
Concen: 1.70 ug/L m
RT: 4.25 min Scan# 235
Delta R.T. -0.00 min
Lab File: VT014149.D
Acq: 13 May 2016 18:08

Tgt Ion: 84 Resp: 30964

Ion	Ratio	Lower	Upper
84	100		
49	181.4	126.8	235.6
86	68.7	45.8	85.2



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4082

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:52 PM

Quant Time: May 16 10:10:30 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	985497	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	672292	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	218561	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	403469	26.06	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 104.24%			
7) Chloroethane-d5	2.53	69	301805	25.12	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 100.48%			
10) 1,1-Dichloroethene-d2	3.47	63	566799m	16.42	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 65.68%			
20) 2-Butanone-d5	6.43	46	121802	29.09	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 58.18%			
24) Chloroform-d	7.07	84	615718	21.40	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 85.60%			
26) 1,2-Dichloroethane-d4	7.78	65	391872	22.00	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 88.00%			
29) Benzene-d6	7.74	84	1141674	26.49	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 105.96%			
33) 1,2-Dichloropropane-d6	8.80	67	342541	26.23	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 104.92%			
37) Toluene-d8	9.87	98	880796	23.03	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 92.12%			
38) trans-1,3-Dichloropropene-	10.13	79	102143	20.91	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 83.64%			
39) 2-Hexanone-d5	10.48	63	77590	36.59	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 73.18%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	184053	20.42	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 81.68%			
60) 1,2-Dichlorobenzene-d4	13.41	152	163932	20.34	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 81.36%			
Target Compounds						Qvalue
13) Acetone	3.56	43	111010	16.27	ug/L	97
16) Methylene chloride	4.25	84	30964m	1.70	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4082

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.532	3	5	11	rVB	4487431	11222783	100.00%	24.859%
2	1.639	11	14	34	rVB	1371770	5773936	51.45%	12.790%
3	2.089	43	52	62	rBV	112625	670327	5.97%	1.485%
4	2.254	64	66	75	rVB4	20224	70953	0.63%	0.157%
5	2.408	77	79	80	rBV2	1908	2875	0.03%	0.006%
6	2.526	82	89	104	rVB	169478	613520	5.47%	1.359%
7	2.834	111	115	116	rBV3	4346	13020	0.12%	0.029%
8	2.929	119	123	128	rVV	26635	100456	0.90%	0.223%
9	3.023	128	131	139	rVB2	25593	88950	0.79%	0.197%
10	3.225	145	148	150	rBV3	3810	8962	0.08%	0.020%
11	3.319	155	156	160	rBV4	2220	4274	0.04%	0.009%
12	3.473	163	169	170	rBV	231762	580542	5.17%	1.286%
13	3.639	179	183	193	rVB	349759	1026577	9.15%	2.274%
14	3.792	193	196	203	rVB5	5879	16823	0.15%	0.037%
15	4.041	215	217	220	rVB2	2602	5612	0.05%	0.012%
16	4.136	224	225	230	rVB3	1194	2338	0.02%	0.005%
17	4.254	230	235	249	rBV3	30761	179277	1.60%	0.397%
18	4.727	270	275	282	rBV3	14828	54741	0.49%	0.121%
19	5.070	296	304	310	rBV4	4794	21556	0.19%	0.048%
20	5.260	315	320	324	rBV3	14398	54107	0.48%	0.120%
21	5.544	339	344	347	rBV3	5966	22084	0.20%	0.049%
22	5.627	347	351	357	rVB	11631	39695	0.35%	0.088%
23	5.946	374	378	380	rBV	1687	3679	0.03%	0.008%
24	6.348	408	412	415	rBV4	4084	11449	0.10%	0.025%
25	6.443	415	420	422	rBV	61834	200936	1.79%	0.445%
26	6.490	422	424	434	rVB3	64460	264770	2.36%	0.586%
27	6.928	457	461	467	rVB3	6300	17610	0.16%	0.039%
28	7.070	467	473	483	rBV	572981	1591054	14.18%	3.524%
29	7.212	483	485	488	rVB3	2954	4005	0.04%	0.009%
30	7.319	488	494	497	rBV6	8691	25073	0.22%	0.056%
31	7.413	497	502	508	rVB3	10255	31696	0.28%	0.070%
32	7.532	508	512	519	rVB3	7920	25768	0.23%	0.057%
33	7.745	524	530	540	rBV2	2045566	6191414	55.17%	13.715%
34	7.887	540	542	545	rVV2	11999	22792	0.20%	0.050%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4082

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

35	7.981	545	550	554	rVB	42452	110988	0.99%	0.246%
36	8.123	560	562	566	rVB2	1561	3168	0.03%	0.007%
37	8.218	566	570	575	rVB5	4770	12639	0.11%	0.028%
38	8.360	577	582	594	rBV	1377660	2726814	24.30%	6.040%
39	8.514	594	595	596	rVV	1534	2039	0.02%	0.005%
40	8.608	598	603	607	rVV4	18915	42178	0.38%	0.093%
41	8.798	615	619	623	rVV	850971	1670075	14.88%	3.699%
42	8.869	623	625	632	rVV3	29615	97403	0.87%	0.216%
43	8.987	632	635	640	rVV5	1771	5700	0.05%	0.013%
44	9.176	648	651	656	rVB2	9437	20061	0.18%	0.044%
45	9.449	671	674	676	rBV2	923	1771	0.02%	0.004%
46	9.579	681	685	691	rVV	363684	626043	5.58%	1.387%
47	9.673	691	693	696	rVV2	9886	18147	0.16%	0.040%
48	9.756	698	700	706	rVV2	12011	27978	0.25%	0.062%
49	9.875	706	710	713	rVV	1515323	2580001	22.99%	5.715%
50	9.934	713	715	722	rVV	48049	103970	0.93%	0.230%
51	10.076	722	727	729	rVV2	14657	36959	0.33%	0.082%
52	10.135	729	732	740	rVV	228343	398517	3.55%	0.883%
53	10.277	740	744	747	rVV	56547	117925	1.05%	0.261%
54	10.336	747	749	753	rVV2	14614	28725	0.26%	0.064%
55	10.419	753	756	758	rVV	33493	63620	0.57%	0.141%
56	10.478	758	761	771	rVV2	269432	657344	5.86%	1.456%
57	10.632	771	774	776	rVV	22466	43701	0.39%	0.097%
58	10.679	776	778	781	rVV3	9290	21188	0.19%	0.047%
59	10.738	781	783	786	rVV3	8643	17252	0.15%	0.038%
60	10.786	786	787	790	rVV	5119	7300	0.07%	0.016%
61	10.904	795	797	800	rBV2	1020	2387	0.02%	0.005%
62	10.975	800	803	804	rBV	5407	8230	0.07%	0.018%
63	11.022	804	807	810	rVB	24924	44719	0.40%	0.099%
64	11.188	817	821	827	rBV	1619836	2525765	22.51%	5.595%
65	11.295	827	830	833	rVV	34965	57741	0.51%	0.128%
66	11.401	835	839	843	rVB	25094	52039	0.46%	0.115%
67	11.472	843	845	851	rVB2	992	3483	0.03%	0.008%
68	11.732	862	867	872	rBV2	29243	64852	0.58%	0.144%
69	11.898	879	881	887	rBV3	5213	11025	0.10%	0.024%
70	12.028	889	892	895	rBV	24155	36099	0.32%	0.080%
71	12.194	901	906	908	rBV2	37674	78447	0.70%	0.174%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4082

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

72	12.253	908	911	916	rVV	437728	679982	6.06%	1.506%
73	12.324	916	917	919	rVB2	3436	4016	0.04%	0.009%
74	12.502	929	932	938	rBV4	9915	22414	0.20%	0.050%
75	12.608	940	941	943	rVB2	1879	2273	0.02%	0.005%
76	12.655	943	945	947	rBV	1526	1984	0.02%	0.004%
77	12.762	947	954	958	rBV	12301	27839	0.25%	0.062%
78	12.880	961	964	967	rBV3	4338	8832	0.08%	0.020%
79	12.975	967	972	975	rBV	17946	32201	0.29%	0.071%
80	13.058	975	979	981	rVV2	25842	53123	0.47%	0.118%
81	13.117	981	984	988	rVV	1091825	1607792	14.33%	3.561%
82	13.176	988	989	994	rVV2	22363	41486	0.37%	0.092%
83	13.247	994	995	996	rVV	2221	2507	0.02%	0.006%
84	13.282	996	998	1000	rVV3	6669	12421	0.11%	0.028%
85	13.342	1000	1003	1005	rVV3	6908	15021	0.13%	0.033%
86	13.413	1005	1009	1012	rVV	696634	1208361	10.77%	2.677%
87	13.448	1012	1012	1016	rBB3	0	1779	0.02%	0.004%
88	13.649	1024	1029	1034	rVB2	8781	18760	0.17%	0.042%
89	13.921	1049	1052	1058	rVB3	785	2037	0.02%	0.005%
90	14.040	1060	1062	1064	rBV	3242	4551	0.04%	0.010%
91	14.182	1071	1074	1079	rVB	12690	22447	0.20%	0.050%
92	14.679	1114	1116	1122	rBV3	16010	28373	0.25%	0.063%
93	14.821	1125	1128	1132	rBV4	4538	7493	0.07%	0.017%
94	14.892	1132	1134	1138	rBV	10154	17365	0.15%	0.038%
95	14.975	1138	1141	1144	rBV4	732	2186	0.02%	0.005%
96	15.069	1146	1149	1152	rVB2	12143	19352	0.17%	0.043%
97	15.164	1155	1157	1160	rBV	2253	3701	0.03%	0.008%
98	15.483	1181	1184	1187	rBV2	875	2252	0.02%	0.005%
99	15.803	1208	1211	1214	rVB3	1057	2408	0.02%	0.005%
100	16.075	1232	1234	1239	rBV3	884	2071	0.02%	0.005%

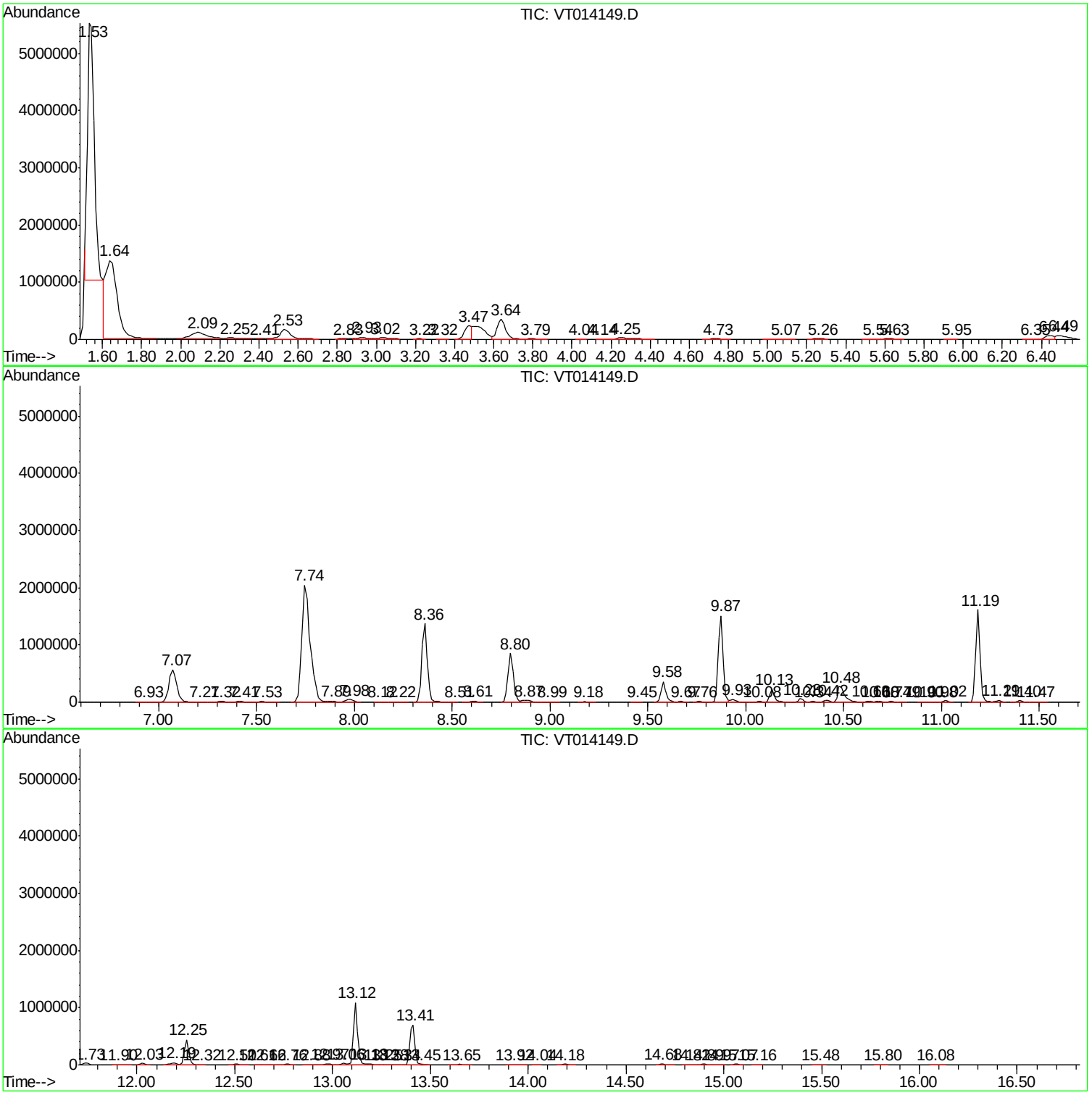
Sum of corrected areas: 45144974

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4082

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4082

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4082

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

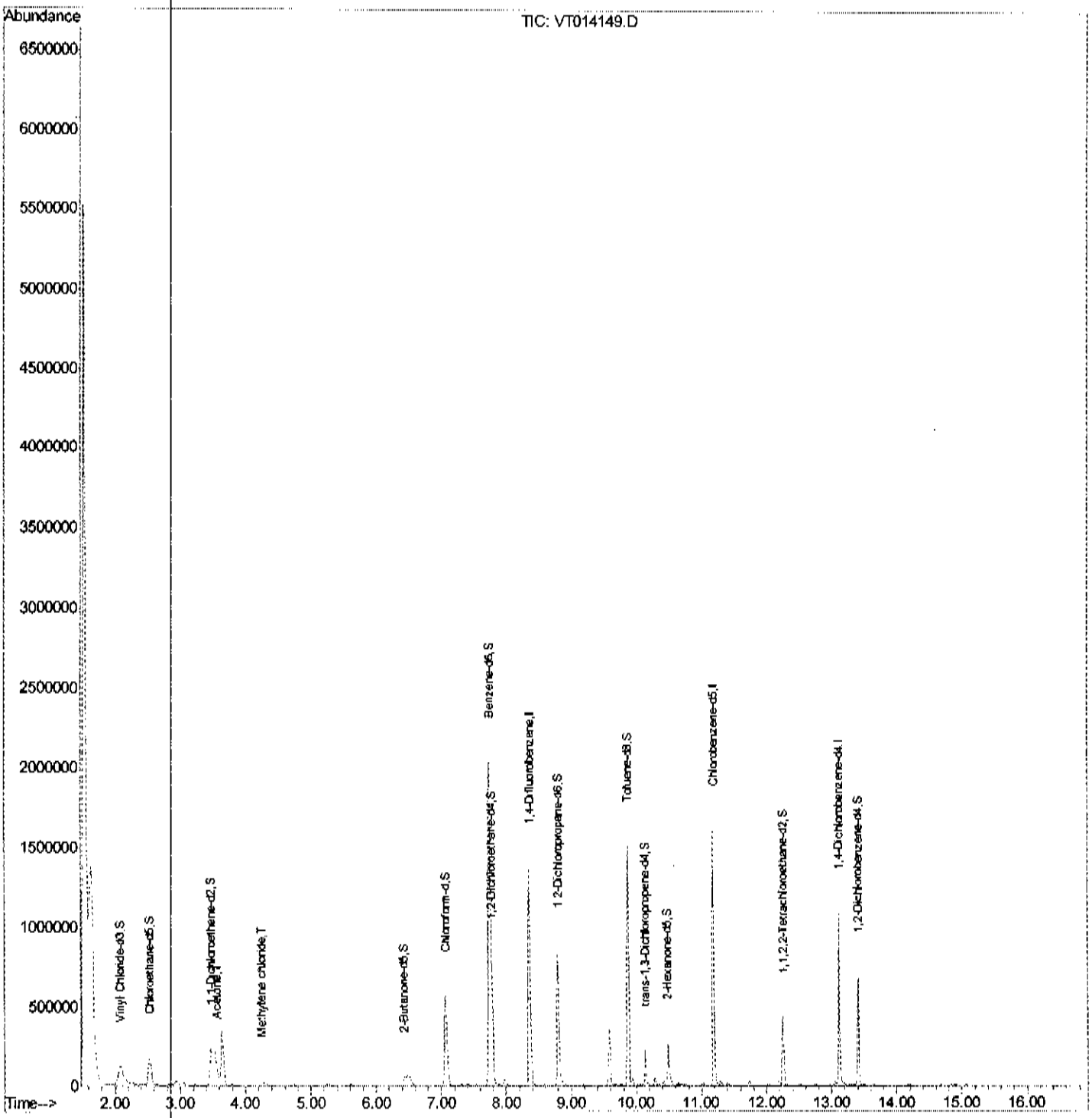
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 16 10:10:30 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4082

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:52 PM



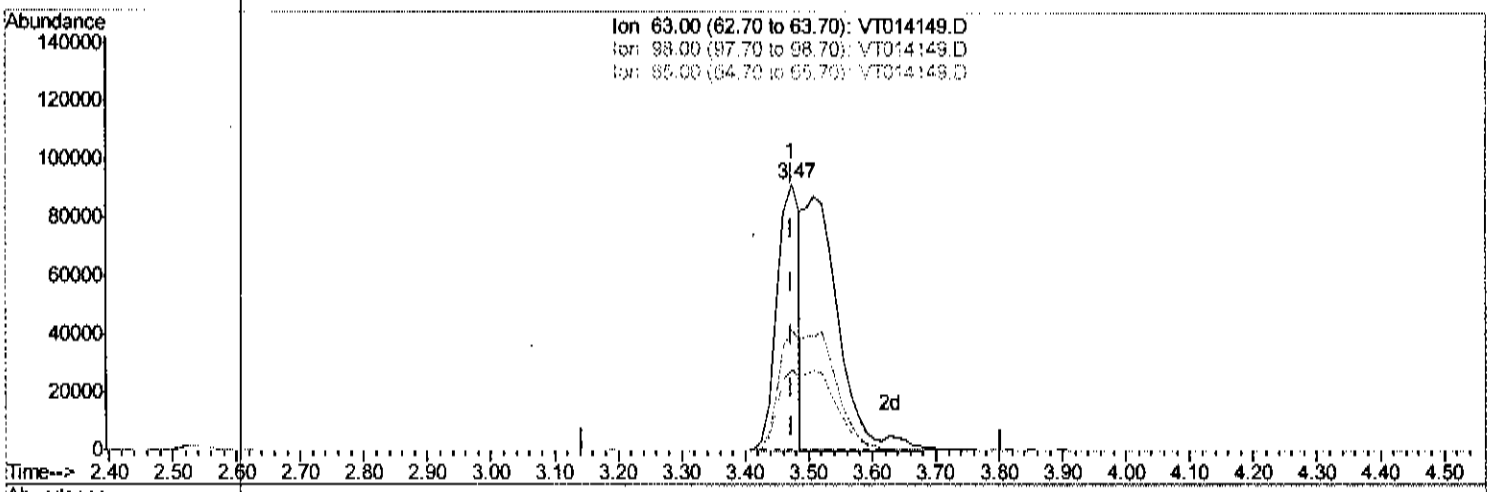
Quantitation Report (Qedit)

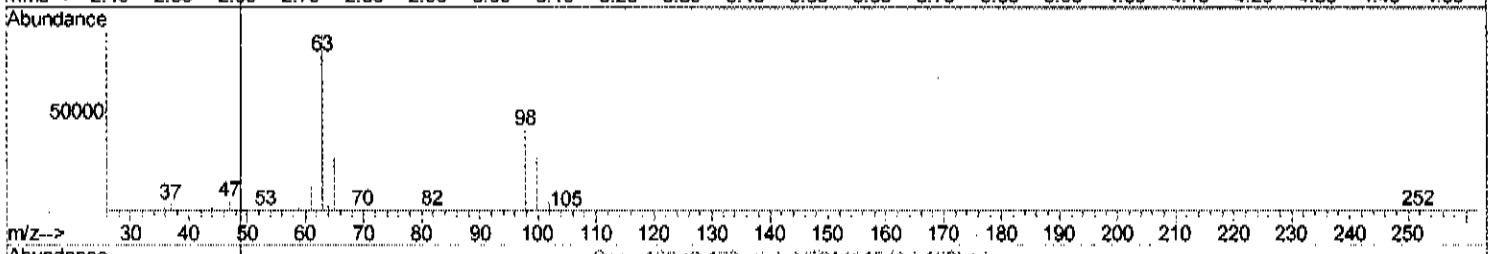
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

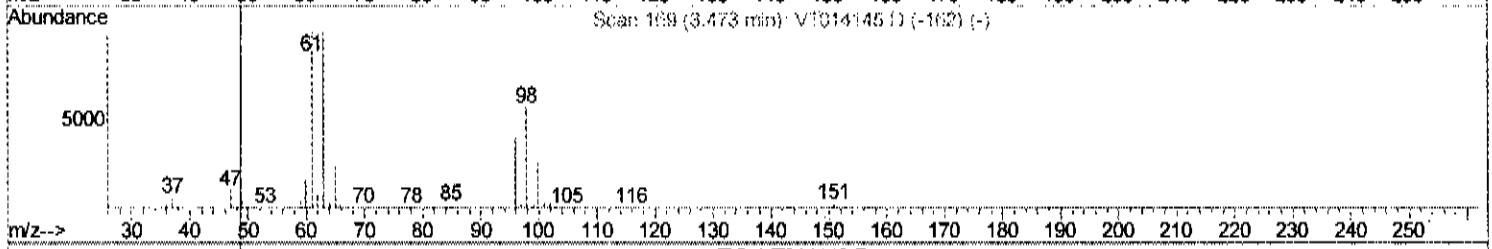
Quant Time: May 16 10:09:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4082

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:52 PM







TIC: VT014149.D

(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.000) 6.73ug/L

response 232516

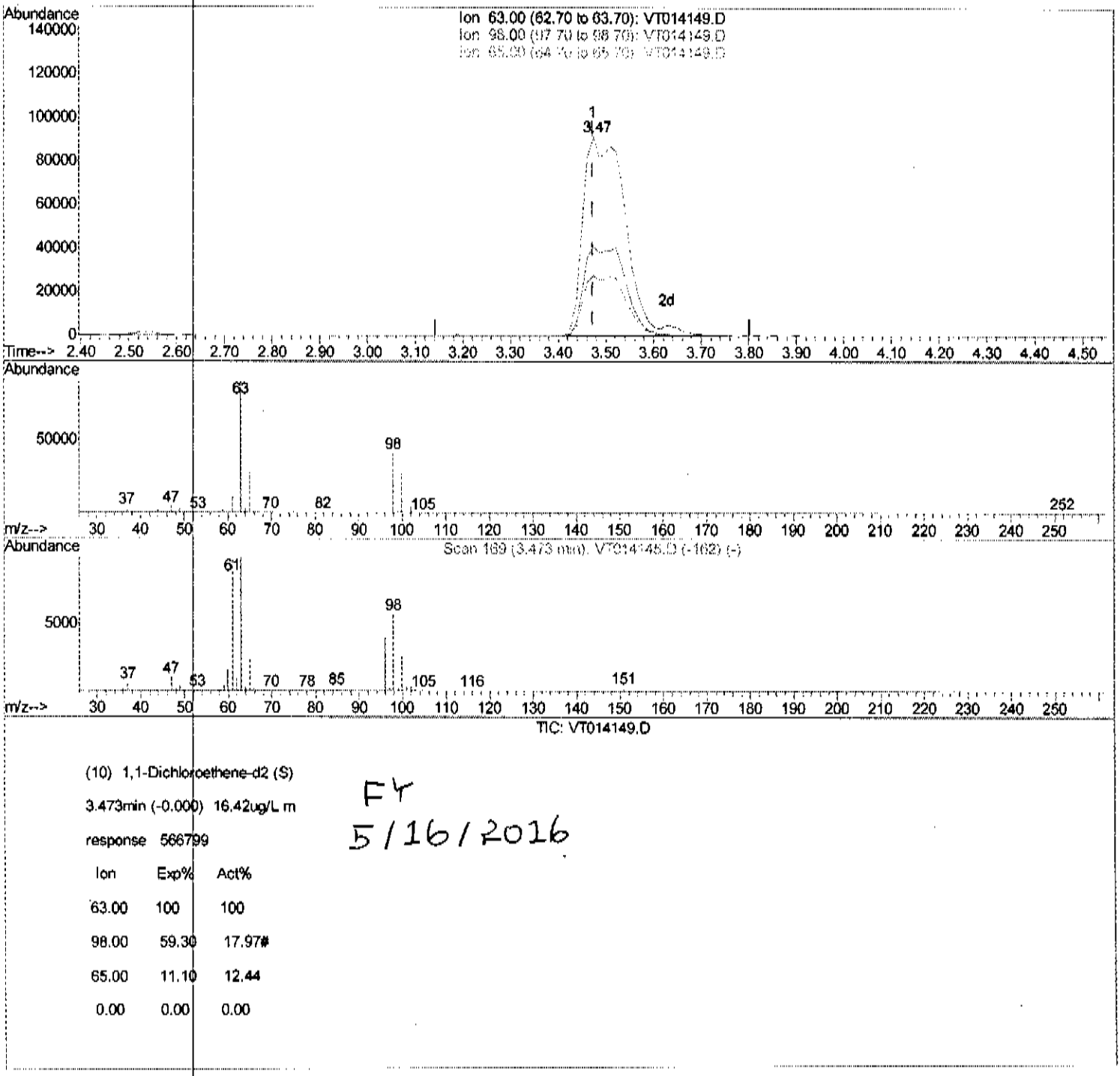
Ion	Exp%	Act%
63.00	100	100
98.00	59.30	43.81
65.00	11.10	30.34#
0.00	0.00	0.00

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 16 10:09:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4082

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:52 PM



(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.000) 16.42ug/L m

response 566799

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	17.97#
65.00	11.10	12.44
0.00	0.00	0.00

FY
5/16/2016

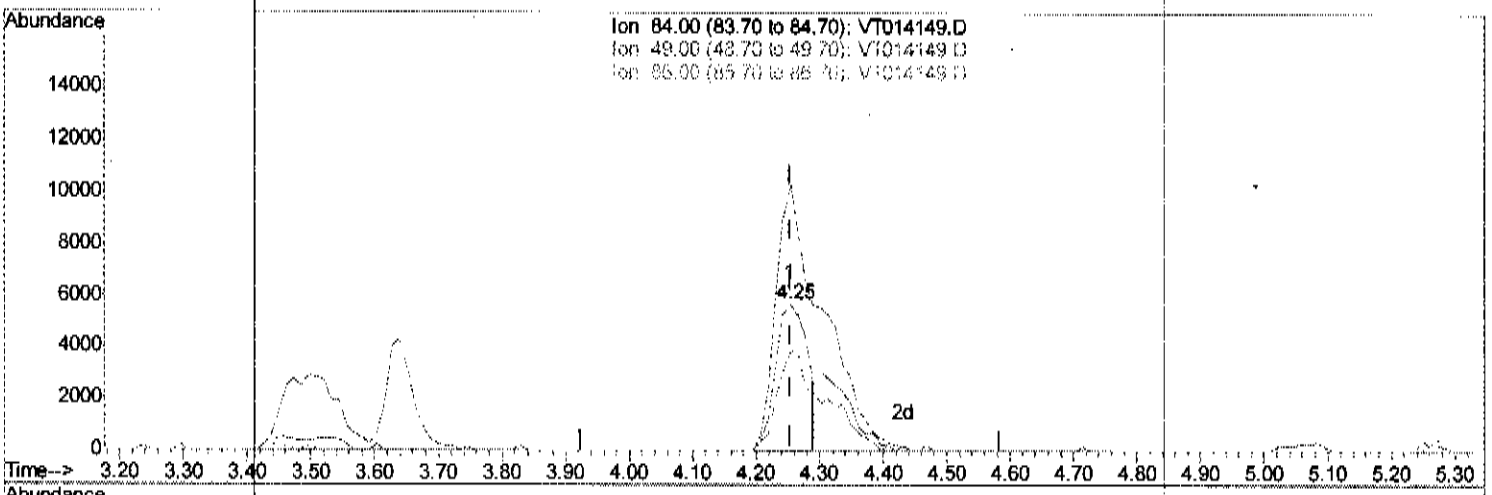
Quantitation Report (Qedit)

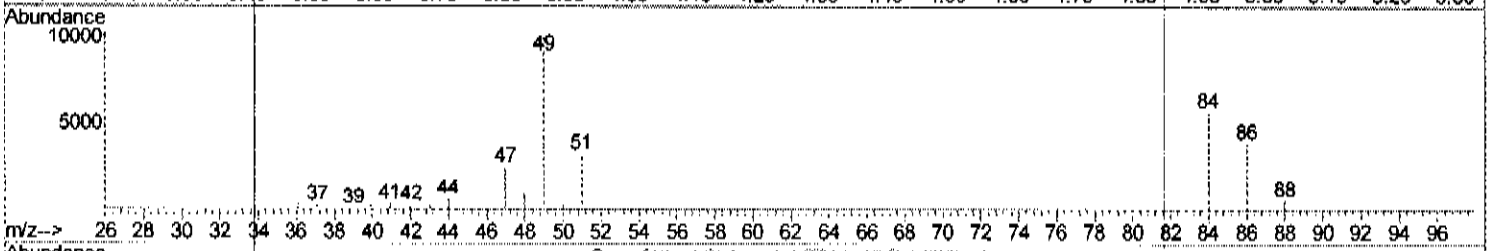
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 16 10:09:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

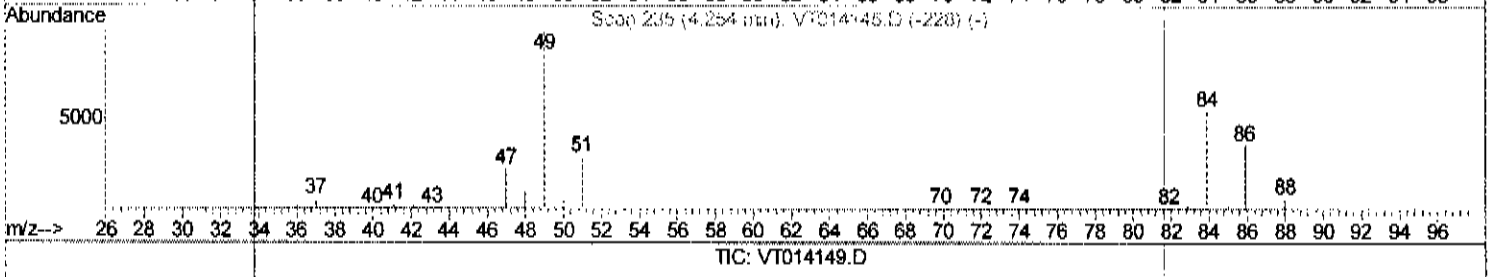
Instrument :
MSVOA_T
ClientSampleId :
H4082

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:52 PM





Scan 235 (4.254 min): VT014149.D (-228) (-)



TIC: VT014149.D

(16) Methylene chloride (T)

4.254min (-0.000) 1.10ug/L

response 19983

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	181.44
86.00	65.50	68.65
0.00	0.00	0.00

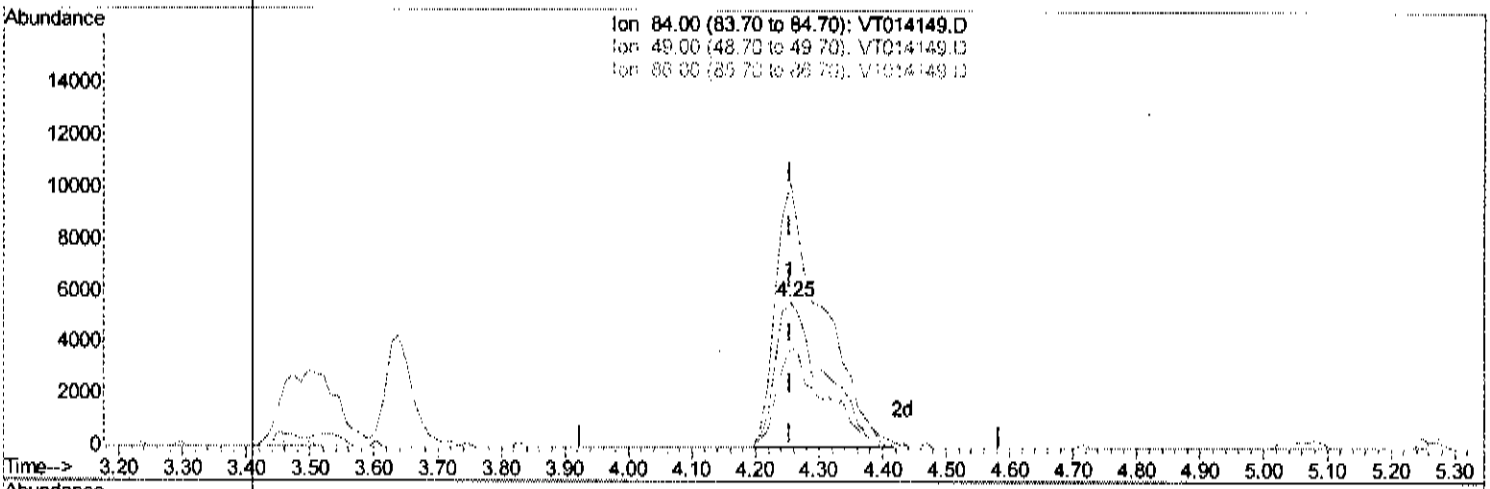
Quantitation Report (Qedit)

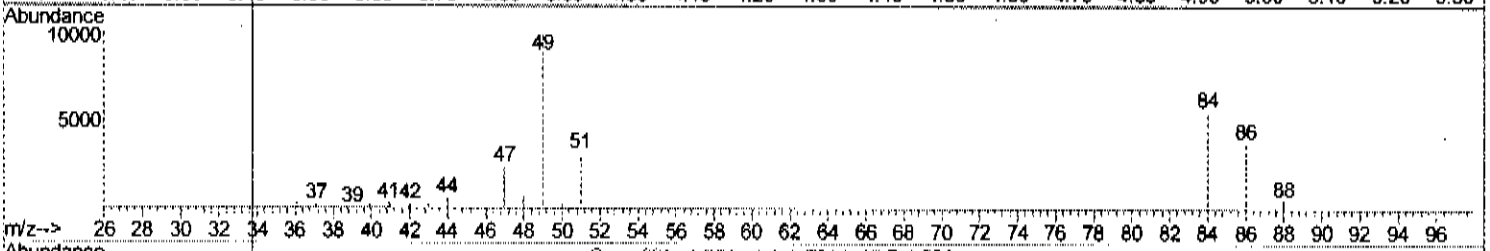
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

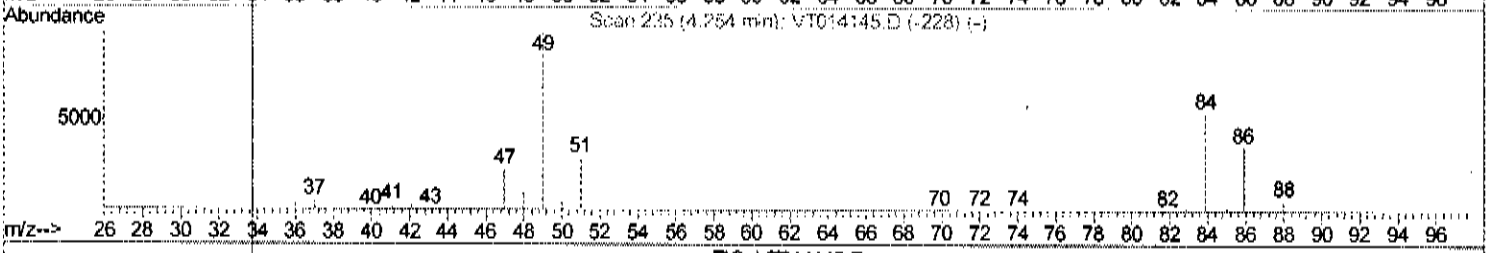
Quant Time: May 16 10:09:48 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4082

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:52 PM







TIC: VT014149.D

(16) Methylene chloride (T)
4.254min (-0.000) 1.70ug/L m
response 30964

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	181.44
86.00	65.50	68.65
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014149.D
Acq On : 13 May 2016 18:08
Operator : FY/SY
Sample : H2954-01
Misc : 2.76g/10mL/MSVOA_T/SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 16 10:10:30 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : H4082

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:52 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	985497	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	672292	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	218561	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	403469	26.06	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 104.24%			
7) Chloroethane-d5	2.53	69	301805	25.12	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 100.48%			
10) 1,1-Dichloroethene-d2	3.47	63	566799m	16.42	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 65.68%			
20) 2-Butanone-d5	6.43	46	121802	29.09	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 58.18%			
24) Chloroform-d	7.07	84	615718	21.40	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 85.60%			
26) 1,2-Dichloroethane-d4	7.78	65	391872	22.00	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 88.00%			
29) Benzene-d6	7.74	84	1141674	26.49	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 105.96%			
33) 1,2-Dichloropropane-d6	8.80	67	342541	26.23	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 104.92%			
37) Toluene-d8	9.87	98	880796	23.03	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 92.12%			
38) trans-1,3-Dichloropropene-	10.13	79	102143	20.91	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 83.64%			
39) 2-Hexanone-d5	10.48	63	77590	36.59	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 73.18%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	184053	20.42	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 81.68%			
60) 1,2-Dichlorobenzene-d4	13.41	152	163932	20.34	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 81.36%			
Target Compounds						Qvalue
13) Acetone	3.56	43	111010	16.27	ug/L	97
16) Methylene chloride	4.25	84	30964m	1.70	ug/L	

FY 5/16/2016

FY 5/16/2016

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 4.65 (g/mL): g
Lab File ID : VT014136.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/12/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	11	U
74-87-3	Chloromethane	11	U
75-01-4	Vinyl chloride	11	U
74-83-9	Bromomethane	11	U
75-00-3	Chloroethane	11	U
75-69-4	Trichlorofluoromethane	11	U
75-35-4	1,1-Dichloroethene	11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	11	U
67-64-1	Acetone	130	
75-15-0	Carbon disulfide	11	U
79-20-9	Methyl Acetate	11	U
75-09-2	Methylene chloride	3.1	J
156-60-5	trans-1,2-Dichloroethene	11	U
1634-04-4	Methyl tert-butyl Ether	11	U
75-34-3	1,1-Dichloroethane	11	U
156-59-2	cis-1,2-Dichloroethene	11	U
78-93-3	2-Butanone	22	U
74-97-5	Bromochloromethane	11	U
67-66-3	Chloroform	11	U
71-55-6	1,1,1-Trichloroethane	11	U
110-82-7	Cyclohexane	11	U
56-23-5	Carbon tetrachloride	11	U
71-43-2	Benzene	11	U
107-06-2	1,2-Dichloroethane	11	U
79-01-6	Trichloroethene	11	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 4.65 (g/mL): g
Lab File ID : VT014136.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/12/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	11	U
78-87-5	1,2-Dichloropropane	11	U
75-27-4	Bromodichloromethane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
108-10-1	4-Methyl-2-pentanone	22	U
108-88-3	Toluene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
79-00-5	1,1,2-Trichloroethane	11	U
127-18-4	Tetrachloroethene	11	U
591-78-6	2-Hexanone	22	U
124-48-1	Dibromochloromethane	11	U
106-93-4	1,2-Dibromoethane	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
95-47-6	o-xylene	11	U
179601-23-1	m,p-Xylene	11	U
100-42-5	Styrene	11	U
75-25-2	Bromoform	11	U
98-82-8	Isopropylbenzene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
120-82-1	1,2,4-trichlorobenzene	11	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 4.65 (g/mL): g
Lab File ID : VT014136.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/12/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	11	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 4.65 (g/mL): g
Lab File ID : VT014136.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/12/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	007785-70-8	1R-.alpha.-Pinene	12.04	15	JN
2	003338-55-4	1,3,6-Octatriene, 3,7-dimethyl-, (	12.54	6.1	JN
3	E966796	Total Alkanes	N/A	230	

EPA-designated Registry Number.

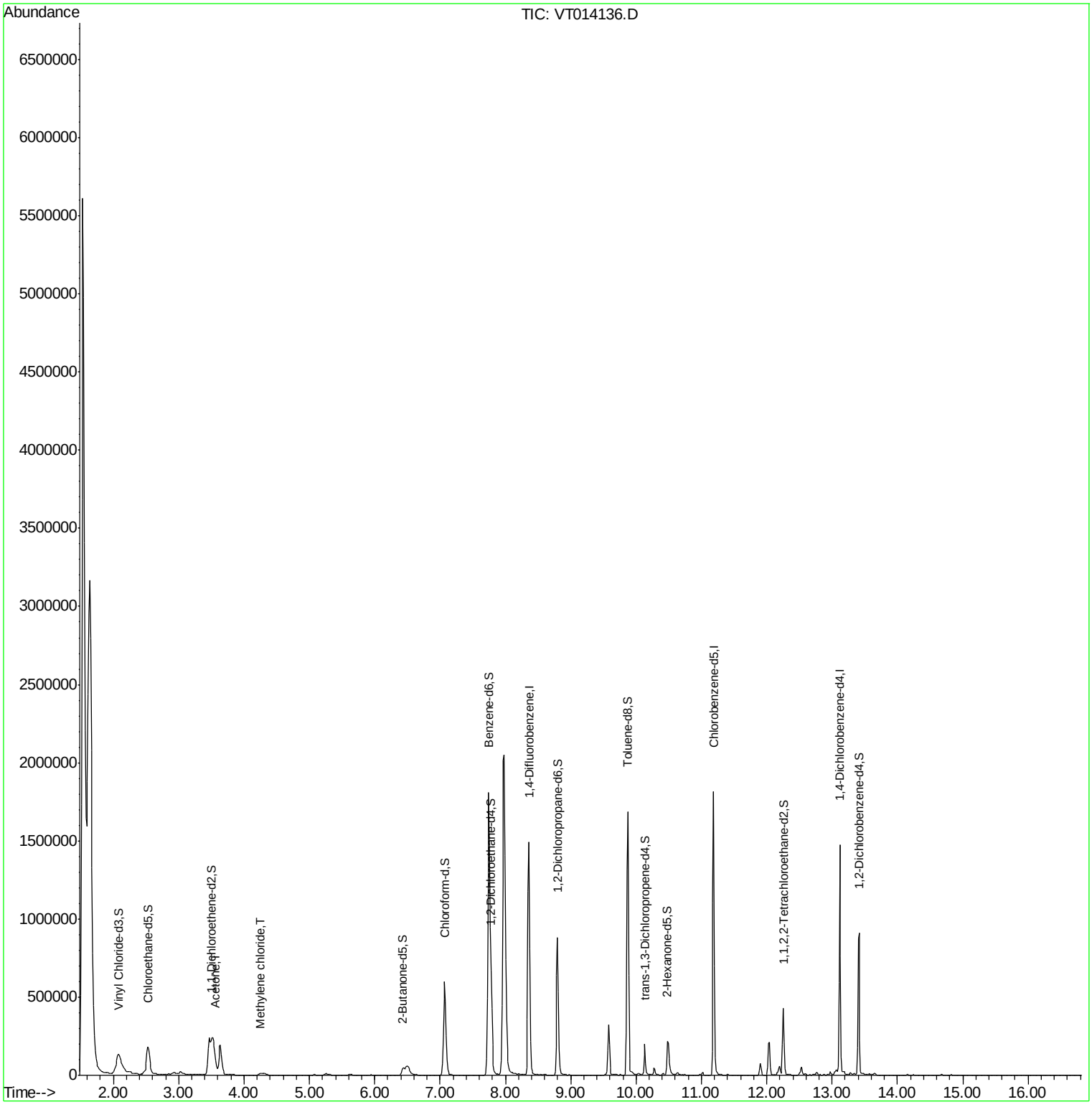
Quantitation Report (LSC Reviewed)

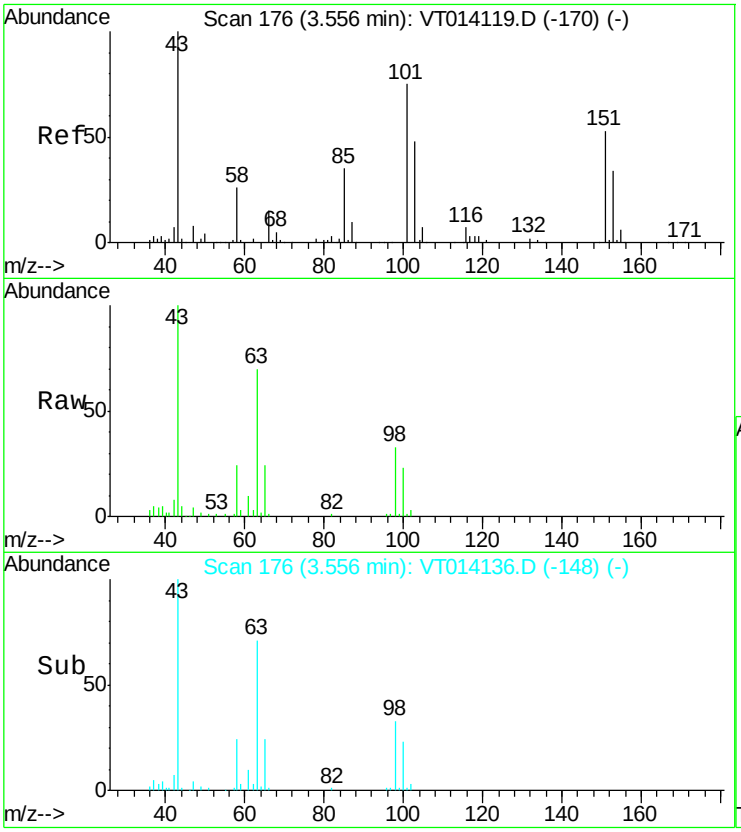
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 13 10:14:22 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:08 PM

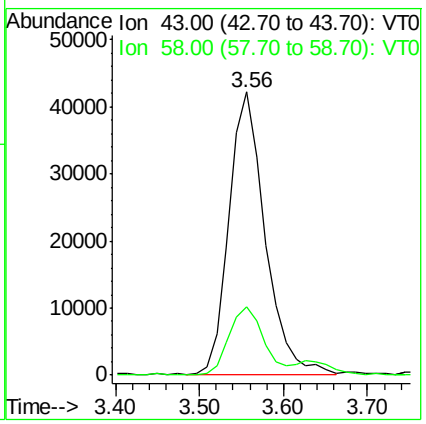




#13
Acetone
Concen: 28.27 ug/L
RT: 3.56 min Scan# 176
Delta R.T. 0.00 min
Lab File: VT014136.D
Acq: 12 May 2016 21:01

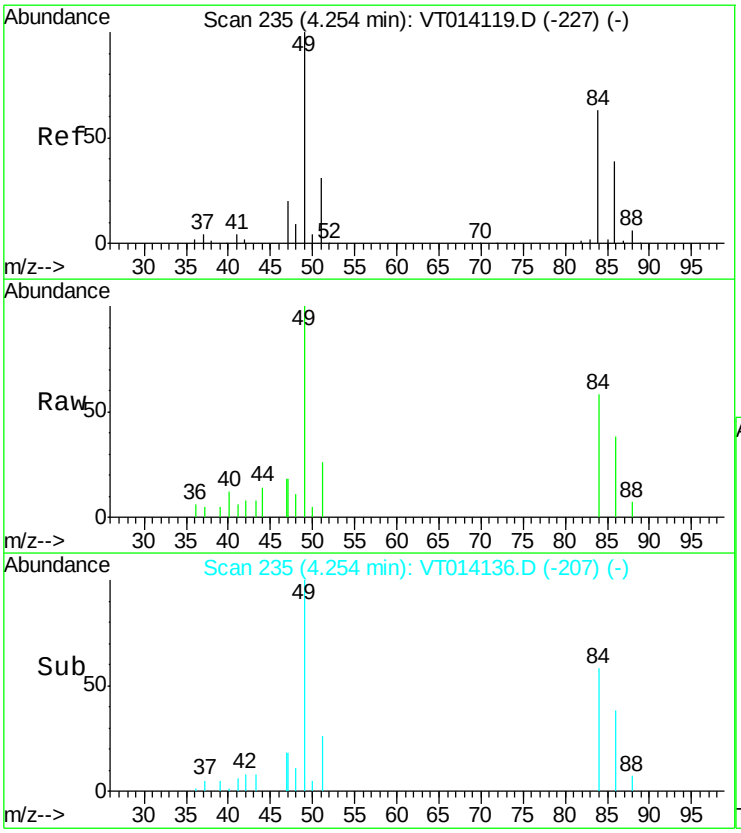
Tgt Ion: 43 Resp: 126931

Ion	Ratio	Lower	Upper
43	100		
58	23.1	0.0	49.2



Instrument :
MSVOA_T
ClientSampleId :
H4086

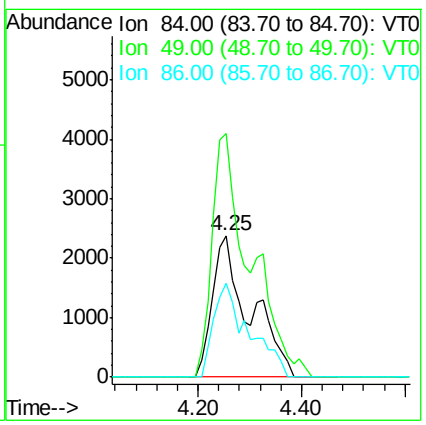
Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:08 PM



#16
Methylene chloride
Concen: 0.69 ug/L m
RT: 4.25 min Scan# 235
Delta R.T. 0.00 min
Lab File: VT014136.D
Acq: 12 May 2016 21:01

Tgt Ion: 84 Resp: 11830

Ion	Ratio	Lower	Upper
84	100		
49	171.8	118.2	219.4
86	65.9	43.4	80.6



Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4086

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:08 PM

Quant Time: May 13 10:14:22 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1081527	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	759973	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	300912	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	443851	26.50	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 106.00%			
7) Chloroethane-d5	2.53	69	325147	25.66	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 102.64%			
10) 1,1-Dichloroethene-d2	3.51	63	594760m	16.83	ug/L	-0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 67.32%			
20) 2-Butanone-d5	6.43	46	96188	21.06	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 42.12%			
24) Chloroform-d	7.07	84	646725	21.93	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 87.72%			
26) 1,2-Dichloroethane-d4	7.78	65	388343	22.37	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 89.48%			
29) Benzene-d6	7.74	84	1229604	24.16	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 96.64%			
33) 1,2-Dichloropropane-d6	8.80	67	358213	23.60	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 94.40%			
37) Toluene-d8	9.87	98	994200	22.20	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 88.80%			
38) trans-1,3-Dichloropropene-	10.14	79	90551	17.25	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 69.00%			
39) 2-Hexanone-d5	10.48	63	62651	24.70	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 49.40%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	174115	17.22	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 68.88%			
60) 1,2-Dichlorobenzene-d4	13.41	152	221447	19.67	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 78.68%			
Target Compounds						Qvalue
13) Acetone	3.56	43	126931	28.27	ug/L	97
16) Methylene chloride	4.25	84	11830m	0.69	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.533	3	5	10	rVV	4036387	9119698	69.67%	15.819%
2	1.639	10	14	34	rVB	3153853	13090632	100.00%	22.707%
3	2.077	43	51	63	rBV	121874	736520	5.63%	1.278%
4	2.527	82	89	99	rBV	173466	630758	4.82%	1.094%
5	2.751	106	108	110	rBV3	1488	2868	0.02%	0.005%
6	2.822	112	114	115	rVV	2374	3456	0.03%	0.006%
7	2.846	115	116	119	rVV3	3346	8055	0.06%	0.014%
8	2.929	119	123	128	rVV2	12450	47265	0.36%	0.082%
9	3.035	128	132	144	rVB	20887	80330	0.61%	0.139%
10	3.236	144	149	152	rBV5	3600	11306	0.09%	0.020%
11	3.331	154	157	160	rBV5	2000	4531	0.03%	0.008%
12	3.473	163	169	170	rBV	233065	648821	4.96%	1.125%
13	3.509	170	172	179	rVV2	236348	979943	7.49%	1.700%
14	3.639	179	183	191	rVB	186096	565987	4.32%	0.982%
15	3.793	191	196	205	rVB4	6528	31100	0.24%	0.054%
16	4.254	230	235	238	rBV2	12792	45698	0.35%	0.079%
17	4.810	279	282	286	rVB	932	2466	0.02%	0.004%
18	5.071	299	304	310	rBV3	2858	11600	0.09%	0.020%
19	5.260	314	320	324	rBV2	10089	37282	0.28%	0.065%
20	5.615	345	350	356	rBV4	5634	18596	0.14%	0.032%
21	5.946	375	378	382	rVB2	2836	7936	0.06%	0.014%
22	6.337	407	411	414	rBV3	1805	4381	0.03%	0.008%
23	6.443	414	420	421	rBV	47032	132087	1.01%	0.229%
24	6.502	421	425	435	rVV2	60204	273917	2.09%	0.475%
25	6.644	435	437	445	rVB3	3211	10126	0.08%	0.018%
26	6.952	458	463	466	rVB5	2153	6998	0.05%	0.012%
27	7.070	466	473	487	rBV	597597	1649095	12.60%	2.860%
28	7.402	499	501	505	rVB2	1235	2873	0.02%	0.005%
29	7.745	524	530	540	rBV3	1810654	5382200	41.11%	9.336%
30	7.981	544	550	567	rVV	2050397	6241772	47.68%	10.827%
31	8.206	567	569	578	rVV4	9270	34820	0.27%	0.060%
32	8.360	578	582	595	rVV	1490120	2990427	22.84%	5.187%
33	8.526	595	596	598	rVV2	2683	4694	0.04%	0.008%
34	8.561	598	599	600	rVV	2825	3215	0.02%	0.006%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Title : VOC Analysis

35	8.609	600	603	606	rVV4	6297	15765	0.12%	0.027%
36	8.798	615	619	631	rVV	882475	1792744	13.69%	3.110%
37	9.200	650	653	655	rBV2	1849	4474	0.03%	0.008%
38	9.579	681	685	690	rBV	317117	520226	3.97%	0.902%
39	9.674	690	693	698	rVB3	5911	15786	0.12%	0.027%
40	9.756	698	700	703	rBV	2759	4325	0.03%	0.008%
41	9.875	706	710	714	rBV	1685148	2885167	22.04%	5.005%
42	9.934	714	715	722	rVB3	18839	31983	0.24%	0.055%
43	10.040	722	724	725	rBV	7341	12457	0.10%	0.022%
44	10.135	729	732	736	rBV	195448	314480	2.40%	0.545%
45	10.277	741	744	748	rVV	44658	86683	0.66%	0.150%
46	10.336	748	749	753	rVB2	2196	2957	0.02%	0.005%
47	10.419	753	756	758	rBV3	12363	23524	0.18%	0.041%
48	10.478	758	761	770	rVV2	214848	518704	3.96%	0.900%
49	10.632	772	774	777	rVV	13651	27287	0.21%	0.047%
50	10.703	779	780	782	rVV2	1839	2878	0.02%	0.005%
51	10.739	782	783	787	rVB2	5561	8387	0.06%	0.015%
52	10.904	796	797	800	rVB2	1643	2420	0.02%	0.004%
53	10.975	800	803	804	rBV2	4902	7452	0.06%	0.013%
54	11.023	804	807	810	rVB	18063	32573	0.25%	0.057%
55	11.188	817	821	828	rBV	1815170	2801370	21.40%	4.859%
56	11.401	835	839	844	rVB3	4922	11403	0.09%	0.020%
57	11.733	865	867	871	rVB4	2235	3980	0.03%	0.007%
58	11.898	878	881	889	rBV	74884	125963	0.96%	0.218%
59	12.040	889	893	896	rVV	209304	381599	2.92%	0.662%
60	12.111	898	899	900	rVV	2872	3337	0.03%	0.006%
61	12.194	900	906	908	rVV2	59074	126903	0.97%	0.220%
62	12.253	908	911	915	rVV	428539	655638	5.01%	1.137%
63	12.324	915	917	923	rVV3	6004	16980	0.13%	0.029%
64	12.454	925	928	930	rVV	1041	3108	0.02%	0.005%
65	12.537	930	935	938	rVV2	52137	116321	0.89%	0.202%
66	12.584	938	939	943	rVV3	8896	16037	0.12%	0.028%
67	12.655	943	945	947	rVV	3287	6134	0.05%	0.011%
68	12.738	947	952	953	rVV4	7332	19055	0.15%	0.033%
69	12.762	953	954	957	rVV2	17596	28431	0.22%	0.049%
70	12.809	957	958	961	rVV3	3636	7169	0.05%	0.012%
71	12.868	961	963	966	rVV2	7208	13406	0.10%	0.023%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Title : VOC Analysis

72	12.928	966	968	970	rVV3	5722	12027	0.09%	0.021%
73	12.975	970	972	975	rVV	22605	38498	0.29%	0.067%
74	13.034	975	977	978	rVV	25398	39161	0.30%	0.068%
75	13.070	978	980	981	rVV	33317	60077	0.46%	0.104%
76	13.117	981	984	987	rVV	1474963	2149213	16.42%	3.728%
77	13.176	987	989	995	rVV2	24896	72577	0.55%	0.126%
78	13.283	995	998	1000	rVV2	18074	31934	0.24%	0.055%
79	13.342	1000	1003	1005	rVV	10416	23914	0.18%	0.041%
80	13.413	1005	1009	1012	rVV	908719	1583786	12.10%	2.747%
81	13.484	1012	1015	1017	rVV3	12250	33287	0.25%	0.058%
82	13.519	1017	1018	1021	rVV	7113	16327	0.12%	0.028%
83	13.567	1021	1022	1026	rVV3	9306	18281	0.14%	0.032%
84	13.649	1026	1029	1038	rVV2	13864	36282	0.28%	0.063%
85	13.815	1040	1043	1048	rVV4	1545	5728	0.04%	0.010%
86	13.898	1048	1050	1051	rVV	1406	2594	0.02%	0.004%
87	13.933	1051	1053	1054	rVV2	1424	2420	0.02%	0.004%
88	13.969	1054	1056	1057	rVV2	1682	2703	0.02%	0.005%
89	14.099	1064	1067	1069	rVV2	1801	4163	0.03%	0.007%
90	14.146	1069	1071	1073	rVV2	3394	6044	0.05%	0.010%
91	14.194	1073	1075	1077	rVV2	1560	3661	0.03%	0.006%
92	14.241	1077	1079	1082	rVV3	2415	4091	0.03%	0.007%
93	14.300	1082	1084	1088	rVV2	1631	4036	0.03%	0.007%
94	14.478	1096	1099	1100	rBV2	1293	2180	0.02%	0.004%
95	14.679	1113	1116	1119	rVV	4292	8521	0.07%	0.015%
96	14.821	1125	1128	1130	rVV2	3037	5193	0.04%	0.009%
97	14.892	1133	1134	1137	rVV2	1239	2371	0.02%	0.004%
98	14.975	1137	1141	1143	rVV4	2115	5613	0.04%	0.010%
99	15.034	1143	1146	1148	rVV	2215	4756	0.04%	0.008%
100	15.069	1148	1149	1153	rVV2	1356	2871	0.02%	0.005%

Sum of corrected areas: 57650868

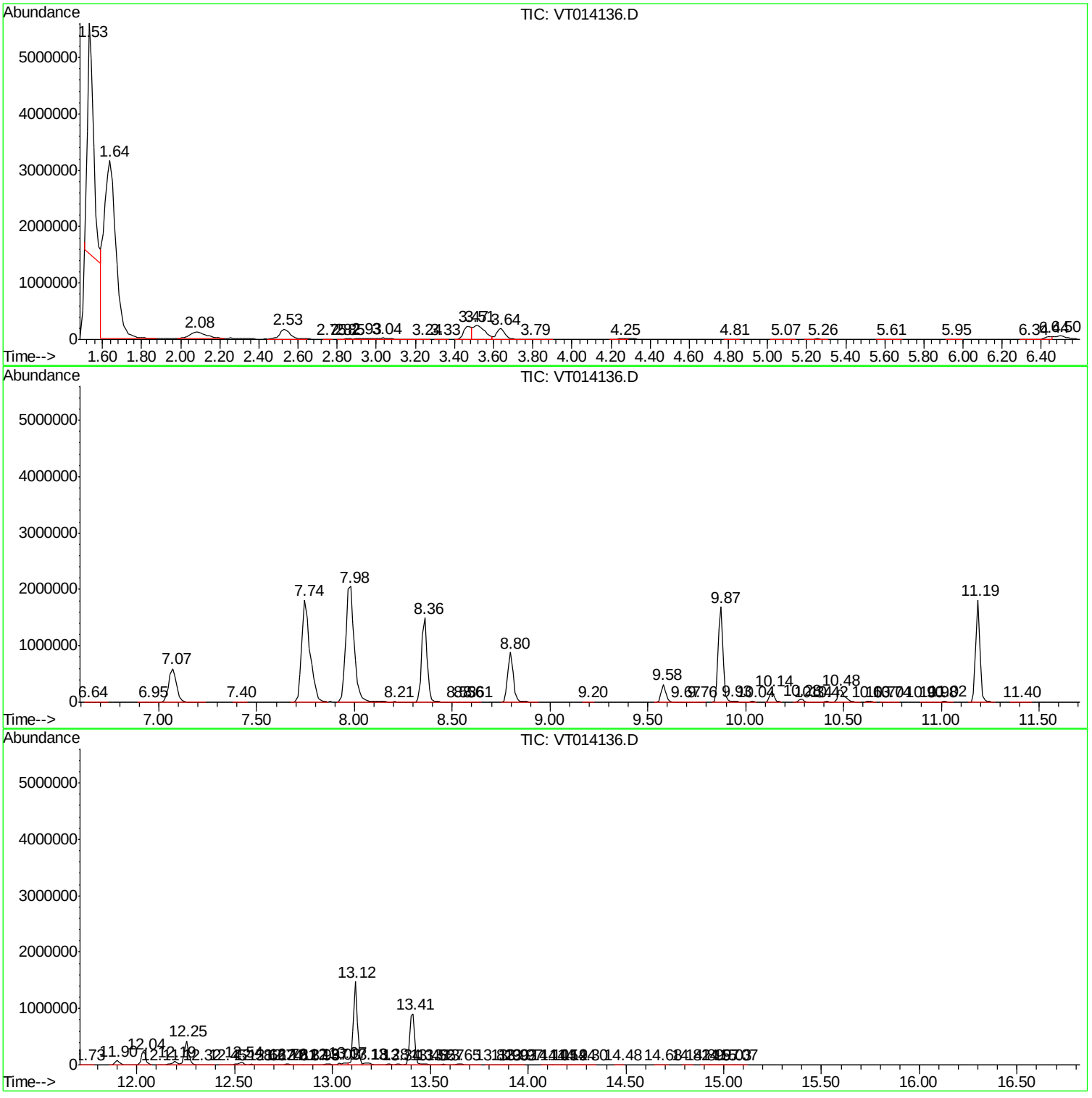
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis

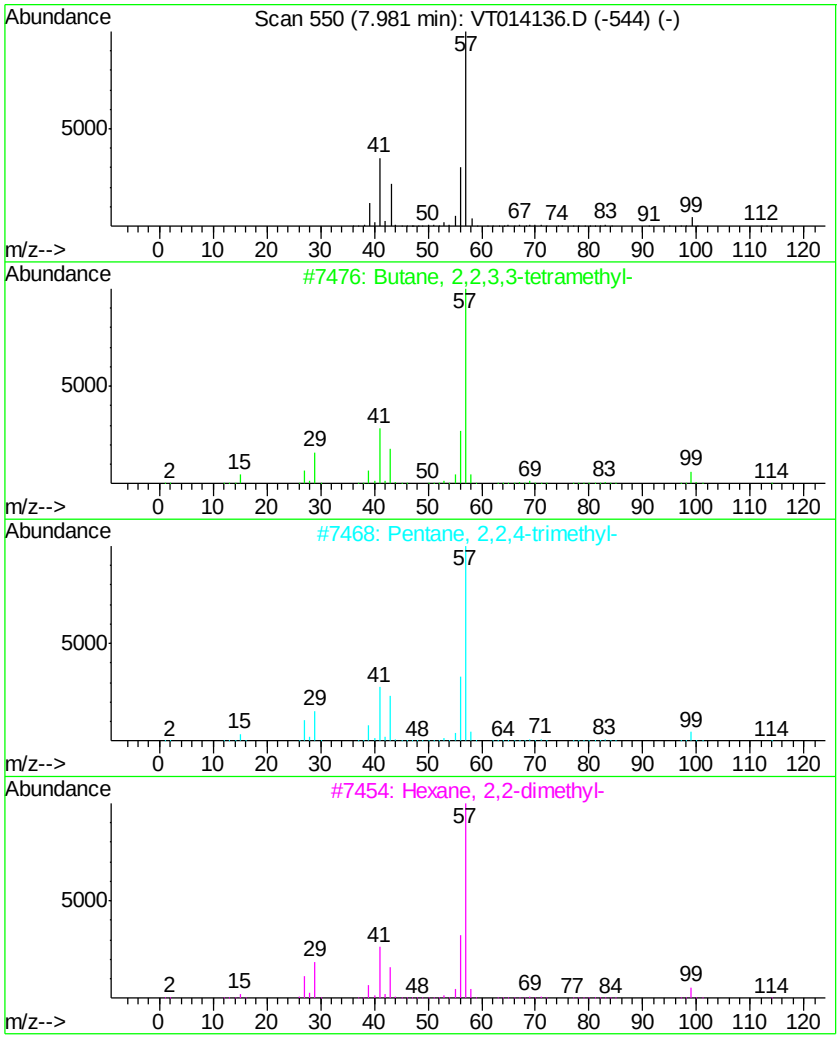
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

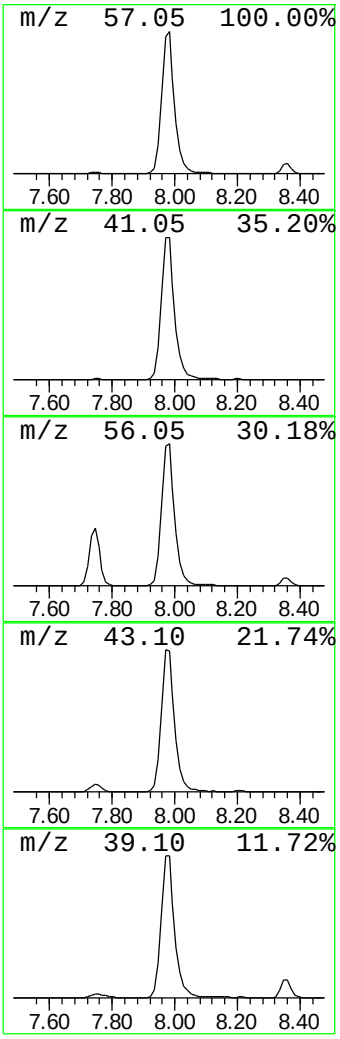
****

Peak Number 4 (DEL) Alkane: Straight-Chai... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.98	52.18 ug/L	6241770	1,4-Difluorobenzene	8.36

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2,2,3,3-tetramethyl-	114	C8H18	000594-82-1	78
2	Pentane, 2,2,4-trimethyl-	114	C8H18	000540-84-1	78
3	Hexane, 2,2-dimethyl-	114	C8H18	000590-73-8	78
4	Pentane, 2,2,4-trimethyl-	114	C8H18	000540-84-1	72
5	Butane, 2,2,3,3-tetramethyl-	114	C8H18	000594-82-1	64





Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis

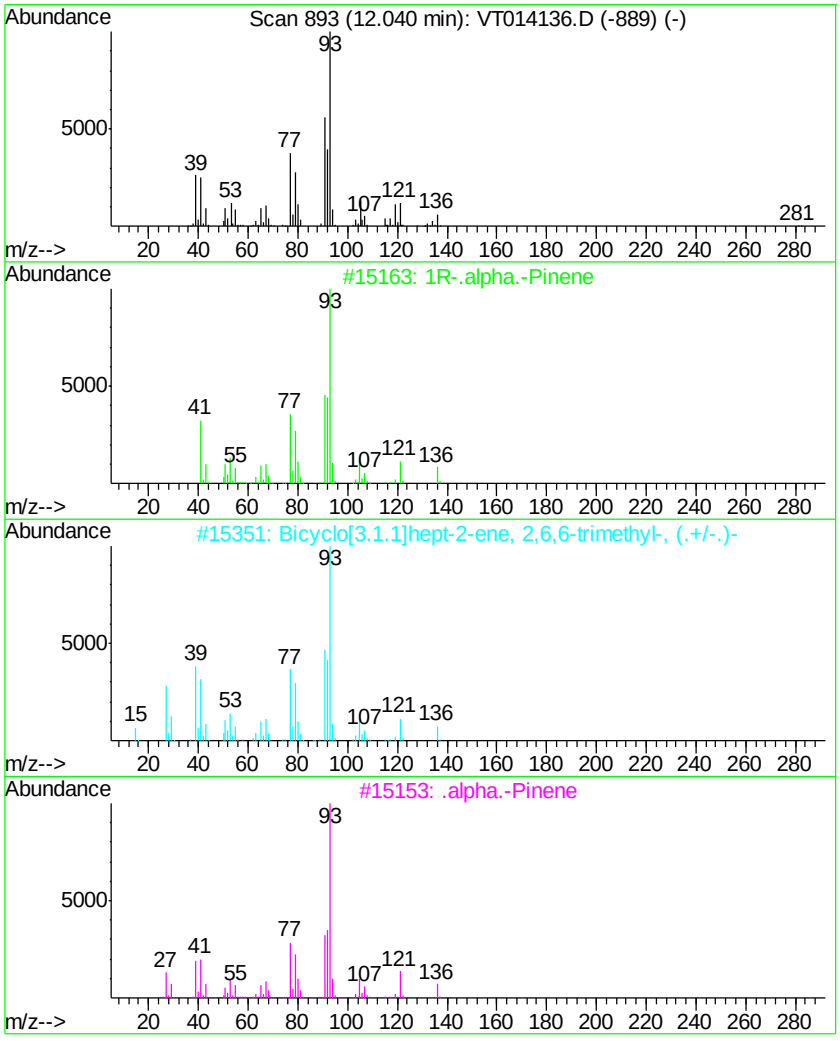
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

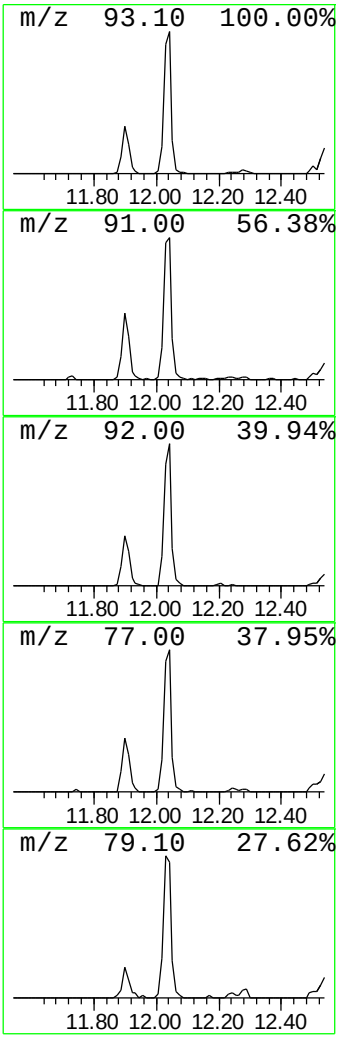
****

Peak Number 6 1R-.alpha.-Pinene Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.04	3.41 ug/L	381599	Chlorobenzene-d5	11.19

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1R-.alpha.-Pinene	136	C10H16	007785-70-8	96
2	Bicyclo[3.1.1]hept-2-ene, 2,6,6-...	136	C10H16	002437-95-8	94
3	.alpha.-Pinene	136	C10H16	000080-56-8	93
4	Bicyclo[3.1.1]hept-2-ene, 3,6,6-...	136	C10H16	004889-83-2	90
5	.alpha.-Pinene	136	C10H16	000080-56-8	90





Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis

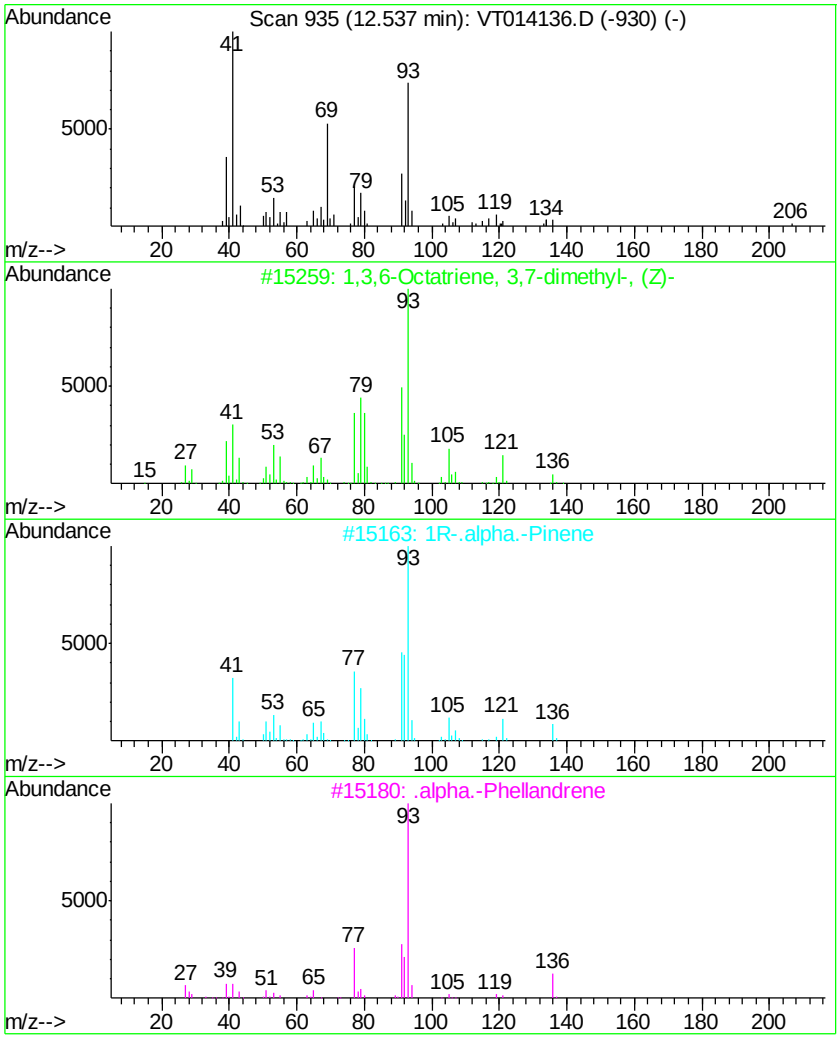
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

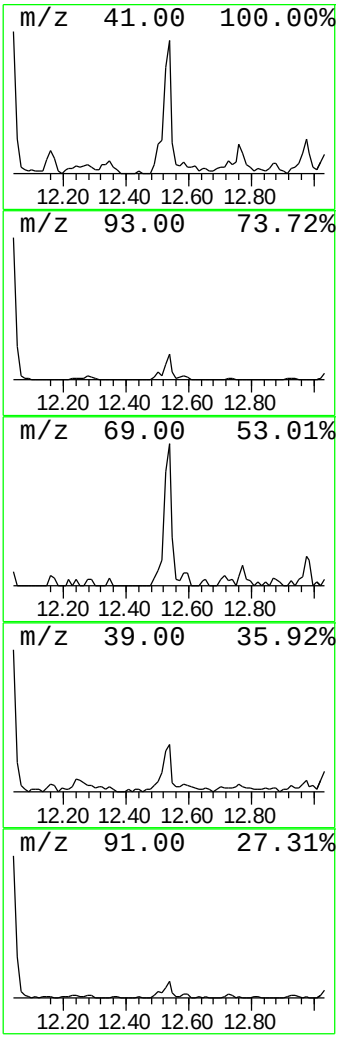
****

Peak Number 8 1,3,6-Octatriene, 3,7-dimet... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.54	1.35 ug/L	116321	1,4-Dichlorobenzene-d4	13.12

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,3,6-Octatriene, 3,7-dimethyl-,...	136	C10H16	003338-55-4	87
2	1R-.alpha.-Pinene	136	C10H16	007785-70-8	68
3	.alpha.-Phellandrene	136	C10H16	000099-83-2	64
4	Bicyclo[3.1.0]hexan-2-ol, 2-meth...	154	C10H18O	000546-79-2	64
5	.alpha.-Phellandrene	136	C10H16	000099-83-2	64





Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
(DEL) Alkane: Str...	7.98	52.2	ug/L	6241770	1	8.36	2990430	25.0
1R-.alpha.-Pinene	12.04	3.4	ug/L	381599	2	11.19	2801370	25.0
1,3,6-Octatriene,...	12.54	1.4	ug/L	116321	3	13.12	2149210	25.0

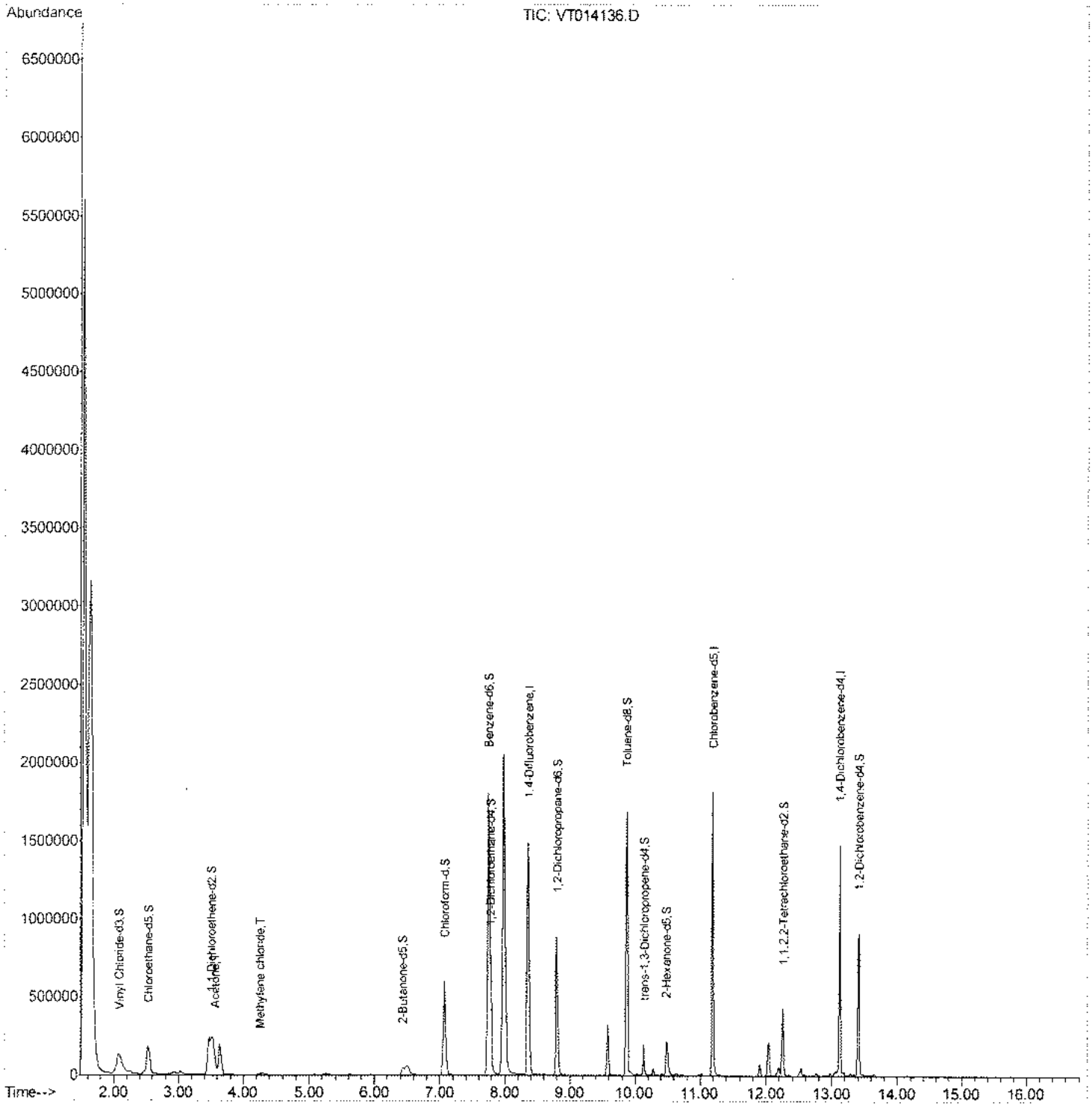
Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 13 10:14:22 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:08 PM



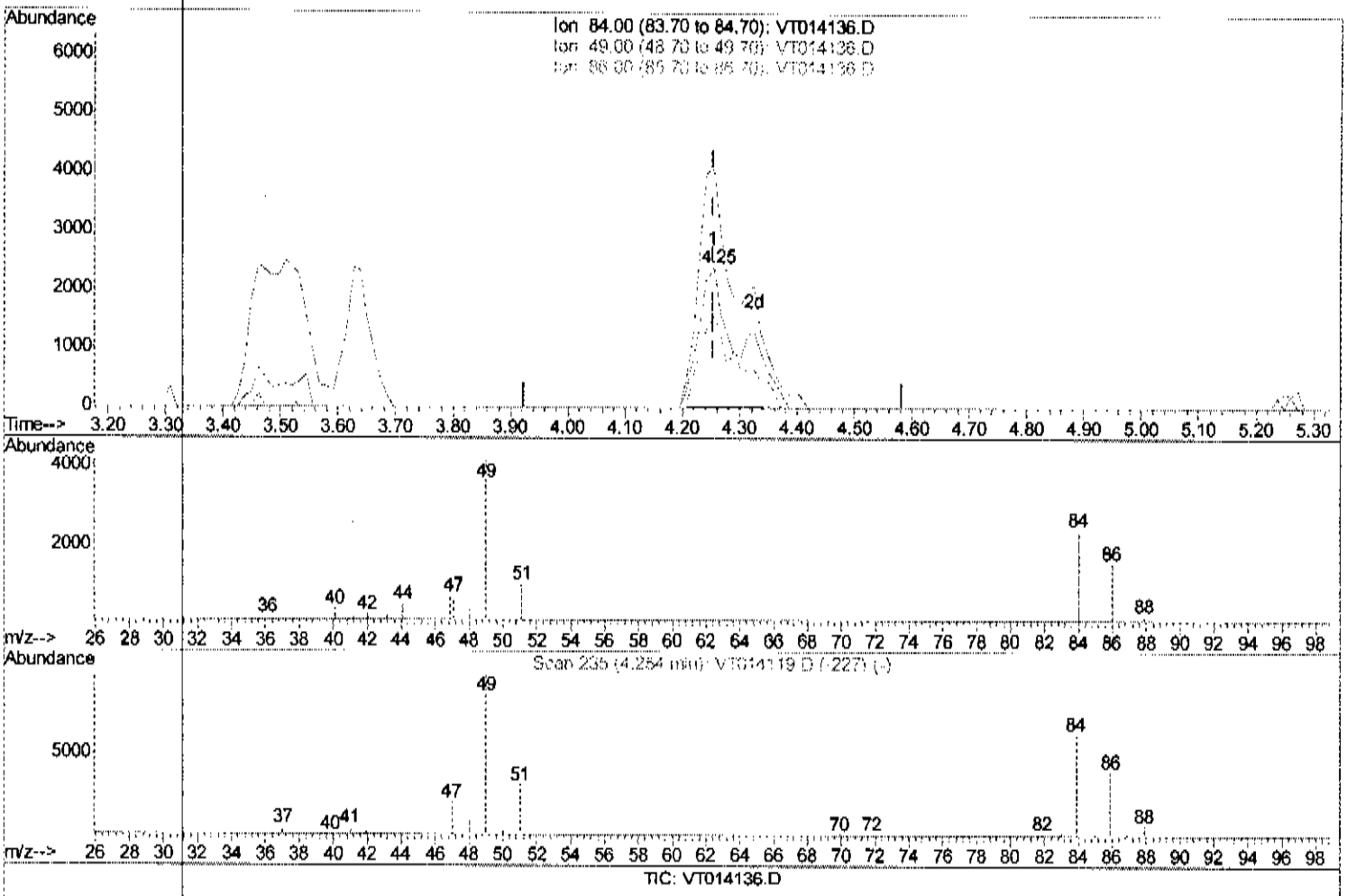
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 13 05:24:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:08 PM



TIC: VT014136.D

(16) Methylene chloride (T)

4.254min (+0.000) 0.69ug/L m

response 11830

E.M. 05.13.2016

Ion	Exp%	Act%
84.00	100	100
49.00	168.80	171.84
86.00	62.00	65.88
0.00	0.00	0.00

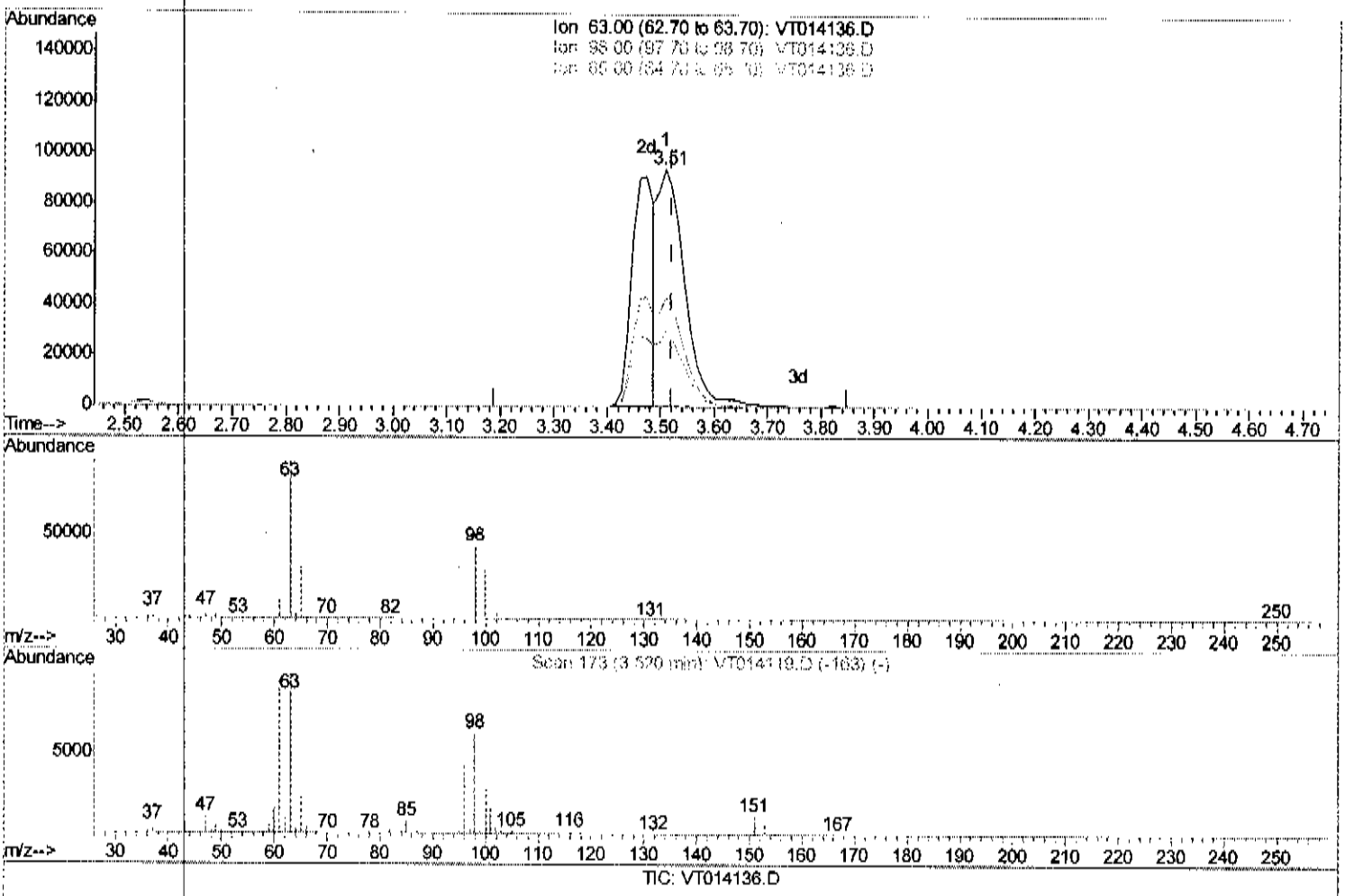
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 13 05:24:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:08 PM



TIC: VT014136.D

(10) 1,1-Dichloroethene-d2 (S)

3.509min (-0.012) 9.48ug/L

response 334966

Ion	Exp%	Act%
63.00	100	100
98.00	61.60	44.65
65.00	21.70	30.94#
0.00	0.00	0.00

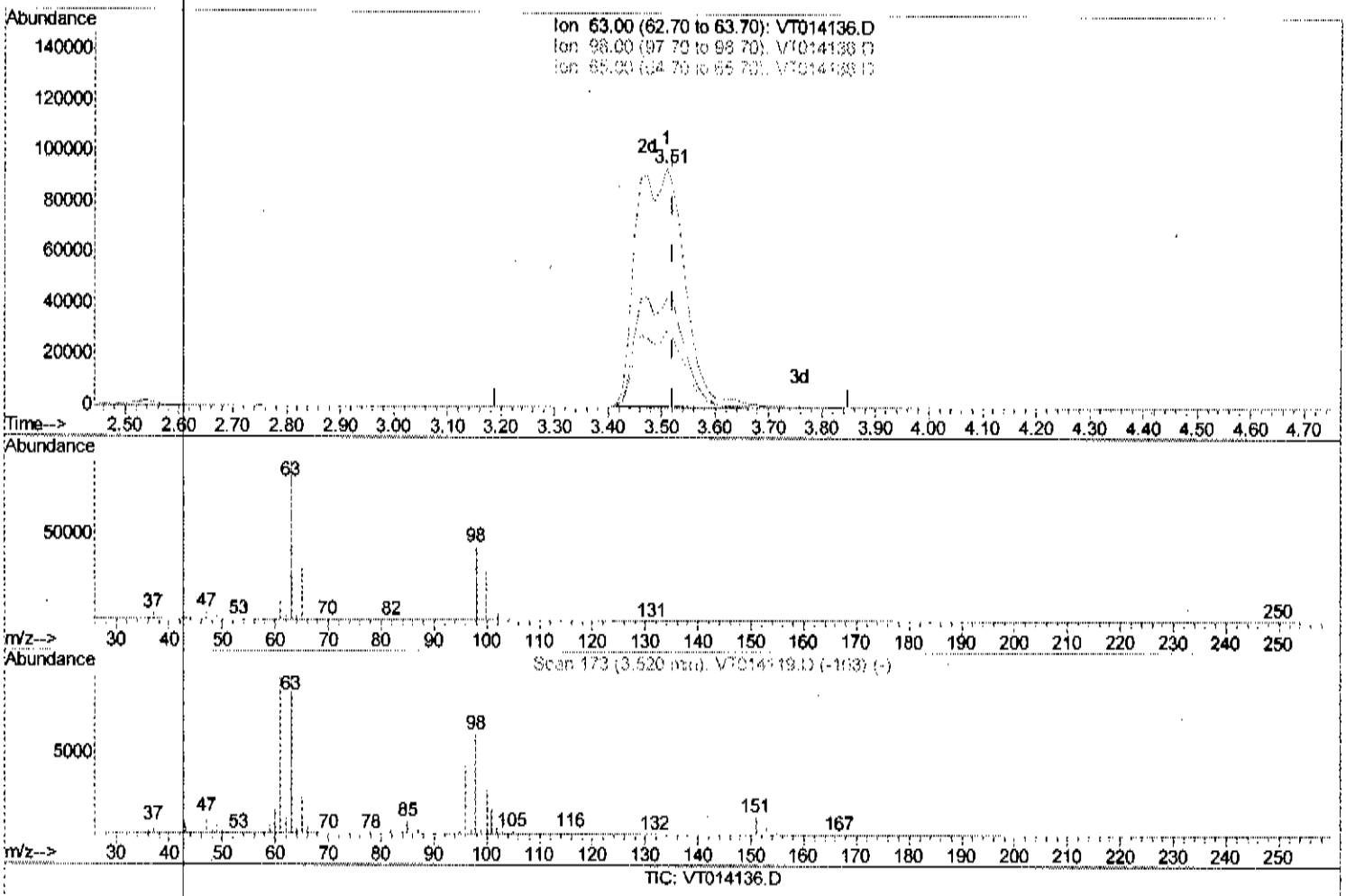
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 13 05:24:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:08 PM



(10) 1,1-Dichloroethene-d2 (S)
3.509min (-0.012) 16.83ug/L m
response 594760

Ion	Exp%	Act%
63.00	100	100
98.00	61.60	25.15#
65.00	21.70	17.42
0.00	0.00	0.00

E.M
05.13.2016

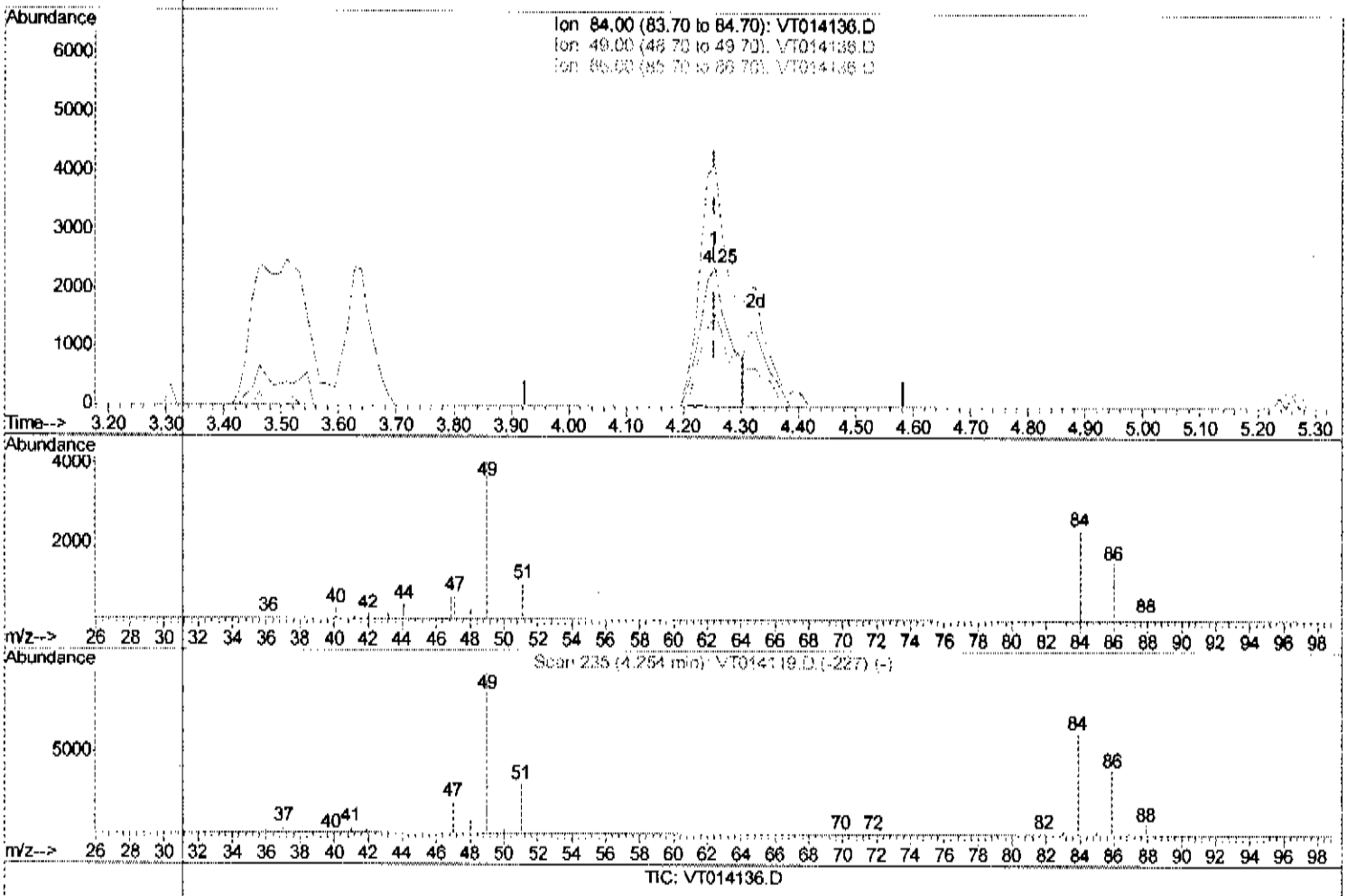
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 13 05:24:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:08 PM



TIC: VT014136.D

(16) Methylene chloride (T)

4.254min (+0.000) 0.49ug/L

response 8409

Ion	Exp%	Act%
84.00	100	100
49.00	168.80	171.84
86.00	62.00	65.88
0.00	0.00	0.00

Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014136.D
Acq On : 12 May 2016 21:01
Operator : FY/SY
Sample : H2954-02
Misc : 4.65g/10mL/MSVOA_T/SOIL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 13 10:14:22 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : H4086

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:08 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1081527	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	759973	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	300912	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	443851	26.50	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 106.00%			
7) Chloroethane-d5	2.53	69	325147	25.66	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 102.64%			
10) 1,1-Dichloroethene-d2	3.51	63	594760m	16.83	ug/L	-0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 67.32%			
20) 2-Butanone-d5	6.43	46	96188	21.06	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 42.12%			
24) Chloroform-d	7.07	84	646725	21.93	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 87.72%			
26) 1,2-Dichloroethane-d4	7.78	65	388343	22.37	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 89.48%			
29) Benzene-d6	7.74	84	1229604	24.16	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 96.64%			
33) 1,2-Dichloropropane-d6	8.80	67	358213	23.60	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 94.40%			
37) Toluene-d8	9.87	98	994200	22.20	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 88.80%			
38) trans-1,3-Dichloropropene-	10.14	79	90551	17.25	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 69.00%			
39) 2-Hexanone-d5	10.48	63	62651	24.70	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 49.40%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	174115	17.22	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 68.88%			
60) 1,2-Dichlorobenzene-d4	13.41	152	221447	19.67	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 78.68%			
Target Compounds						Qvalue
13) Acetone	3.56	43	126931	28.27	ug/L	97
16) Methylene chloride	4.25	84	11830m	0.69	ug/L	

E.M. 05.13.2016

E.M. 05.13.2016

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02RE
Sample wt/vol : 4.46 (g/mL): g
Lab File ID : VT014150.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	12	U
74-87-3	Chloromethane	12	U
75-01-4	Vinyl chloride	12	U
74-83-9	Bromomethane	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-35-4	1,1-Dichloroethene	12	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	12	U
67-64-1	Acetone	19	J
75-15-0	Carbon disulfide	12	U
79-20-9	Methyl Acetate	12	U
75-09-2	Methylene chloride	6.8	JB
156-60-5	trans-1,2-Dichloroethene	12	U
1634-04-4	Methyl tert-butyl Ether	12	U
75-34-3	1,1-Dichloroethane	12	U
156-59-2	cis-1,2-Dichloroethene	12	U
78-93-3	2-Butanone	23	U
74-97-5	Bromochloromethane	12	U
67-66-3	Chloroform	12	U
71-55-6	1,1,1-Trichloroethane	12	U
110-82-7	Cyclohexane	12	U
56-23-5	Carbon tetrachloride	12	U
71-43-2	Benzene	12	U
107-06-2	1,2-Dichloroethane	12	U
79-01-6	Trichloroethene	12	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02RE
Sample wt/vol : 4.46 (g/mL): g
Lab File ID : VT014150.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	12	U
78-87-5	1,2-Dichloropropane	12	U
75-27-4	Bromodichloromethane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
108-10-1	4-Methyl-2-pentanone	23	U
108-88-3	Toluene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
127-18-4	Tetrachloroethene	12	U
591-78-6	2-Hexanone	23	U
124-48-1	Dibromochloromethane	12	U
106-93-4	1,2-Dibromoethane	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
95-47-6	o-xylene	12	U
179601-23-1	m,p-Xylene	12	U
100-42-5	Styrene	12	U
75-25-2	Bromoform	12	U
98-82-8	Isopropylbenzene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
95-50-1	1,2-Dichlorobenzene	12	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
120-82-1	1,2,4-trichlorobenzene	12	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02RE
Sample wt/vol : 4.46 (g/mL): g
Lab File ID : VT014150.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	12	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4086RE

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02RE
Sample wt/vol : 4.46 (g/mL): g
Lab File ID : VT014150.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/13/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

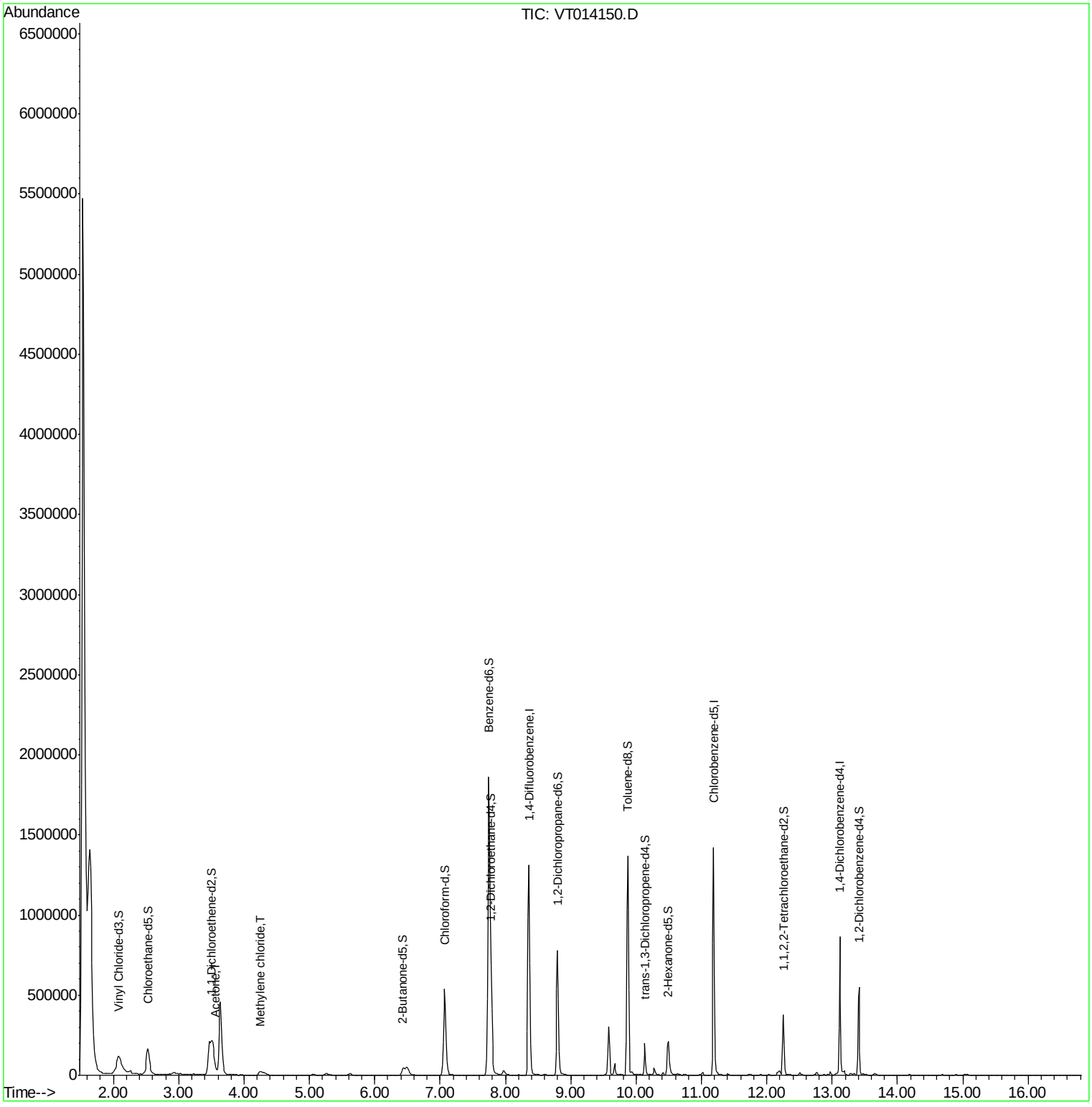
Quantitation Report (QT/LSC Reviewed)

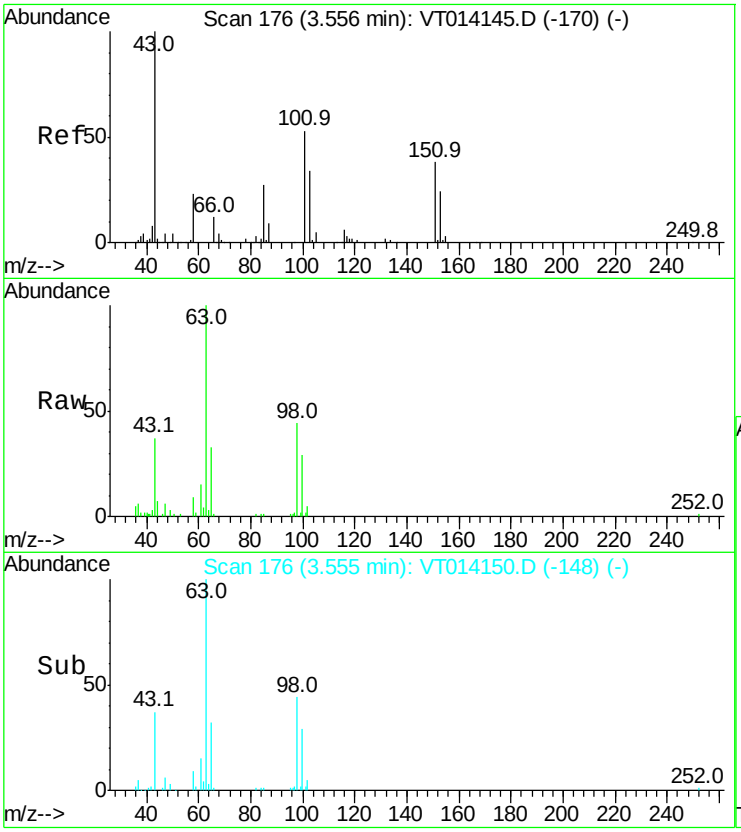
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 16 10:12:00 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086RE

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:54 PM

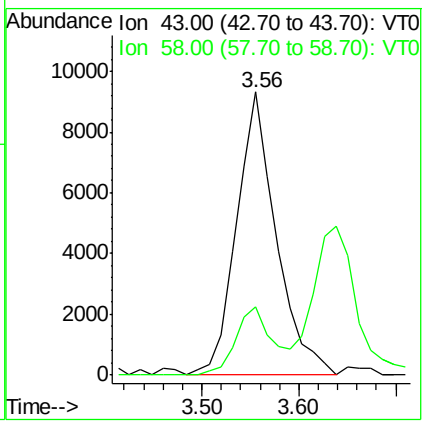




#13
Acetone
Concen: 4.14 ug/L
RT: 3.56 min Scan# 176
Delta R.T. -0.00 min
Lab File: VT014150.D
Acq: 13 May 2016 18:34

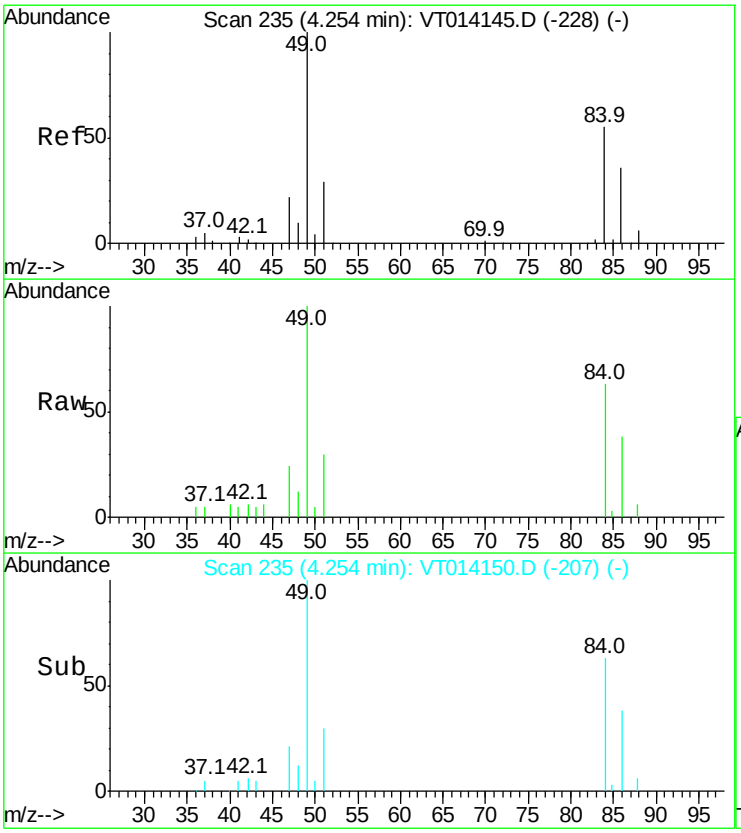
Tgt Ion: 43 Resp: 26394

Ion	Ratio	Lower	Upper
43	100		
58	23.1	0.0	44.4



Instrument :
MSVOA_T
ClientSampleId :
H4086RE

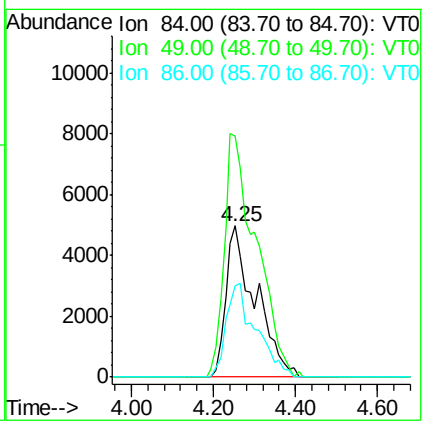
Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:54 PM



#16
Methylene chloride
Concen: 1.45 ug/L m
RT: 4.25 min Scan# 235
Delta R.T. -0.00 min
Lab File: VT014150.D
Acq: 13 May 2016 18:34

Tgt Ion: 84 Resp: 24699

Ion	Ratio	Lower	Upper
84	100		
49	159.6	126.8	235.6
86	60.5	45.8	85.2



Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4086RE

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:54 PM

Quant Time: May 16 10:12:00 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	921158	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	594064	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	168502	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	385850	26.67	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 106.68%			
7) Chloroethane-d5	2.53	69	286215	25.49	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 101.96%			
10) 1,1-Dichloroethene-d2	3.51	63	530142m	16.43	ug/L	0.03
Spiked Amount 25.000	Range 45 - 110		Recovery = 65.72%			
20) 2-Butanone-d5	6.43	46	87801	22.43	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 44.86%			
24) Chloroform-d	7.07	84	566513	21.07	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 84.28%			
26) 1,2-Dichloroethane-d4	7.78	65	361286	21.70	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 86.80%			
29) Benzene-d6	7.74	84	1056457	27.74	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 110.96%			
33) 1,2-Dichloropropane-d6	8.80	67	307776	26.67	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 106.68%			
37) Toluene-d8	9.87	98	790839	23.40	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 93.60%			
38) trans-1,3-Dichloropropene-	10.13	79	88236	20.44	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 81.76%			
39) 2-Hexanone-d5	10.49	63	53989	28.81	ug/L	0.01
Spiked Amount 50.000	Range 20 - 135		Recovery = 57.62%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	150763	18.93	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 75.72%			
60) 1,2-Dichlorobenzene-d4	13.41	152	124373	20.02	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 80.08%			
Target Compounds						Qvalue
13) Acetone	3.56	43	26394	4.14	ug/L	98
16) Methylene chloride	4.25	84	24699m	1.45	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086RE

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.532	3	5	11	rVB	4446127	10287262	100.00%	25.450%
2	1.639	11	14	35	rVB	1396616	5639399	54.82%	13.952%
3	2.076	42	51	62	rBV	107957	659135	6.41%	1.631%
4	2.254	64	66	73	rVV2	19854	55076	0.54%	0.136%
5	2.408	77	79	81	rVB3	2134	3424	0.03%	0.008%
6	2.526	81	89	101	rVV	162070	554464	5.39%	1.372%
7	2.857	115	117	118	rBV2	1933	2207	0.02%	0.005%
8	2.916	119	122	129	rVV3	11567	39896	0.39%	0.099%
9	3.094	136	137	139	rVB2	2064	1830	0.02%	0.005%
10	3.224	144	148	151	rBV2	5136	14177	0.14%	0.035%
11	3.390	159	162	163	rBV2	770	1478	0.01%	0.004%
12	3.473	163	169	170	rBV	209909	560535	5.45%	1.387%
13	3.638	178	183	194	rVB	455287	1383941	13.45%	3.424%
14	3.875	201	203	205	rBV2	1194	1976	0.02%	0.005%
15	3.970	208	211	213	rBV2	1896	4611	0.04%	0.011%
16	4.254	229	235	237	rBV2	23890	77089	0.75%	0.191%
17	4.549	257	260	263	rBV2	675	1910	0.02%	0.005%
18	4.739	272	276	279	rVB3	1048	2877	0.03%	0.007%
19	5.058	299	303	311	rBV5	3474	14115	0.14%	0.035%
20	5.259	314	320	328	rVB4	12265	44756	0.44%	0.111%
21	5.461	333	337	339	rBV2	803	1996	0.02%	0.005%
22	5.626	346	351	356	rVB	9175	29980	0.29%	0.074%
23	5.898	370	374	376	rBV2	697	2309	0.02%	0.006%
24	5.958	376	379	383	rVB3	1810	4855	0.05%	0.012%
25	6.348	409	412	414	rVB2	1178	2255	0.02%	0.006%
26	6.443	414	420	421	rBV	46244	126516	1.23%	0.313%
27	6.490	422	424	435	rVV3	52008	165268	1.61%	0.409%
28	6.845	451	454	456	rBV2	926	2148	0.02%	0.005%
29	6.951	458	463	466	rBV	2060	6114	0.06%	0.015%
30	7.070	466	473	488	rBV	537790	1453602	14.13%	3.596%
31	7.401	498	501	502	rBV2	1228	2119	0.02%	0.005%
32	7.531	510	512	514	rBV2	1318	2247	0.02%	0.006%
33	7.744	524	530	545	rBV2	1862252	5555613	54.00%	13.744%
34	7.969	545	549	562	rVB	30135	95602	0.93%	0.237%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086RE

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

35	8.206	566	569	574	rVB2	3146	5091	0.05%	0.013%
36	8.360	577	582	594	rBV	1309236	2558856	24.87%	6.330%
37	8.608	600	603	609	rVB5	5240	13607	0.13%	0.034%
38	8.797	615	619	624	rBV	780105	1541255	14.98%	3.813%
39	8.999	634	636	640	rVB4	1245	2410	0.02%	0.006%
40	9.200	650	653	657	rVB2	1835	4171	0.04%	0.010%
41	9.401	668	670	671	rBV	1185	1500	0.01%	0.004%
42	9.436	671	673	676	rBV2	1451	2592	0.03%	0.006%
43	9.578	681	685	690	rVV	302189	507595	4.93%	1.256%
44	9.673	690	693	698	rVV	71064	131670	1.28%	0.326%
45	9.756	698	700	706	rVB3	4037	8012	0.08%	0.020%
46	9.874	706	710	714	rBV	1369180	2326518	22.62%	5.756%
47	9.933	714	715	719	rVV	18259	30094	0.29%	0.074%
48	10.040	722	724	725	rVV2	2962	5182	0.05%	0.013%
49	10.075	725	727	729	rVV2	4512	6443	0.06%	0.016%
50	10.135	729	732	739	rVV	199323	324351	3.15%	0.802%
51	10.277	741	744	748	rVV	40742	78398	0.76%	0.194%
52	10.336	748	749	752	rVB3	3428	4583	0.04%	0.011%
53	10.407	752	755	758	rBV	13491	23522	0.23%	0.058%
54	10.490	758	762	769	rBV3	207926	505248	4.91%	1.250%
55	10.584	769	770	772	rVV2	4520	7549	0.07%	0.019%
56	10.632	772	774	781	rVB4	8354	20593	0.20%	0.051%
57	10.750	781	784	786	rVB3	6407	10152	0.10%	0.025%
58	10.785	786	787	792	rVB3	1525	1996	0.02%	0.005%
59	10.975	799	803	804	rBV2	4107	5853	0.06%	0.014%
60	11.022	804	807	810	rVB2	17499	31875	0.31%	0.079%
61	11.069	810	811	814	rVB	1431	1680	0.02%	0.004%
62	11.188	818	821	828	rVV	1420160	2189086	21.28%	5.416%
63	11.294	828	830	836	rVB	5686	10606	0.10%	0.026%
64	11.401	836	839	844	rVB	9304	17306	0.17%	0.043%
65	11.732	862	867	872	rBV3	6069	14189	0.14%	0.035%
66	11.898	878	881	883	rBV2	4767	6680	0.06%	0.017%
67	11.933	883	884	885	rVB	1861	1321	0.01%	0.003%
68	12.028	890	892	896	rBV	5987	8981	0.09%	0.022%
69	12.193	900	906	908	rBV2	27985	71676	0.70%	0.177%
70	12.253	908	911	915	rVB	373543	550785	5.35%	1.363%
71	12.324	915	917	918	rBV2	4004	5475	0.05%	0.014%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086RE

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

72	12.501	929	932	937	rVV4	17545	37372	0.36%	0.092%
73	12.584	937	939	943	rVV2	1959	4524	0.04%	0.011%
74	12.655	943	945	946	rVV	1762	1959	0.02%	0.005%
75	12.773	948	955	961	rVV	15084	36321	0.35%	0.090%
76	12.868	961	963	966	rVV	5714	9963	0.10%	0.025%
77	12.974	969	972	976	rVV	21775	37332	0.36%	0.092%
78	13.069	976	980	981	rVV3	10521	28250	0.27%	0.070%
79	13.116	981	984	987	rVV	865079	1260829	12.26%	3.119%
80	13.187	987	990	994	rVV2	25195	65221	0.63%	0.161%
81	13.247	994	995	996	rVV	2004	2664	0.03%	0.007%
82	13.282	996	998	1001	rVV2	9170	18874	0.18%	0.047%
83	13.341	1001	1003	1005	rVV	10948	17509	0.17%	0.043%
84	13.412	1005	1009	1012	rVV	548477	929134	9.03%	2.299%
85	13.471	1012	1014	1020	rVV4	8244	29287	0.28%	0.072%
86	13.566	1020	1022	1024	rVV3	2089	3896	0.04%	0.010%
87	13.649	1024	1029	1037	rVV	12751	30361	0.30%	0.075%
88	13.826	1042	1044	1046	rVV2	623	1382	0.01%	0.003%
89	13.921	1049	1052	1054	rVV	854	1751	0.02%	0.004%
90	14.039	1061	1062	1065	rBV2	739	1691	0.02%	0.004%
91	14.181	1070	1074	1082	rBV3	5175	12834	0.12%	0.032%
92	14.678	1114	1116	1120	rVB2	7874	12945	0.13%	0.032%
93	14.903	1131	1135	1139	rBV3	5567	10524	0.10%	0.026%
94	14.974	1139	1141	1143	rVV2	1052	1402	0.01%	0.003%
95	15.033	1143	1146	1147	rVV	5281	8605	0.08%	0.021%
96	15.069	1147	1149	1152	rVV2	6835	12351	0.12%	0.031%
97	15.175	1154	1158	1160	rBV	645	1666	0.02%	0.004%
98	16.169	1240	1242	1245	rVB2	1005	1607	0.02%	0.004%
99	16.536	1270	1273	1276	rVB3	727	1744	0.02%	0.004%
100	16.607	1276	1279	1281	rBV2	703	1463	0.01%	0.004%

Sum of corrected areas: 40421144

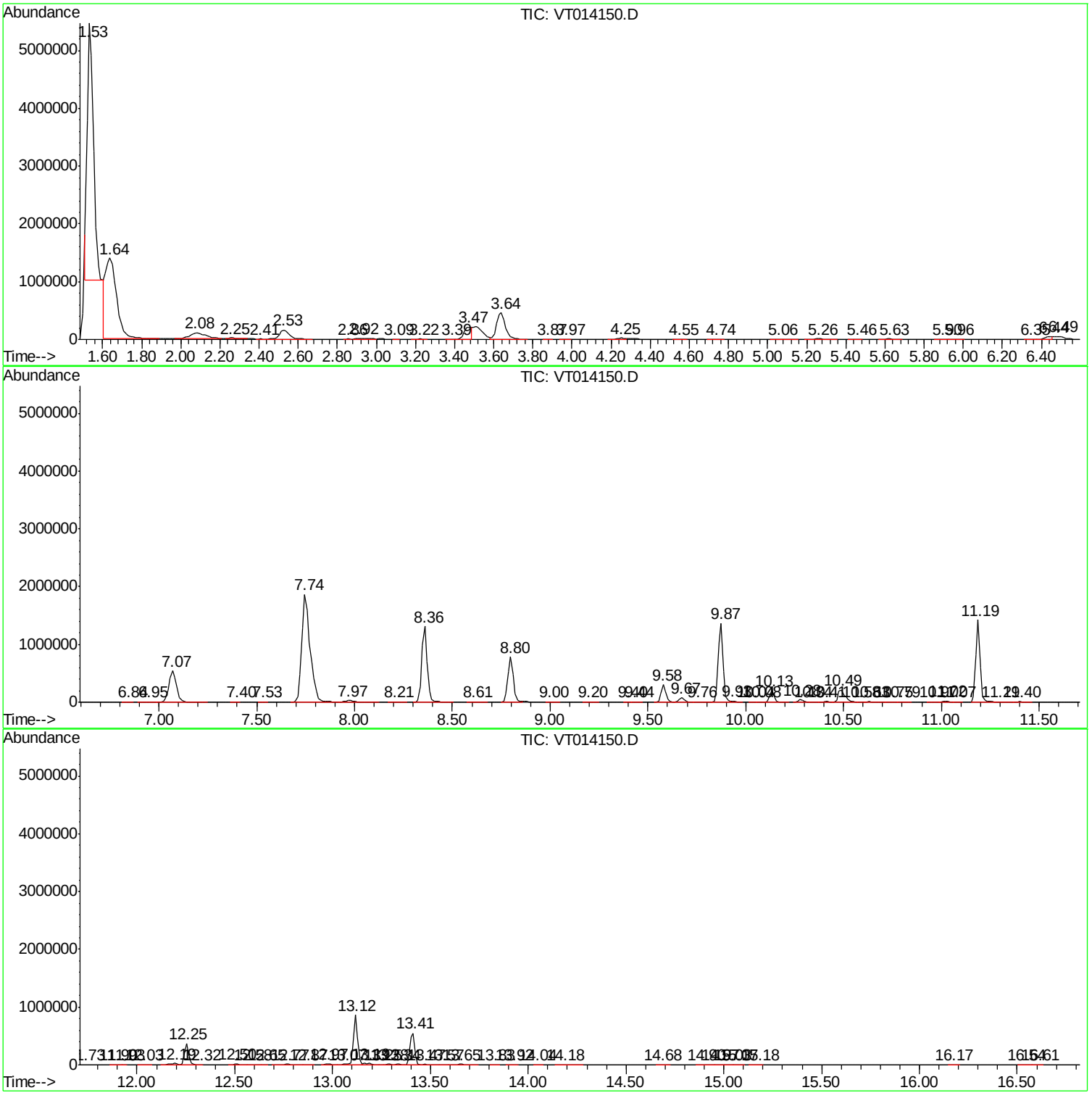
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086RE

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4086RE

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : H4086RE

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

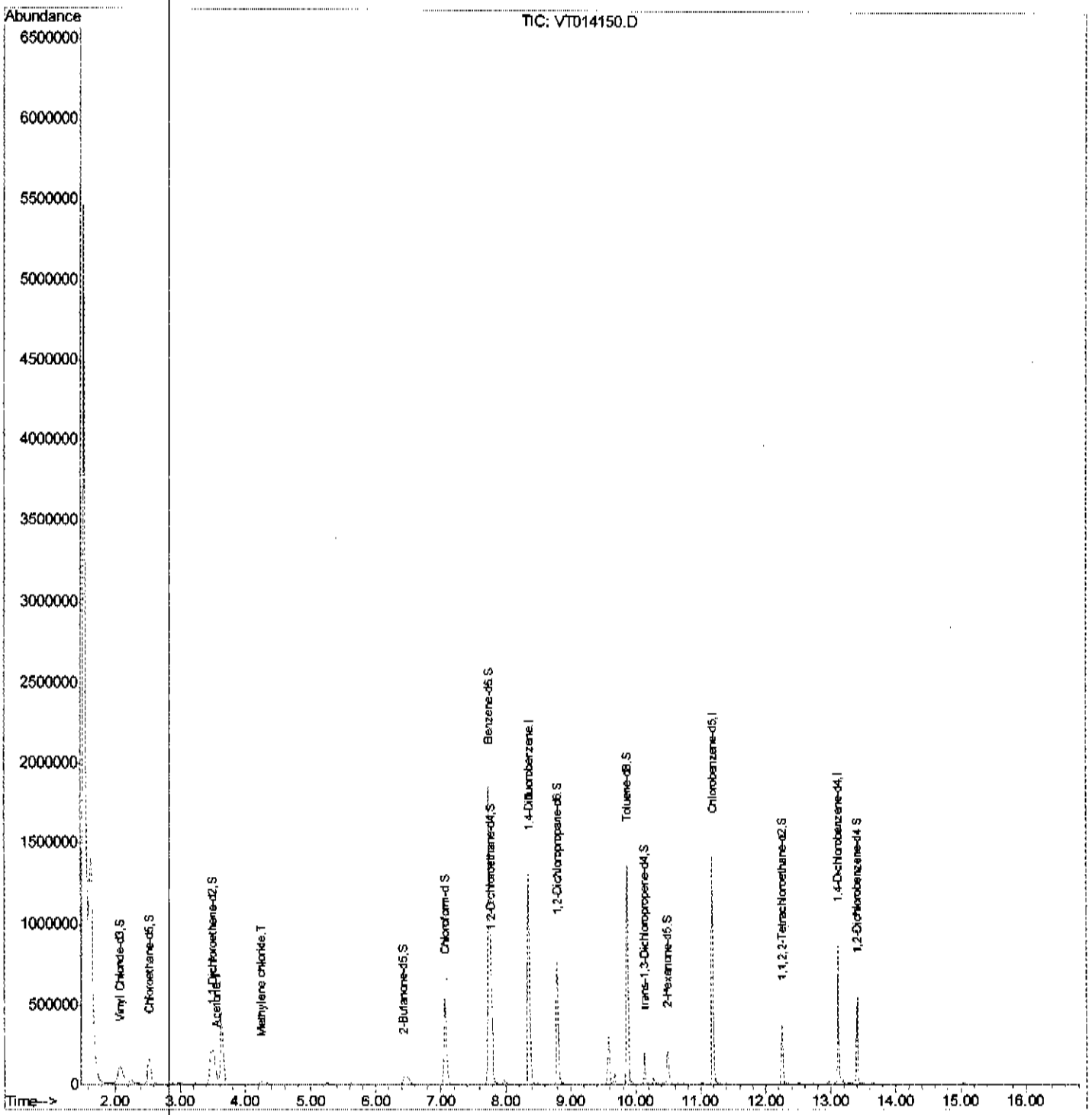
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 16 10:12:00 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086RE

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:54 PM

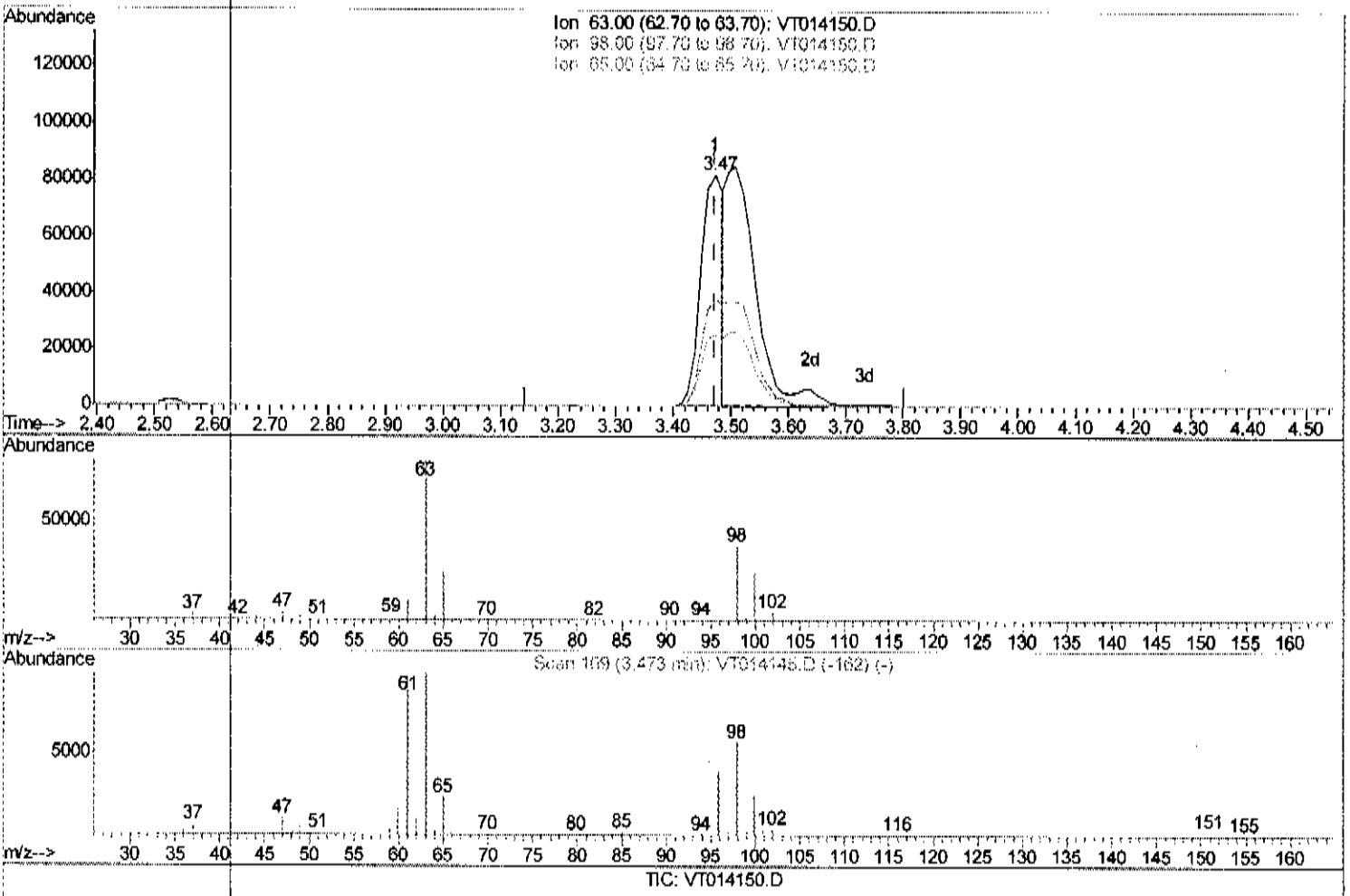


Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 16 10:11:28 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086RE

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:54 PM



(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.001) 6.90ug/L

response 222550

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	44.91
65.00	11.10	30.86#
0.00	0.00	0.00

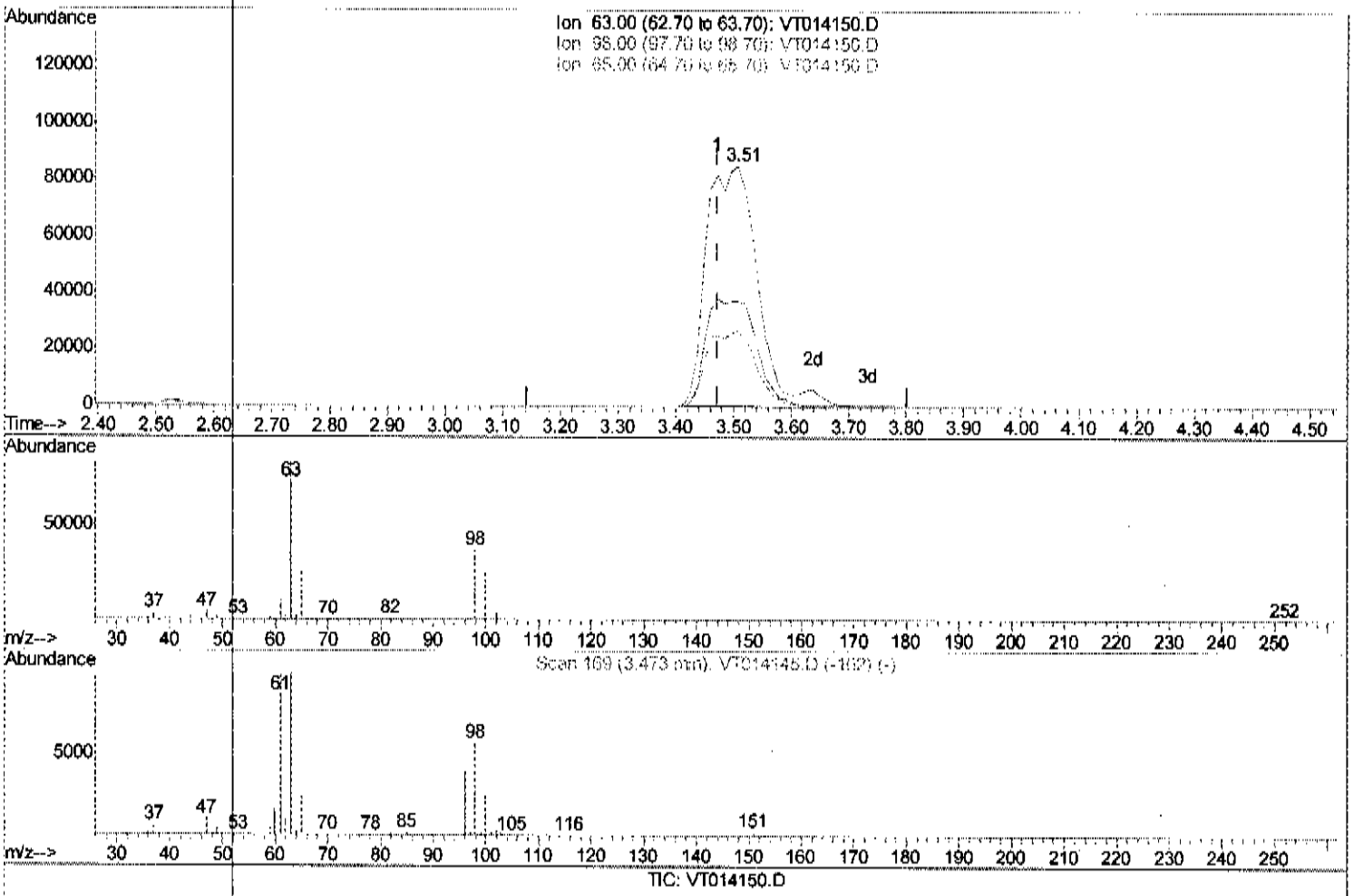
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 16 10:11:28 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086RE

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:54 PM



(10) 1,1-Dichloroethene-d2 (S)

3.508min (+0.035) 16.43ug/L m

response 530142

FY
5/16/2016

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	18.85#
65.00	11.10	12.96
0.00	0.00	0.00

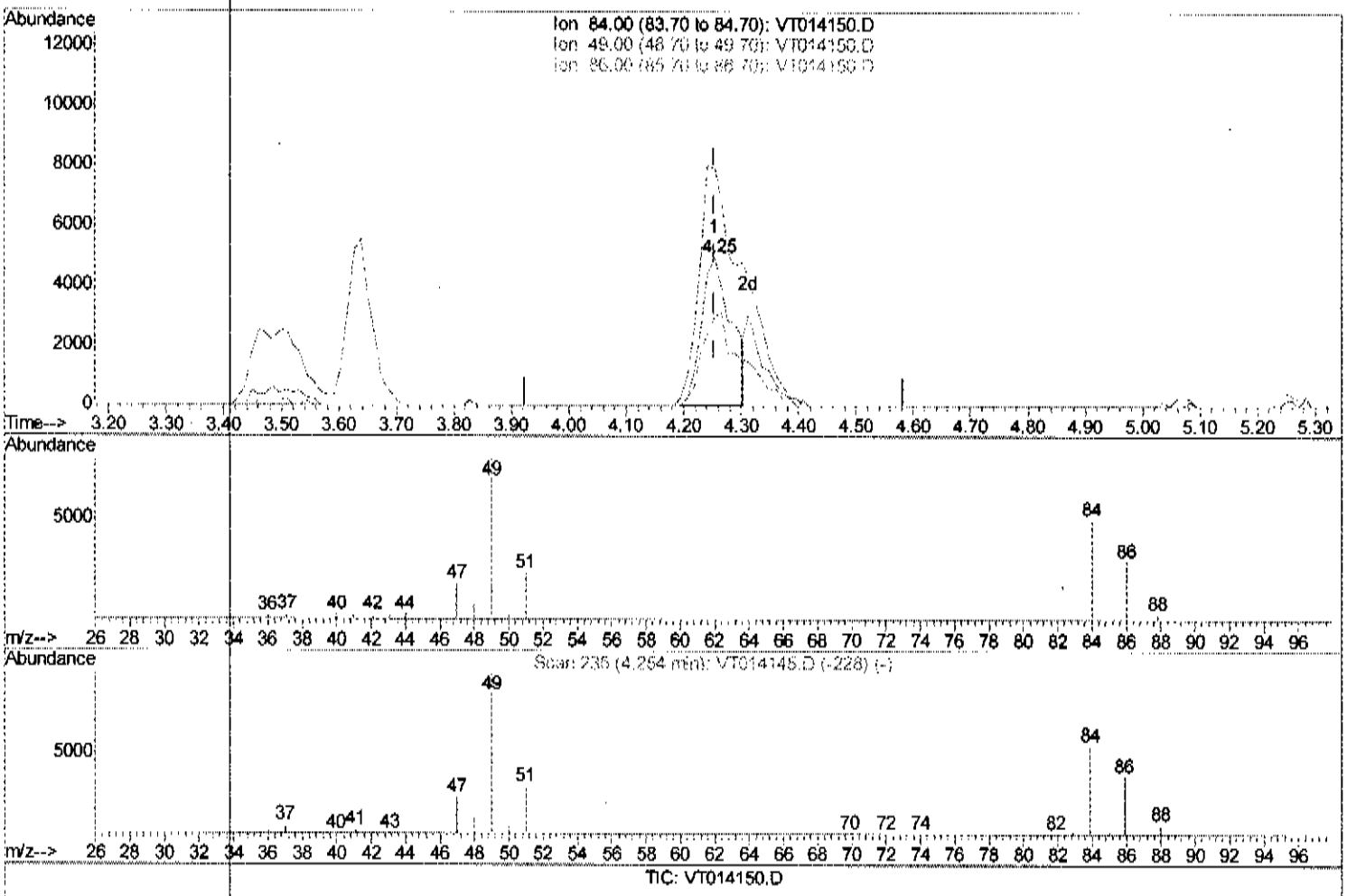
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 16 10:11:28 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086RE

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:54 PM



TIC: VT014150.D

(16) Methylene chloride (T)

4.254min (-0.000) 1.05ug/L

response 17932

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	159.57
86.00	65.50	60.53
0.00	0.00	0.00

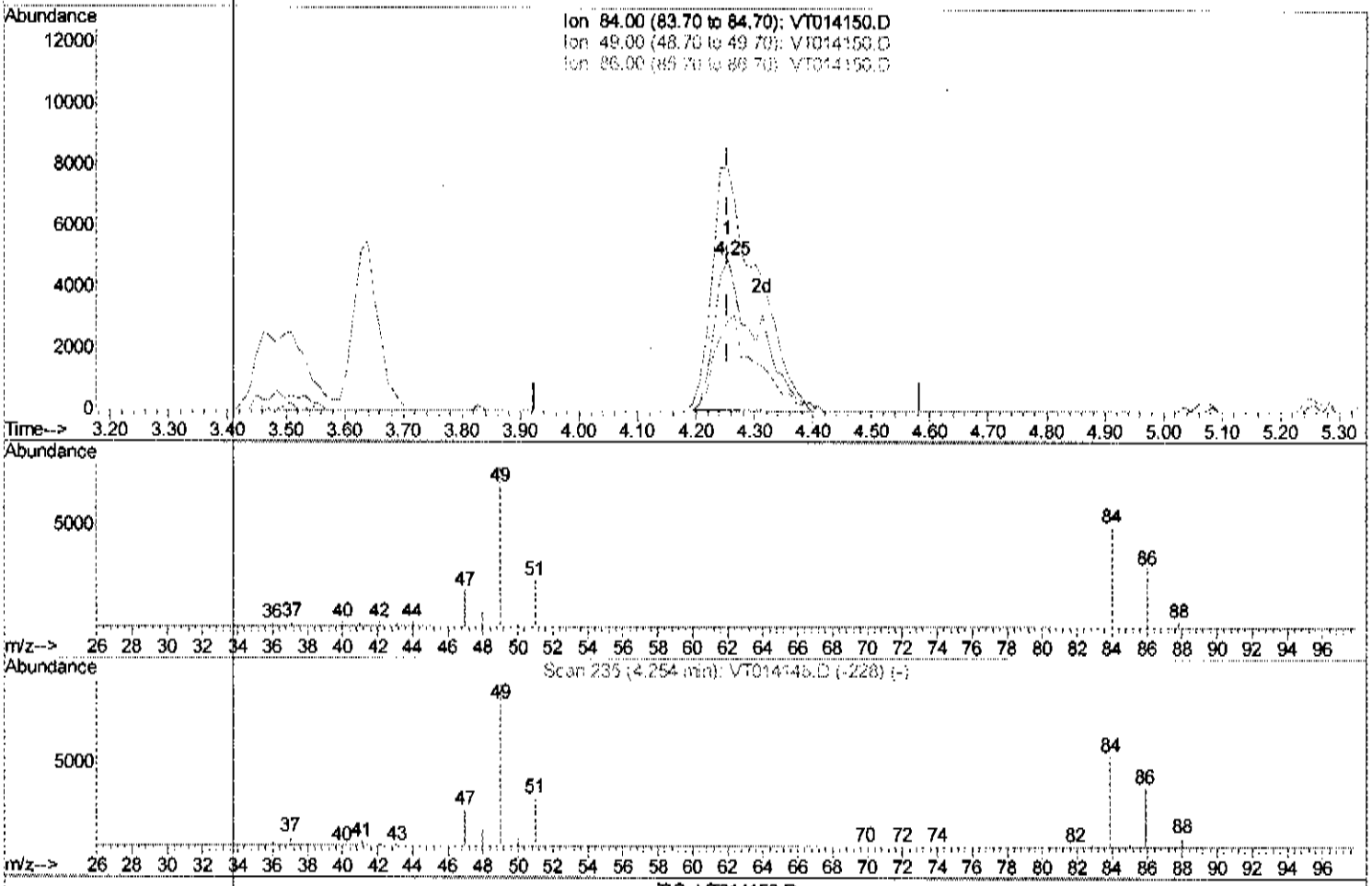
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 16 10:11:28 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
H4086RE

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:54 PM



TIC: VT014150.D

(16) Methylene chloride (T)

4.254min (-0.000) 1.45ug/L m

response 24699

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	159.57
86.00	65.50	60.53
0.00	0.00	0.00

FY
5/16/2016

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014150.D
Acq On : 13 May 2016 18:34
Operator : FY/SY
Sample : H2954-02RE
Misc : 4.46g/10mL/MSVOA_T/SOIL
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
H4086RE

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:54 PM

Quant Time: May 16 10:12:00 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	921158	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	594064	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	168502	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	385850	26.67	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 106.68%			
7) Chloroethane-d5	2.53	69	286215	25.49	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 101.96%			
10) 1,1-Dichloroethene-d2	3.51	63	530142m	16.43	ug/L	0.03
Spiked Amount 25.000	Range 45 - 110		Recovery = 65.72%			
20) 2-Butanone-d5	6.43	46	87801	22.43	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 44.86%			
24) Chloroform-d	7.07	84	566513	21.07	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 84.28%			
26) 1,2-Dichloroethane-d4	7.78	65	361286	21.70	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 86.80%			
29) Benzene-d6	7.74	84	1056457	27.74	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 110.96%			
33) 1,2-Dichloropropane-d6	8.80	67	307776	26.67	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 106.68%			
37) Toluene-d8	9.87	98	790839	23.40	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 93.60%			
38) trans-1,3-Dichloropropene-	10.13	79	88236	20.44	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 81.76%			
39) 2-Hexanone-d5	10.49	63	53989	28.81	ug/L	0.01
Spiked Amount 50.000	Range 20 - 135		Recovery = 57.62%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	150763	18.93	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 75.72%			
60) 1,2-Dichlorobenzene-d4	13.41	152	124373	20.02	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 80.08%			
Target Compounds						Qvalue
13) Acetone	3.56	43	26394	4.14	ug/L	98
16) Methylene chloride	4.25	84	24699m	1.45	ug/L	

FY 5/16/2016

FY 5/16/2016

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method : VOA Level : LOW

Instrument ID: MSVOA_T Calibration Date(s): 05/11/2016 05/11/2016

GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 04:51 06:35

Length : 20 (m)

Heated Purge: (Y/N): Y Purge Volume : 10 (mL)

LAB FILE ID: RRF2.5 = VT014057.D RRF5.0 = VT014058.D
RRF25 = VT014059.D RRF50 = VT014060.D RRF100 = VT014061.D

ANALYTE	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.540	0.500	0.514	0.510	0.490	0.511	3.7
Chloromethane	0.624	0.608	0.612	0.597	0.567	0.602	3.6
Vinyl chloride	0.581	0.580	0.583	0.563	0.537	0.569	3.4
Bromomethane	0.295	0.288	0.290	0.281	0.263	0.284	4.3
Chloroethane	0.332	0.329	0.325	0.311	0.295	0.318	4.8
Trichlorofluoromethane	0.653	0.664	0.696	0.671	0.650	0.667	2.8
1,1-Dichloroethene	0.393	0.392	0.388	0.363	0.359	0.379	4.4
1,1,2-Trichloro-1,2,2-trifluoroetha	0.402	0.436	0.428	0.399	0.394	0.412	4.6
Acetone	0.121	0.112	0.104	0.090	0.091	0.104	12.8
Carbon disulfide	1.079	1.140	1.282	1.276	1.251	1.205	7.5
Methyl Acetate	0.222	0.235	0.234	0.208	0.216	0.223	5.2
Methylene chloride	0.497	0.442	0.375	0.341	0.332	0.397	17.7
trans-1,2-Dichloroethene	0.369	0.397	0.402	0.378	0.377	0.385	3.6
Methyl tert-butyl Ether	0.591	0.684	0.756	0.712	0.752	0.699	9.6
1,1-Dichloroethane	0.791	0.855	0.866	0.813	0.815	0.828	3.8
cis-1,2-Dichloroethene	0.346	0.374	0.392	0.359	0.360	0.366	4.7
2-Butanone	0.159	0.144	0.148	0.129	0.131	0.142	8.8
Bromochloromethane	0.135	0.141	0.139	0.129	0.133	0.136	3.5
Chloroform	0.714	0.734	0.722	0.674	0.672	0.703	4
1,1,1-Trichloroethane	0.719	0.794	0.839	0.791	0.781	0.785	5.5
Cyclohexane	1.034	1.122	1.199	1.131	1.117	1.121	5.2
Carbon tetrachloride	0.663	0.704	0.761	0.724	0.723	0.715	5
Benzene	2.058	2.114	2.098	1.966	1.992	2.045	3.2
1,2-Dichloroethane	0.515	0.534	0.543	0.498	0.510	0.520	3.5
Trichloroethene	0.504	0.526	0.536	0.497	0.505	0.514	3.2
Methylcyclohexane	0.998	1.032	1.071	1.021	1.018	1.028	2.6
1,2-Dichloropropane	0.523	0.524	0.530	0.497	0.506	0.516	2.7
Bromodichloromethane	0.477	0.537	0.610	0.566	0.579	0.554	9.1
cis-1,3-Dichloropropene	0.490	0.572	0.690	0.629	0.645	0.605	12.7
4-Methyl-2-pentanone	0.313	0.353	0.389	0.345	0.356	0.351	7.7
Toluene	1.986	1.981	2.000	1.925	2.018	1.982	1.8
trans-1,3-Dichloropropene	0.413	0.454	0.567	0.542	0.558	0.507	13.7

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method : VOA Level : LOW

Instrument ID: MSVOA_T Calibration Date(s): 05/11/2016 05/11/2016

GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 04:51 06:35

Length : 20 (m)

Heated Purge: (Y/N): Y Purge Volume : 10 (mL)

LAB FILE ID: RRF2.5 = VT014057.D RRF5.0 = VT014058.D
RRF25 = VT014059.D RRF50 = VT014060.D RRF100 = VT014061.D

ANALYTE	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	% RSD
1,1,2-Trichloroethane	0.263	0.279	0.276	0.254	0.263	0.267	3.9
Tetrachloroethene	0.368	0.371	0.370	0.357	0.372	0.367	1.7
2-Hexanone	0.233	0.258	0.268	0.239	0.250	0.250	5.6
Dibromochloromethane	0.257	0.288	0.343	0.321	0.341	0.310	12
1,2-Dibromoethane	0.234	0.246	0.267	0.247	0.252	0.249	4.8
Chlorobenzene	1.134	1.154	1.138	1.078	1.114	1.123	2.6
Ethylbenzene	2.135	2.226	2.309	2.205	2.304	2.236	3.3
o-xylene	0.688	0.746	0.821	0.774	0.815	0.769	7.1
m,p-Xylene	0.766	0.813	0.842	0.801	0.821	0.809	3.5
Styrene	1.153	1.185	1.288	1.200	1.267	1.219	4.7
Bromoform	0.262	0.270	0.404	0.361	0.389	0.337	19.8
Isopropylbenzene	2.014	2.164	2.319	2.252	2.346	2.219	6.1
1,1,2,2-Tetrachloroethane	0.336	0.340	0.351	0.321	0.326	0.335	3.5
1,3-Dichlorobenzene	1.627	1.613	1.756	1.656	1.694	1.669	3.4
1,4-Dichlorobenzene	1.817	1.682	1.721	1.633	1.663	1.703	4.2
1,2-Dichlorobenzene	1.564	1.483	1.561	1.480	1.504	1.518	2.7
1,2-Dibromo-3-chloropropane	0.090	0.098	0.136	0.115	0.121	0.112	16.4
1,2,4-trichlorobenzene	0.802	0.819	0.913	0.873	0.851	0.852	5.1
1,2,3-Trichlorobenzene	0.752	0.774	0.769	0.701	0.662	0.732	6.6
Vinyl Chloride-d3	0.357	0.352	0.419	0.413	0.394	0.387	8
Chloroethane-d5	0.292	0.281	0.302	0.303	0.287	0.293	3.3
1,1-Dichloroethene-d2	0.836	0.795	0.820	0.822	0.813	0.817	1.8
2-Butanone-d5	0.103	0.104	0.107	0.104	0.110	0.106	2.7
Chloroform-d	0.737	0.728	0.655	0.651	0.637	0.682	6.9
1,2-Dichloroethane-d4	0.443	0.428	0.379	0.376	0.380	0.401	7.9
Benzene-d6	1.803	1.744	1.612	1.598	1.614	1.674	5.6
1,2-Dichloropropane-d6	0.529	0.517	0.490	0.478	0.483	0.499	4.4
Toluene-d8	1.584	1.535	1.401	1.409	1.438	1.473	5.5
trans-1,3-Dichloropropene-d4	0.152	0.165	0.174	0.183	0.190	0.173	8.7
2-Hexanone-d5	0.072	0.084	0.089	0.084	0.089	0.083	8.2
1,1,2,2-Tetrachloroethane-d2	0.357	0.348	0.325	0.317	0.316	0.333	5.7
1,2-Dichlorobenzene-d4	1.088	0.966	0.866	0.878	0.878	0.935	10.1

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method : VOA Level : LOW

Instrument ID: MSVOA_T Calibration Date(s): 05/13/2016 05/13/2016

GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 14:37 16:23

Length : 20 (m)

Heated Purge: (Y/N): Y Purge Volume : 10 (mL)

LAB FILE ID: RRF2.5 = VT014143.D RRF5.0 = VT014144.D
RRF25 = VT014145.D RRF50 = VT014146.D RRF100 = VT014147.D

ANALYTE	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.627	0.545	0.571	0.603	0.549	0.579	6.1
Chloromethane	0.744	0.656	0.658	0.675	0.625	0.672	6.6
Vinyl chloride	0.688	0.671	0.643	0.663	0.604	0.654	4.9
Bromomethane	0.363	0.348	0.325	0.324	0.304	0.333	6.9
Chloroethane	0.383	0.380	0.358	0.356	0.331	0.362	5.8
Trichlorofluoromethane	0.848	0.827	0.803	0.807	0.747	0.806	4.7
1,1-Dichloroethene	0.416	0.407	0.395	0.395	0.378	0.398	3.5
1,1,2-Trichloro-1,2,2-trifluoroetha	0.477	0.482	0.445	0.447	0.421	0.454	5.6
Acetone	0.231	0.201	0.170	0.141	0.122	0.173	25.4
Carbon disulfide	1.241	1.211	1.266	1.340	1.296	1.271	3.9
Methyl Acetate	0.246	0.228	0.233	0.235	0.218	0.232	4.3
Methylene chloride	0.675	0.522	0.393	0.376	0.348	0.463	29.4
trans-1,2-Dichloroethene	0.414	0.405	0.402	0.415	0.400	0.407	1.7
Methyl tert-butyl Ether	0.734	0.778	0.850	0.872	0.836	0.814	7
1,1-Dichloroethane	0.929	0.937	0.926	0.922	0.882	0.919	2.3
cis-1,2-Dichloroethene	0.395	0.391	0.399	0.400	0.382	0.393	1.9
2-Butanone	0.206	0.192	0.176	0.166	0.145	0.177	13.2
Bromochloromethane	0.149	0.148	0.146	0.146	0.136	0.145	3.6
Chloroform	0.829	0.833	0.806	0.788	0.749	0.801	4.3
1,1,1-Trichloroethane	0.934	0.900	0.883	0.896	0.852	0.893	3.3
Cyclohexane	1.072	1.105	1.130	1.171	1.133	1.122	3.3
Carbon tetrachloride	0.818	0.787	0.804	0.819	0.787	0.803	1.9
Benzene	2.273	2.147	2.052	2.089	2.071	2.126	4.2
1,2-Dichloroethane	0.651	0.631	0.622	0.619	0.582	0.621	4
Trichloroethene	0.573	0.545	0.530	0.540	0.526	0.543	3.4
Methylcyclohexane	1.007	1.019	1.018	1.061	1.052	1.031	2.3
1,2-Dichloropropane	0.585	0.551	0.524	0.533	0.531	0.545	4.5
Bromodichloromethane	0.604	0.599	0.637	0.651	0.627	0.624	3.5
cis-1,3-Dichloropropene	0.592	0.633	0.699	0.734	0.720	0.675	9
4-Methyl-2-pentanone	0.359	0.359	0.379	0.395	0.354	0.369	4.7
Toluene	2.159	2.044	2.031	2.107	2.148	2.098	2.8
trans-1,3-Dichloropropene	0.524	0.517	0.620	0.656	0.625	0.588	10.8

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method : VOA Level : LOW

Instrument ID: MSVOA_T Calibration Date(s): 05/13/2016 05/13/2016

GC Column: RXI-624 ID: 0.25 (mm) Calibration Time(s): 14:37 16:23

Length : 20 (m)

Heated Purge: (Y/N): Y Purge Volume : 10 (mL)

LAB FILE ID: RRF2.5 = VT014143.D RRF5.0 = VT014144.D
RRF25 = VT014145.D RRF50 = VT014146.D RRF100 = VT014147.D

ANALYTE	RRF2.5	RRF5.0	RRF25	RRF50	RRF100	$\overline{RRF}$	% RSD
1,1,2-Trichloroethane	0.290	0.282	0.281	0.284	0.267	0.281	3
Tetrachloroethene	0.383	0.382	0.374	0.397	0.395	0.386	2.5
2-Hexanone	0.306	0.303	0.308	0.290	0.265	0.294	6.1
Dibromochloromethane	0.310	0.310	0.347	0.366	0.358	0.338	7.9
1,2-Dibromoethane	0.273	0.260	0.267	0.277	0.259	0.267	2.9
Chlorobenzene	1.327	1.215	1.177	1.211	1.198	1.225	4.8
Ethylbenzene	2.512	2.382	2.395	2.499	2.529	2.463	2.8
o-xylene	0.764	0.771	0.841	0.883	0.886	0.829	7.1
m,p-Xylene	0.842	0.833	0.862	0.897	0.902	0.867	3.6
Styrene	1.321	1.258	1.323	1.399	1.407	1.342	4.6
Bromoform	0.277	0.288	0.346	0.376	0.375	0.332	14.3
Isopropylbenzene	2.298	2.303	2.459	2.549	2.572	2.436	5.4
1,1,2,2-Tetrachloroethane	0.379	0.351	0.364	0.368	0.336	0.360	4.5
1,3-Dichlorobenzene	1.917	1.787	1.767	1.796	1.775	1.808	3.4
1,4-Dichlorobenzene	2.063	1.849	1.773	1.783	1.758	1.845	6.9
1,2-Dichlorobenzene	1.767	1.621	1.580	1.586	1.587	1.628	4.9
1,2-Dibromo-3-chloropropane	0.114	0.098	0.125	0.132	0.121	0.118	11
1,2,4-trichlorobenzene	0.974	0.911	1.005	1.019	0.939	0.970	4.6
1,2,3-Trichlorobenzene	0.973	0.819	0.842	0.822	0.714	0.834	11.1
Vinyl Chloride-d3	0.438	0.388	0.400	0.357	0.380	0.393	7.6
Chloroethane-d5	0.354	0.309	0.305	0.268	0.288	0.305	10.5
1,1-Dichloroethene-d2	0.997	0.901	0.856	0.794	0.830	0.876	8.9
2-Butanone-d5	0.118	0.106	0.102	0.099	0.106	0.106	7.1
Chloroform-d	0.882	0.799	0.687	0.613	0.668	0.730	14.9
1,2-Dichloroethane-d4	0.563	0.495	0.419	0.371	0.411	0.452	17
Benzene-d6	1.978	1.751	1.454	1.328	1.502	1.603	16.2
1,2-Dichloropropane-d6	0.616	0.510	0.442	0.406	0.453	0.486	16.9
Toluene-d8	1.707	1.543	1.305	1.186	1.371	1.422	14.4
trans-1,3-Dichloropropene-d4	0.188	0.174	0.179	0.172	0.196	0.182	5.7
2-Hexanone-d5	0.079	0.075	0.079	0.078	0.083	0.079	3.6
1,1,2,2-Tetrachloroethane-d2	0.406	0.347	0.323	0.293	0.307	0.335	13.1
1,2-Dichlorobenzene-d4	1.205	1.004	0.820	0.741	0.838	0.922	20.1

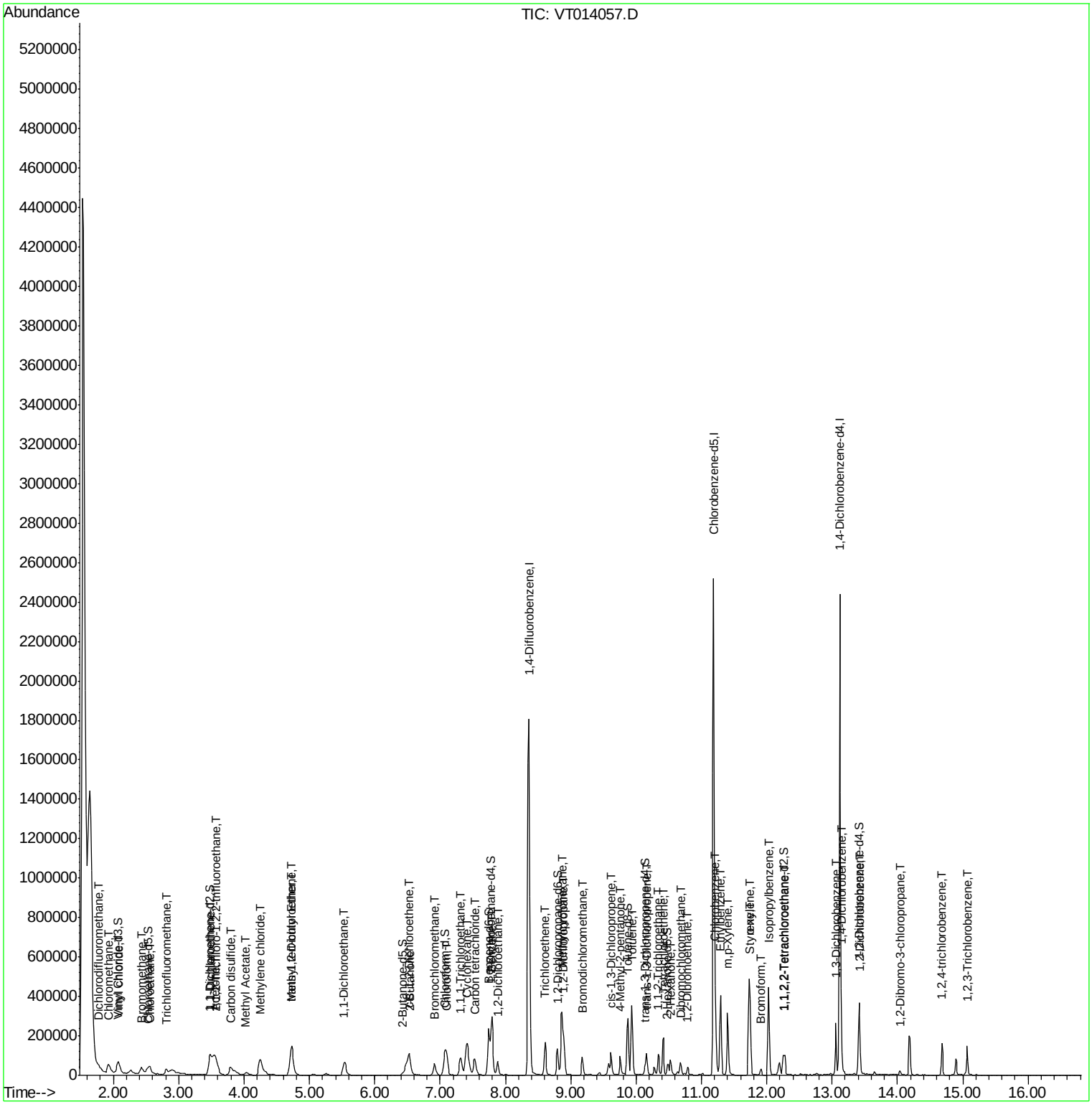
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:07:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.596

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:35 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
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Misc : 5.00g/10mL/MSVOA_T/SOIL
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Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.596

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:35 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1415798	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1121533	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	517349	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.06	65	50550	2.25	ug/L	-0.01
7) Chloroethane-d5	2.53	69	41355	2.52	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	118311	2.53	ug/L	0.00
20) 2-Butanone-d5	6.43	46	29252	5.28	ug/L	0.00
24) Chloroform-d	7.07	84	104320	2.71	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	62732	2.79	ug/L	0.00
29) Benzene-d6	7.74	84	202216	2.90	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	59289	2.86	ug/L	0.00
37) Toluene-d8	9.87	98	177595	2.85	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	17000	2.17	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	16198	4.88	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	40080	2.84	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	56312	3.12	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	76436	2.66	ug/L	100
3) Chloromethane	1.92	50	88280	2.60	ug/L	96
5) Vinyl chloride	2.08	62	82234	2.54	ug/L	99
6) Bromomethane	2.43	94	41713	2.53	ug/L	99
8) Chloroethane	2.56	64	46998	2.63	ug/L	96
9) Trichlorofluoromethane	2.81	101	92428m	2.32	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	56933	2.49	ug/L	91
12) 1,1-Dichloroethene	3.48	96	55582	2.67	ug/L	95
13) Acetone	3.56	43	34170	4.18	ug/L	92
14) Carbon disulfide	3.79	76	152778m	2.22	ug/L	
15) Methyl Acetate	4.03	43	31415	2.63	ug/L	98
16) Methylene chloride	4.24	84	70318	3.48	ug/L	95
17) Methyl tert-butyl Ether	4.73	73	83719	2.24	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	52293	2.49	ug/L	90
19) 1,1-Dichloroethane	5.53	63	112041	2.42	ug/L	99
21) 2-Butanone	6.54	43	44998m	5.34	ug/L	
22) cis-1,2-Dichloroethene	6.53	96	49041	2.45	ug/L	94
23) Bromochloromethane	6.92	128	19171	2.61	ug/L	94
25) Chloroform	7.11	83	101113	2.58	ug/L	97
27) 1,2-Dichloroethane	7.89	62	72984	2.44	ug/L	97
30) Cyclohexane	7.41	56	116021	2.51	ug/L	97
31) 1,1,1-Trichloroethane	7.31	97	80612	2.28	ug/L	96
32) Carbon tetrachloride	7.53	117	74393	2.33	ug/L	100
34) Benzene	7.79	78	230813	2.73	ug/L	100
35) Trichloroethene	8.61	95	56557	2.59	ug/L	99
36) Methylcyclohexane	8.87	83	111953	2.62	ug/L	99
40) 1,2-Dichloropropane	8.89	63	58671	2.75	ug/L	100
41) Bromodichloromethane	9.18	83	53452	2.15	ug/L	97
42) cis-1,3-Dichloropropene	9.61	75	54968	2.03	ug/L	96
43) 4-Methyl-2-pentanone	9.76	43	70183	4.81	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:07:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.596

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:35 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	222714	2.69	ug/L		100
45) trans-1,3-Dichloropropene	10.16	75	46288	2.01	ug/L		100
46) 1,1,2-Trichloroethane	10.34	97	29538	2.60	ug/L		98
47) Tetrachloroethene	10.42	164	41219	2.62	ug/L		92
49) 2-Hexanone	10.53	43	52362	4.50	ug/L		96
50) Dibromochloromethane	10.68	129	28857	2.11	ug/L		97
51) 1,2-Dibromoethane	10.79	107	26236	2.42	ug/L	#	99
52) Chlorobenzene	11.21	112	127131	2.65	ug/L		98
53) Ethylbenzene	11.29	91	239502	2.47	ug/L		99
54) m,p-Xylene	11.40	106	85936	2.46	ug/L		96
55) o-xylene	11.73	106	77188	2.33	ug/L		95
56) Styrene	11.74	104	129332	2.43	ug/L		100
57) Isopropylbenzene	12.03	105	225881	2.35	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.28	83	37718	2.63	ug/L		99
61) Bromoform	11.91	173	13572	1.94	ug/L	#	97
62) 1,3-Dichlorobenzene	13.06	146	84187	2.54	ug/L		99
63) 1,4-Dichlorobenzene	13.14	146	93983	2.75	ug/L		99
64) 1,2-Dichlorobenzene	13.42	146	80916	2.73	ug/L		99
65) 1,2-Dibromo-3-chloropropan	14.04	75	4651	1.96	ug/L		94
66) 1,2,4-trichlorobenzene	14.68	180	41500	2.36	ug/L		97
67) 1,2,3-Trichlorobenzene	15.07	180	38880	2.59	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

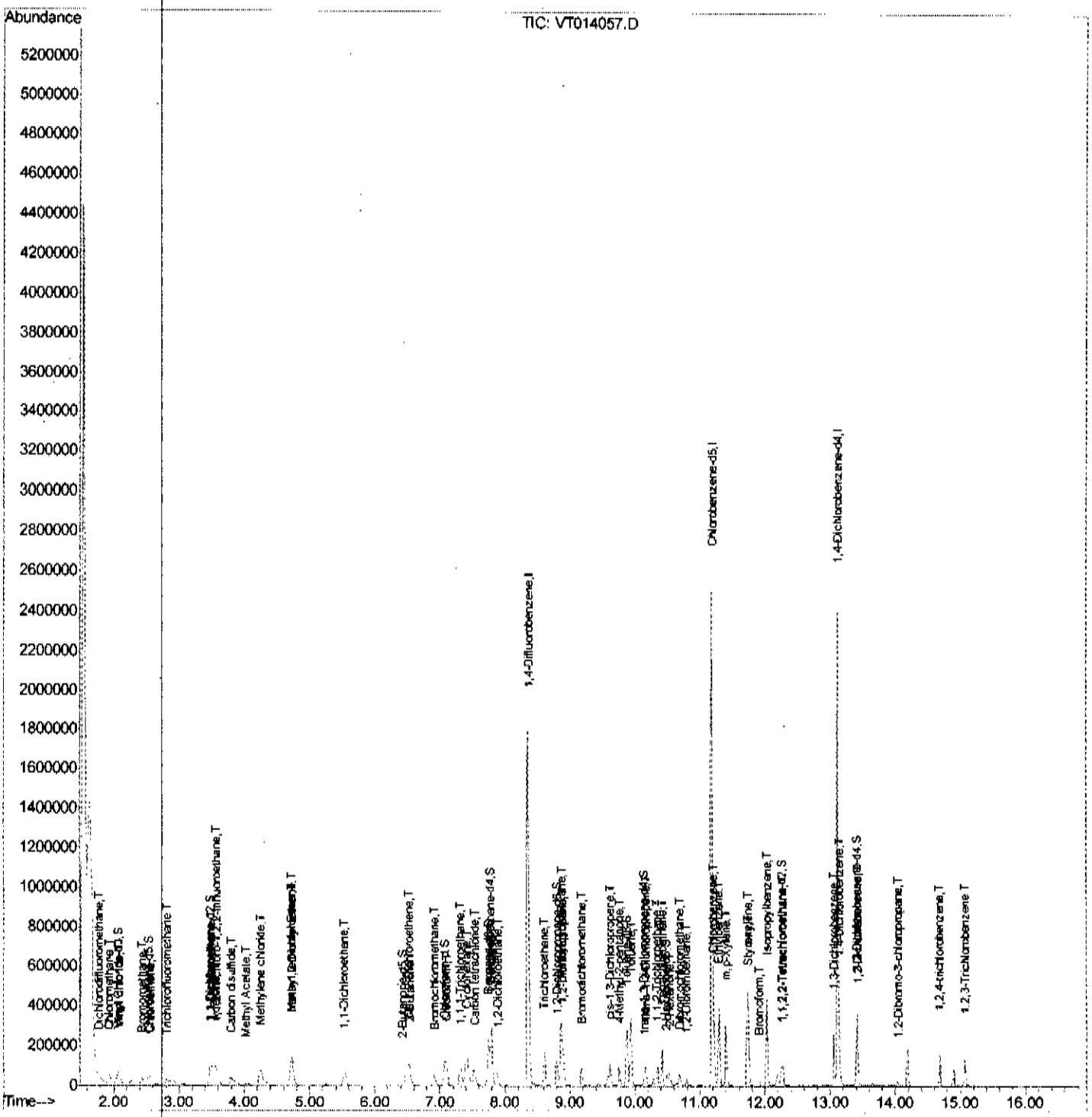
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:07:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM0511116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.596

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:35 PM



Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:04:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.596

Manual Integrations APPROVED
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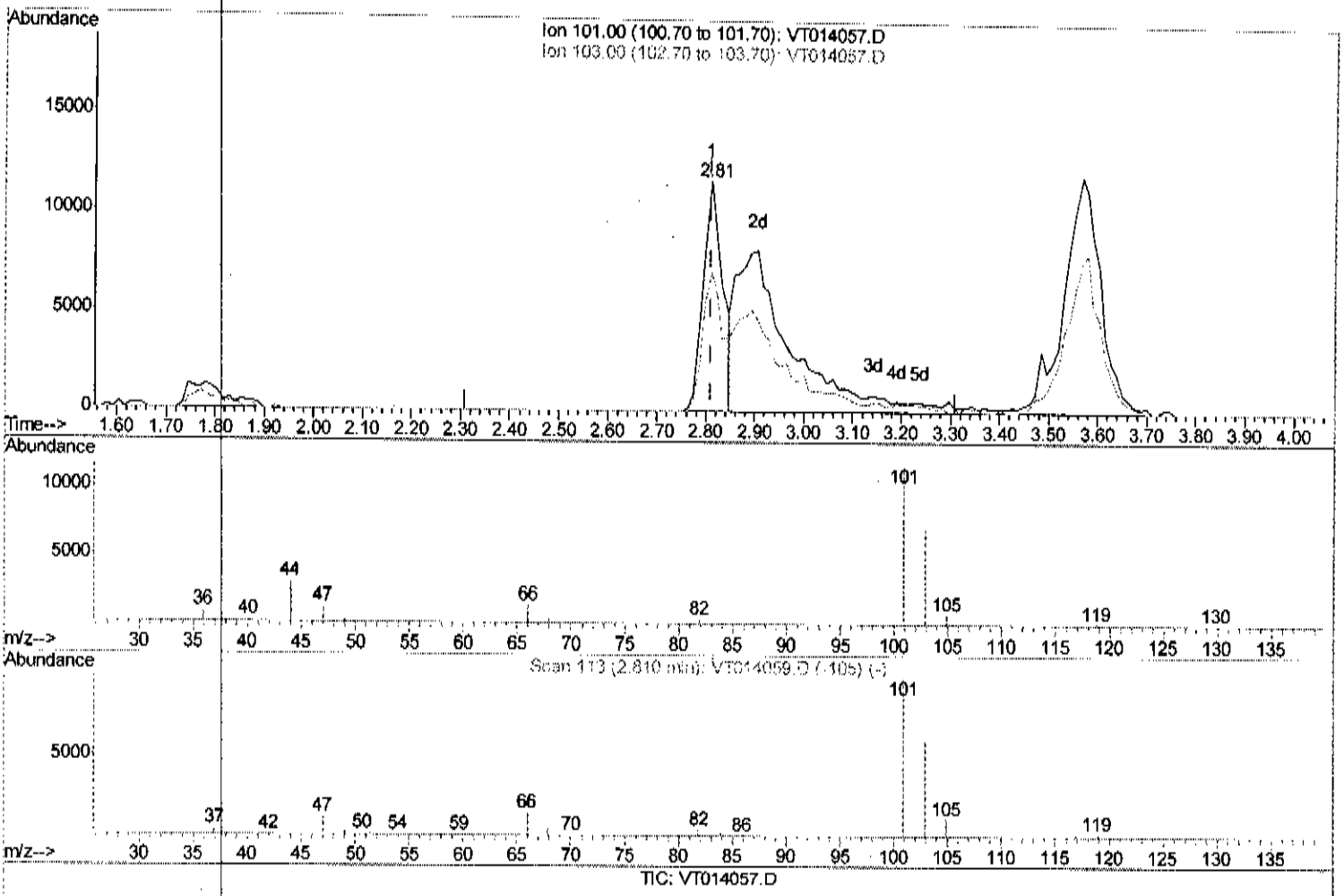


(9) Trichlorofluoromethane (T)

2.810min (0.000) 0.81ug/L

response 32282

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	55.96#
0.00	0.00	0.00
0.00	0.00	0.00

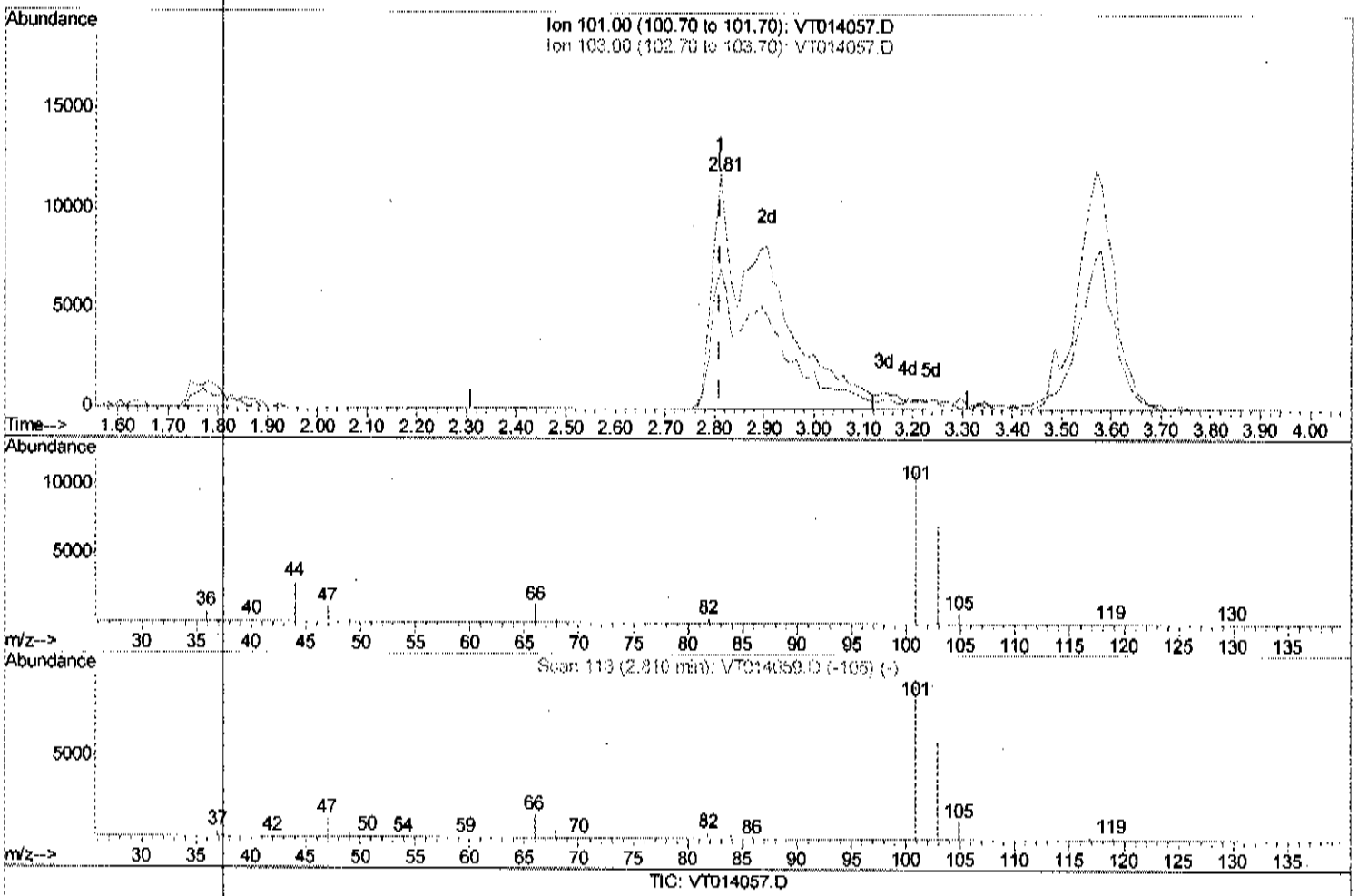
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:04:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.596

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:35 PM



(9) Trichlorofluoromethane (T)

2.810min (0.000) 2.32ug/L m

response 92428

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	19.54
0.00	0.00	0.00
0.00	0.00	0.00

FY 5/13/2016

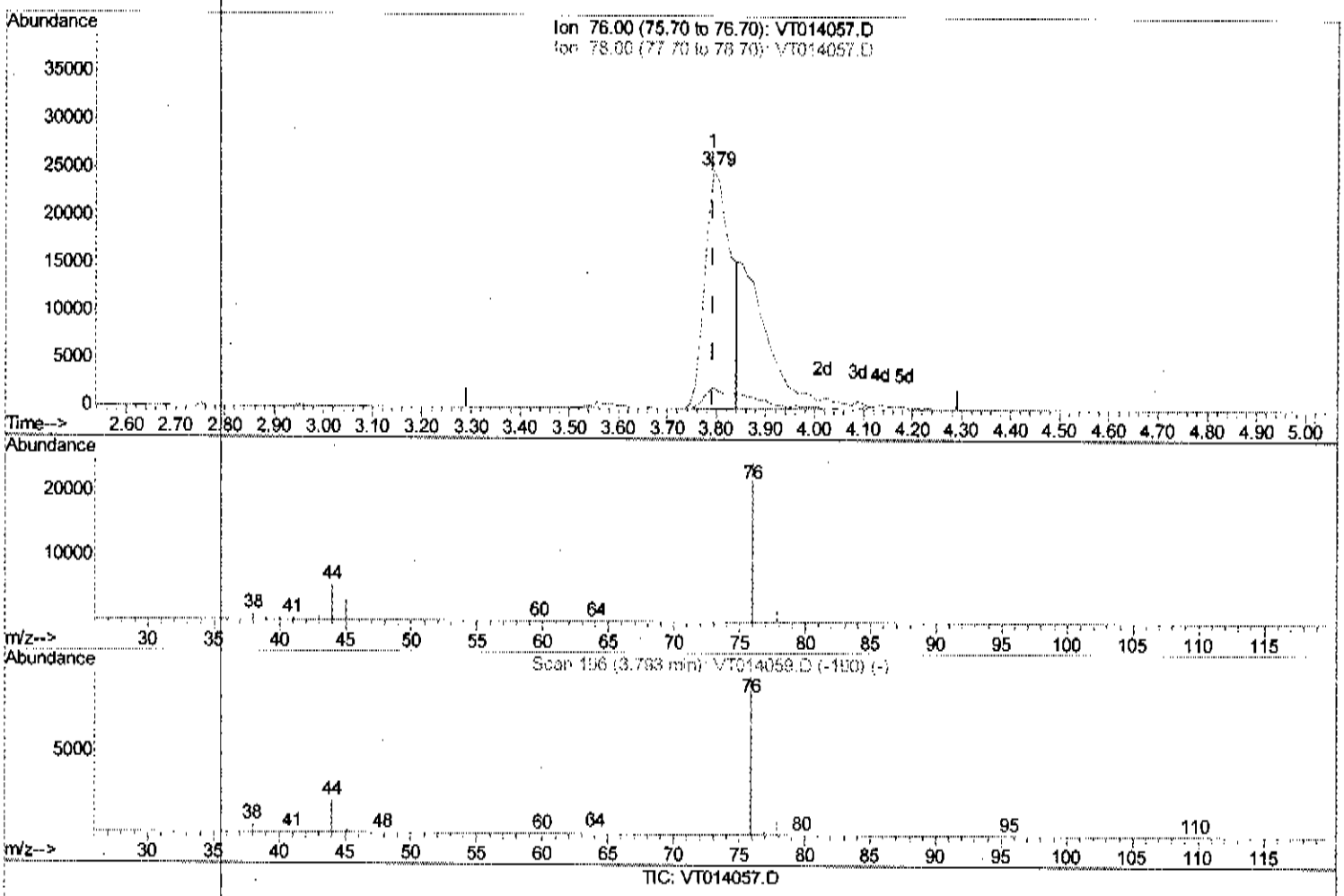
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:04:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.596

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:35 PM



(14) Carbon disulfide (T)

3.793min (0.000) 1.34ug/L

response 92605

Ion	Exp%	Act%
76.00	100	100
78.00	9.00	8.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:04:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.596

Manual Integrations APPROVED
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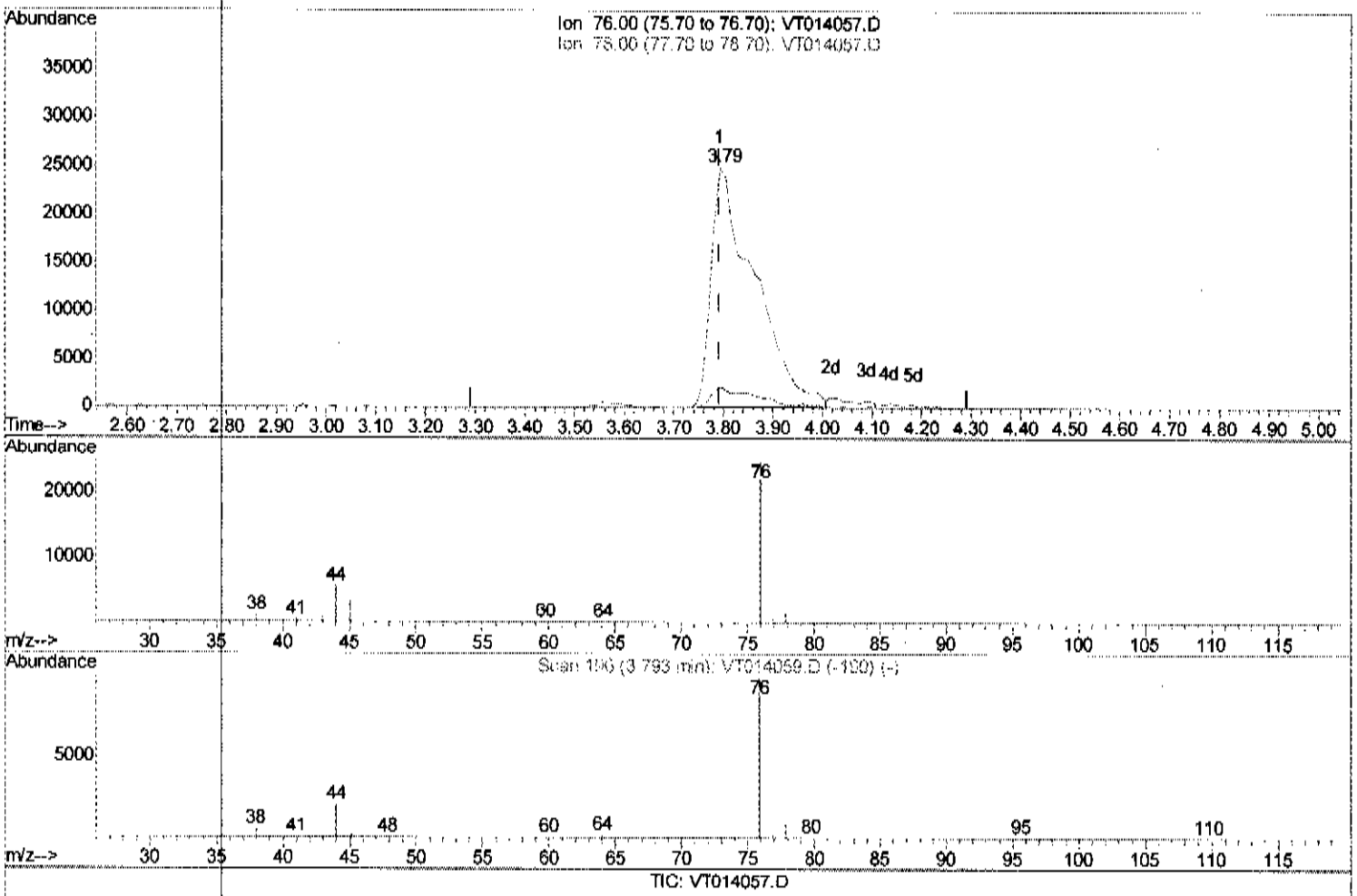
5/13/2016 5:55:35 PM



(14) Carbon disulfide (T)

3.793min (0.000) 2.22ug/L m

response 152778

Ion	Exp%	Act%
76.00	100	100
78.00	9.00	8.84
0.00	0.00	0.00
0.00	0.00	0.00

FY
5/13/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:04:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.596

Manual Integrations APPROVED
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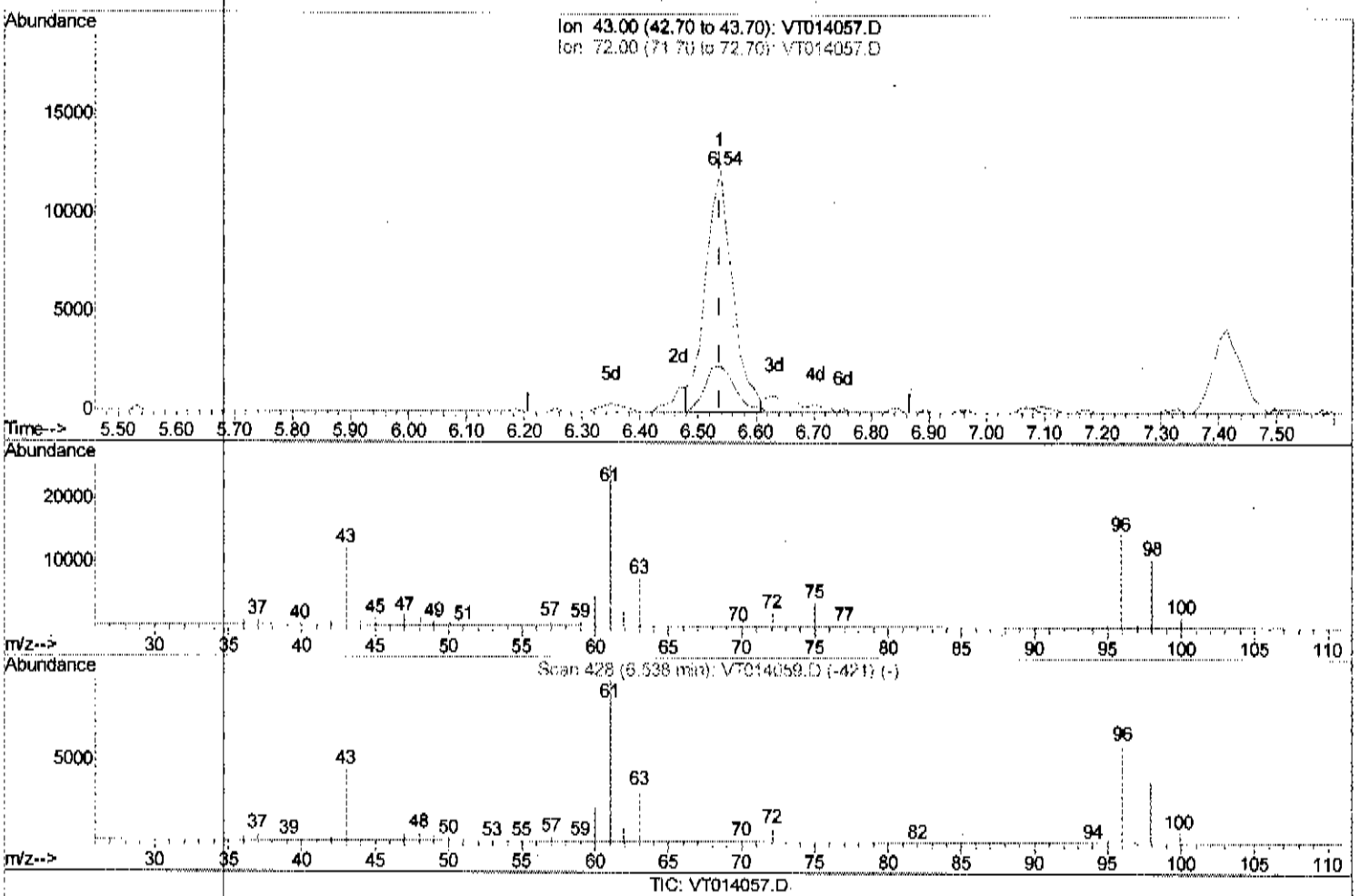
5/13/2016 5:55:35 PM



TIC: VT014057.D

(21) 2-Butanone

6.538min (0.000) 4.73ug/L

response 39878

Ion	Exp%	Act%
43.00	100	100
72.00	19.10	21.12
0.00	0.00	0.00
0.00	0.00	0.00

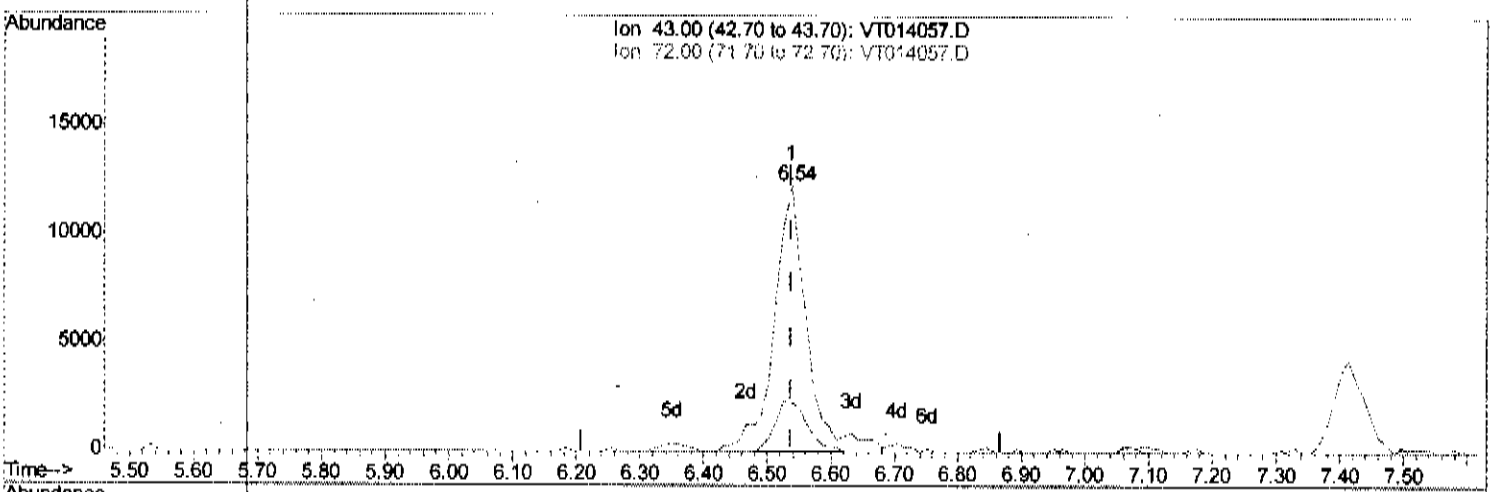
Quantitation Report (Qedit)

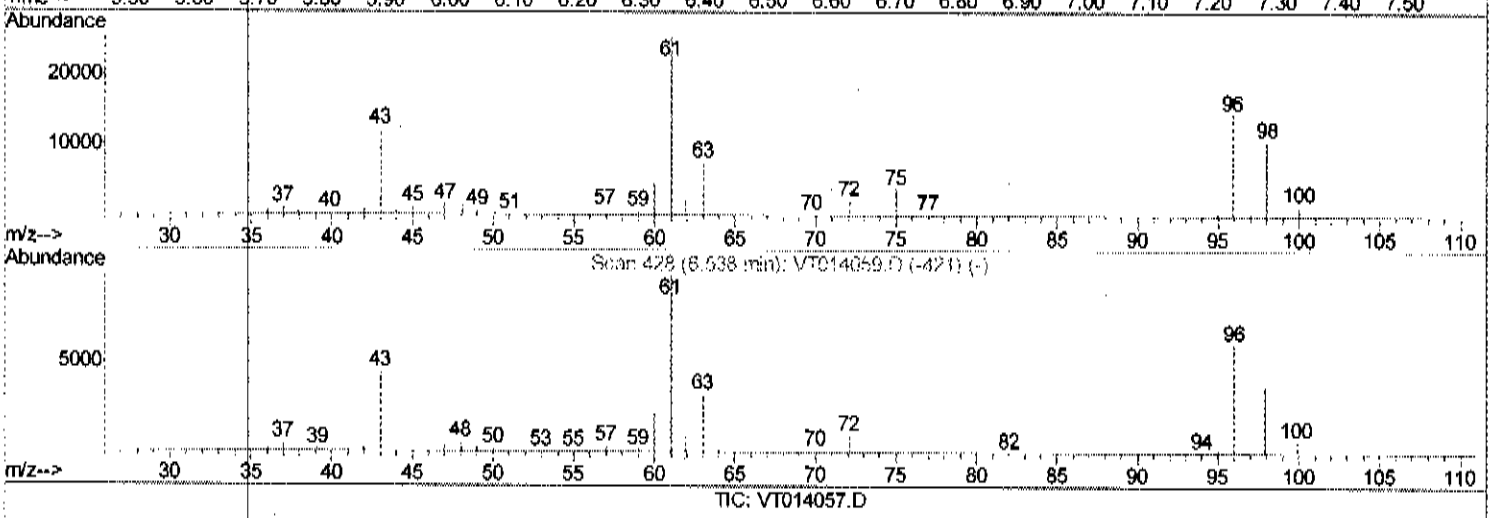
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:04:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.596

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:35 PM





(21) 2-Butanone

6.538min (0.000) 5.34ug/L m

response 44998

Ion	Exp%	Act%
43.00	100	100
72.00	19.10	18.71
0.00	0.00	0.00
0.00	0.00	0.00

FY
5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:07:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.596

Manual Integrations APPROVED
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5/13/2016 5:55:35 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1415798	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1121533	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	517349	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.06	65	50550	2.25	ug/L	-0.01
7) Chloroethane-d5	2.53	69	41355	2.52	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	118311	2.53	ug/L	0.00
20) 2-Butanone-d5	6.43	46	29252	5.28	ug/L	0.00
24) Chloroform-d	7.07	84	104320	2.71	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	62732	2.79	ug/L	0.00
29) Benzene-d6	7.74	84	202216	2.90	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	59289	2.86	ug/L	0.00
37) Toluene-d8	9.87	98	177595	2.85	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	17000	2.17	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	16198	4.88	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	40080	2.84	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	56312	3.12	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	76436	2.66	ug/L	100
3) Chloromethane	1.92	50	88280	2.60	ug/L	96
5) Vinyl chloride	2.08	62	82234	2.54	ug/L	99
6) Bromomethane	2.43	94	41713	2.53	ug/L	99
8) Chloroethane	2.56	64	46998	2.63	ug/L	96
9) Trichlorofluoromethane	2.81	101	92428m	2.32	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	56933	2.49	ug/L	91
12) 1,1-Dichloroethene	3.48	96	55582	2.67	ug/L	95
13) Acetone	3.56	43	34170	4.18	ug/L	92
14) Carbon disulfide	3.79	76	152778m	2.22	ug/L	
15) Methyl Acetate	4.03	43	31415	2.63	ug/L	98
16) Methylene chloride	4.24	84	70318	3.48	ug/L	95
17) Methyl tert-butyl Ether	4.73	73	83719	2.24	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	52293	2.49	ug/L	90
19) 1,1-Dichloroethane	5.53	63	112041	2.42	ug/L	99
21) 2-Butanone	6.54	43	44998m	5.34	ug/L	
22) cis-1,2-Dichloroethene	6.53	96	49041	2.45	ug/L	94
23) Bromochloromethane	6.92	128	19171	2.61	ug/L	94
25) Chloroform	7.11	83	101113	2.58	ug/L	97
27) 1,2-Dichloroethane	7.89	62	72984	2.44	ug/L	97
30) Cyclohexane	7.41	56	116021	2.51	ug/L	97
31) 1,1,1-Trichloroethane	7.31	97	80612	2.28	ug/L	96
32) Carbon tetrachloride	7.53	117	74393	2.33	ug/L	100
34) Benzene	7.79	78	230813	2.73	ug/L	100
35) Trichloroethene	8.61	95	56557	2.59	ug/L	99
36) Methylcyclohexane	8.87	83	111953	2.62	ug/L	99
40) 1,2-Dichloropropane	8.89	63	58671	2.75	ug/L	100
41) Bromodichloromethane	9.18	83	53452	2.15	ug/L	97
42) cis-1,3-Dichloropropene	9.61	75	54968	2.03	ug/L	96
43) 4-Methyl-2-pentanone	9.76	43	70183	4.81	ug/L	98

FT 5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014057.D
Acq On : 11 May 2016 4:51
Operator : FY/SY
Sample : VSTD2.596
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 11 07:07:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.596

Manual Integrations APPROVED
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5/13/2016 5:55:35 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	222714	2.69	ug/L		100
45) trans-1,3-Dichloropropene	10.16	75	46288	2.01	ug/L		100
46) 1,1,2-Trichloroethane	10.34	97	29538	2.60	ug/L		98
47) Tetrachloroethene	10.42	164	41219	2.62	ug/L		92
49) 2-Hexanone	10.53	43	52362	4.50	ug/L		96
50) Dibromochloromethane	10.68	129	28857	2.11	ug/L		97
51) 1,2-Dibromoethane	10.79	107	26236	2.42	ug/L	#	99
52) Chlorobenzene	11.21	112	127131	2.65	ug/L		98
53) Ethylbenzene	11.29	91	239502	2.47	ug/L		99
54) m,p-Xylene	11.40	106	85936	2.46	ug/L		96
55) o-xylene	11.73	106	77188	2.33	ug/L		95
56) Styrene	11.74	104	129332	2.43	ug/L		100
57) Isopropylbenzene	12.03	105	225881	2.35	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.28	83	37718	2.63	ug/L		99
61) Bromoform	11.91	173	13572	1.94	ug/L	#	97
62) 1,3-Dichlorobenzene	13.06	146	84187	2.54	ug/L		99
63) 1,4-Dichlorobenzene	13.14	146	93983	2.75	ug/L		99
64) 1,2-Dichlorobenzene	13.42	146	80916	2.73	ug/L		99
65) 1,2-Dibromo-3-chloropropan	14.04	75	4651	1.96	ug/L		94
66) 1,2,4-trichlorobenzene	14.68	180	41500	2.36	ug/L		97
67) 1,2,3-Trichlorobenzene	15.07	180	38880	2.59	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014058.D
Acq On : 11 May 2016 5:17
Operator : FY/SY
Sample : VSTD00597
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 11 07:09:03 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00597

Manual Integrations APPROVED
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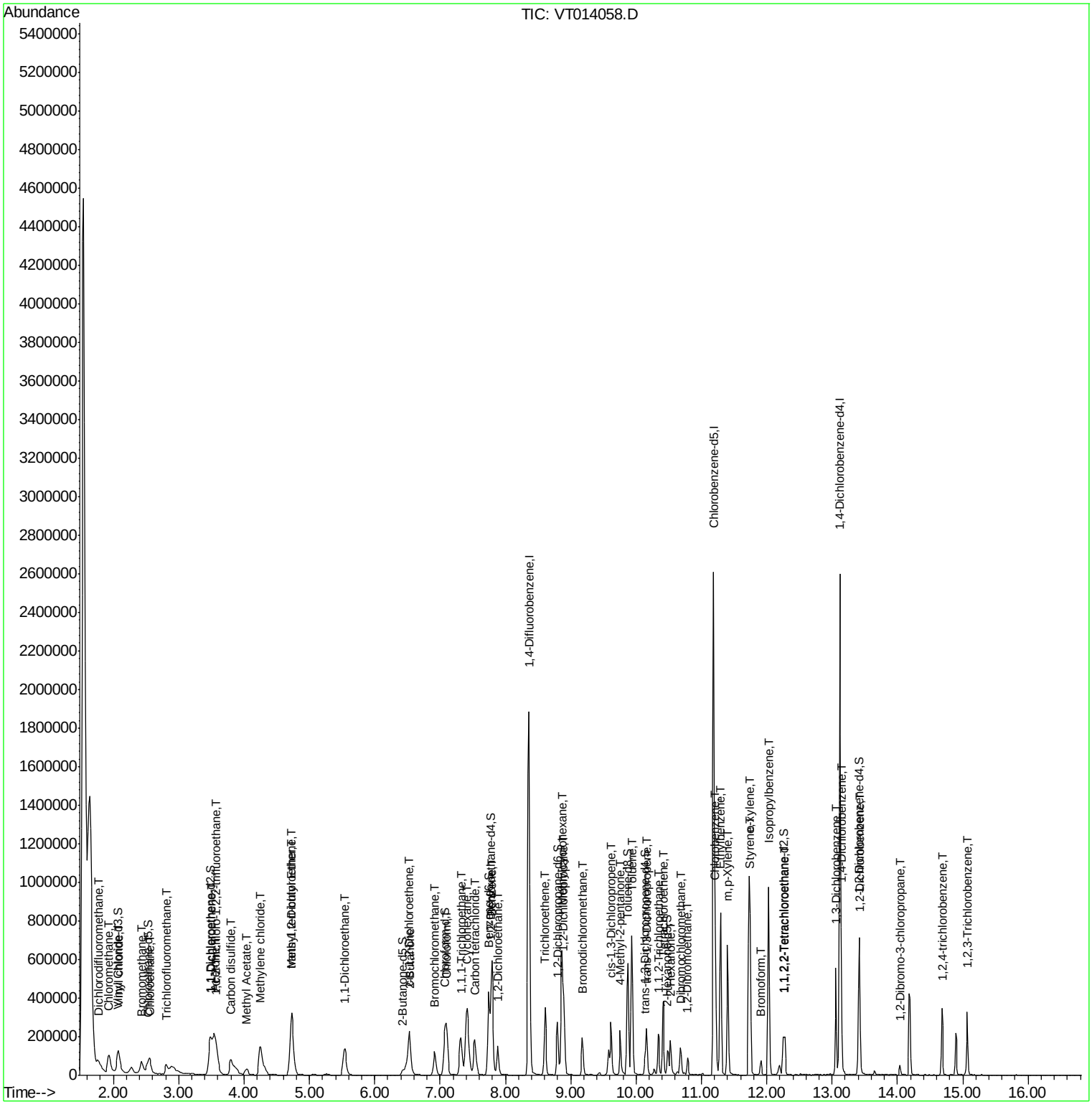
5/13/2016 5:55:37 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014058.D
Acq On : 11 May 2016 5:17
Operator : FY/SY
Sample : VSTD00597
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 11 07:09:03 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00597

Manual Integrations APPROVED
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5/13/2016 5:55:37 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1434255	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1145209	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	559639	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.06	65	101044	4.43	ug/L	-0.01
7) Chloroethane-d5	2.53	69	80470	4.84	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.48	63	228003	4.82	ug/L	0.01
20) 2-Butanone-d5	6.43	46	59710	10.65	ug/L	0.00
24) Chloroform-d	7.07	84	208944	5.36	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	122769	5.38	ug/L	0.00
29) Benzene-d6	7.74	84	399414	5.60	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	118378	5.59	ug/L	0.00
37) Toluene-d8	9.87	98	351540	5.52	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	37838	4.73	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	38289	11.30	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	79636	5.52	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	108162	5.55	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	143517	4.94	ug/L	97
3) Chloromethane	1.93	50	174473	5.07	ug/L	100
5) Vinyl chloride	2.08	62	166425	5.07	ug/L	98
6) Bromomethane	2.43	94	82653	4.95	ug/L	98
8) Chloroethane	2.56	64	94257	5.21	ug/L	100
9) Trichlorofluoromethane	2.81	101	190448m	4.71	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	125098	5.41	ug/L	98
12) 1,1-Dichloroethene	3.50	96	112438	5.34	ug/L	88
13) Acetone	3.56	43	64506	7.79	ug/L	99
14) Carbon disulfide	3.79	76	327041	4.68	ug/L	100
15) Methyl Acetate	4.04	43	67274	5.57	ug/L	99
16) Methylene chloride	4.25	84	126819	6.19	ug/L	99
17) Methyl tert-butyl Ether	4.73	73	196320	5.18	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	113806	5.35	ug/L	93
19) 1,1-Dichloroethane	5.54	63	245249	5.23	ug/L	98
21) 2-Butanone	6.54	43	82767	9.69	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	107199	5.28	ug/L	94
23) Bromochloromethane	6.92	128	40568	5.45	ug/L	99
25) Chloroform	7.09	83	210461	5.29	ug/L	98
27) 1,2-Dichloroethane	7.89	62	153250	5.07	ug/L	97
30) Cyclohexane	7.41	56	257056	5.44	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	181945	5.05	ug/L	98
32) Carbon tetrachloride	7.53	117	161237	4.95	ug/L	99
34) Benzene	7.79	78	484132	5.60	ug/L	100
35) Trichloroethene	8.61	95	120490	5.41	ug/L	97
36) Methylcyclohexane	8.87	83	236279	5.42	ug/L	99
40) 1,2-Dichloropropane	8.89	63	120014	5.50	ug/L	100
41) Bromodichloromethane	9.18	83	122913	4.84	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	131123	4.75	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	161585	10.84	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014058.D
Acq On : 11 May 2016 5:17
Operator : FY/SY
Sample : VSTD00597
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 37 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD00597

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:37 PM

Quant Time: May 11 07:09:03 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
44) Toluene	9.93	91	453680	5.37 ug/L	96
45) trans-1,3-Dichloropropene	10.16	75	103917	4.42 ug/L	98
46) 1,1,2-Trichloroethane	10.35	97	63983	5.51 ug/L	95
47) Tetrachloroethene	10.42	164	84905	5.28 ug/L	95
49) 2-Hexanone	10.53	43	118105	9.94 ug/L	98
50) Dibromochloromethane	10.68	129	65853	4.71 ug/L	98
51) 1,2-Dibromoethane	10.79	107	56281	5.09 ug/L	98
52) Chlorobenzene	11.21	112	264349	5.40 ug/L	98
53) Ethylbenzene	11.29	91	509854	5.14 ug/L	100
54) m,p-Xylene	11.40	106	186246	5.23 ug/L	97
55) o-xylene	11.73	106	170965	5.05 ug/L	98
56) Styrene	11.74	104	271412	5.00 ug/L	100
57) Isopropylbenzene	12.03	105	495679	5.04 ug/L	98
58) 1,1,2,2-Tetrachloroethane	12.28	83	77896	5.31 ug/L	98
61) Bromoform	11.91	173	30250	3.99 ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	180594	5.04 ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	188265	5.10 ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	165938	5.18 ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	10933	4.26 ug/L	97
66) 1,2,4-trichlorobenzene	14.69	180	91723	4.82 ug/L	98
67) 1,2,3-Trichlorobenzene	15.07	180	86637	5.34 ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

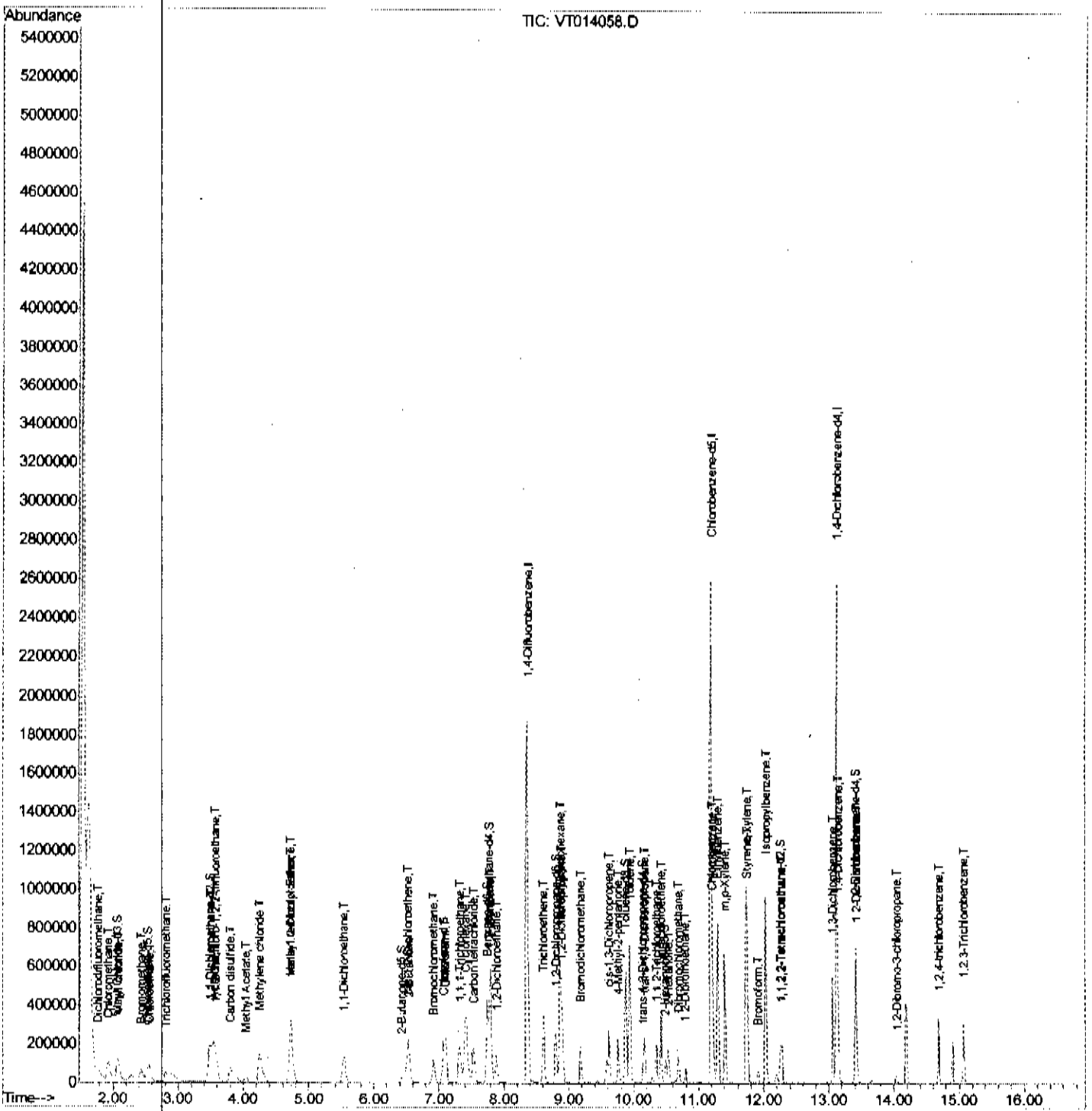
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014058.D
Acq On : 11 May 2016 5:17
Operator : FY/SY
Sample : VSTD00597
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 11 07:09:03 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00597

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:37 PM



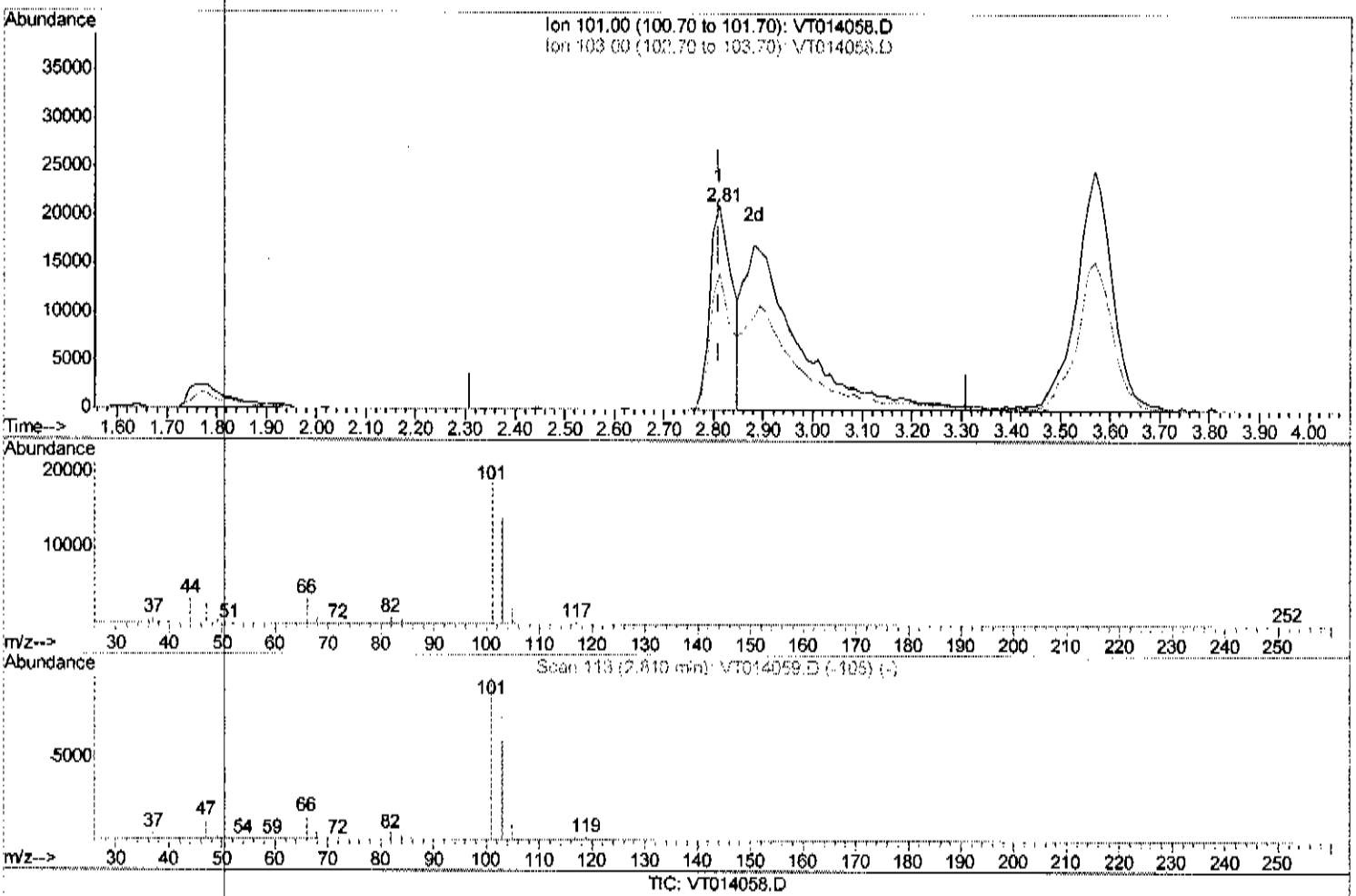
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014058.D
Acq On : 11 May 2016 5:17
Operator : FY/SY
Sample : VSTD00597
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 11 07:04:53 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00597

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:37 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 1.60ug/L

response 64841

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	65.10#
0.00	0.00	0.00
0.00	0.00	0.00

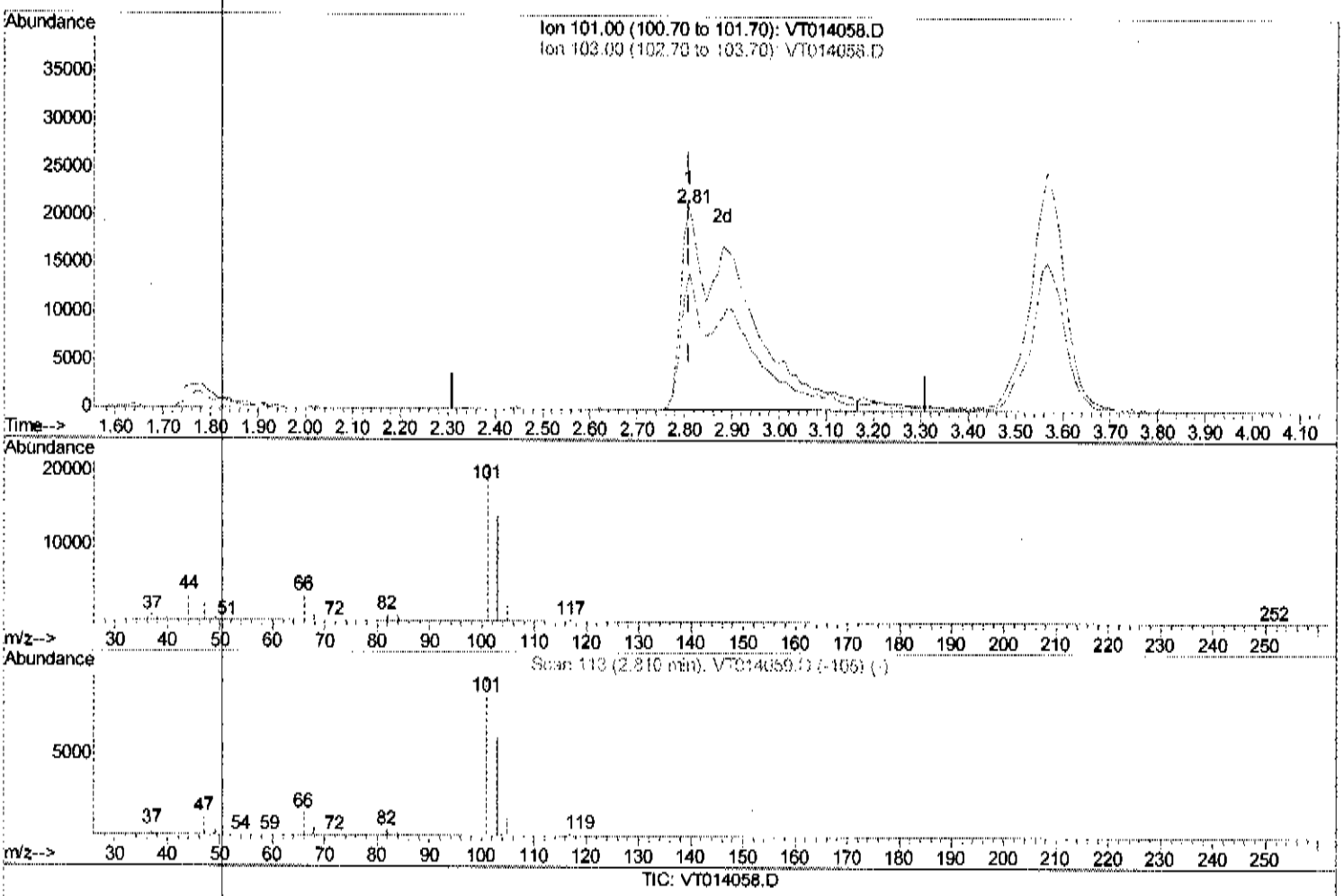
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014058.D
Acq On : 11 May 2016 5:17
Operator : FY/SY
Sample : VSTD00597
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 11 07:04:53 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00597

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:37 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 4.71ug/L m

response 190448

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	22.17
0.00	0.00	0.00
0.00	0.00	0.00

ET
5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014058.D
Acq On : 11 May 2016 5:17
Operator : FY/SY
Sample : VSTD00597
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 11 07:09:03 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00597

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:37 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1434255	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1145209	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	559639	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.06	65	101044	4.43	ug/L	-0.01
7) Chloroethane-d5	2.53	69	80470	4.84	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.48	63	228003	4.82	ug/L	0.01
20) 2-Butanone-d5	6.43	46	59710	10.65	ug/L	0.00
24) Chloroform-d	7.07	84	208944	5.36	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	122769	5.38	ug/L	0.00
29) Benzene-d6	7.74	84	399414	5.60	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	118378	5.59	ug/L	0.00
37) Toluene-d8	9.87	98	351540	5.52	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	37838	4.73	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	38289	11.30	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	79636	5.52	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	108162	5.55	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	143517	4.94	ug/L	97
3) Chloromethane	1.93	50	174473	5.07	ug/L	100
5) Vinyl chloride	2.08	62	166425	5.07	ug/L	98
6) Bromomethane	2.43	94	82653	4.95	ug/L	98
8) Chloroethane	2.56	64	94257	5.21	ug/L	100
9) Trichlorofluoromethane	2.81	101	190448m	4.71	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	125098	5.41	ug/L	98
12) 1,1-Dichloroethene	3.50	96	112438	5.34	ug/L	88
13) Acetone	3.56	43	64506	7.79	ug/L	99
14) Carbon disulfide	3.79	76	327041	4.68	ug/L	100
15) Methyl Acetate	4.04	43	67274	5.57	ug/L	99
16) Methylene chloride	4.25	84	126819	6.19	ug/L	99
17) Methyl tert-butyl Ether	4.73	73	196320	5.18	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	113806	5.35	ug/L	93
19) 1,1-Dichloroethane	5.54	63	245249	5.23	ug/L	98
21) 2-Butanone	6.54	43	82767	9.69	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	107199	5.28	ug/L	94
23) Bromochloromethane	6.92	128	40568	5.45	ug/L	99
25) Chloroform	7.09	83	210461	5.29	ug/L	98
27) 1,2-Dichloroethane	7.89	62	153250	5.07	ug/L	97
30) Cyclohexane	7.41	56	257056	5.44	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	181945	5.05	ug/L	98
32) Carbon tetrachloride	7.53	117	161237	4.95	ug/L	99
34) Benzene	7.79	78	484132	5.60	ug/L	100
35) Trichloroethene	8.61	95	120490	5.41	ug/L	97
36) Methylcyclohexane	8.87	83	236279	5.42	ug/L	99
40) 1,2-Dichloropropane	8.89	63	120014	5.50	ug/L	100
41) Bromodichloromethane	9.18	83	122913	4.84	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	131123	4.75	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	161585	10.84	ug/L	100

FT 5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014058.D
Acq On : 11 May 2016 5:17
Operator : FY/SY
Sample : VSTD00597
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 11 07:09:03 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00597

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:37 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	453680	5.37	ug/L	96
45) trans-1,3-Dichloropropene	10.16	75	103917	4.42	ug/L	98
46) 1,1,2-Trichloroethane	10.35	97	63983	5.51	ug/L	95
47) Tetrachloroethene	10.42	164	84905	5.28	ug/L	95
49) 2-Hexanone	10.53	43	118105	9.94	ug/L	98
50) Dibromochloromethane	10.68	129	65853	4.71	ug/L	98
51) 1,2-Dibromoethane	10.79	107	56281	5.09	ug/L	98
52) Chlorobenzene	11.21	112	264349	5.40	ug/L	98
53) Ethylbenzene	11.29	91	509854	5.14	ug/L	100
54) m,p-Xylene	11.40	106	186246	5.23	ug/L	97
55) o-xylene	11.73	106	170965	5.05	ug/L	98
56) Styrene	11.74	104	271412	5.00	ug/L	100
57) Isopropylbenzene	12.03	105	495679	5.04	ug/L	98
58) 1,1,2,2-Tetrachloroethane	12.28	83	77896	5.31	ug/L	98
61) Bromoform	11.91	173	30250	3.99	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	180594	5.04	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	188265	5.10	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	165938	5.18	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	10933	4.26	ug/L	97
66) 1,2,4-trichlorobenzene	14.69	180	91723	4.82	ug/L	98
67) 1,2,3-Trichlorobenzene	15.07	180	86637	5.34	ug/L	97

(#) = qualifier out of range (m) manual integration (+) = signals summed

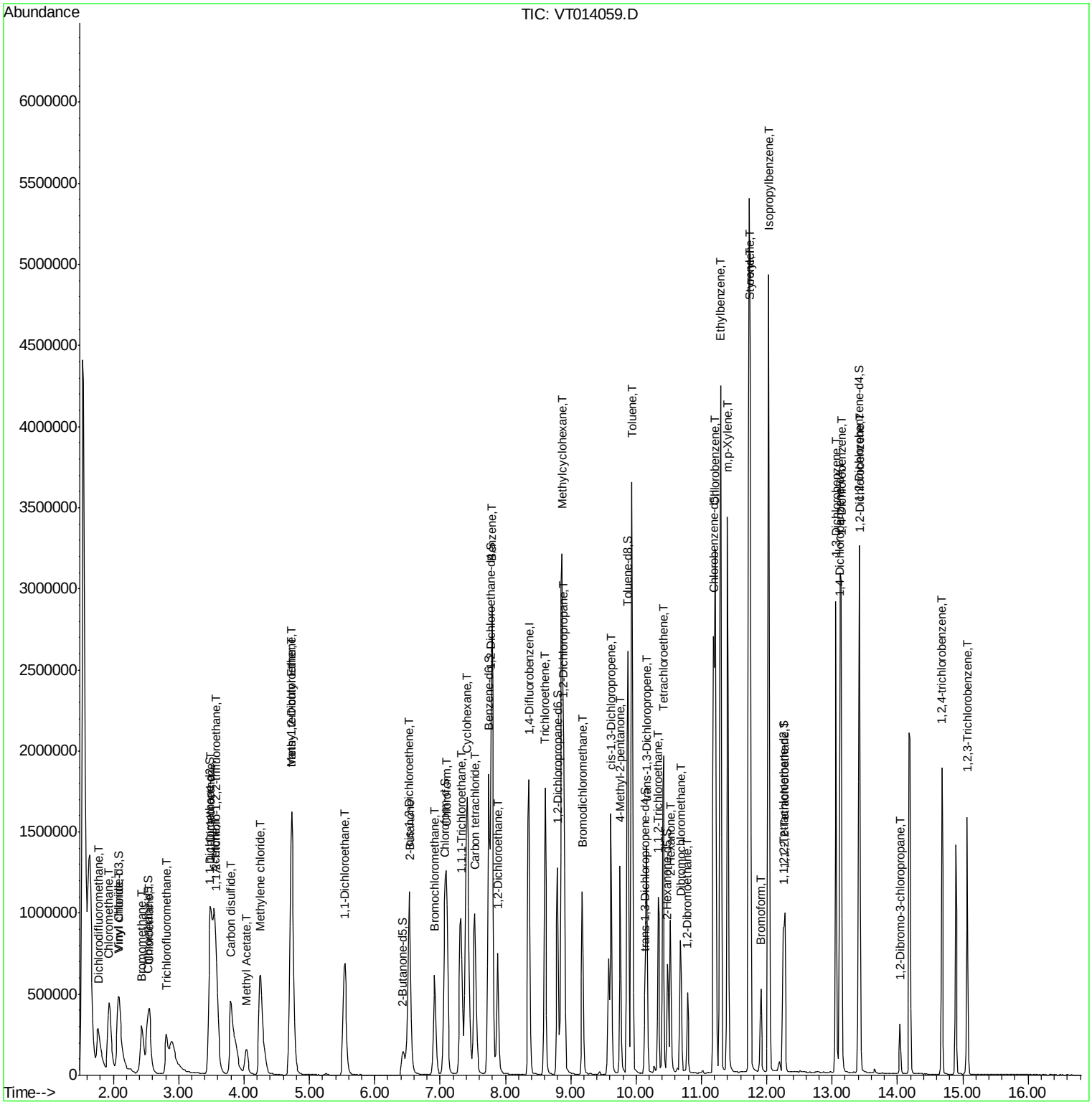
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014059.D
Acq On : 11 May 2016 5:43
Operator : FY/SY
Sample : VSTD02598
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 11 07:10:17 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02598

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014059.D
Acq On : 11 May 2016 5:43
Operator : FY/SY
Sample : VSTD02598
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 38 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02598

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM

Quant Time: May 11 07:10:17 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1428697	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1132012	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	533782	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	598965	26.37	ug/L	0.00
7) Chloroethane-d5	2.53	69	430936	26.00	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	1171452	24.84	ug/L	0.00
20) 2-Butanone-d5	6.43	46	304597	54.53	ug/L	0.00
24) Chloroform-d	7.07	84	935896	24.10	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	541535	23.83	ug/L	0.00
29) Benzene-d6	7.74	84	1825118	25.90	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	554651	26.51	ug/L	0.00
37) Toluene-d8	9.87	98	1585550	25.20	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	196793	24.90	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	200964	60.00	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	367637	25.78	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	462098	24.85	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	734775	25.37	ug/L	100
3) Chloromethane	1.93	50	874546	25.53	ug/L	100
5) Vinyl chloride	2.09	62	832725	25.48	ug/L	100
6) Bromomethane	2.43	94	414381	24.92	ug/L	100
8) Chloroethane	2.55	64	464950	25.79	ug/L	100
9) Trichlorofluoromethane	2.81	101	994634m	24.70	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	611919	26.55	ug/L	100
12) 1,1-Dichloroethene	3.48	96	553867	26.41	ug/L	100
13) Acetone	3.56	43	298137	36.13	ug/L	100
14) Carbon disulfide	3.79	76	1830925	26.31	ug/L	100
15) Methyl Acetate	4.04	43	334279	27.78	ug/L	100
16) Methylene chloride	4.25	84	535390	26.24	ug/L	100
17) Methyl tert-butyl Ether	4.73	73	1079678	28.60	ug/L	100
18) trans-1,2-Dichloroethene	4.73	96	573896	27.10	ug/L	100
19) 1,1-Dichloroethane	5.54	63	1237137	26.47	ug/L	100
21) 2-Butanone	6.54	43	424175	49.85	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	559738	27.69	ug/L	100
23) Bromochloromethane	6.92	128	198813	26.83	ug/L	100
25) Chloroform	7.09	83	1031033	26.03	ug/L	100
27) 1,2-Dichloroethane	7.89	62	776127	25.77	ug/L	100
30) Cyclohexane	7.41	56	1357078	29.07	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	950305	26.69	ug/L	100
32) Carbon tetrachloride	7.53	117	861635	26.74	ug/L	100
34) Benzene	7.79	78	2374924	27.79	ug/L	100
35) Trichloroethene	8.61	95	606769	27.58	ug/L	100
36) Methylcyclohexane	8.87	83	1212521	28.16	ug/L	100
40) 1,2-Dichloropropane	8.89	63	600093	27.85	ug/L	100
41) Bromodichloromethane	9.18	83	691009	27.51	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	781124	28.60	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	879917	59.71	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014059.D
Acq On : 11 May 2016 5:43
Operator : FY/SY
Sample : VSTD02598
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 38 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02598

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM

Quant Time: May 11 07:10:17 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	2264120	27.12	ug/L	100
45) trans-1,3-Dichloropropene	10.16	75	642026	27.63	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	312516	27.21	ug/L	100
47) Tetrachloroethene	10.42	164	418542	26.36	ug/L	100
49) 2-Hexanone	10.53	43	607047	51.67	ug/L	100
50) Dibromochloromethane	10.68	129	388716	28.11	ug/L	100
51) 1,2-Dibromoethane	10.79	107	302382	27.64	ug/L	100
52) Chlorobenzene	11.21	112	1288426	26.64	ug/L	100
53) Ethylbenzene	11.29	91	2614100	26.66	ug/L	100
54) m,p-Xylene	11.40	106	952657	27.06	ug/L	100
55) o-xylene	11.73	106	928901	27.75	ug/L	100
56) Styrene	11.74	104	1457849	27.19	ug/L	100
57) Isopropylbenzene	12.03	105	2625427	27.01	ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	396972	27.39	ug/L	100
61) Bromoform	11.91	173	215597	29.80	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	937463	27.44	ug/L	100
63) 1,4-Dichlorobenzene	13.14	146	918622	26.10	ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	833117	27.25	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	72465	29.61	ug/L	100
66) 1,2,4-trichlorobenzene	14.68	180	487197	26.83	ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	410544	26.52	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014059.D
Acq On : 11 May 2016 5:43
Operator : EY/SY
Sample : VSTD02598
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 11 07:10:17 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02598

Manual Integrations APPROVED
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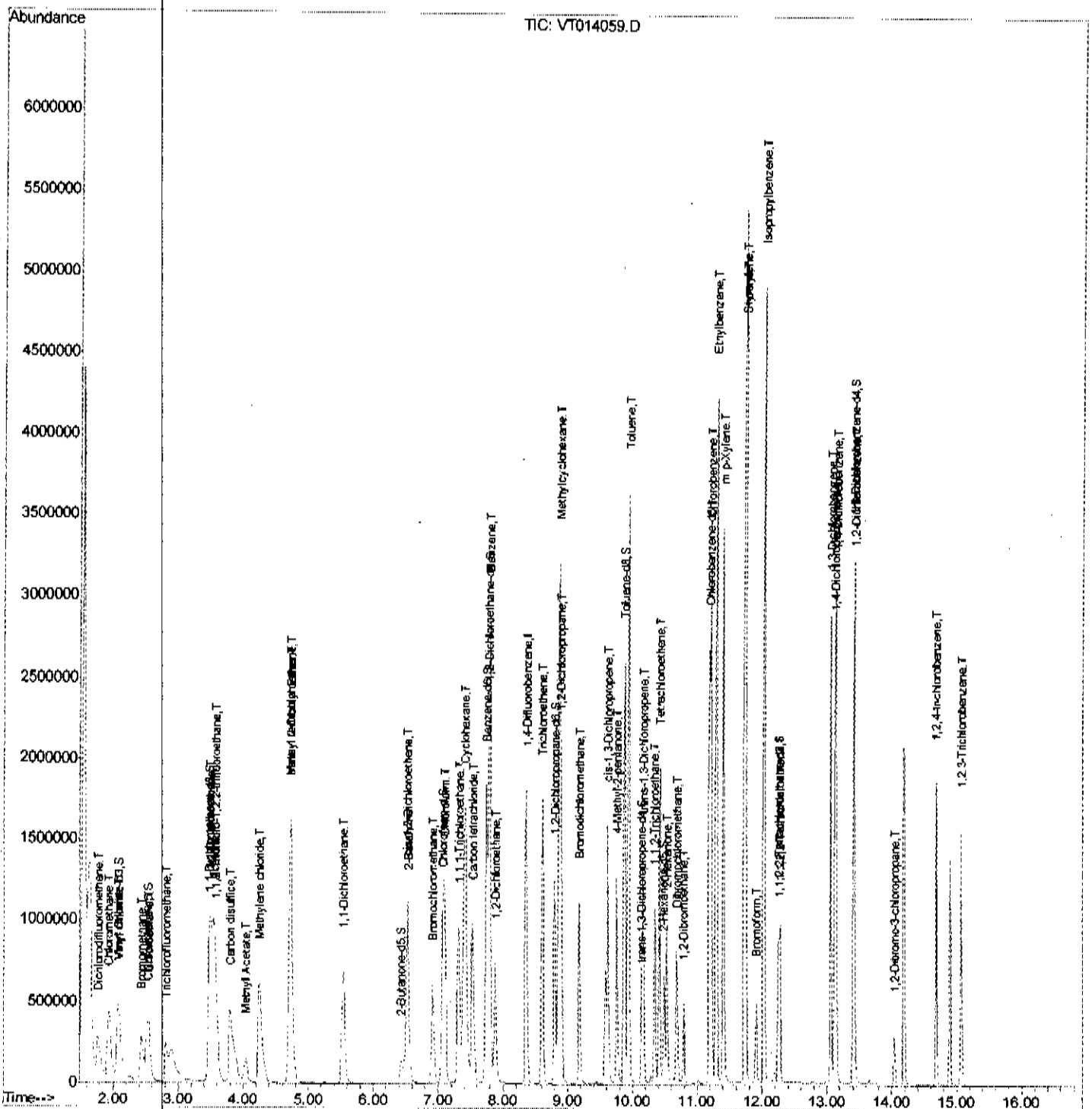
5/13/2016 5:55:44 PM



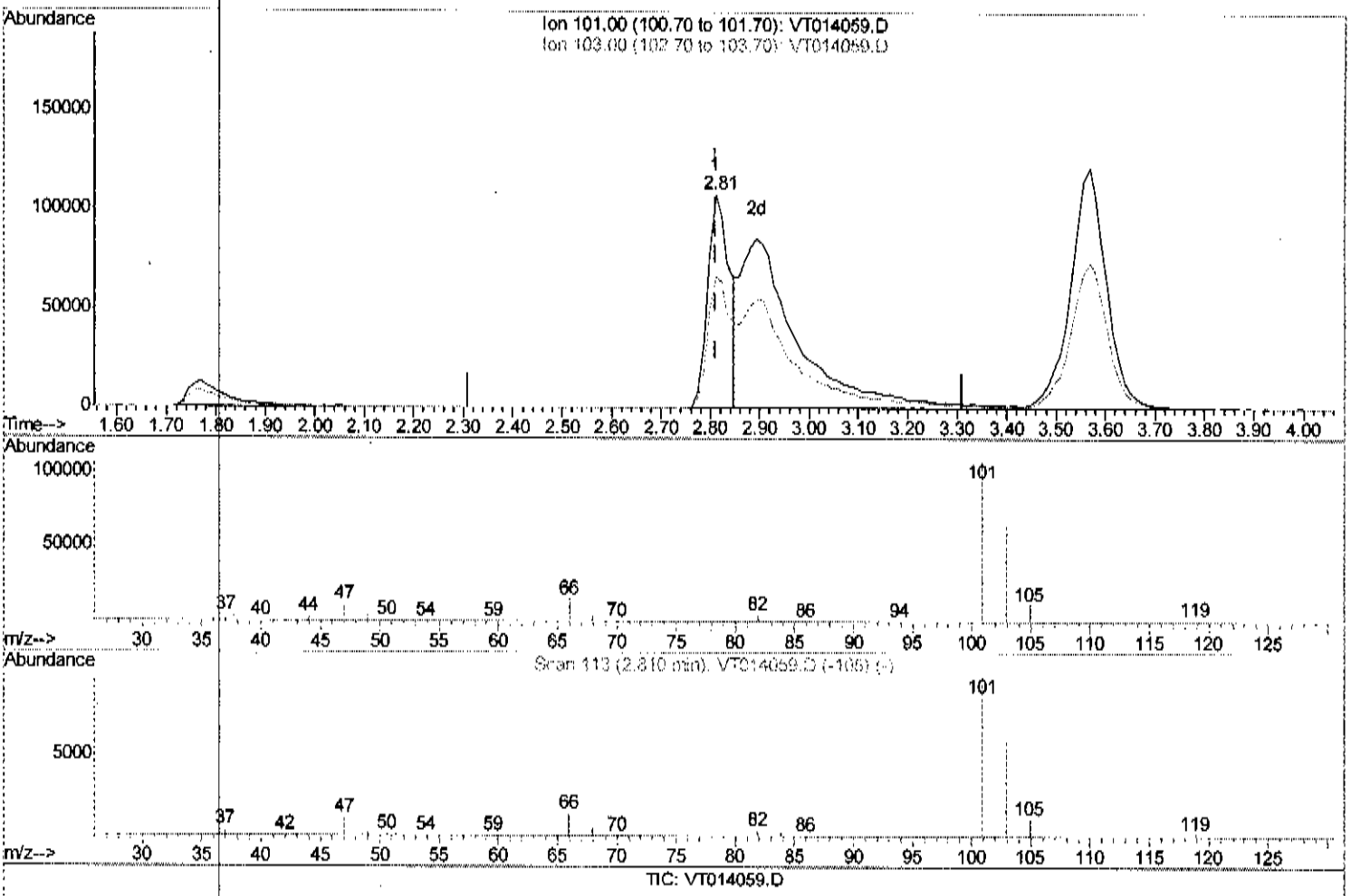
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014059.D
Acq On : 11 May 2016 5:43
Operator : FY/SY
Sample : VSTD02598
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 11 07:05:17 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02598

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM



TIC: VT014059.D

(9) Trichlorofluoromethane (T)

2.810min (0.000) 8.19ug/L

response 329564

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	73.10#
0.00	0.00	0.00
0.00	0.00	0.00

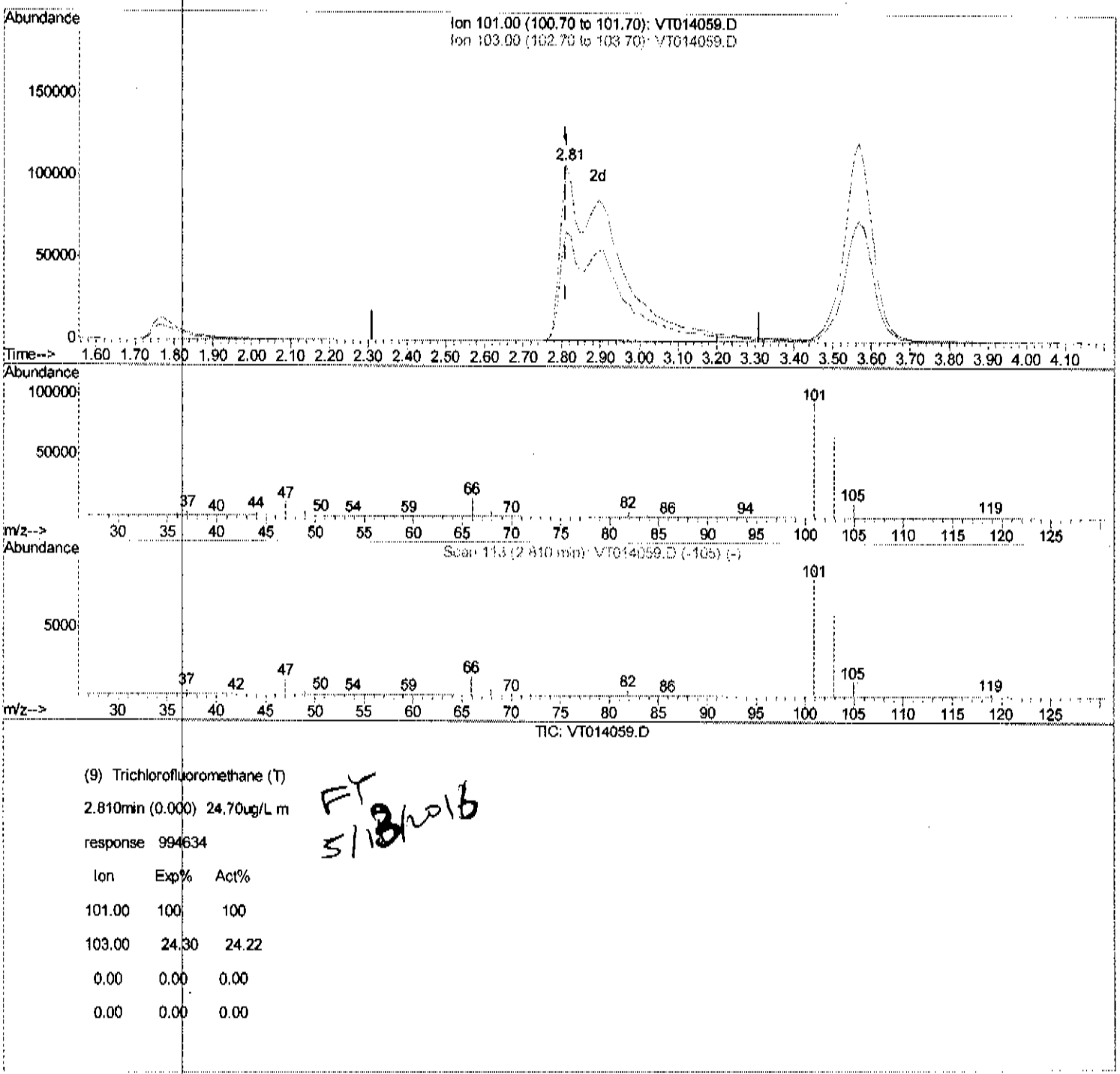
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014059.D
Acq On : 11 May 2016 5:43
Operator : FY/SY
Sample : VSTD02598
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 11 07:05:17 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02598

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM



(9) Trichlorofluoromethane (T)

2.810min (0.000) 24.70ug/L m

response 994634

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	24.22
0.00	0.00	0.00
0.00	0.00	0.00

FT 5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014059.D
Acq On : 11 May 2016 5:13
Operator : FY/SY
Sample : VSTD02598
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 11 07:10:17 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02598

Manual Integrations APPROVED
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5/13/2016 5:55:44 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1428697	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1132012	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	533782	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	598965	26.37	ug/L	0.00
7) Chloroethane-d5	2.53	69	430936	26.00	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	1171452	24.84	ug/L	0.00
20) 2-Butanone-d5	6.43	46	304597	54.53	ug/L	0.00
24) Chloroform-d	7.07	84	935896	24.10	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	541535	23.83	ug/L	0.00
29) Benzene-d6	7.74	84	1825118	25.90	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	554651	26.51	ug/L	0.00
37) Toluene-d8	9.87	98	1585550	25.20	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	196793	24.90	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	200964	60.00	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	367637	25.78	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	462098	24.85	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	734775	25.37	ug/L	100
3) Chloromethane	1.93	50	874546	25.53	ug/L	100
5) Vinyl chloride	2.09	62	832725	25.48	ug/L	100
6) Bromomethane	2.43	94	414381	24.92	ug/L	100
8) Chloroethane	2.55	64	464950	25.79	ug/L	100
9) Trichlorofluoromethane	2.81	101	994634m	24.70	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	611919	26.55	ug/L	100
12) 1,1-Dichloroethene	3.48	96	553867	26.41	ug/L	100
13) Acetone	3.56	43	298137	36.13	ug/L	100
14) Carbon disulfide	3.79	76	1830925	26.31	ug/L	100
15) Methyl Acetate	4.04	43	334279	27.78	ug/L	100
16) Methylene chloride	4.25	84	535390	26.24	ug/L	100
17) Methyl tert-butyl Ether	4.73	73	1079678	28.60	ug/L	100
18) trans-1,2-Dichloroethene	4.73	96	573896	27.10	ug/L	100
19) 1,1-Dichloroethane	5.54	63	1237137	26.47	ug/L	100
21) 2-Butanone	6.54	43	424175	49.85	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	559738	27.69	ug/L	100
23) Bromochloromethane	6.92	128	198813	26.83	ug/L	100
25) Chloroform	7.09	83	1031033	26.03	ug/L	100
27) 1,2-Dichloroethane	7.89	62	776127	25.77	ug/L	100
30) Cyclohexane	7.41	56	1357078	29.07	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	950305	26.69	ug/L	100
32) Carbon tetrachloride	7.53	117	861635	26.74	ug/L	100
34) Benzene	7.79	78	2374924	27.79	ug/L	100
35) Trichloroethene	8.61	95	606769	27.58	ug/L	100
36) Methylcyclohexane	8.87	83	1212521	28.16	ug/L	100
40) 1,2-Dichloropropane	8.89	63	600093	27.85	ug/L	100
41) Bromodichloromethane	9.18	83	691009	27.51	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	781124	28.60	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	879917	59.71	ug/L	100

FT 5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014059.D
Acq On : 11 May 2016 5:43
Operator : FY/SY
Sample : VSTD02598
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 11 07:10:17 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02598

Manual Integrations APPROVED
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Internal Standards	R.T.	QTon	Response	Conc Units	Dev(Min)
44) Toluene	9.93	91	2264120	27.12 ug/L	100
45) trans-1,3-Dichloropropene	10.16	75	642026	27.63 ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	312516	27.21 ug/L	100
47) Tetrachloroethene	10.42	164	418542	26.36 ug/L	100
49) 2-Hexanone	10.53	43	607047	51.67 ug/L	100
50) Dibromochloromethane	10.68	129	388716	28.11 ug/L	100
51) 1,2-Dibromoethane	10.79	107	302382	27.64 ug/L	100
52) Chlorobenzene	11.21	112	1288426	26.64 ug/L	100
53) Ethylbenzene	11.29	91	2614100	26.66 ug/L	100
54) m,p-Xylene	11.40	106	952657	27.06 ug/L	100
55) o-xylene	11.73	106	928901	27.75 ug/L	100
56) Styrene	11.74	104	1457849	27.19 ug/L	100
57) Isopropylbenzene	12.03	105	2625427	27.01 ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	396972	27.39 ug/L	100
61) Bromoform	11.91	173	215597	29.80 ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	937463	27.44 ug/L	100
63) 1,4-Dichlorobenzene	13.14	146	918622	26.10 ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	833117	27.25 ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	72465	29.61 ug/L	100
66) 1,2,4-trichlorobenzene	14.68	180	487197	26.83 ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	410544	26.52 ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014060.D
Acq On : 11 May 2016 6:09
Operator : FY/SY
Sample : VSTD05099
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 11 07:12:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05099

Manual Integrations APPROVED
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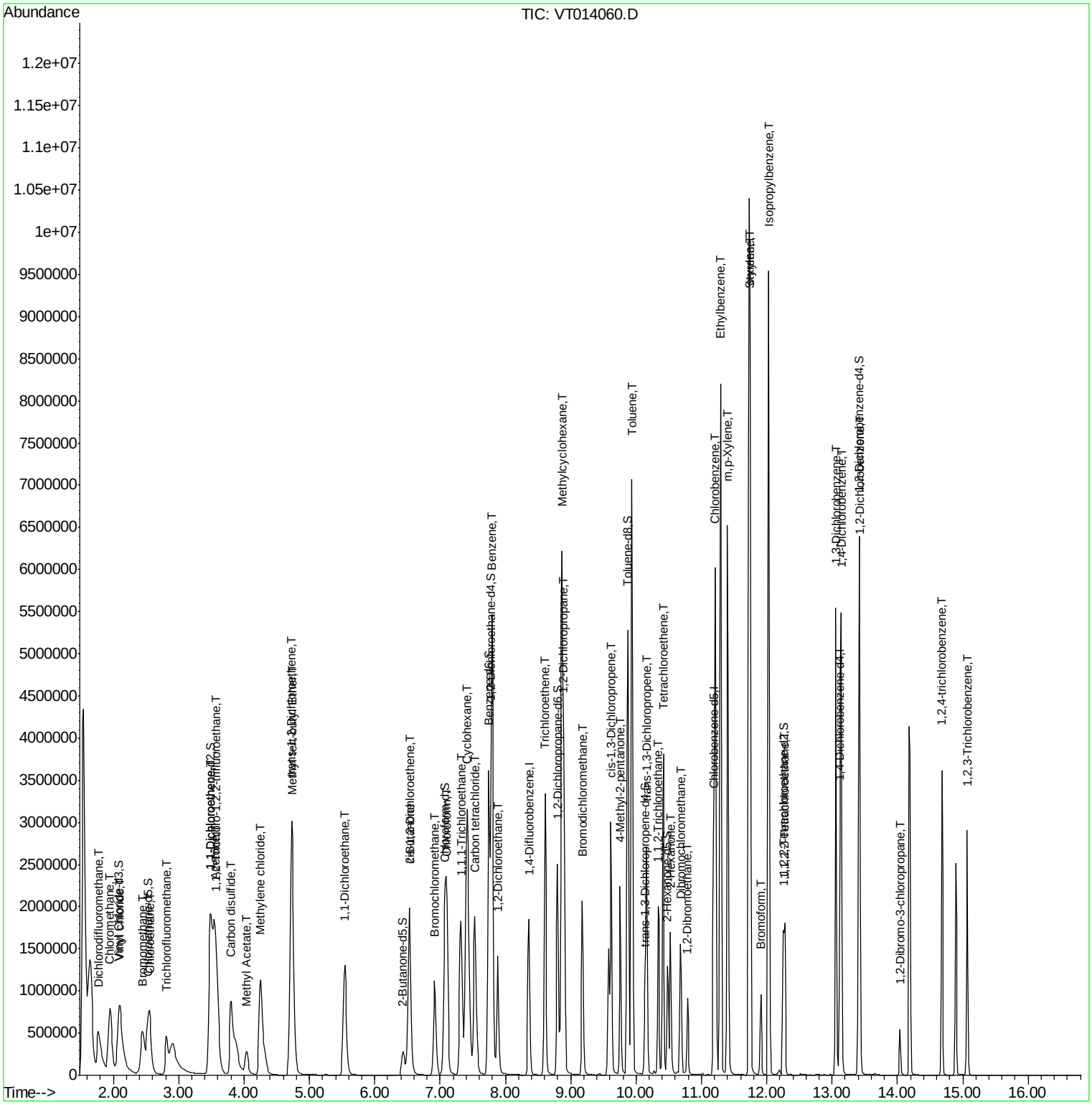
5/13/2016 5:55:38 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014060.D
Acq On : 11 May 2016 6:09
Operator : FY/SY
Sample : VSTD05099
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 11 07:12:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05099

Manual Integrations APPROVED
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5/13/2016 5:55:38 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1413866	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1137307	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	538909	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	1167177	51.92	ug/L	0.01
7) Chloroethane-d5	2.53	69	857525	52.27	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.48	63	2325409	49.82	ug/L	0.01
20) 2-Butanone-d5	6.43	46	586690	106.14	ug/L	0.00
24) Chloroform-d	7.07	84	1839613	47.86	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	1064245	47.32	ug/L	0.00
29) Benzene-d6	7.74	84	3635515	51.34	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	1088284	51.77	ug/L	0.00
37) Toluene-d8	9.87	98	3204783	50.69	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	415237	52.30	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	380026	112.93	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	720152	50.26	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	946431	50.41	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	1443252	50.35	ug/L	99
3) Chloromethane	1.95	50	1687287	49.76	ug/L	100
5) Vinyl chloride	2.10	62	1593082	49.26	ug/L	98
6) Bromomethane	2.44	94	795804	48.37	ug/L	100
8) Chloroethane	2.56	64	878822	49.26	ug/L	97
9) Trichlorofluoromethane	2.81	101	1896378m	47.59	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	1127853	49.45	ug/L	99
12) 1,1-Dichloroethene	3.48	96	1026243	49.45	ug/L	95
13) Acetone	3.56	43	509408	62.39	ug/L	98
14) Carbon disulfide	3.80	76	3607696	52.38	ug/L	100
15) Methyl Acetate	4.04	43	588111	49.38	ug/L	99
16) Methylene chloride	4.25	84	963866	47.73	ug/L	99
17) Methyl tert-butyl Ether	4.74	73	2014094	53.91	ug/L	100
18) trans-1,2-Dichloroethene	4.73	96	1069911	51.06	ug/L	100
19) 1,1-Dichloroethane	5.54	63	2299877	49.72	ug/L	98
21) 2-Butanone	6.54	43	728467	86.50	ug/L	100
22) cis-1,2-Dichloroethene	6.54	96	1016571	50.82	ug/L	98
23) Bromochloromethane	6.92	128	365729	49.88	ug/L	93
25) Chloroform	7.11	83	1906720	48.65	ug/L	99
27) 1,2-Dichloroethane	7.89	62	1409017	47.27	ug/L	99
30) Cyclohexane	7.41	56	2572333	54.84	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	1799008	50.28	ug/L	99
32) Carbon tetrachloride	7.53	117	1647730	50.90	ug/L	99
34) Benzene	7.79	78	4470778	52.07	ug/L	100
35) Trichloroethene	8.61	95	1130523	51.15	ug/L	100
36) Methylcyclohexane	8.87	83	2321498	53.67	ug/L	99
40) 1,2-Dichloropropane	8.89	63	1129607	52.17	ug/L	100
41) Bromodichloromethane	9.18	83	1287860	51.03	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	1430565	52.13	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	1571122	106.12	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014060.D
Acq On : 11 May 2016 6:09
Operator : FY/SY
Sample : VSTD05099
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 39 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD05099

Manual Integrations APPROVED
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5/13/2016 5:55:38 PM

Quant Time: May 11 07:12:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	4378787	52.21	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	1233095	52.81	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	578188	50.10	ug/L	99
47) Tetrachloroethene	10.42	164	811394	50.86	ug/L	99
49) 2-Hexanone	10.53	43	1088974	92.25	ug/L	100
50) Dibromochloromethane	10.68	129	730677	52.59	ug/L	98
51) 1,2-Dibromoethane	10.79	107	562246	51.16	ug/L	100
52) Chlorobenzene	11.21	112	2451950	50.46	ug/L	99
53) Ethylbenzene	11.29	91	5015059	50.91	ug/L	99
54) m,p-Xylene	11.40	106	1822505	51.53	ug/L	99
55) o-xylene	11.73	106	1759790	52.32	ug/L	98
56) Styrene	11.74	104	2730462	50.69	ug/L	98
57) Isopropylbenzene	12.03	105	5123350	52.46	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	729333	50.09	ug/L	99
61) Bromoform	11.91	173	389151	53.28	ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	1784680	51.75	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	1760459	49.54	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	1595653	51.69	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	123448	49.96	ug/L	100
66) 1,2,4-trichlorobenzene	14.68	180	940876	51.32	ug/L	98
67) 1,2,3-Trichlorobenzene	15.07	180	755997	48.37	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014060.D
Acq On : 11 May 2016 6:09
Operator : FY/SY
Sample : VSTD05099
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 11 07:12:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05099

Manual Integrations APPROVED
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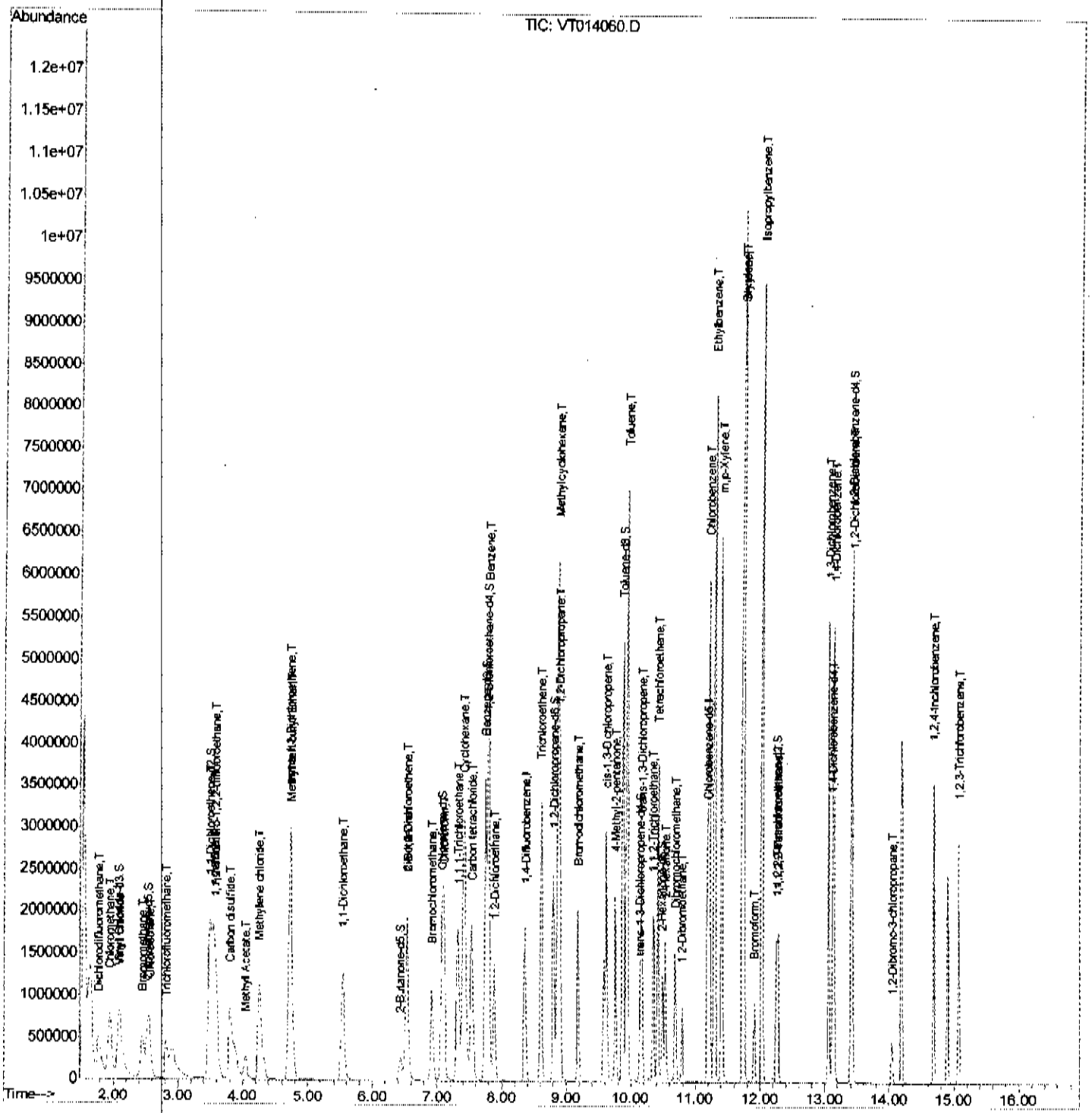
5/13/2016 5:55:38 PM



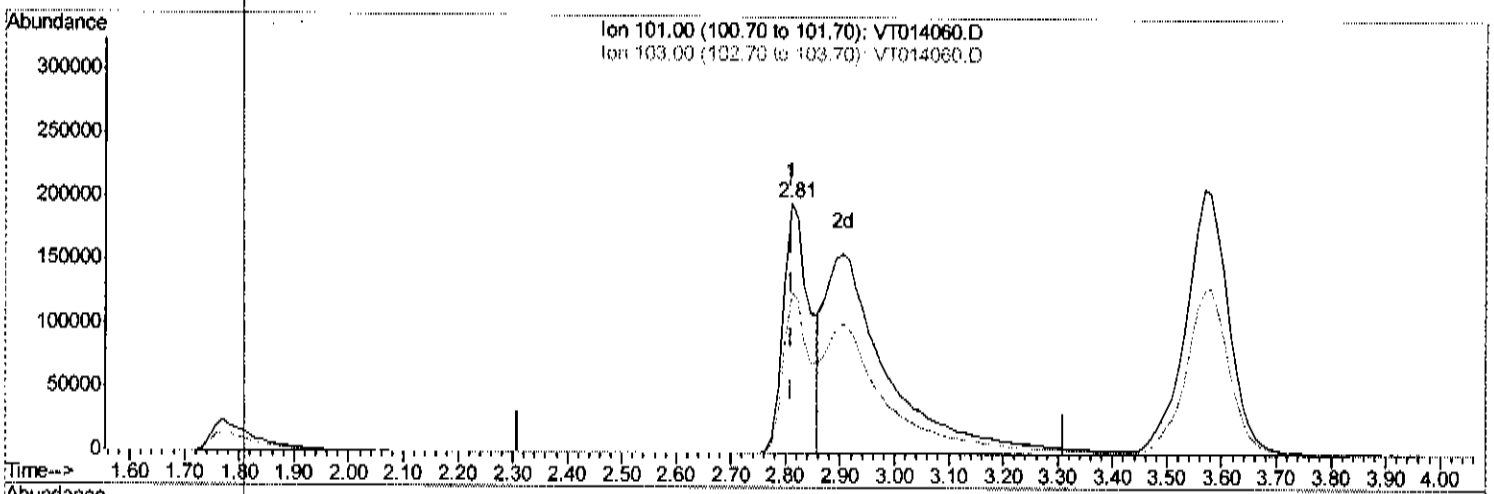
Quantitation Report (Qedit)

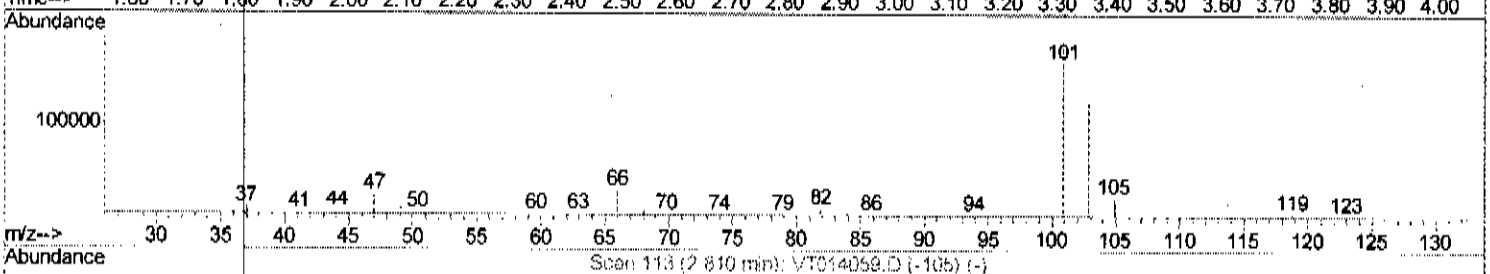
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014060.D
Acq On : 11 May 2016 6:09
Operator : FY/SY
Sample : VSTD05099
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 11 07:05:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

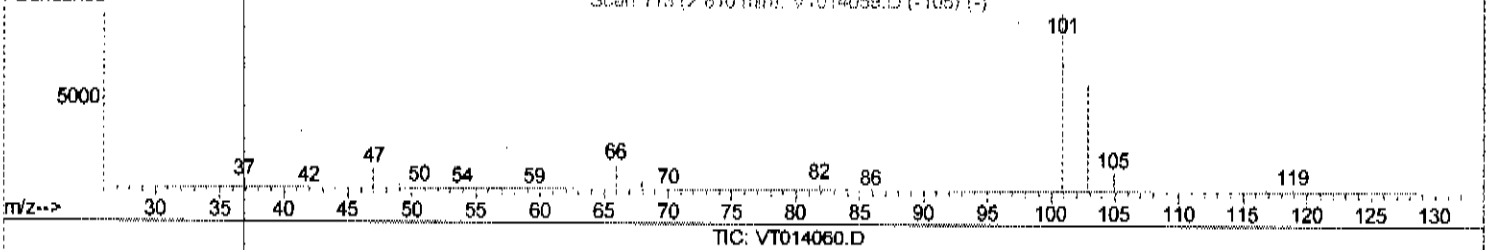
Instrument :
MSVOA_T
ClientSampleId :
VSTD05099

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:38 PM





Scan 113 (2.810 min): VT014060.D (-105) (-)



TIC: VT014060.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 16.58ug/L

response 660828

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	65.25#
0.00	0.00	0.00
0.00	0.00	0.00

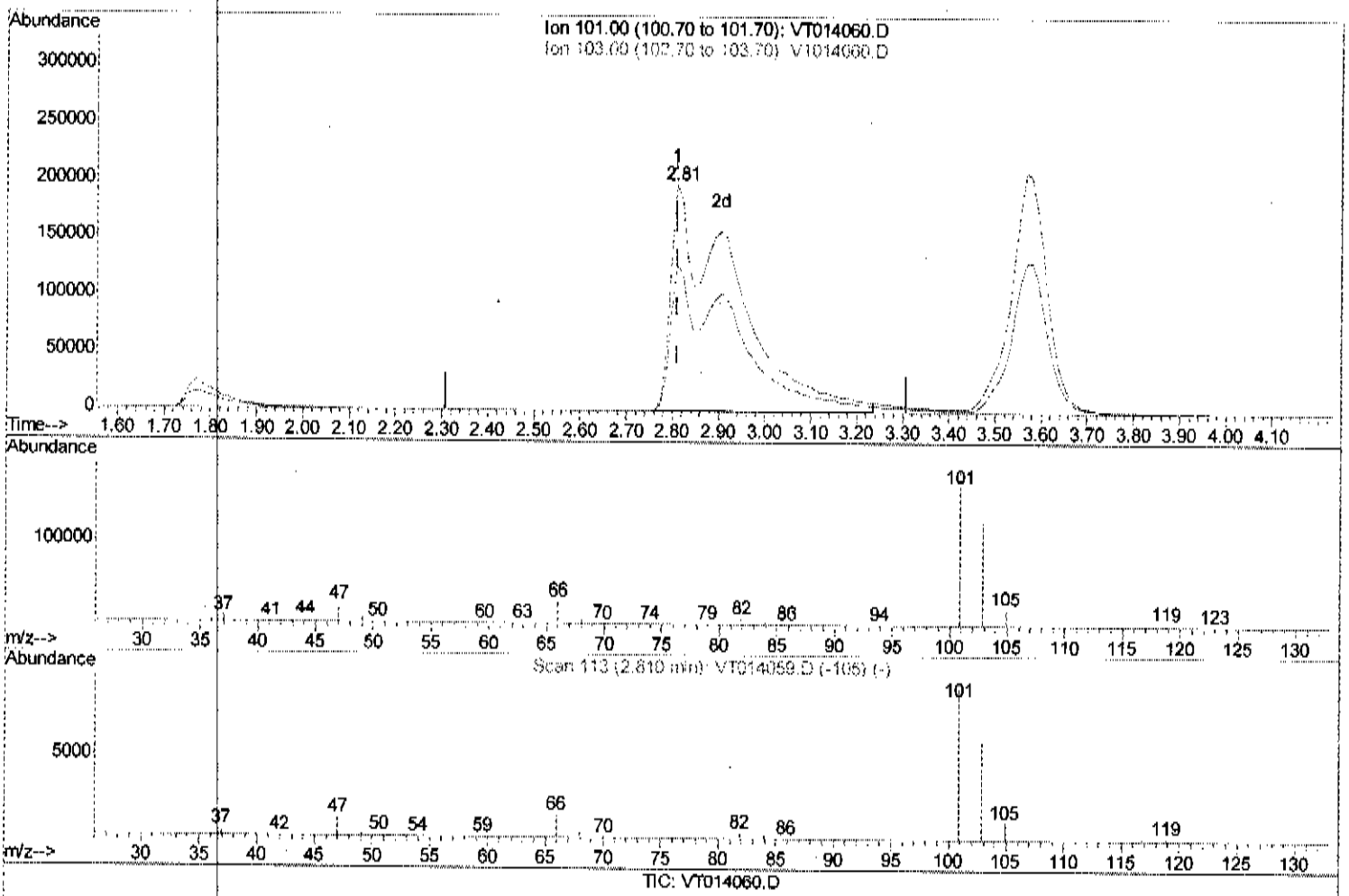
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014060.D
Acq On : 11 May 2016 6:09
Operator : EY/SY
Sample : VSTD05099
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 11 07:05:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05099

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:38 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 47.59ug/L m

response 1896378

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	22.74
0.00	0.00	0.00
0.00	0.00	0.00

FT
5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014060.D
Acq On : 11 May 2016 6:09
Operator : FY/SY
Sample : VSTD05099
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 11 07:12:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD05099

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:38 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1413866	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1137307	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	538909	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	1167177	51.92	ug/L	0.01
7) Chloroethane-d5	2.53	69	857525	52.27	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.48	63	2325409	49.82	ug/L	0.01
20) 2-Butanone-d5	6.43	46	586690	106.14	ug/L	0.00
24) Chloroform-d	7.07	84	1839613	47.86	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	1064245	47.32	ug/L	0.00
29) Benzene-d6	7.74	84	3635515	51.34	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	1088284	51.77	ug/L	0.00
37) Toluene-d8	9.87	98	3204783	50.69	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	415237	52.30	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	380026	112.93	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	720152	50.26	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	946431	50.41	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	1443252	50.35	ug/L	99
3) Chloromethane	1.95	50	1687287	49.76	ug/L	100
5) Vinyl chloride	2.10	62	1593082	49.26	ug/L	98
6) Bromomethane	2.44	94	795804	48.37	ug/L	100
8) Chloroethane	2.56	64	878822	49.26	ug/L	97
9) Trichlorofluoromethane	2.81	101	1896378m	47.59	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	1127853	49.45	ug/L	99
12) 1,1-Dichloroethene	3.48	96	1026243	49.45	ug/L	95
13) Acetone	3.56	43	509408	62.39	ug/L	98
14) Carbon disulfide	3.80	76	3607696	52.38	ug/L	100
15) Methyl Acetate	4.04	43	588111	49.38	ug/L	99
16) Methylene chloride	4.25	84	963866	47.73	ug/L	99
17) Methyl tert-butyl Ether	4.74	73	2014094	53.91	ug/L	100
18) trans-1,2-Dichloroethene	4.73	96	1069911	51.06	ug/L	100
19) 1,1-Dichloroethane	5.54	63	2299877	49.72	ug/L	98
21) 2-Butanone	6.54	43	728467	86.50	ug/L	100
22) cis-1,2-Dichloroethene	6.54	96	1016571	50.82	ug/L	98
23) Bromochloromethane	6.92	128	365729	49.88	ug/L	93
25) Chloroform	7.11	83	1906720	48.65	ug/L	99
27) 1,2-Dichloroethane	7.89	62	1409017	47.27	ug/L	99
30) Cyclohexane	7.41	56	2572333	54.84	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	1799008	50.28	ug/L	99
32) Carbon tetrachloride	7.53	117	1647730	50.90	ug/L	99
34) Benzene	7.79	78	4470778	52.07	ug/L	100
35) Trichloroethene	8.61	95	1130523	51.15	ug/L	100
36) Methylcyclohexane	8.87	83	2321498	53.67	ug/L	99
40) 1,2-Dichloropropane	8.89	63	1129607	52.17	ug/L	100
41) Bromodichloromethane	9.18	83	1287860	51.03	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	1430565	52.13	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	1571122	106.12	ug/L	100

FT 5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014060.D
Acq On : 11 May 2016 6:09
Operator : FY/SY
Sample : VSTD05099
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 11 07:12:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD05099

Manual Integrations APPROVED
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5/13/2016 5:55:38 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	4378787	52.21	ug/L	98
45) trans-1,3-Dichloropropene	10.16	75	1233095	52.81	ug/L	99
46) 1,1,2-Trichloroethane	10.34	97	578188	50.10	ug/L	99
47) Tetrachloroethene	10.42	164	811394	50.86	ug/L	99
49) 2-Hexanone	10.53	43	1088974	92.25	ug/L	100
50) Dibromochloromethane	10.68	129	730677	52.59	ug/L	98
51) 1,2-Dibromoethane	10.79	107	562246	51.16	ug/L	100
52) Chlorobenzene	11.21	112	2451950	50.46	ug/L	99
53) Ethylbenzene	11.29	91	5015059	50.91	ug/L	99
54) m,p-Xylene	11.40	106	1822505	51.53	ug/L	99
55) o-xylene	11.73	106	1759790	52.32	ug/L	98
56) Styrene	11.74	104	2730462	50.69	ug/L	98
57) Isopropylbenzene	12.03	105	5123350	52.46	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	729333	50.09	ug/L	99
61) Bromoform	11.91	173	389151	53.28	ug/L	99
62) 1,3-Dichlorobenzene	13.06	146	1784680	51.75	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	1760459	49.54	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	1595653	51.69	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	123448	49.96	ug/L	100
66) 1,2,4-trichlorobenzene	14.68	180	940876	51.32	ug/L	98
67) 1,2,3-Trichlorobenzene	15.07	180	755997	48.37	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

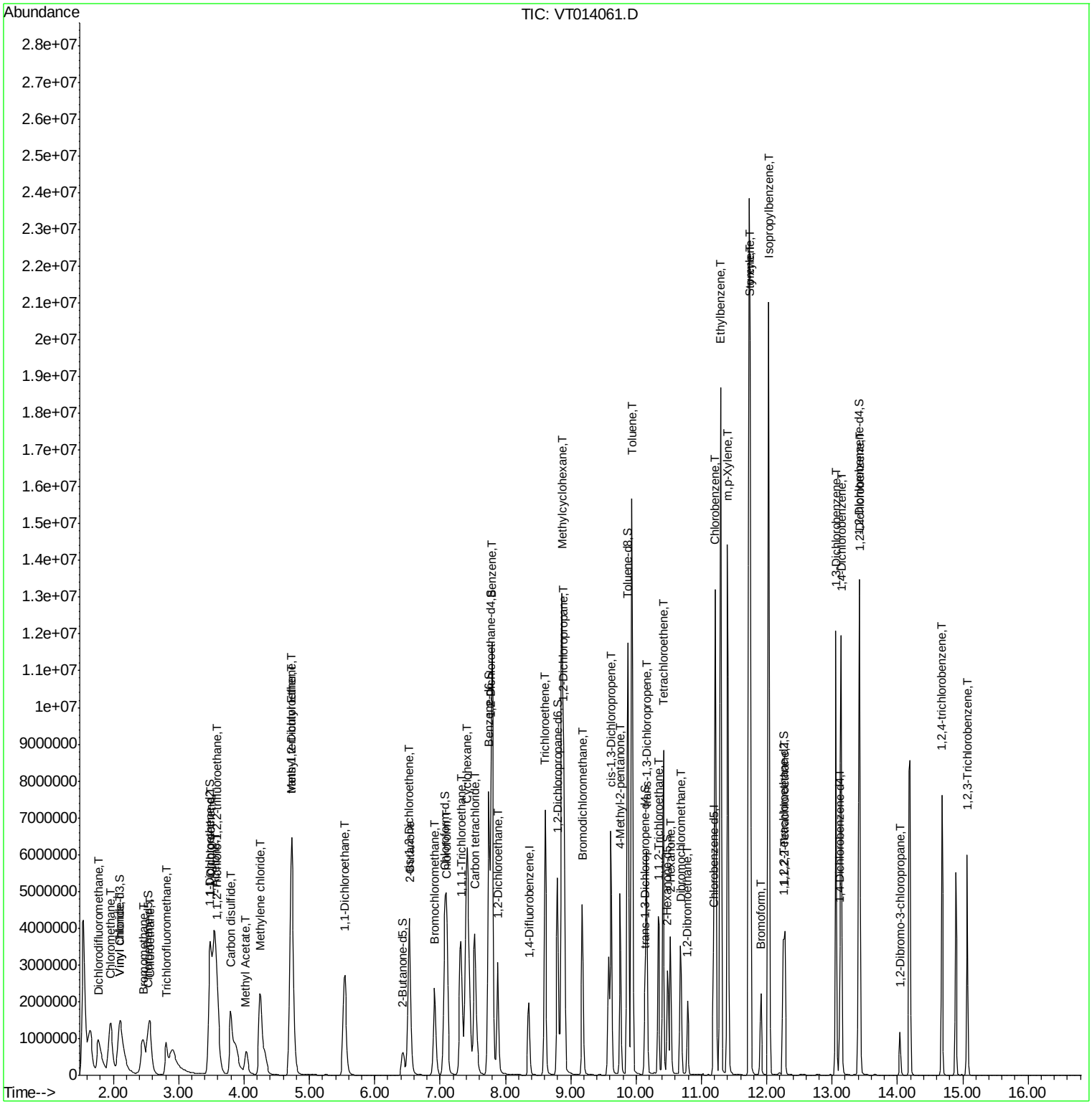
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : FY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 11 07:15:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10076

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : FY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 11 07:15:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10076

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1499803	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1220721	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	580049	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.10	65	2365136	99.18	ug/L	0.02
7) Chloroethane-d5	2.53	69	1720696	98.88	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	4874534	98.46	ug/L	0.00
20) 2-Butanone-d5	6.43	46	1322609	225.56	ug/L	0.00
24) Chloroform-d	7.07	84	3821131	93.72	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	2280959	95.61	ug/L	0.00
29) Benzene-d6	7.74	84	7882586	103.72	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	2356526	104.44	ug/L	0.00
37) Toluene-d8	9.87	98	7020957	103.46	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	929569	109.08	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	869514	240.72	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	1544811	100.45	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	2037377	100.82	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	2938178	96.63	ug/L	99
3) Chloromethane	1.96	50	3401955	94.59	ug/L	99
5) Vinyl chloride	2.10	62	3222559	93.94	ug/L	99
6) Bromomethane	2.46	94	1580076	90.53	ug/L	99
8) Chloroethane	2.56	64	1772138	93.64	ug/L	98
9) Trichlorofluoromethane	2.81	101	3897651m	92.21	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.58	101	2366315	97.81	ug/L	100
12) 1,1-Dichloroethene	3.48	96	2151499m	97.74	ug/L	
13) Acetone	3.56	43	1095940	126.53	ug/L	99
14) Carbon disulfide	3.79	76	7503793	102.70	ug/L	99
15) Methyl Acetate	4.03	43	1296157	102.60	ug/L	100
16) Methylene chloride	4.25	84	1992034	93.00	ug/L	98
17) Methyl tert-butyl Ether	4.73	73	4511068	113.82	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	2259628	101.65	ug/L	98
19) 1,1-Dichloroethane	5.54	63	4890595	99.67	ug/L	99
21) 2-Butanone	6.54	43	1571370	175.90	ug/L	98
22) cis-1,2-Dichloroethene	6.53	96	2156883	101.66	ug/L	98
23) Bromochloromethane	6.92	128	798510	102.66	ug/L	98
25) Chloroform	7.11	83	4032483	96.98	ug/L	98
27) 1,2-Dichloroethane	7.89	62	3060082	96.77	ug/L	99
30) Cyclohexane	7.41	56	5455999	108.37	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	3815936	99.37	ug/L	99
32) Carbon tetrachloride	7.53	117	3530970	101.63	ug/L	99
34) Benzene	7.79	78	9725770	105.53	ug/L	100
35) Trichloroethene	8.61	95	2464627	103.89	ug/L	100
36) Methylcyclohexane	8.87	83	4969224	107.02	ug/L	99
40) 1,2-Dichloropropane	8.89	63	2469249	106.25	ug/L	100
41) Bromodichloromethane	9.18	83	2824786	104.28	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	3147373	106.86	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	3473718	218.59	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : FY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD10076

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM

Quant Time: May 11 07:15:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	9852375	109.45	ug/L	97
45) trans-1,3-Dichloropropene	10.16	75	2725128	108.74	ug/L	99
46) 1,1,2-Trichloroethane	10.35	97	1286596	103.87	ug/L	95
47) Tetrachloroethene	10.42	164	1816962	106.10	ug/L	99
49) 2-Hexanone	10.53	43	2442257	192.76	ug/L	98
50) Dibromochloromethane	10.68	129	1667049	111.78	ug/L	99
51) 1,2-Dibromoethane	10.79	107	1229442	104.22	ug/L	100
52) Chlorobenzene	11.21	112	5437593	104.25	ug/L	99
53) Ethylbenzene	11.29	91	11250957	106.42	ug/L	97
54) m,p-Xylene	11.40	106	4010882	105.66	ug/L	97
55) o-xylene	11.73	106	3981725	110.29	ug/L	95
56) Styrene	11.74	104	6188907	107.04	ug/L	99
57) Isopropylbenzene	12.03	105	11453418	109.27	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	1592361	101.89	ug/L	99
61) Bromoform	11.91	173	903692	114.94	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	3931235	105.90	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	3857355	100.85	ug/L	98
64) 1,2-Dichlorobenzene	13.42	146	3489747	105.03	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	280487	105.46	ug/L	96
66) 1,2,4-trichlorobenzene	14.68	180	1974323	100.06	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	1536771	91.36	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

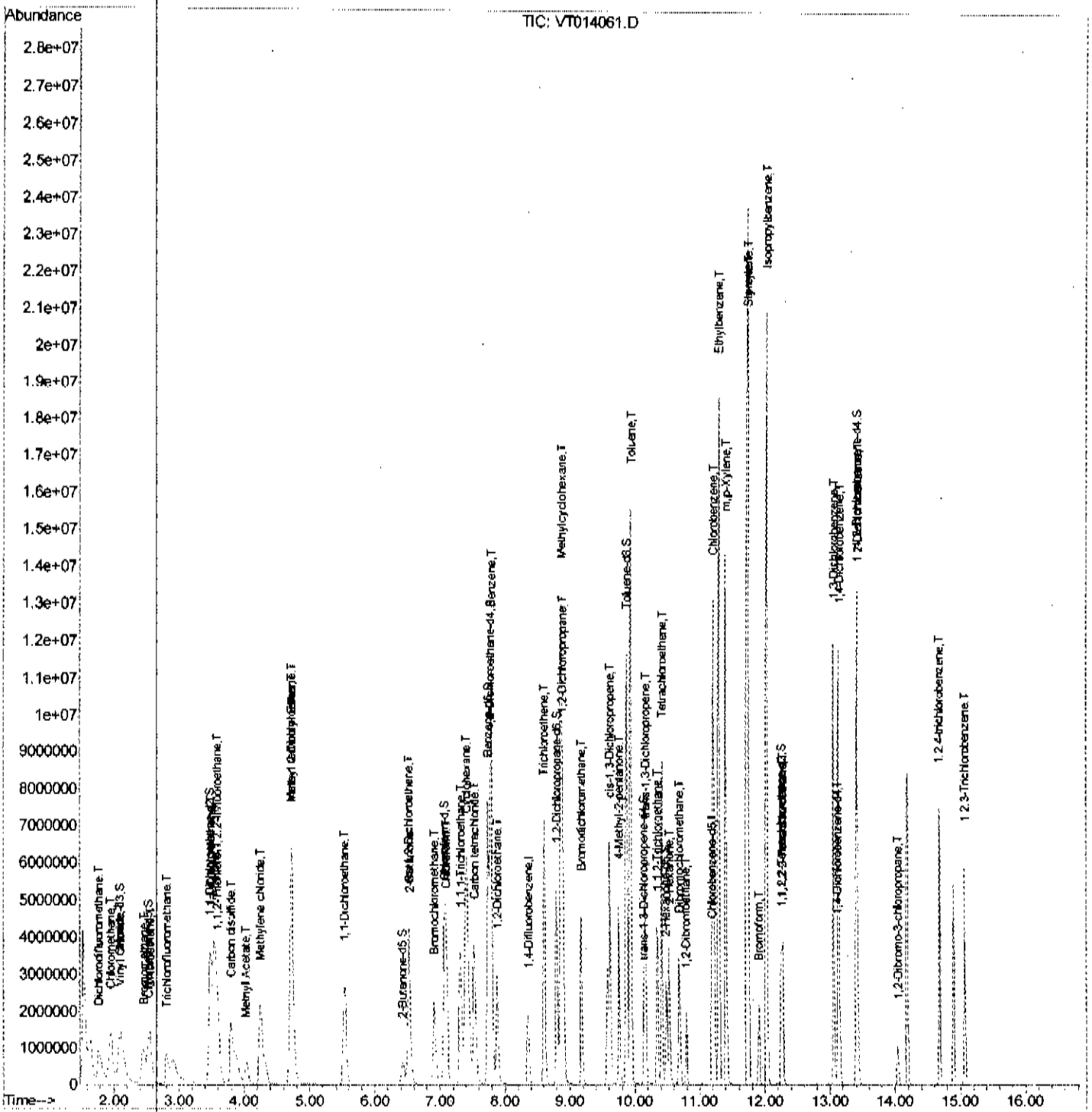
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : EY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 11 07:15:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10076

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM



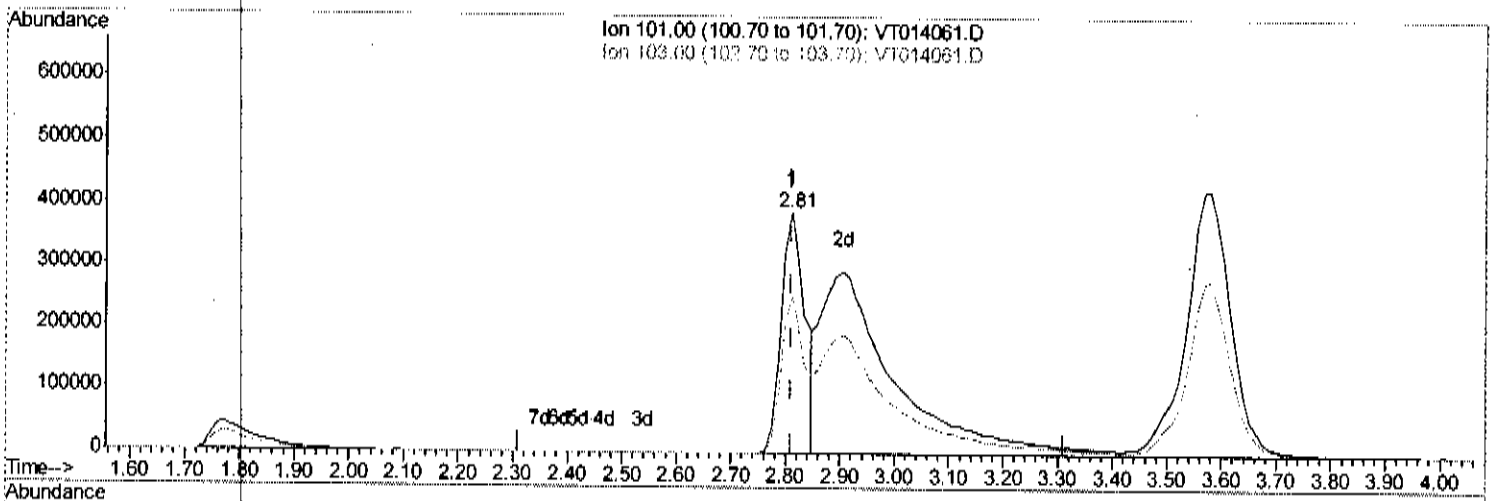
Quantitation Report (Qedit)

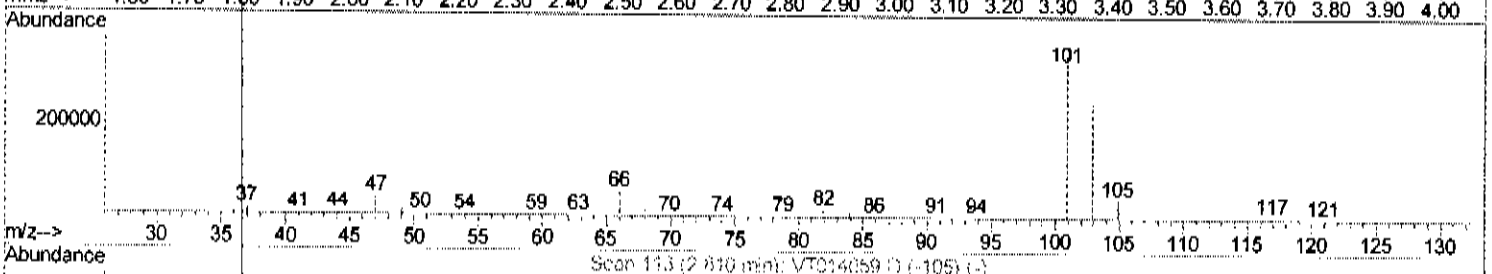
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : HY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 11 07:13:22 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10076

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM





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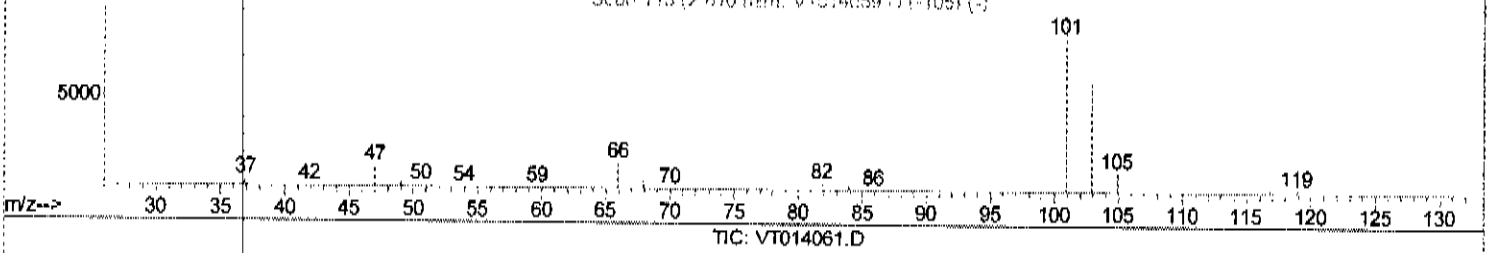


TIC: VT014061.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 27.43ug/L

response 1159490

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	64.77#
0.00	0.00	0.00
0.00	0.00	0.00

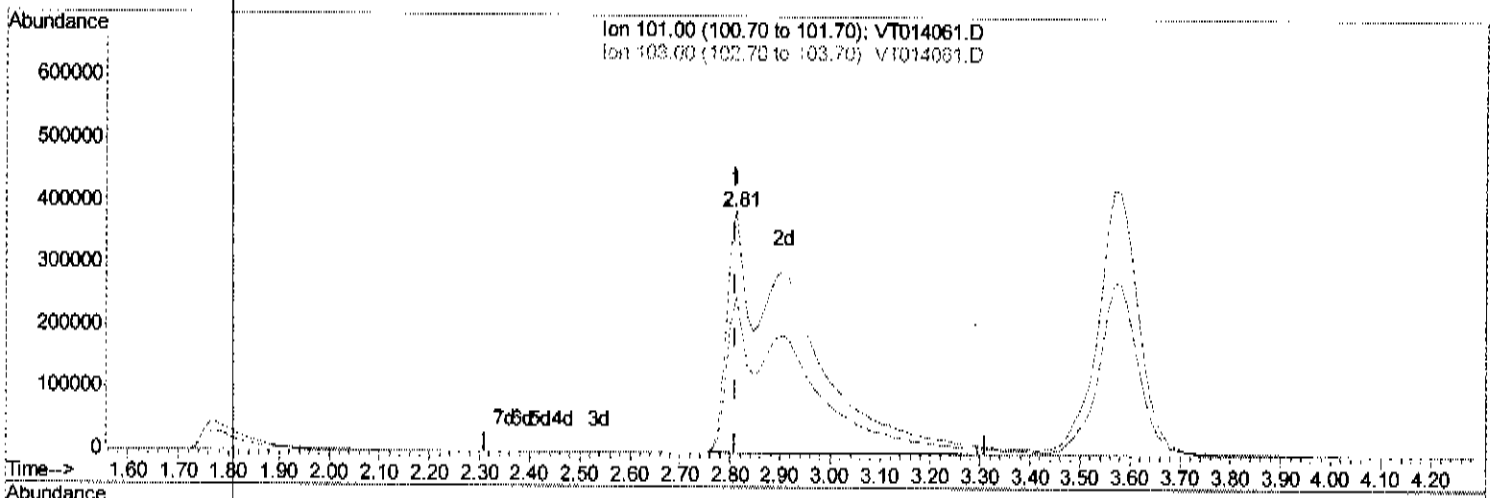
Quantitation Report (Qedit)

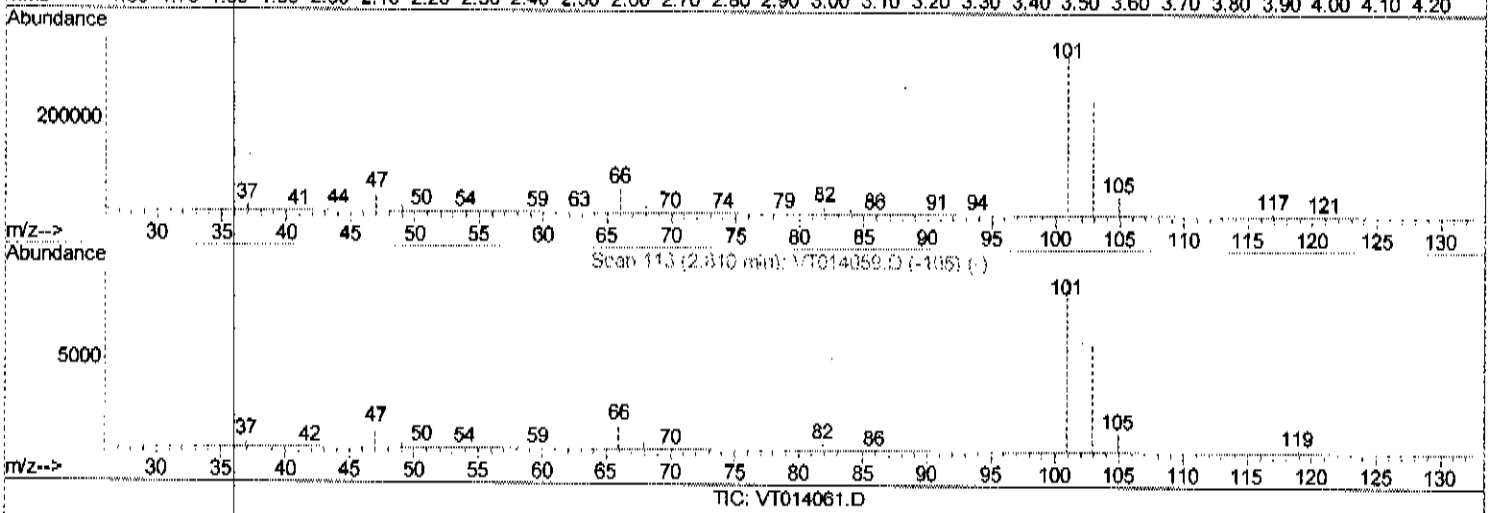
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : FY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 11 07:13:22 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10076

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM





TIC: VT014061.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 92.21ug/L m

response 3897651

FY 5/13/2016

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	19.27
0.00	0.00	0.00
0.00	0.00	0.00

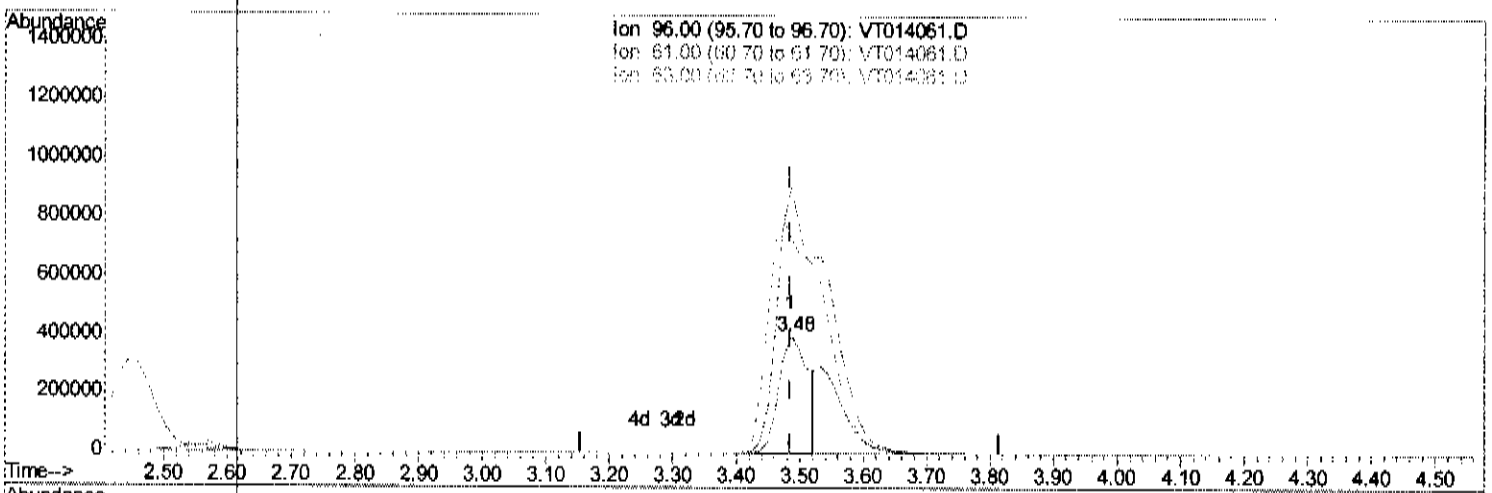
Quantitation Report (Qedit)

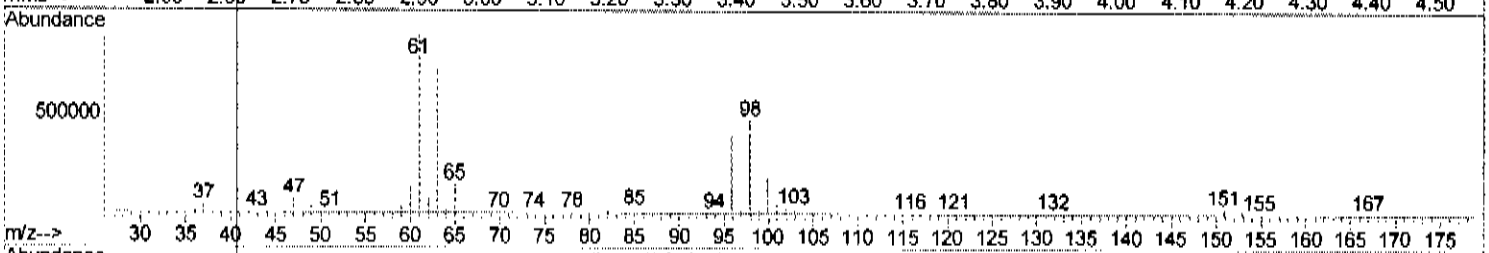
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : FY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 11 07:13:22 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

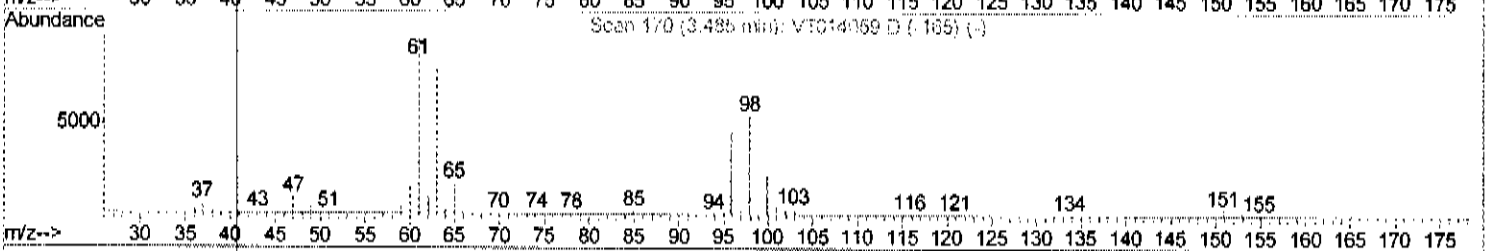
Instrument :
MSVOA_T
ClientSampleId :
VSTD10076

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM





Scan 170 (3.485 min): VT014069.D (-165) (-)



TIC: VT014061.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 59.55ug/L

response 1310902

Ion	Exp%	Act%
96.00	100	100
61.00	220.10	225.03
63.00	187.80	184.18
0.00	0.00	0.00

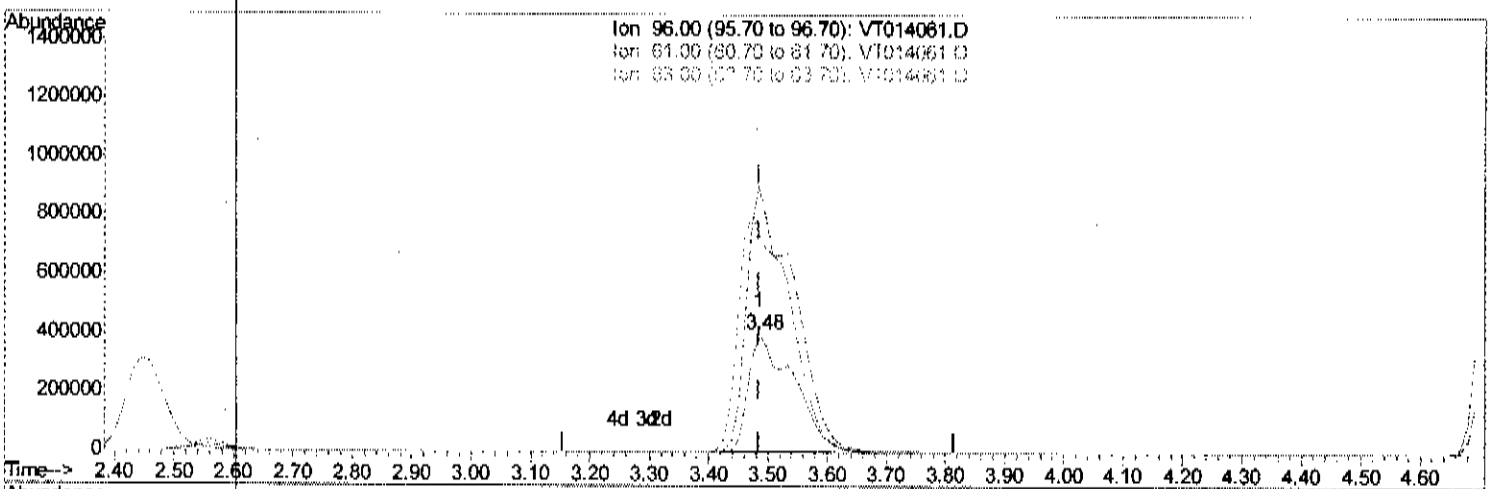
Quantitation Report (Qedit)

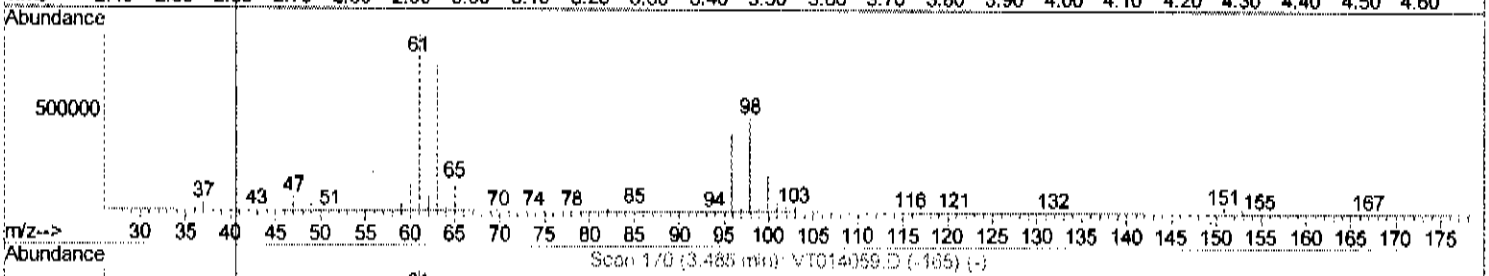
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : FY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 11 07:13:22 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

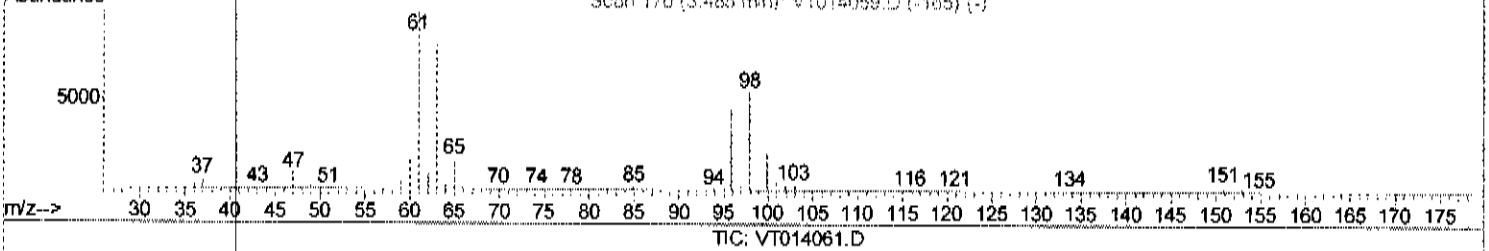
Instrument :
MSVOA_T
ClientSampleId :
VSTD10076

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:55:44 PM





Scan 170 (3.485 min): VT014061.D (-165) (-)



TIC: VT014061.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 97.74ug/L m

response 2151499

Ion	Exp%	Act%
96.00	100	100
61.00	220.10	225.03
63.00	187.80	184.18
0.00	0.00	0.00

ET 5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : FY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 11 07:15:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10076

Manual Integrations APPROVED
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5/13/2016 5:55:44 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1499803	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1220721	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	580049	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.10	65	2365136	99.18	ug/L	0.02
7) Chloroethane-d5	2.53	69	1720696	98.88	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	1874534	98.46	ug/L	0.00
20) 2-Butanone-d5	6.43	46	1322609	225.56	ug/L	0.00
24) Chloroform-d	7.07	84	3821131	93.72	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	2280959	95.61	ug/L	0.00
29) Benzene-d6	7.74	84	7882586	103.72	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	2356526	104.44	ug/L	0.00
37) Toluene-d8	9.87	98	7020957	103.46	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	929569	109.08	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	869514	240.72	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	1544811	100.45	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	2037377	100.82	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	2938178	96.63	ug/L	99
3) Chloromethane	1.96	50	3401955	94.59	ug/L	99
5) Vinyl chloride	2.10	62	3222559	93.94	ug/L	99
6) Bromomethane	2.46	94	1580076	90.53	ug/L	99
8) Chloroethane	2.56	64	1772138	93.64	ug/L	98
9) Trichlorofluoromethane	2.81	101	3897651m	92.21	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.58	101	2366315	97.81	ug/L	100
12) 1,1-Dichloroethene	3.48	96	2151499m	97.74	ug/L	
13) Acetone	3.56	43	1095940	126.53	ug/L	99
14) Carbon disulfide	3.79	76	7503793	102.70	ug/L	99
15) Methyl Acetate	4.03	43	1296157	102.60	ug/L	100
16) Methylene chloride	4.25	84	1992034	93.00	ug/L	98
17) Methyl tert-butyl Ether	4.73	73	4511068	113.82	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	2259628	101.65	ug/L	98
19) 1,1-Dichloroethane	5.54	63	4890595	99.67	ug/L	99
21) 2-Butanone	6.54	43	1571370	175.90	ug/L	98
22) cis-1,2-Dichloroethene	6.53	96	2156883	101.66	ug/L	98
23) Bromochloromethane	6.92	128	798510	102.66	ug/L	98
25) Chloroform	7.11	83	4032483	96.98	ug/L	98
27) 1,2-Dichloroethane	7.89	62	3060082	96.77	ug/L	99
30) Cyclohexane	7.41	56	5455999	108.37	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	3815936	99.37	ug/L	99
32) Carbon tetrachloride	7.53	117	3530970	101.63	ug/L	99
34) Benzene	7.79	78	9725770	105.53	ug/L	100
35) Trichloroethene	8.61	95	2464627	103.89	ug/L	100
36) Methylcyclohexane	8.87	83	4969224	107.02	ug/L	99
40) 1,2-Dichloropropane	8.89	63	2469249	106.25	ug/L	100
41) Bromodichloromethane	9.18	83	2824786	104.28	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	3147373	106.86	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	3473718	218.59	ug/L	99

FT 5/13/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051116\
Data File : VT014061.D
Acq On : 11 May 2016 6:35
Operator : FY/SY
Sample : VSTD10076
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 11 07:15:36 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Wed May 11 06:49:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10076

Manual Integrations APPROVED
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5/13/2016 5:55:44 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	9852375	109.45	ug/L	97
45) trans-1,3-Dichloropropene	10.16	75	2725128	108.74	ug/L	99
46) 1,1,2-Trichloroethane	10.35	97	1286596	103.87	ug/L	95
47) Tetrachloroethene	10.42	164	1816962	106.10	ug/L	99
49) 2-Hexanone	10.53	43	2442257	192.76	ug/L	98
50) Dibromochloromethane	10.68	129	1667049	111.78	ug/L	99
51) 1,2-Dibromoethane	10.79	107	1229442	104.22	ug/L	100
52) Chlorobenzene	11.21	112	5437593	104.25	ug/L	99
53) Ethylbenzene	11.29	91	11250957	106.42	ug/L	97
54) m,p-Xylene	11.40	106	4010882	105.66	ug/L	97
55) o-xylene	11.73	106	3981725	110.29	ug/L	95
56) Styrene	11.74	104	6188907	107.04	ug/L	99
57) Isopropylbenzene	12.03	105	11453418	109.27	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	1592361	101.89	ug/L	99
61) Bromoform	11.91	173	903692	114.94	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	3931235	105.90	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	3857355	100.85	ug/L	98
64) 1,2-Dichlorobenzene	13.42	146	3489747	105.03	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	280487	105.46	ug/L	96
66) 1,2,4-trichlorobenzene	14.68	180	1974323	100.06	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	1536771	91.36	ug/L	99

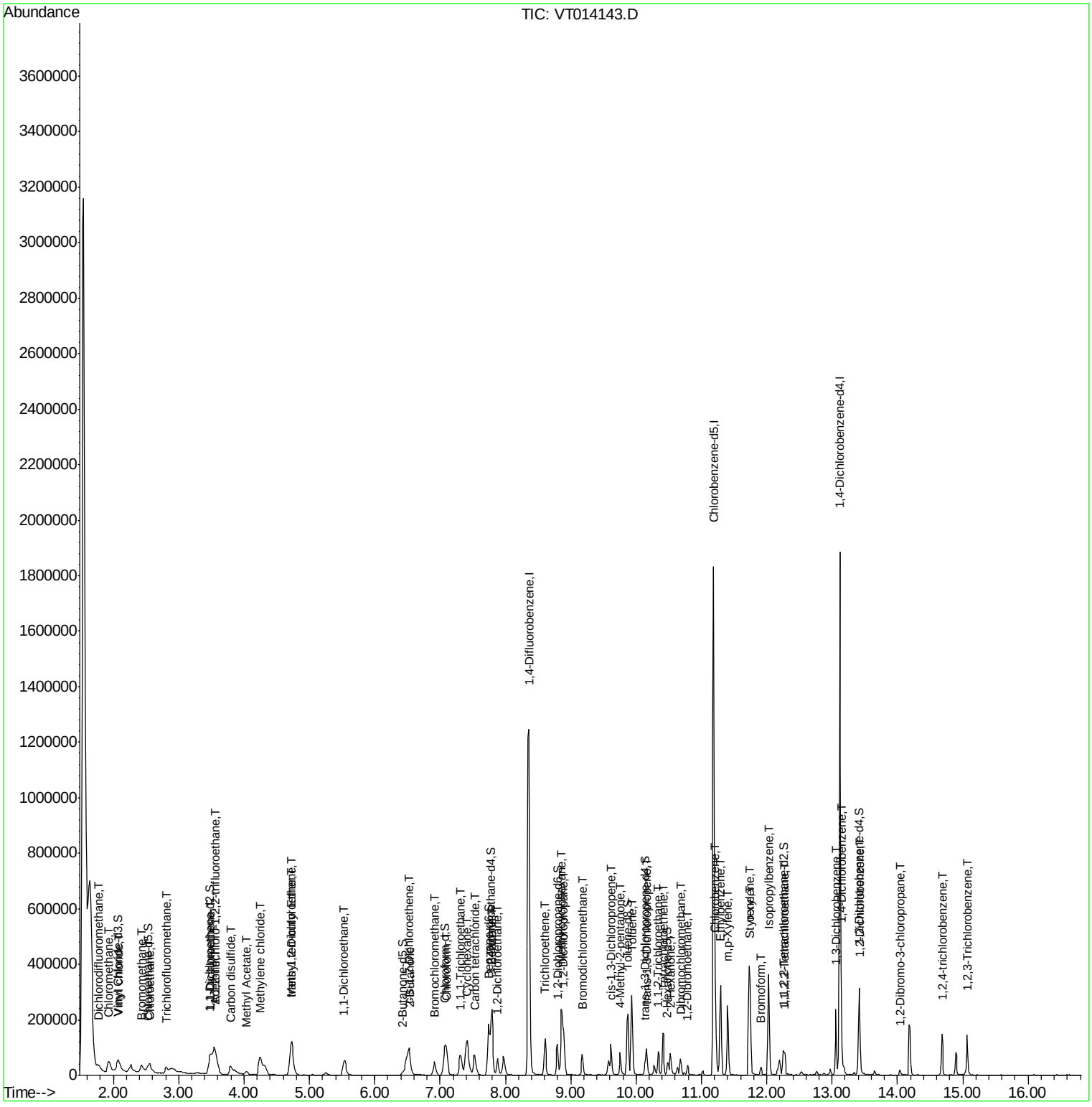
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:39:34 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:39 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
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5/16/2016 6:44:39 PM

Quant Time: May 13 23:39:34 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	980141	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	770320	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	375856	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.06	65	42964	2.86	ug/L	-0.02
7) Chloroethane-d5	2.53	69	34716	3.02	ug/L	-0.01
10) 1,1-Dichloroethene-d2	3.47	63	97724m	3.03	ug/L	0.00
20) 2-Butanone-d5	6.43	46	23220	5.66	ug/L	0.00
24) Chloroform-d	7.07	84	86475	3.21	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	55215	3.44	ug/L	0.00
29) Benzene-d6	7.74	84	152399	3.01	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	47433	3.14	ug/L	0.00
37) Toluene-d8	9.87	98	131461	2.93	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	14464	2.70	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	12221	4.86	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	31239	3.05	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	45293	3.25	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	61441	3.00	ug/L	98
3) Chloromethane	1.93	50	72917	3.05	ug/L	98
5) Vinyl chloride	2.08	62	67397	2.96	ug/L	89
6) Bromomethane	2.43	94	35585	3.12	ug/L	99
8) Chloroethane	2.56	64	37502	2.94	ug/L	100
9) Trichlorofluoromethane	2.81	101	83111m	3.08	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.56	101	46778	2.87	ug/L	100
12) 1,1-Dichloroethene	3.48	96	40731m	2.73	ug/L	
13) Acetone	3.56	43	45231	9.86	ug/L	98
14) Carbon disulfide	3.79	76	121649m	2.58	ug/L	
15) Methyl Acetate	4.04	43	24074	2.76	ug/L	96
16) Methylene chloride	4.24	84	66162m	4.21	ug/L	
17) Methyl tert-butyl Ether	4.73	73	71908	2.55	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	40576	2.69	ug/L	98
19) 1,1-Dichloroethane	5.53	63	91054	2.76	ug/L	97
21) 2-Butanone	6.54	43	40354	6.97	ug/L	97
22) cis-1,2-Dichloroethene	6.53	96	38717	2.69	ug/L	93
23) Bromochloromethane	6.92	128	14642	2.72	ug/L	87
25) Chloroform	7.09	83	81286	2.88	ug/L	98
27) 1,2-Dichloroethane	7.87	62	63775	3.03	ug/L	100
30) Cyclohexane	7.41	56	82554	2.42	ug/L	100
31) 1,1,1-Trichloroethane	7.31	97	71943	2.94	ug/L	97
32) Carbon tetrachloride	7.53	117	62995	2.82	ug/L	98
34) Benzene	7.79	78	175105	2.79	ug/L	100
35) Trichloroethene	8.61	95	44113	2.79	ug/L	98
36) Methylcyclohexane	8.86	83	77543	2.47	ug/L	96
40) 1,2-Dichloropropane	8.89	63	45042	2.84	ug/L	99
41) Bromodichloromethane	9.18	83	46511	2.70	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	45604	2.44	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	55336	5.14	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:39:34 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.583

Manual Integrations APPROVED
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5/16/2016 6:44:39 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	166299	2.71	ug/L		97
45) trans-1,3-Dichloropropene	10.16	75	40402	2.53	ug/L		95
46) 1,1,2-Trichloroethane	10.34	97	22364	2.70	ug/L		97
47) Tetrachloroethene	10.42	164	29500	2.60	ug/L		87
49) 2-Hexanone	10.53	43	47208	5.95	ug/L		96
50) Dibromochloromethane	10.68	129	23877	2.49	ug/L		96
51) 1,2-Dibromoethane	10.79	107	20998	2.74	ug/L	#	97
52) Chlorobenzene	11.21	112	102187	2.93	ug/L		99
53) Ethylbenzene	11.29	91	193489	2.79	ug/L		97
54) m,p-Xylene	11.40	106	64869	2.59	ug/L		95
55) o-xylene	11.73	106	58814	2.47	ug/L		98
56) Styrene	11.74	104	101773	2.69	ug/L		94
57) Isopropylbenzene	12.03	105	176990	2.56	ug/L		98
58) 1,1,2,2-Tetrachloroethane	12.28	83	29159	2.81	ug/L		97
61) Bromoform	11.91	173	10399	2.12	ug/L		98
62) 1,3-Dichlorobenzene	13.06	146	72040	2.87	ug/L		97
63) 1,4-Dichlorobenzene	13.14	146	77521	3.01	ug/L		96
64) 1,2-Dichlorobenzene	13.42	146	66422	2.90	ug/L		96
65) 1,2-Dibromo-3-chloropropan	14.04	75	4300	2.61	ug/L		92
66) 1,2,4-trichlorobenzene	14.69	180	36624	2.80	ug/L		98
67) 1,2,3-Trichlorobenzene	15.07	180	36564	3.26	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:39:34 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
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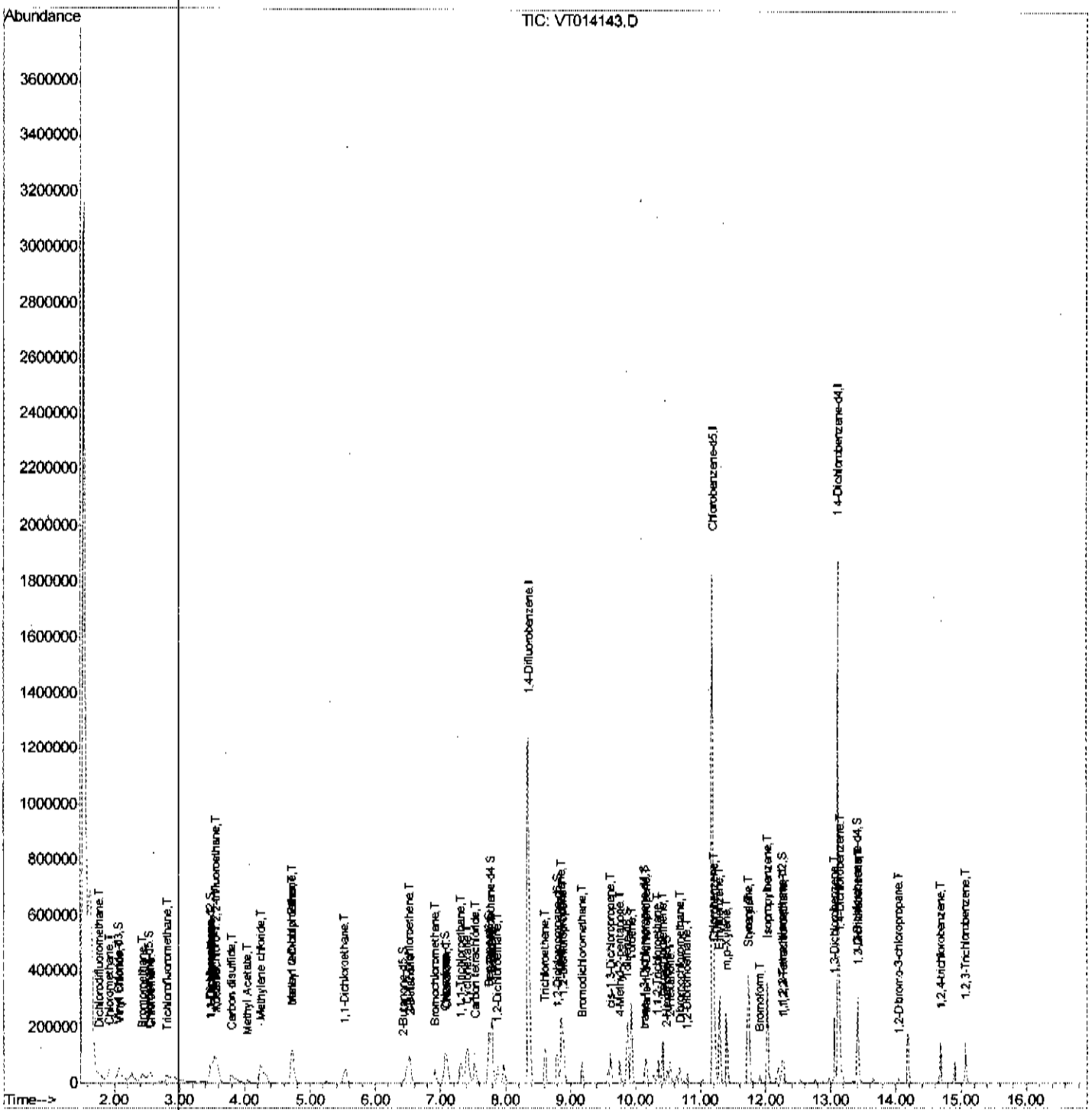
5/16/2016 6:44:39 PM



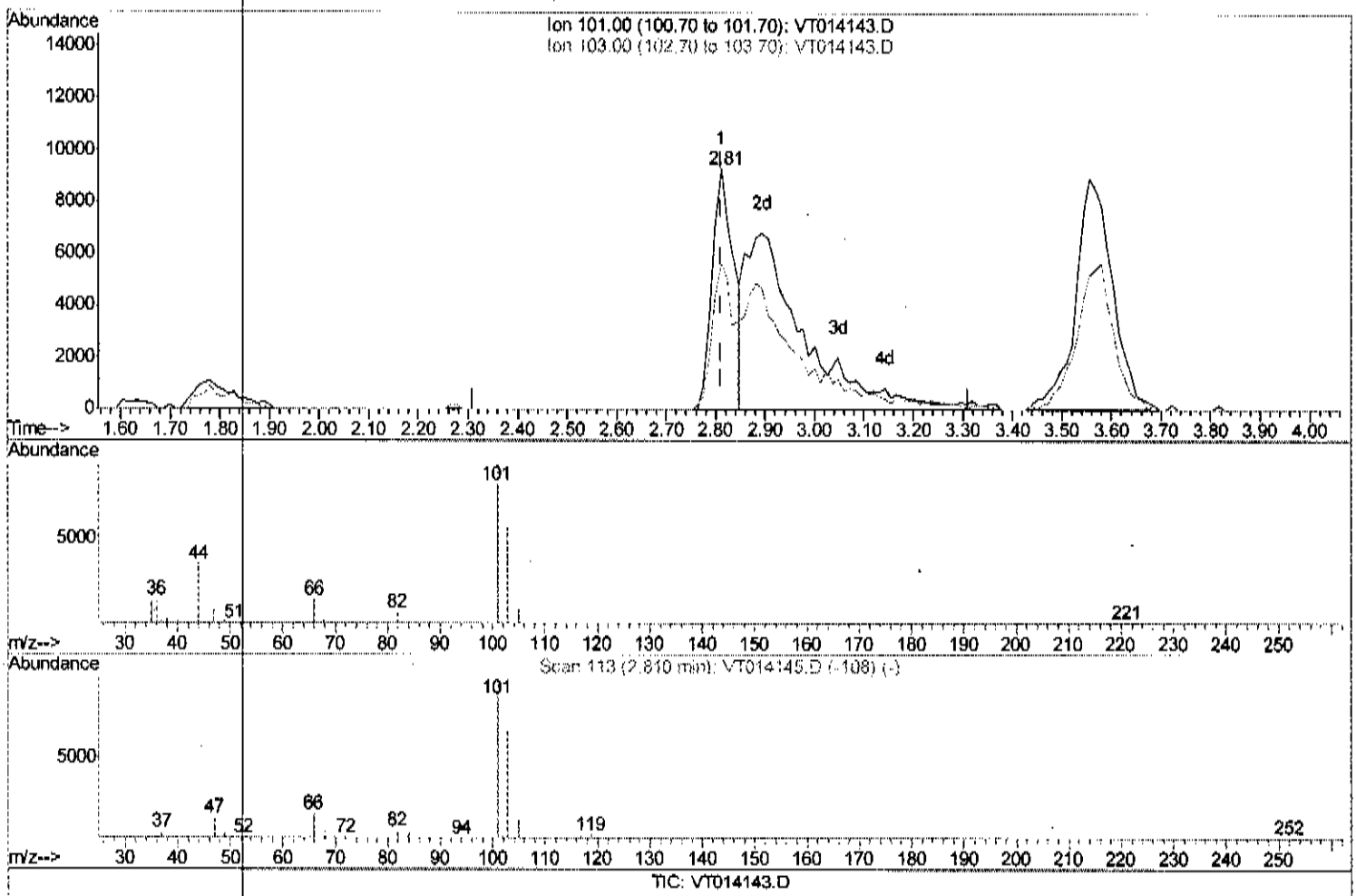
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:39 PM



TIC: VT014143.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 1.03ug/L

response 27684

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	54.22#
0.00	0.00	0.00
0.00	0.00	0.00

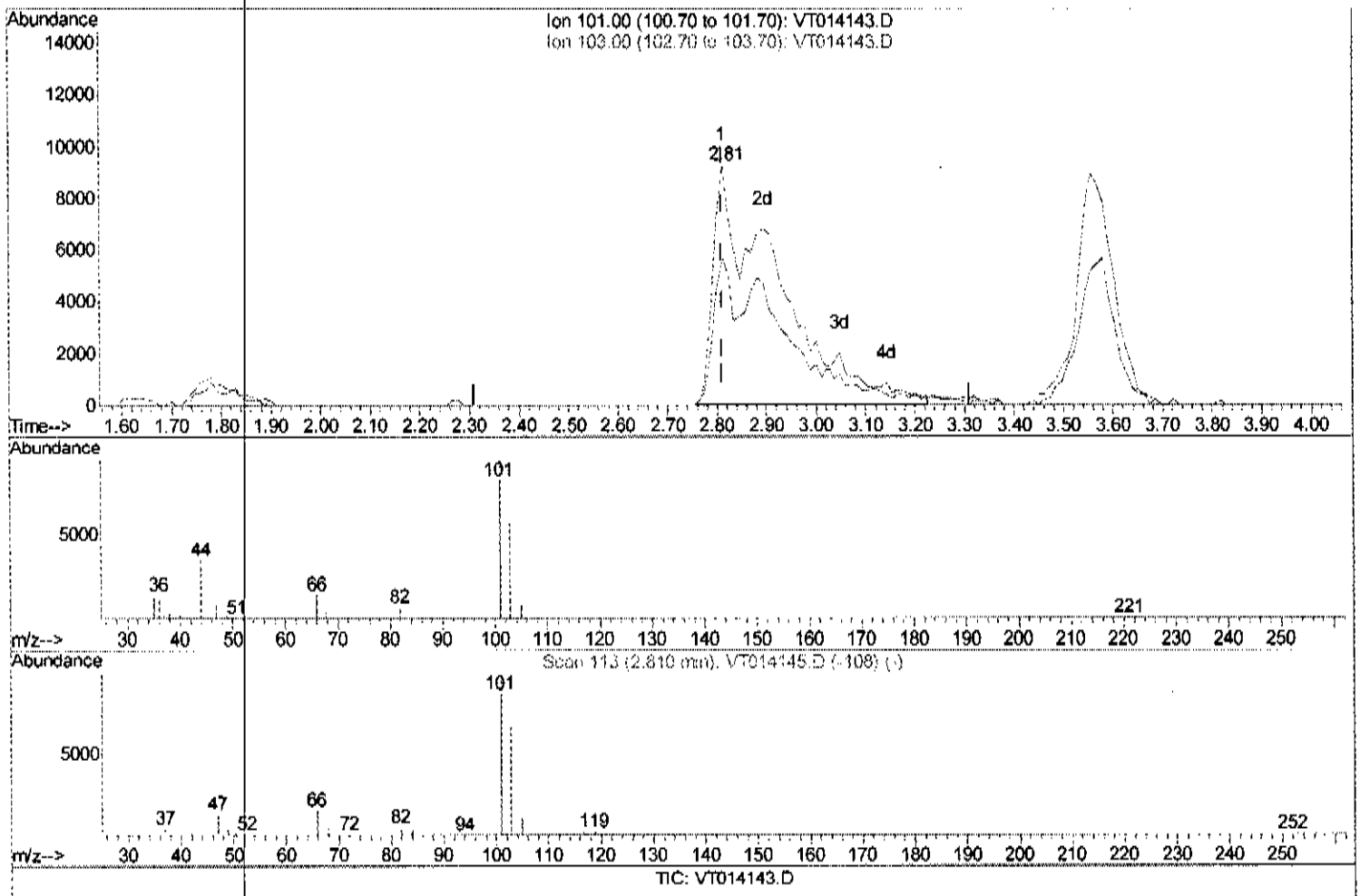
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:39 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 3.08ug/L m

response 83111

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	18.06
0.00	0.00	0.00
0.00	0.00	0.00

ET
5/16/2016

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
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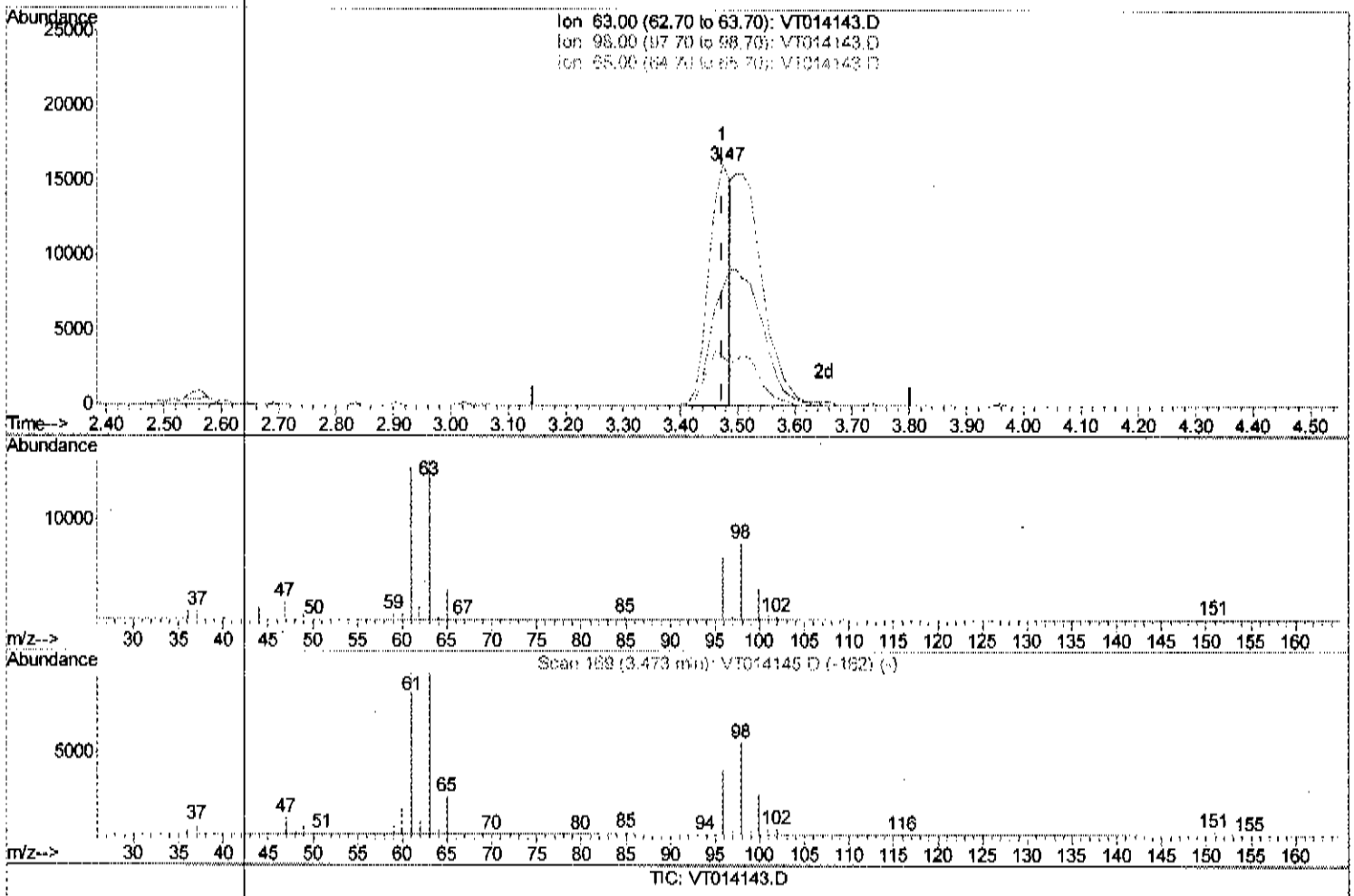
5/16/2016 6:44:39 PM



TIC: VT014143.D

(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.000) 1.31ug/L

response 42412

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	0.00#
65.00	11.10	24.03#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
mmdadoda
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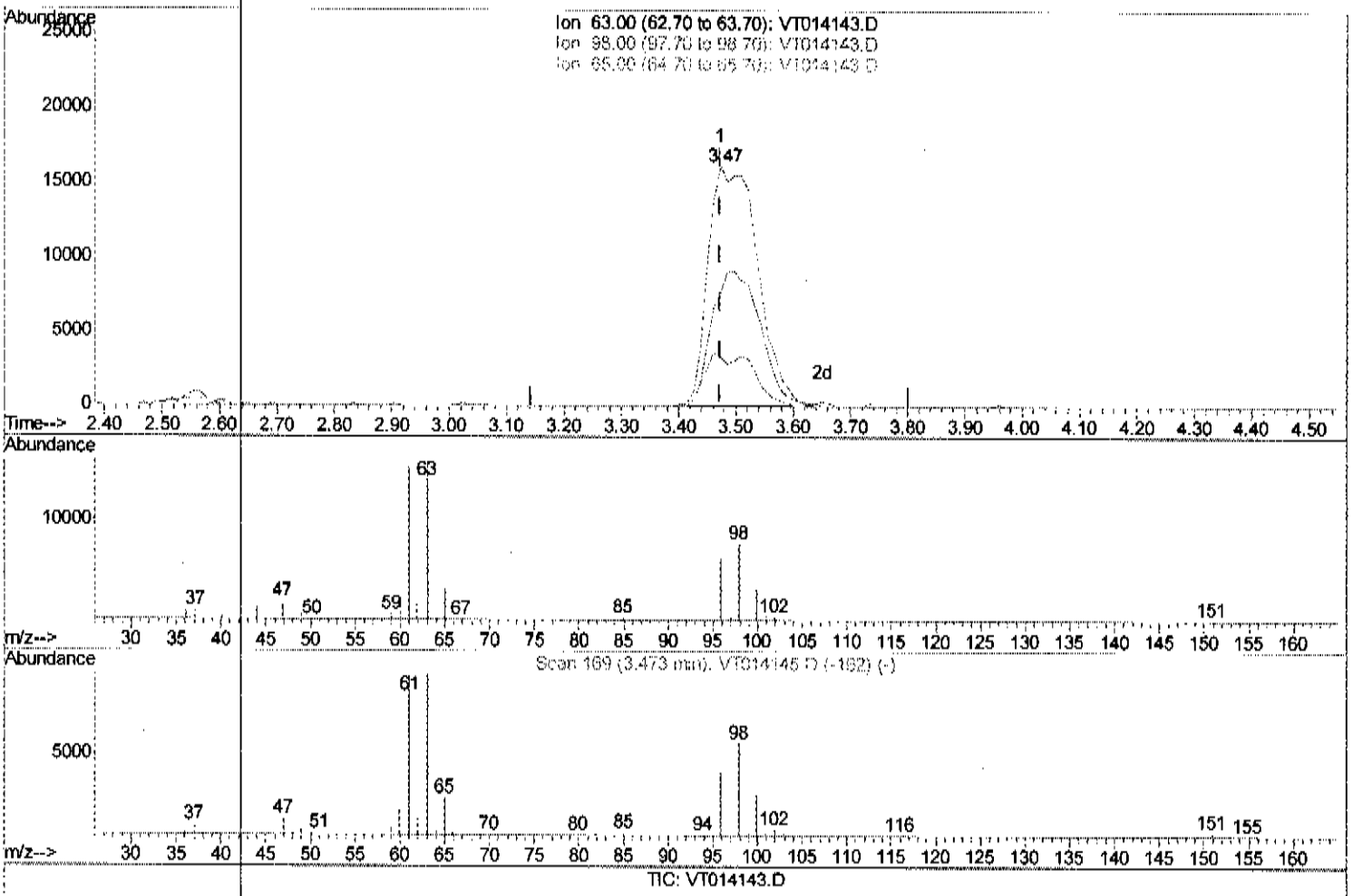

TIC: VT014143.D

(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.000) 3.03ug/L m

response 97724

FY
5/16/2016

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	0.00#
65.00	11.10	10.43
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
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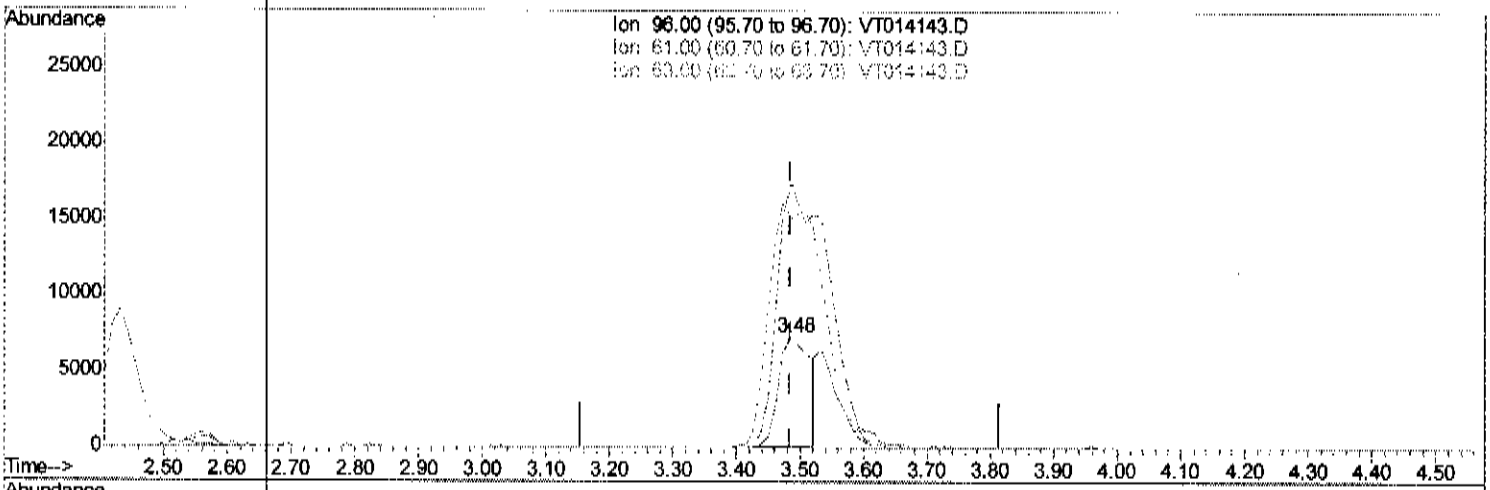
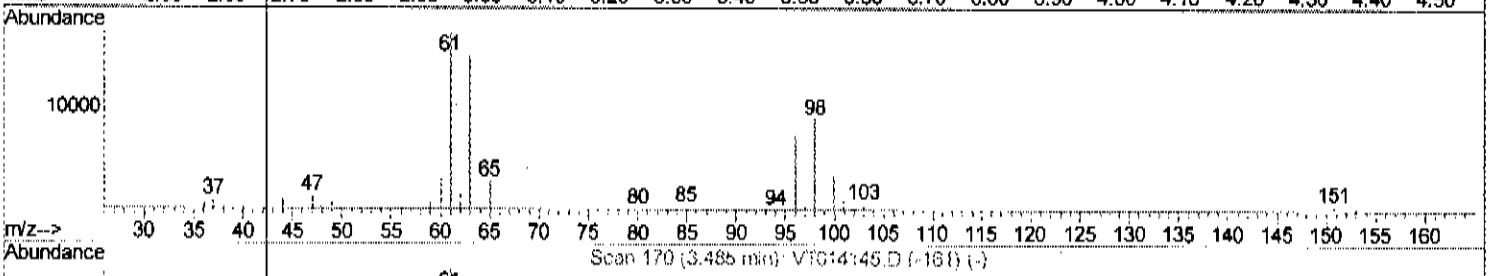
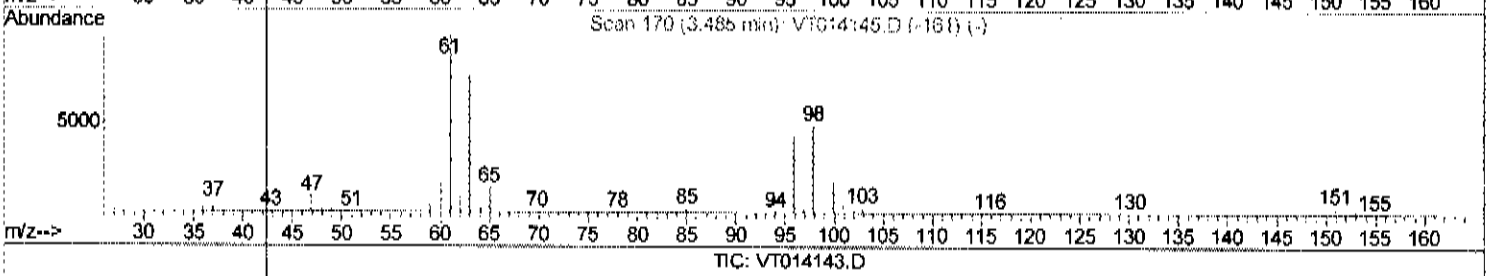




Scan 170 (3.485 min): VT014145.D (-161) (-)



TIC: VT014143.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 1.72ug/L

response 25716

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	239.29
63.00	176.20	206.24
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
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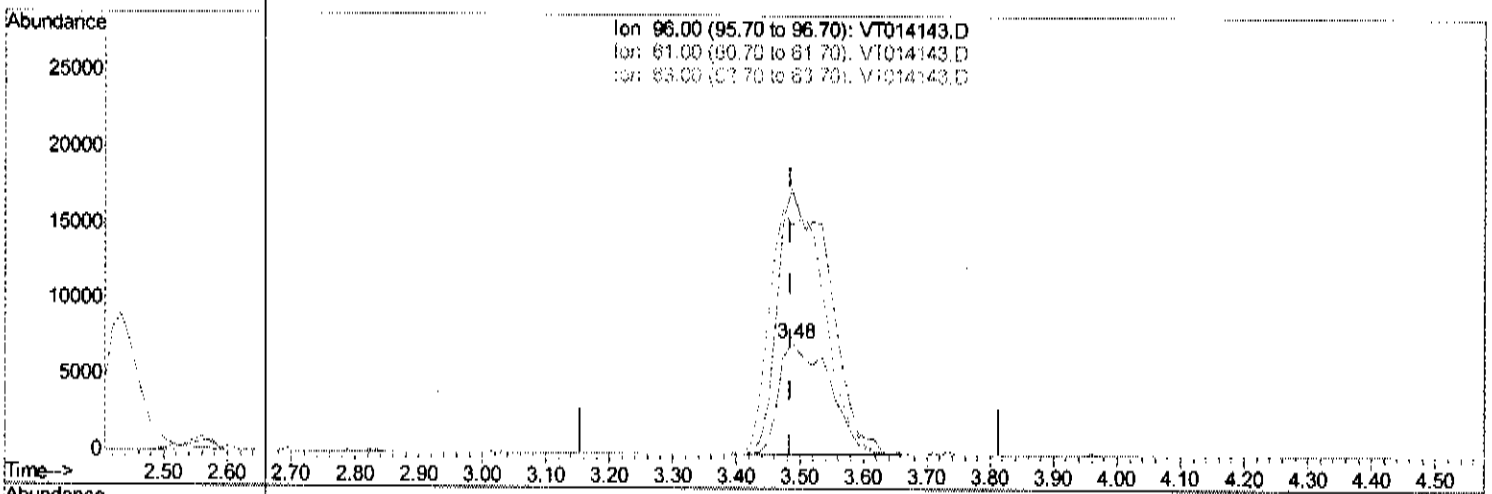
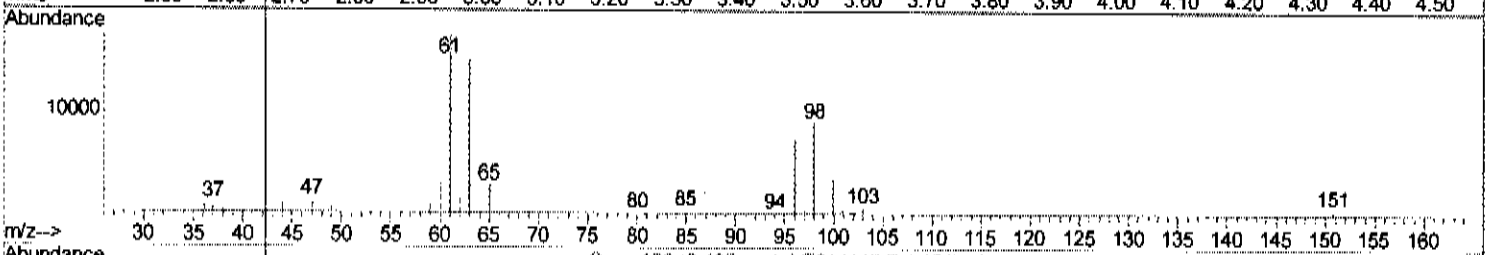
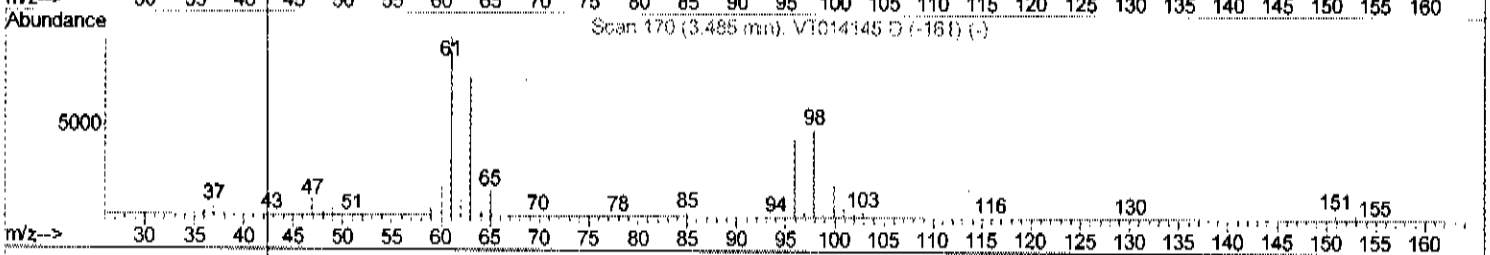
5/16/2016 6:44:39 PM





Scan 170 (3.485 min): VT014145.D (-161) (-)



TIC: VT014143.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 2.73ug/L m

response 40731

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	239.29
63.00	176.20	206.24
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
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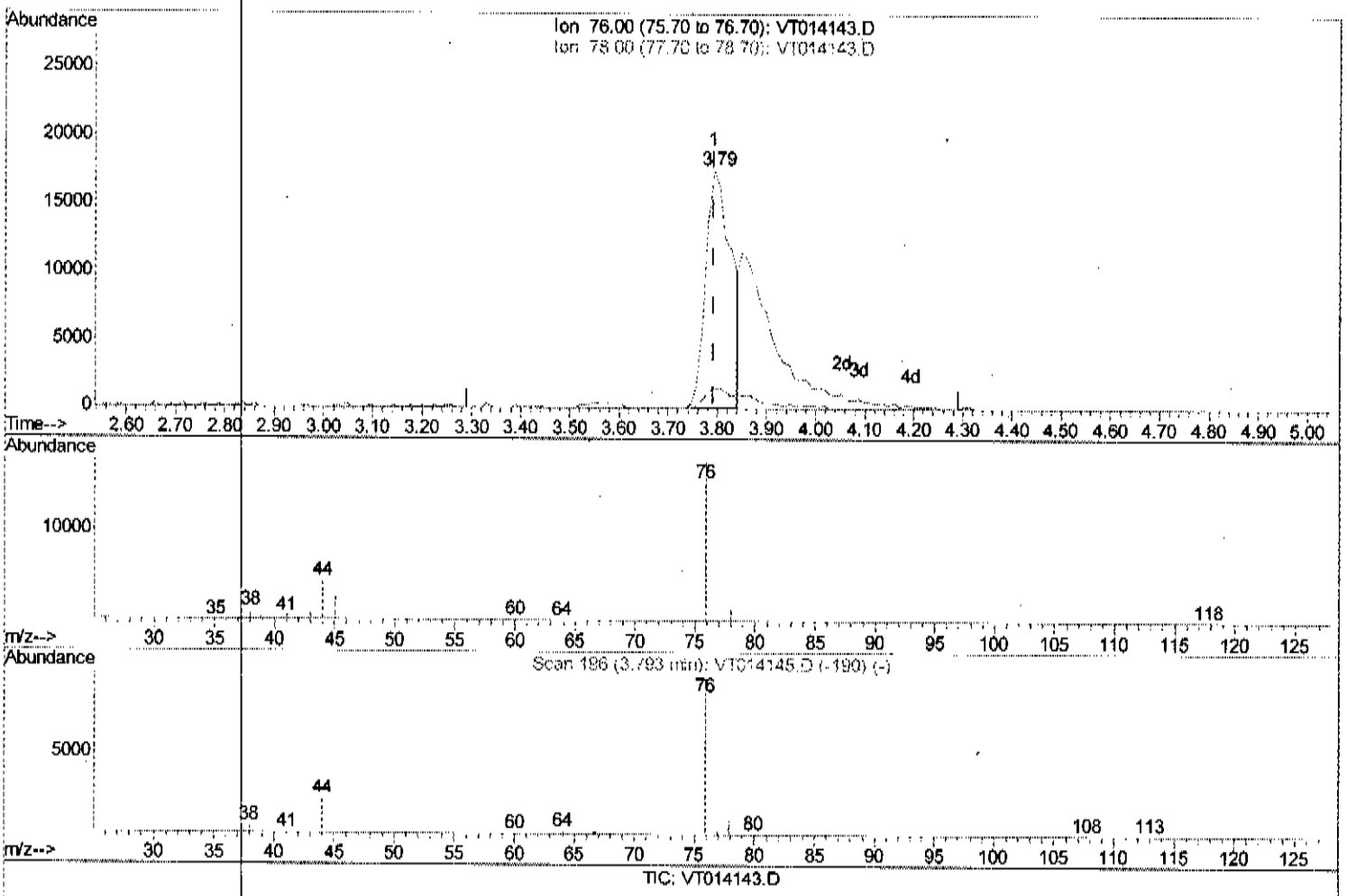
5/16/2016 6:44:39 PM



TIC: VT014143.D

(14) Carbon disulfide (T)

3.792min (-0.000) 1.35ug/L

response 63897

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	8.61
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
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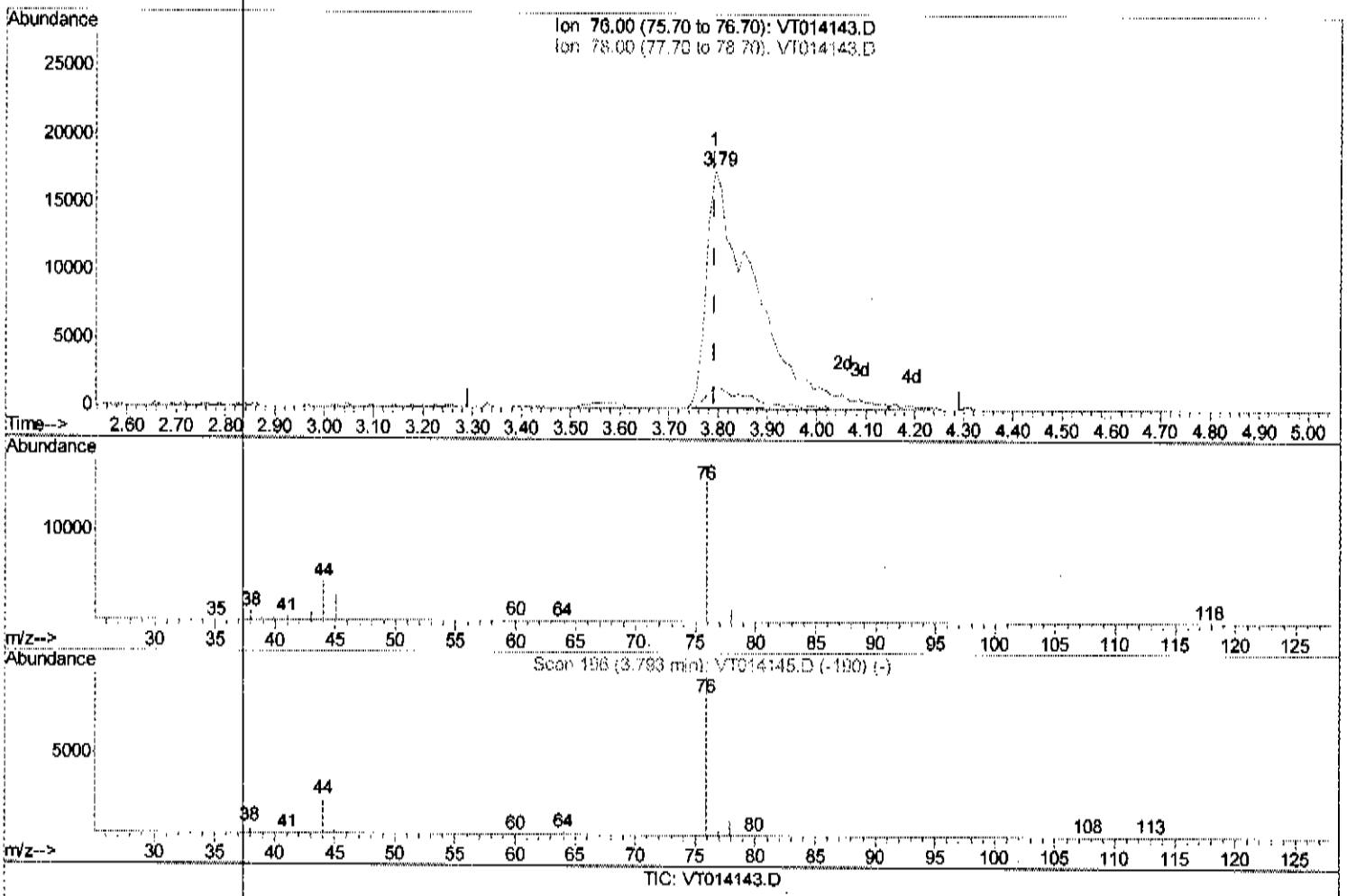
5/16/2016 6:44:39 PM



TIC: VT014143.D

(14) Carbon disulfide (T)

3.792min (-0.000) 2.58ug/L m

response 121649

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	8.61
0.00	0.00	0.00
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
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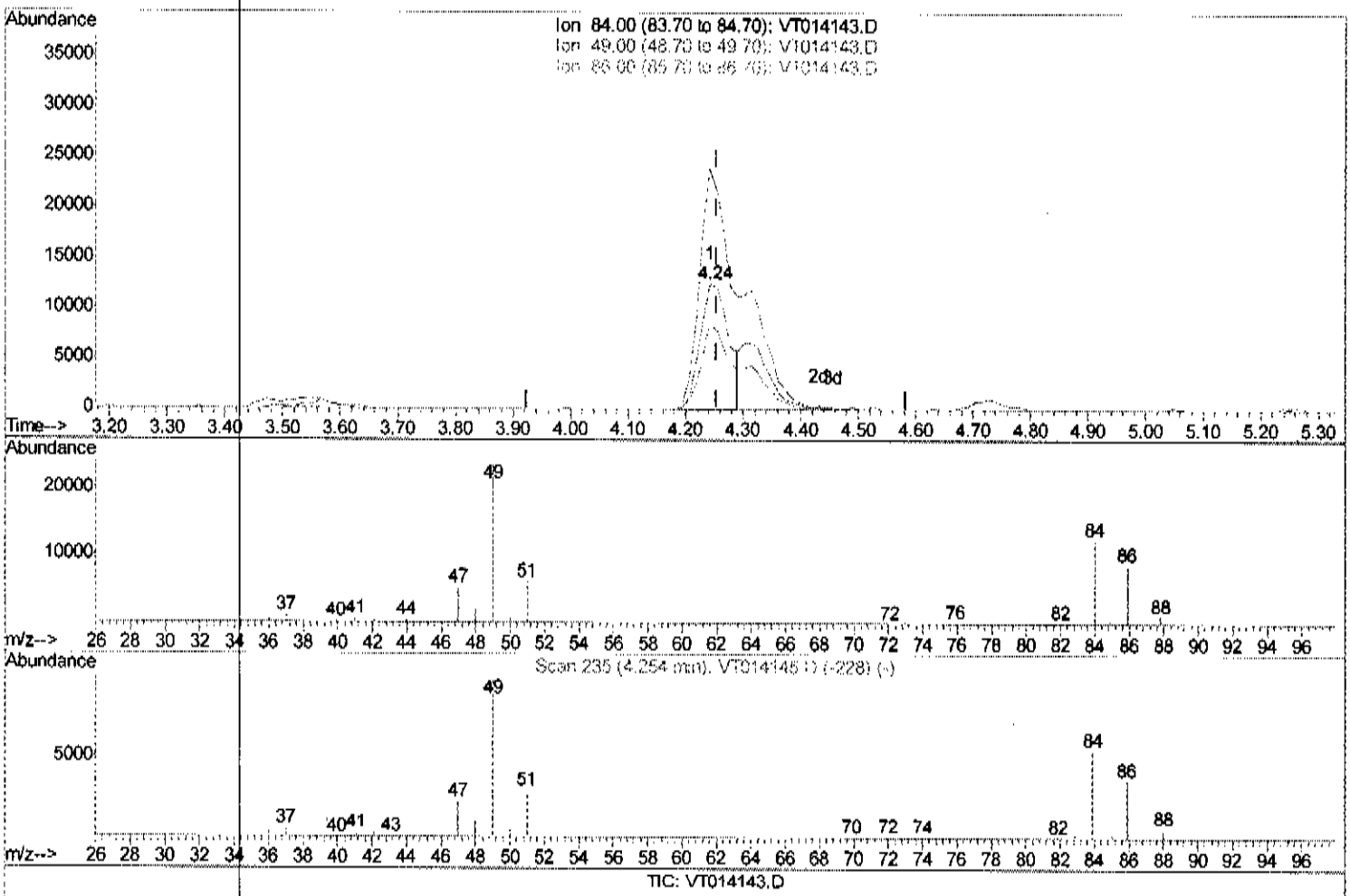

TIC: VT014143.D

(16) Methylene chloride (T)

4.242min (-0.012) 2.78ug/L

response 43739

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	192.21
86.00	65.50	69.75
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:28:07 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD2.583

Manual Integrations APPROVED
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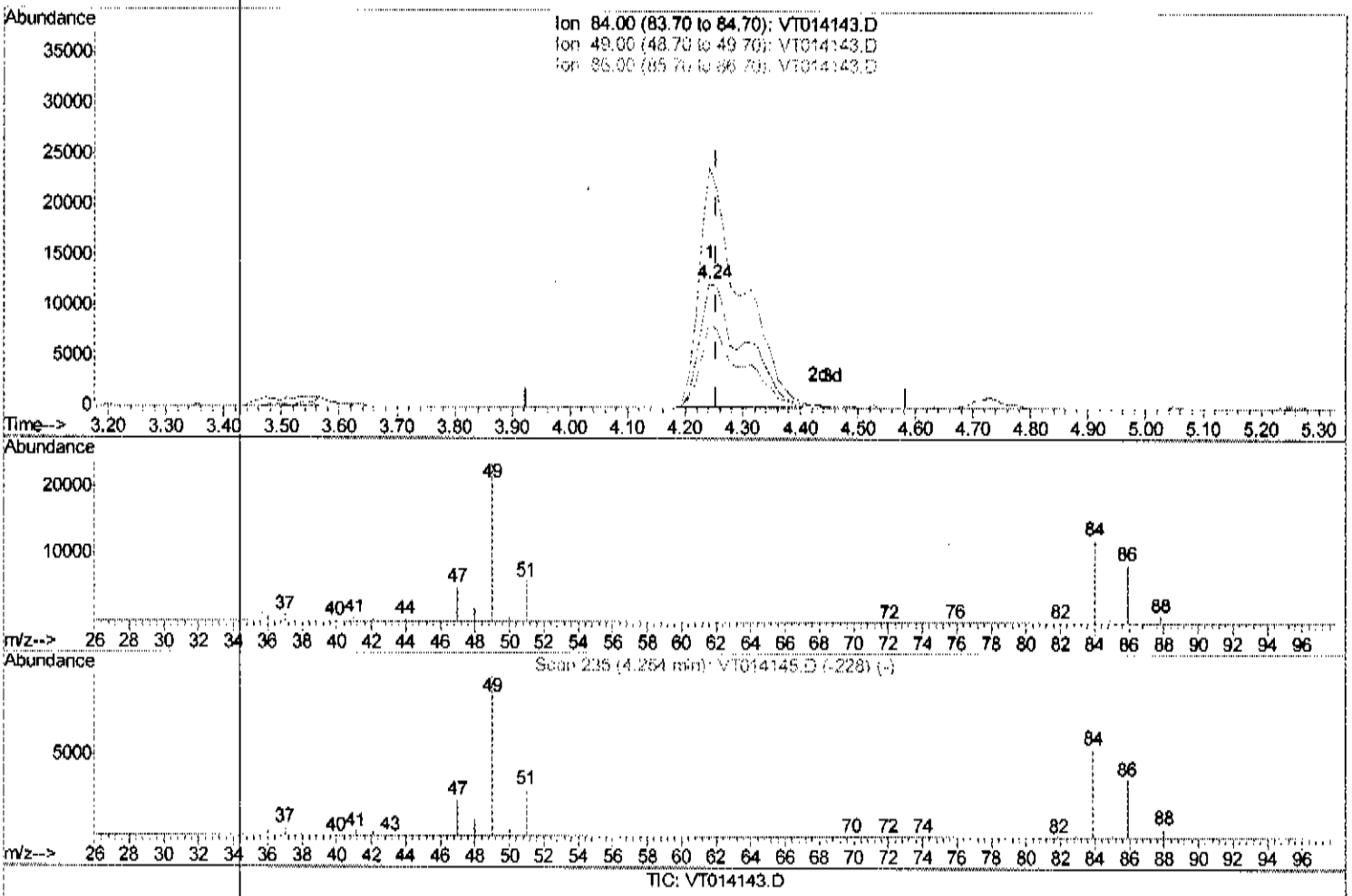

Scan 235 (4.264 min): VT014145.D (-228) (-)

TIC: VT014143.D

(16) Methylene chloride (T)

4.242min (-0.012) 4.21ug/L m

response 66162

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	192.21
86.00	65.50	69.75
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:39:34 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.583

Manual Integrations APPROVED
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5/16/2016 6:44:39 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	980141	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	770320	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	375856	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.06	65	42964	2.86	ug/L	-0.02
7) Chloroethane-d5	2.53	69	34716	3.02	ug/L	-0.01
10) 1,1-Dichloroethene-d2	3.47	63	97724m	3.03	ug/L	0.00
20) 2-Butanone-d5	6.43	46	23220	5.66	ug/L	0.00
24) Chloroform-d	7.07	84	86475	3.21	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	55215	3.44	ug/L	0.00
29) Benzene-d6	7.74	84	152399	3.01	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	47433	3.14	ug/L	0.00
37) Toluene-d8	9.87	98	131461	2.93	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	14464	2.70	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	12221	4.86	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	31239	3.05	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	45293	3.25	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	61441	3.00	ug/L	98
3) Chloromethane	1.93	50	72917	3.05	ug/L	98
5) Vinyl chloride	2.08	62	67397	2.96	ug/L	89
6) Bromomethane	2.43	94	35585	3.12	ug/L	99
8) Chloroethane	2.56	64	37502	2.94	ug/L	100
9) Trichlorofluoromethane	2.81	101	83111m	3.08	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.56	101	46778	2.87	ug/L	100
12) 1,1-Dichloroethene	3.48	96	40731m	2.73	ug/L	
13) Acetone	3.56	43	45231	9.86	ug/L	98
14) Carbon disulfide	3.79	76	121649m	2.58	ug/L	
15) Methyl Acetate	4.04	43	24074	2.76	ug/L	96
16) Methylene chloride	4.24	84	66162m	4.21	ug/L	
17) Methyl tert-butyl Ether	4.73	73	71908	2.55	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	40576	2.69	ug/L	98
19) 1,1-Dichloroethane	5.53	63	91054	2.76	ug/L	97
21) 2-Butanone	6.54	43	40354	6.97	ug/L	97
22) cis-1,2-Dichloroethene	6.53	96	38717	2.69	ug/L	93
23) Bromochloromethane	6.92	128	14642	2.72	ug/L	87
25) Chloroform	7.09	83	81286	2.88	ug/L	98
27) 1,2-Dichloroethane	7.87	62	63775	3.03	ug/L	100
30) Cyclohexane	7.41	56	82554	2.42	ug/L	100
31) 1,1,1-Trichloroethane	7.31	97	71943	2.94	ug/L	97
32) Carbon tetrachloride	7.53	117	62995	2.82	ug/L	98
34) Benzene	7.79	78	175105	2.79	ug/L	100
35) Trichloroethene	8.61	95	44113	2.79	ug/L	98
36) Methylcyclohexane	8.86	83	77543	2.47	ug/L	96
40) 1,2-Dichloropropane	8.89	63	45042	2.84	ug/L	99
41) Bromodichloromethane	9.18	83	46511	2.70	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	45604	2.44	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	55336	5.14	ug/L	97

FY 5/16/2016

FY 5/16/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014143.D
Acq On : 13 May 2016 14:37
Operator : FY/SY
Sample : VSTD2.583
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 23:39:34 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD2.583

Manual Integrations APPROVED
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5/16/2016 6:44:39 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	166299	2.71	ug/L		97
45) trans-1,3-Dichloropropene	10.16	75	40102	2.53	ug/L		95
46) 1,1,2-Trichloroethane	10.34	97	22364	2.70	ug/L		97
47) Tetrachloroethene	10.42	164	29500	2.60	ug/L		87
49) 2-Hexanone	10.53	43	47208	5.95	ug/L		96
50) Dibromochloromethane	10.68	129	23877	2.49	ug/L		96
51) 1,2-Dibromoethane	10.79	107	20998	2.74	ug/L	#	97
52) Chlorobenzene	11.21	112	102187	2.93	ug/L		99
53) Ethylbenzene	11.29	91	193489	2.79	ug/L		97
54) m,p-Xylene	11.40	106	64869	2.59	ug/L		95
55) o-xylene	11.73	106	58814	2.47	ug/L		98
56) Styrene	11.74	104	101773	2.69	ug/L		94
57) Isopropylbenzene	12.03	105	176990	2.56	ug/L		98
58) 1,1,2,2-Tetrachloroethane	12.28	83	29159	2.81	ug/L		97
61) Bromoform	11.91	173	10399	2.12	ug/L		98
62) 1,3-Dichlorobenzene	13.06	146	72040	2.87	ug/L		97
63) 1,4-Dichlorobenzene	13.14	146	77521	3.01	ug/L		96
64) 1,2-Dichlorobenzene	13.42	146	66422	2.90	ug/L		96
65) 1,2-Dibromo-3-chloropropan	14.04	75	4300	2.61	ug/L		92
66) 1,2,4-trichlorobenzene	14.69	180	36624	2.80	ug/L		98
67) 1,2,3-Trichlorobenzene	15.07	180	36564	3.26	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

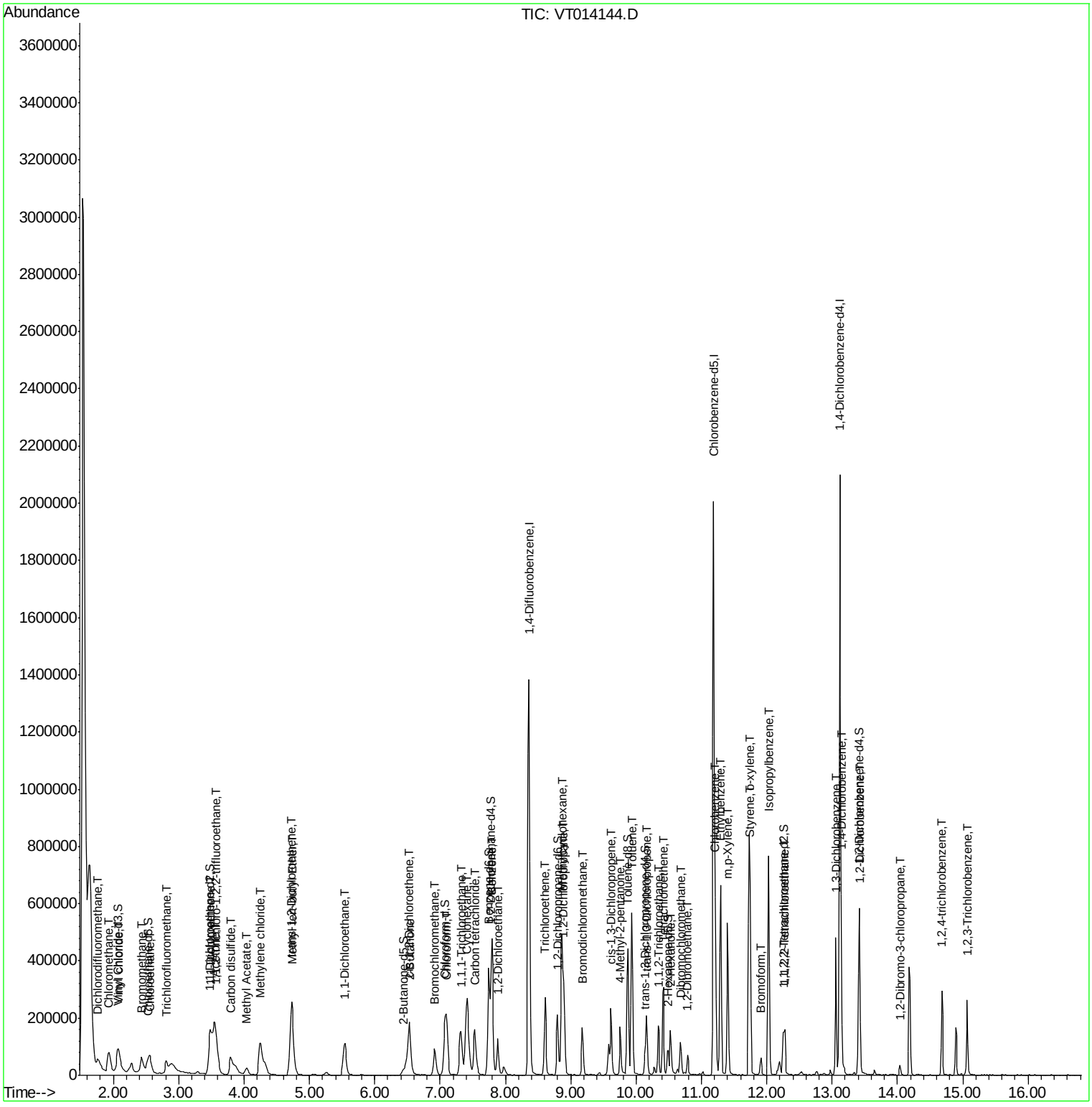
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:41:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:41 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:41 PM

Quant Time: May 13 23:41:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1011981	25.00	ug/L		0.00
28) Chlorobenzene-d5	11.19	117	827494	25.00	ug/L		0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	409010	25.00	ug/L		0.00
System Monitoring Compounds							
4) Vinyl Chloride-d3	2.06	65	78429	5.05	ug/L		-0.02
7) Chloroethane-d5	2.53	69	62442	5.26	ug/L		-0.01
10) 1,1-Dichloroethene-d2	3.47	63	182439	5.47	ug/L		0.00
20) 2-Butanone-d5	6.44	46	42994	10.15	ug/L		0.01
24) Chloroform-d	7.07	84	161618	5.80	ug/L		0.00
26) 1,2-Dichloroethane-d4	7.78	65	100141	6.04	ug/L		0.00
29) Benzene-d6	7.74	84	289708	5.33	ug/L		0.00
33) 1,2-Dichloropropane-d6	8.80	67	84474	5.21	ug/L		0.00
37) Toluene-d8	9.87	98	255406	5.31	ug/L		0.00
38) trans-1,3-Dichloropropene-	10.13	79	28775	5.01	ug/L		0.00
39) 2-Hexanone-d5	10.49	63	24782	9.18	ug/L		0.01
48) 1,1,2,2-Tetrachloroethane-	12.25	84	57380	5.22	ug/L		0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	82138	5.42	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.76	85	110277	5.22	ug/L		96
3) Chloromethane	1.93	50	132741	5.37	ug/L		96
5) Vinyl chloride	2.08	62	135805	5.78	ug/L		95
6) Bromomethane	2.43	94	70399	5.99	ug/L		99
8) Chloroethane	2.56	64	76910	5.85	ug/L		97
9) Trichlorofluoromethane	2.81	101	167358m	6.01	ug/L		
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	97465	5.80	ug/L		98
12) 1,1-Dichloroethene	3.48	96	82279m	5.34	ug/L		
13) Acetone	3.56	43	81360	17.18	ug/L		99
14) Carbon disulfide	3.79	76	245031	5.03	ug/L		97
15) Methyl Acetate	4.04	43	46181	5.12	ug/L		99
16) Methylene chloride	4.25	84	105661m	6.51	ug/L		
17) Methyl tert-butyl Ether	4.74	73	157491	5.42	ug/L		99
18) trans-1,2-Dichloroethene	4.73	96	82029	5.27	ug/L		96
19) 1,1-Dichloroethane	5.54	63	189559	5.57	ug/L		99
21) 2-Butanone	6.54	43	77583	12.97	ug/L		97
22) cis-1,2-Dichloroethene	6.53	96	79192	5.32	ug/L		97
23) Bromochloromethane	6.92	128	29901	5.39	ug/L		94
25) Chloroform	7.11	83	168508	5.78	ug/L		97
27) 1,2-Dichloroethane	7.89	62	127762	5.89	ug/L		100
30) Cyclohexane	7.41	56	182912	4.99	ug/L		100
31) 1,1,1-Trichloroethane	7.32	97	148867	5.67	ug/L		98
32) Carbon tetrachloride	7.53	117	130300	5.44	ug/L		98
34) Benzene	7.79	78	355308	5.27	ug/L		100
35) Trichloroethene	8.61	95	90213	5.32	ug/L		99
36) Methylcyclohexane	8.87	83	168593	5.01	ug/L		97
40) 1,2-Dichloropropane	8.89	63	91170	5.35	ug/L	#	98
41) Bromodichloromethane	9.18	83	99107	5.36	ug/L		99
42) cis-1,3-Dichloropropene	9.61	75	104714	5.21	ug/L		97
43) 4-Methyl-2-pentanone	9.76	43	118777	10.28	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:41:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	338290	5.14	ug/L		99
45) trans-1,3-Dichloropropene	10.16	75	85510	4.99	ug/L		97
46) 1,1,2-Trichloroethane	10.35	97	46600	5.25	ug/L		93
47) Tetrachloroethene	10.42	164	63225	5.19	ug/L		98
49) 2-Hexanone	10.53	43	100302	11.76	ug/L		99
50) Dibromochloromethane	10.68	129	51231	4.98	ug/L		97
51) 1,2-Dibromoethane	10.79	107	43102	5.23	ug/L		99
52) Chlorobenzene	11.21	112	201007	5.37	ug/L		98
53) Ethylbenzene	11.29	91	394237	5.29	ug/L		99
54) m,p-Xylene	11.40	106	137909	5.13	ug/L		92
55) o-xylene	11.73	106	127589	4.99	ug/L		98
56) Styrene	11.74	104	208266	5.13	ug/L		96
57) Isopropylbenzene	12.03	105	381102	5.12	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.28	83	58146	5.21	ug/L		98
61) Bromoform	11.91	173	23570	4.42	ug/L	#	97
62) 1,3-Dichlorobenzene	13.06	146	146169	5.34	ug/L		96
63) 1,4-Dichlorobenzene	13.14	146	151252	5.40	ug/L		100
64) 1,2-Dichlorobenzene	13.42	146	132562	5.32	ug/L		98
65) 1,2-Dibromo-3-chloropropan	14.04	75	8035	4.48	ug/L		98
66) 1,2,4-trichlorobenzene	14.68	180	74507	5.23	ug/L		99
67) 1,2,3-Trichlorobenzene	15.07	180	67016	5.49	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:41:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
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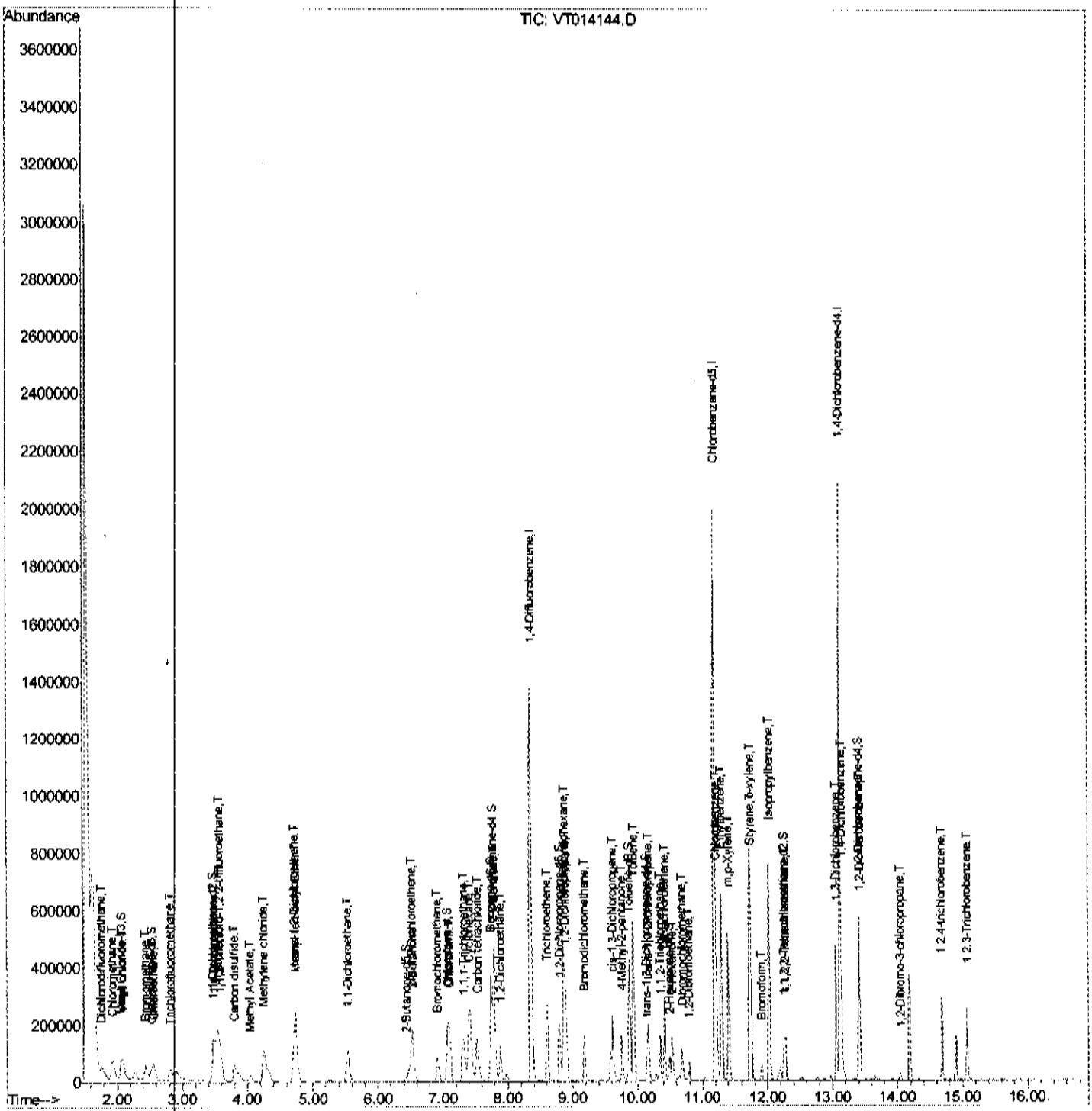

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:28:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
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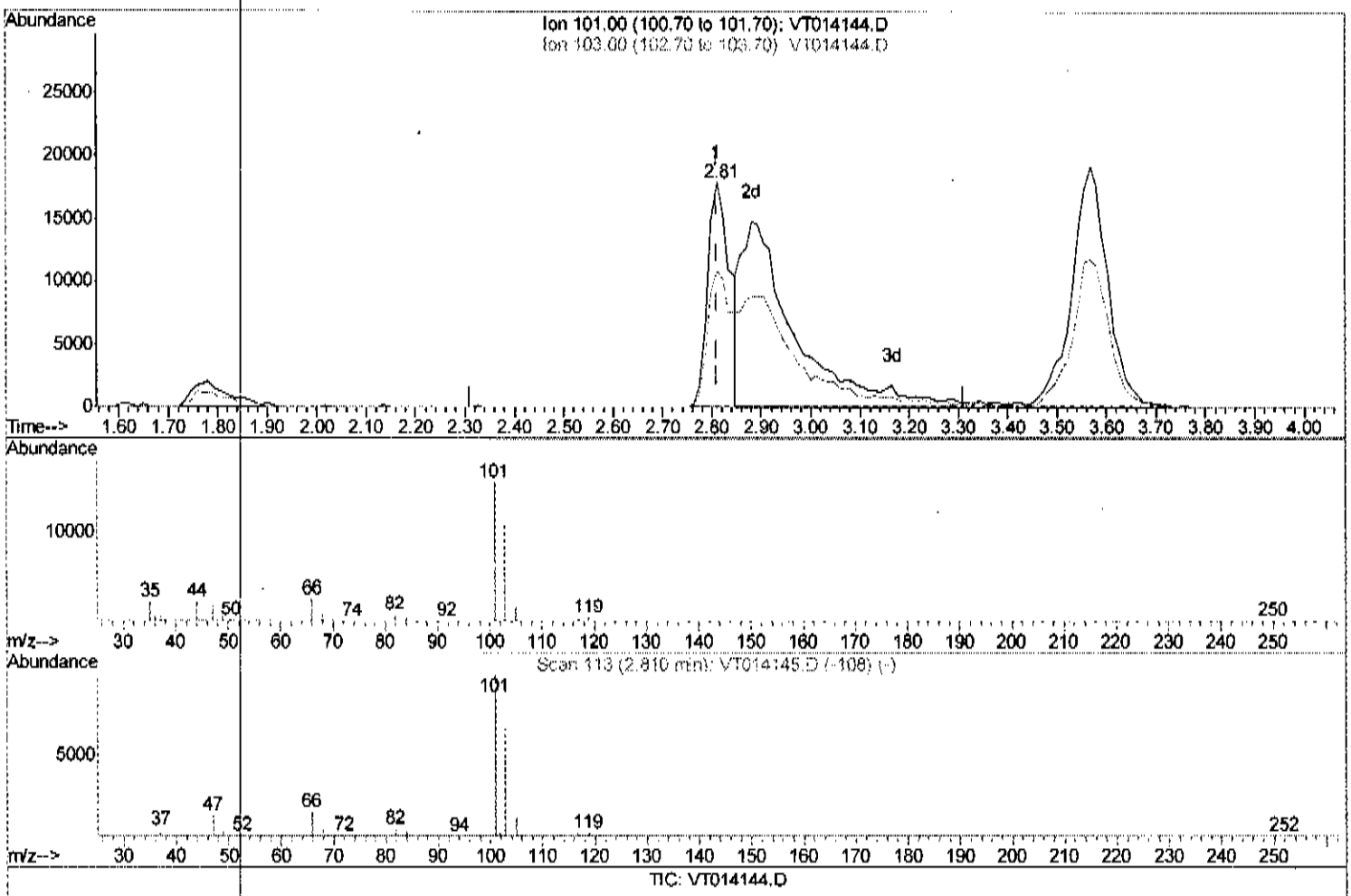
5/16/2016 6:44:41 PM



TIC: VT014144.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 1.99ug/L

response 55389

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	55.65#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:28:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
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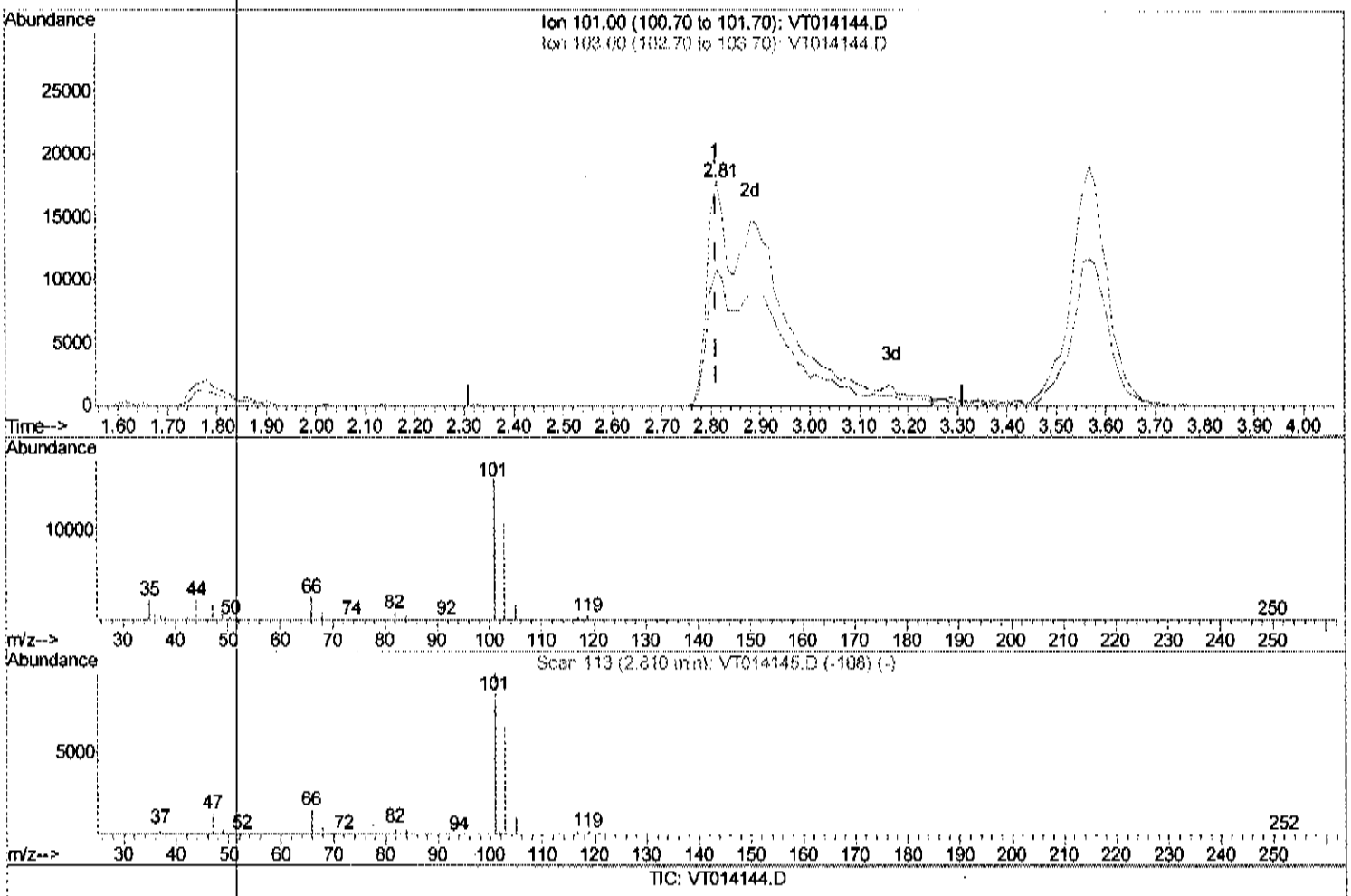

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 6.01ug/L m

response 167358

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	18.42
0.00	0.00	0.00
0.00	0.00	0.00

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5/16/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:28:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
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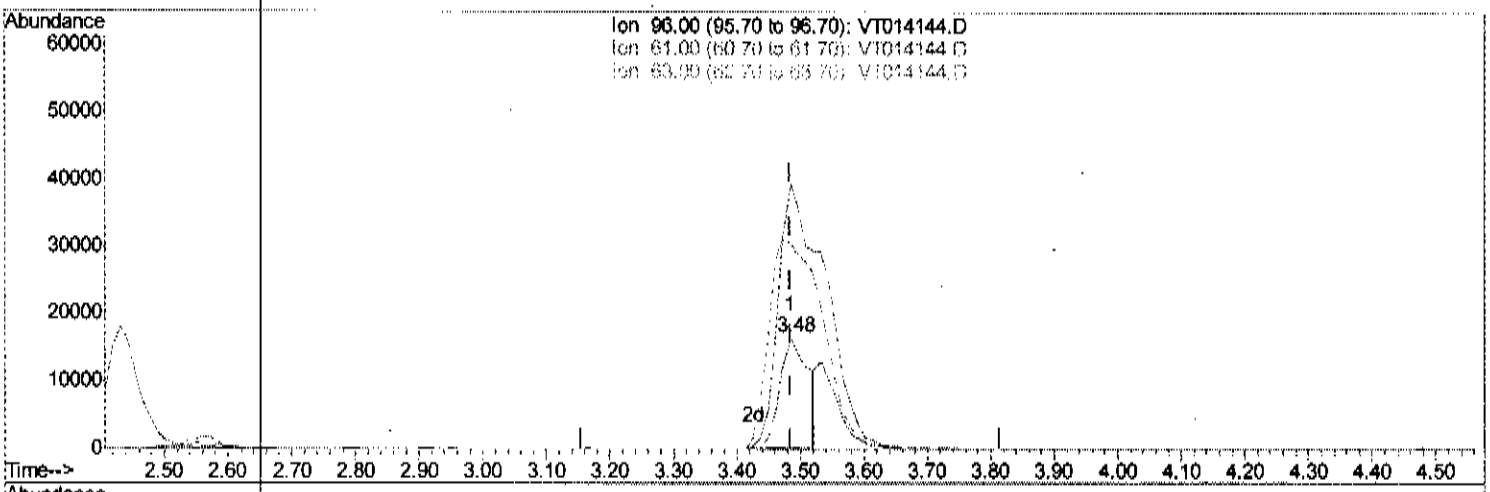
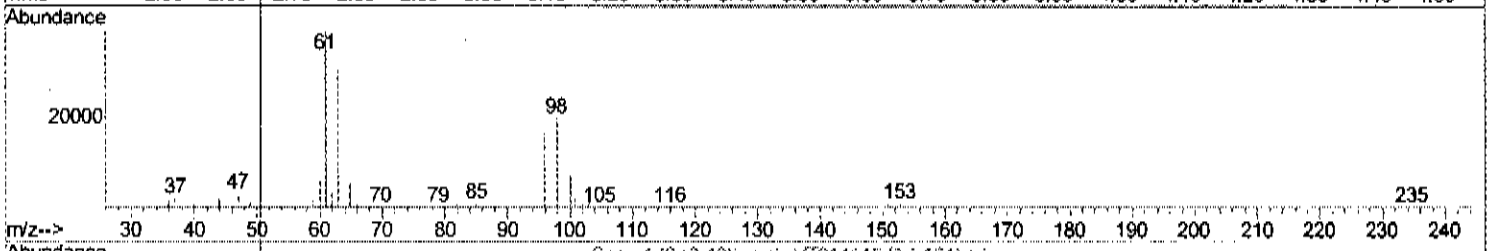
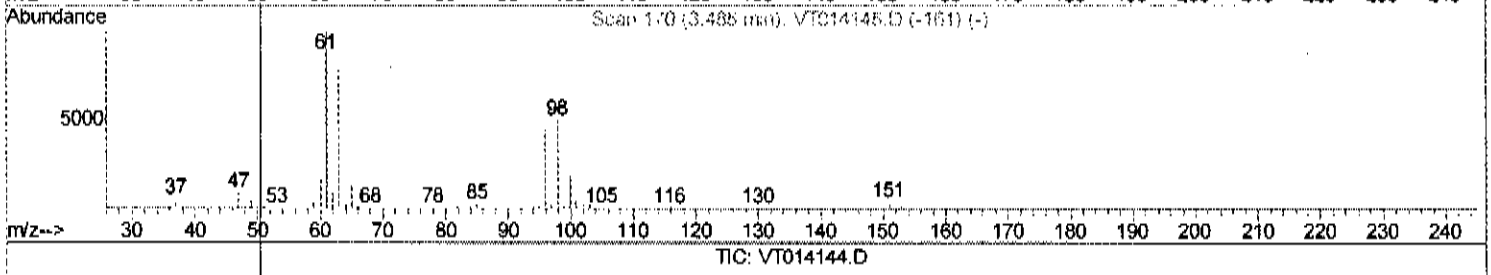
5/16/2016 6:44:41 PM







TIC: VT014144.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 3.41ug/L

response 52568

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	238.44
63.00	176.20	184.43
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:28:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
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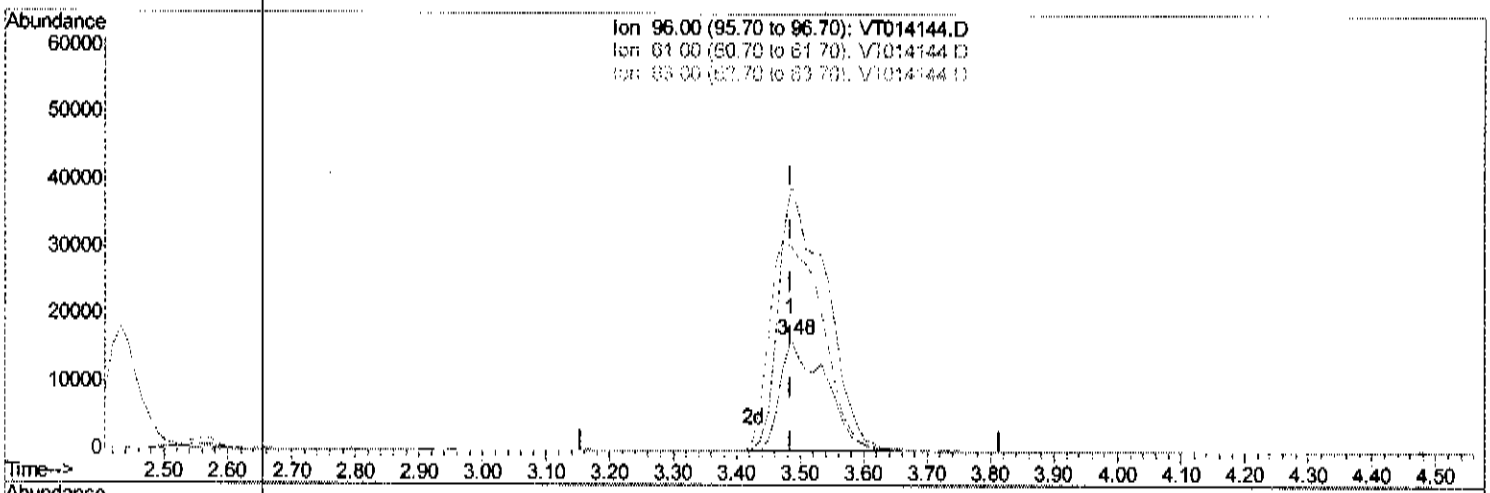

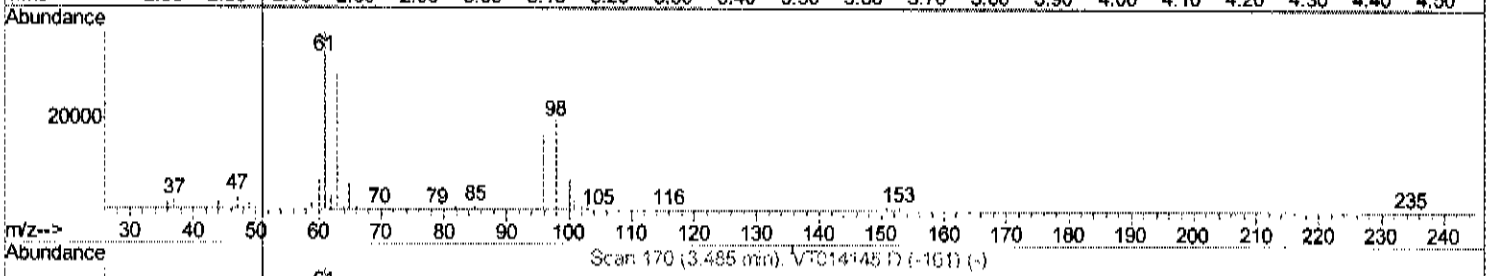

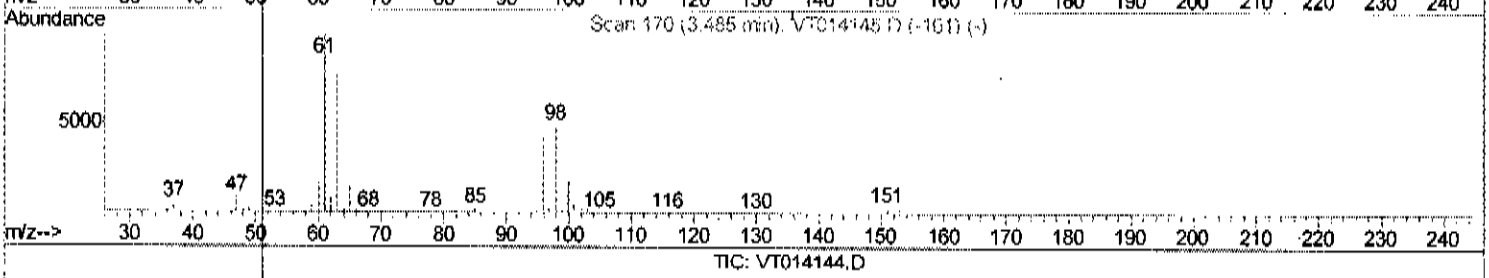

TIC: VT014144.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 5.34ug/L m

response 82279

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	238.44
63.00	176.20	184.43
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:28:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
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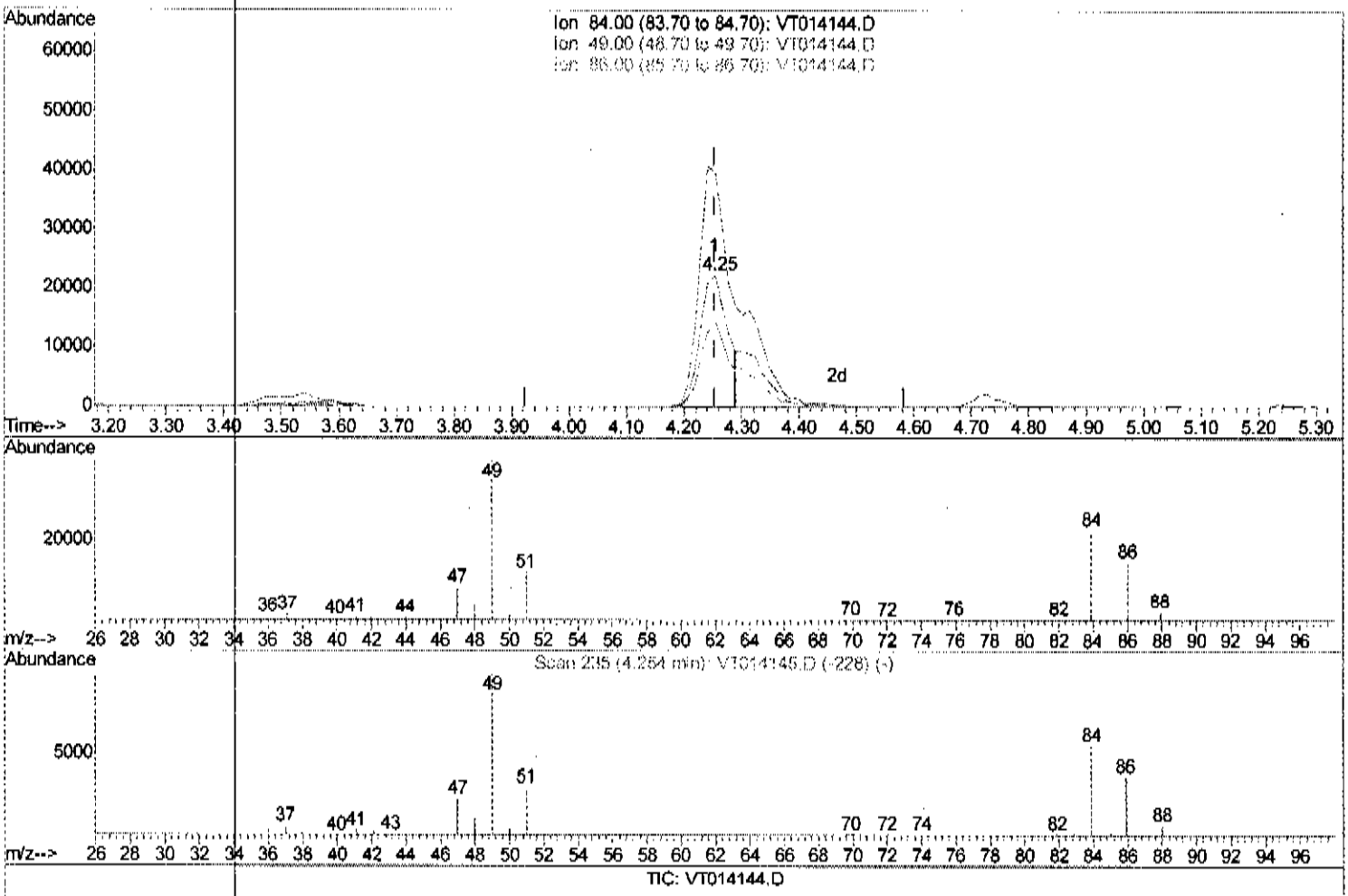


TIC: VT014144.D

(16) Methylene chloride (T)

4.254min (-0.000) 4.60ug/L

response 74548

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	179.03
86.00	65.50	64.25
0.00	0.00	0.00

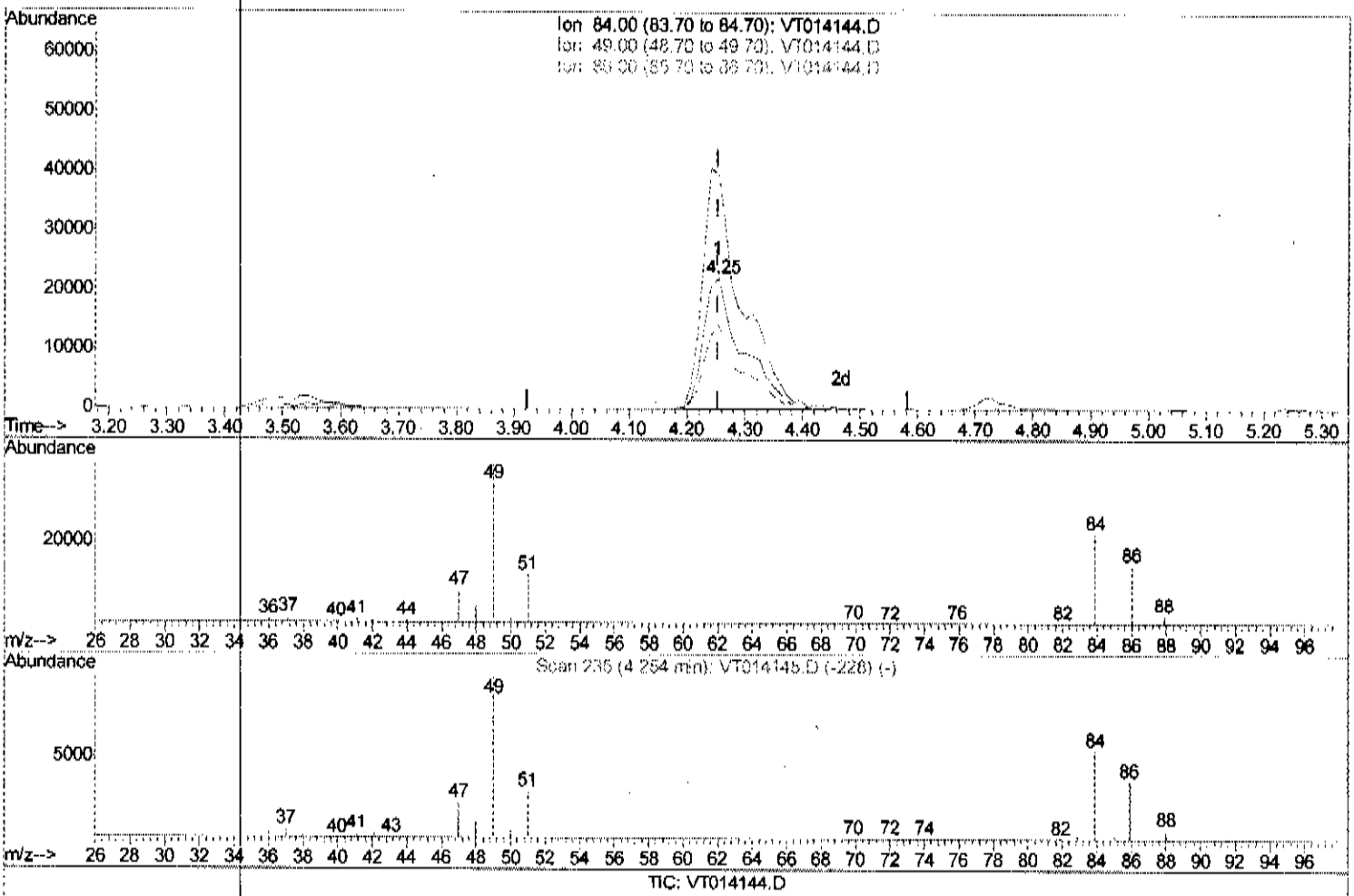
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:28:27 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD00584

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:41 PM



TIC: VT014144.D

(16) Methylene chloride (T)

4.254min (-0.000) 6.51ug/L m

response 105661

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	179.03
86.00	65.50	64.25
0.00	0.00	0.00

FY
5/16/2016.

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:41:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00584

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:41 PM

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1011981	25.00	ug/L		0.00
28) Chlorobenzene-d5	11.19	117	827494	25.00	ug/L		0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	409010	25.00	ug/L		0.00
System Monitoring Compounds							
4) Vinyl Chloride-d3	2.06	65	78429	5.05	ug/L		-0.02
7) Chloroethane-d5	2.53	69	62442	5.26	ug/L		-0.01
10) 1,1-Dichloroethene-d2	3.47	63	182439	5.47	ug/L		0.00
20) 2-Butanone-d5	6.44	46	42994	10.15	ug/L		0.01
24) Chloroform-d	7.07	84	161618	5.80	ug/L		0.00
26) 1,2-Dichloroethane-d4	7.78	65	100141	6.04	ug/L		0.00
29) Benzene-d6	7.74	84	289708	5.33	ug/L		0.00
33) 1,2-Dichloropropane-d6	8.80	67	84474	5.21	ug/L		0.00
37) Toluene-d8	9.87	98	255406	5.31	ug/L		0.00
38) trans-1,3-Dichloropropene-	10.13	79	28775	5.01	ug/L		0.00
39) 2-Hexanone-d5	10.49	63	24782	9.18	ug/L		0.01
48) 1,1,2,2-Tetrachloroethane-	12.25	84	57380	5.22	ug/L		0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	82138	5.42	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.76	85	110277	5.22	ug/L		96
3) Chloromethane	1.93	50	132741	5.37	ug/L		96
5) Vinyl chloride	2.08	62	135805	5.78	ug/L		95
6) Bromomethane	2.43	94	70399	5.99	ug/L		99
8) Chloroethane	2.56	64	76910	5.85	ug/L		97
9) Trichlorofluoromethane	2.81	101	167358m	6.01	ug/L		
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	97465	5.80	ug/L		98
12) 1,1-Dichloroethene	3.48	96	82279m	5.34	ug/L		
13) Acetone	3.56	43	81360	17.18	ug/L		99
14) Carbon disulfide	3.79	76	245031	5.03	ug/L		97
15) Methyl Acetate	4.04	43	46181	5.12	ug/L		99
16) Methylene chloride	4.25	84	105661m	6.51	ug/L		
17) Methyl tert-butyl Ether	4.74	73	157491	5.42	ug/L		99
18) trans-1,2-Dichloroethene	4.73	96	82029	5.27	ug/L		96
19) 1,1-Dichloroethane	5.54	63	189559	5.57	ug/L		99
21) 2-Butanone	6.54	43	77583	12.97	ug/L		97
22) cis-1,2-Dichloroethene	6.53	96	79192	5.32	ug/L		97
23) Bromochloromethane	6.92	128	29901	5.39	ug/L		94
25) Chloroform	7.11	83	168508	5.78	ug/L		97
27) 1,2-Dichloroethane	7.89	62	127762	5.89	ug/L		100
30) Cyclohexane	7.41	56	182912	4.99	ug/L		100
31) 1,1,1-Trichloroethane	7.32	97	148867	5.67	ug/L		98
32) Carbon tetrachloride	7.53	117	130300	5.44	ug/L		98
34) Benzene	7.79	78	355308	5.27	ug/L		100
35) Trichloroethene	8.61	95	90213	5.32	ug/L		99
36) Methylcyclohexane	8.87	83	168593	5.01	ug/L		97
40) 1,2-Dichloropropane	8.89	63	91170	5.35	ug/L	#	98
41) Bromodichloromethane	9.18	83	99107	5.36	ug/L		99
42) cis-1,3-Dichloropropene	9.61	75	104714	5.21	ug/L		97
43) 4-Methyl-2-pentanone	9.76	43	118777	10.28	ug/L		98

FY 5/16/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014144.D
Acq On : 13 May 2016 15:03
Operator : FY/SY
Sample : VSTD00584
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 23:41:12 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD00584

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Toluene	9.93	91	338290	5.14	ug/L		99
45) trans-1,3-Dichloropropene	10.16	75	85510	4.99	ug/L		97
46) 1,1,2-Trichloroethane	10.35	97	46600	5.25	ug/L		93
47) Tetrachloroethene	10.42	164	63225	5.19	ug/L		98
49) 2-Hexanone	10.53	43	100302	11.76	ug/L		99
50) Dibromochloromethane	10.68	129	51231	4.98	ug/L		97
51) 1,2-Dibromoethane	10.79	107	43102	5.23	ug/L		99
52) Chlorobenzene	11.21	112	201007	5.37	ug/L		98
53) Ethylbenzene	11.29	91	394237	5.29	ug/L		99
54) m,p-Xylene	11.40	106	137909	5.13	ug/L		92
55) o-xylene	11.73	106	127589	4.99	ug/L		98
56) Styrene	11.74	104	208266	5.13	ug/L		96
57) Isopropylbenzene	12.03	105	381102	5.12	ug/L		99
58) 1,1,2,2-Tetrachloroethane	12.28	83	58146	5.21	ug/L		98
61) Bromoform	11.91	173	23570	4.42	ug/L	#	97
62) 1,3-Dichlorobenzene	13.06	146	146169	5.34	ug/L		96
63) 1,4-Dichlorobenzene	13.14	146	151252	5.40	ug/L		100
64) 1,2-Dichlorobenzene	13.42	146	132562	5.32	ug/L		98
65) 1,2-Dibromo-3-chloropropan	14.04	75	8035	4.48	ug/L		98
66) 1,2,4-trichlorobenzene	14.68	180	74507	5.23	ug/L		99
67) 1,2,3-Trichlorobenzene	15.07	180	67016	5.49	ug/L		99

(#) = qualifier out of range (m) - manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:43:15 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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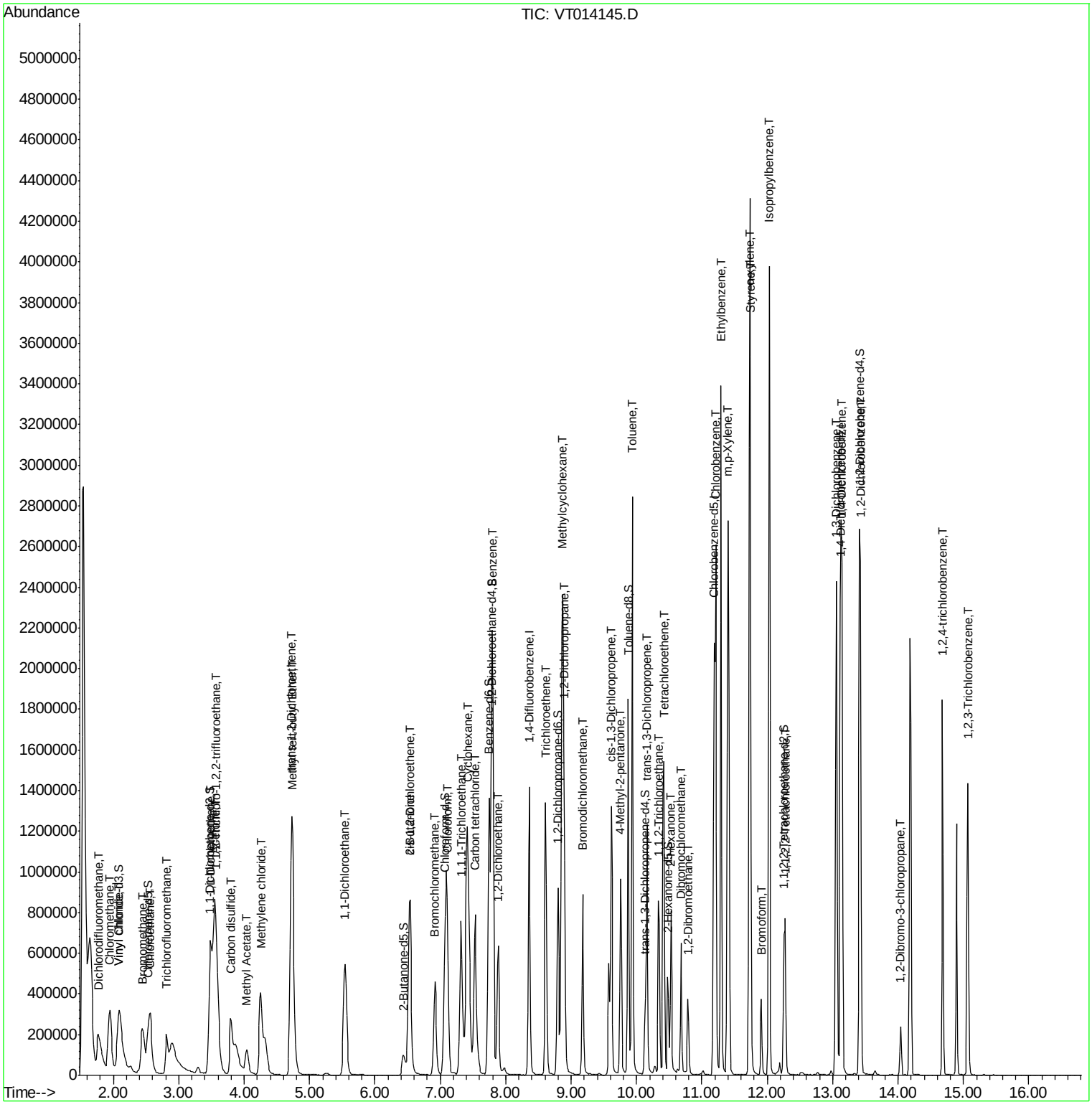

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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5/16/2016 6:44:43 PM

Quant Time: May 13 23:43:15 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1010444	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	845709	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	435203	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	404576	26.11	ug/L	0.00
7) Chloroethane-d5	2.54	69	307759	25.95	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	864862m	25.97	ug/L	0.00
20) 2-Butanone-d5	6.43	46	205634	48.63	ug/L	0.00
24) Chloroform-d	7.07	84	694164	24.97	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	423595	25.60	ug/L	0.00
29) Benzene-d6	7.74	84	1229999	22.13	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	373973	22.57	ug/L	0.00
37) Toluene-d8	9.87	98	1103441	22.43	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	151013	25.71	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	134343	48.69	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	273254	24.31	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	357065	22.14	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	577110	27.34	ug/L	100
3) Chloromethane	1.95	50	665208	26.95	ug/L	100
5) Vinyl chloride	2.09	62	649331	27.66	ug/L	100
6) Bromomethane	2.44	94	328130	27.95	ug/L	100
8) Chloroethane	2.56	64	361817	27.55	ug/L	100
9) Trichlorofluoromethane	2.81	101	811338m	29.18	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	449421	26.78	ug/L	100
12) 1,1-Dichloroethene	3.48	96	399198m	25.97	ug/L	
13) Acetone	3.56	43	344268	72.82	ug/L	100
14) Carbon disulfide	3.79	76	1279555m	26.32	ug/L	
15) Methyl Acetate	4.04	43	235540	26.17	ug/L	100
16) Methylene chloride	4.25	84	396857m	24.50	ug/L	
17) Methyl tert-butyl Ether	4.74	73	859245	29.61	ug/L	100
18) trans-1,2-Dichloroethene	4.73	96	406202	26.13	ug/L	100
19) 1,1-Dichloroethane	5.54	63	935896	27.56	ug/L	100
21) 2-Butanone	6.54	43	355386	59.51	ug/L	100
22) cis-1,2-Dichloroethene	6.54	96	403211	27.14	ug/L	100
23) Bromochloromethane	6.92	128	147694	26.66	ug/L	100
25) Chloroform	7.11	83	814484	27.99	ug/L	100
27) 1,2-Dichloroethane	7.89	62	628248	29.00	ug/L	100
30) Cyclohexane	7.41	56	955839	25.52	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	746418	27.80	ug/L	100
32) Carbon tetrachloride	7.53	117	679878	27.77	ug/L	100
34) Benzene	7.79	78	1735491	25.19	ug/L	100
35) Trichloroethene	8.61	95	448493	25.87	ug/L	100
36) Methylcyclohexane	8.87	83	860754	25.02	ug/L	100
40) 1,2-Dichloropropane	8.89	63	442748	25.43	ug/L	100
41) Bromodichloromethane	9.18	83	538616	28.48	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	591507	28.80	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	641383	54.30	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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5/16/2016 6:44:43 PM

Quant Time: May 13 23:43:15 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	1717954	25.54	ug/L	100
45) trans-1,3-Dichloropropene	10.16	75	524715	29.98	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	237832	26.20	ug/L	100
47) Tetrachloroethene	10.42	164	315940	25.37	ug/L	100
49) 2-Hexanone	10.53	43	520608	59.72	ug/L	100
50) Dibromochloromethane	10.68	129	293880	27.93	ug/L	100
51) 1,2-Dibromoethane	10.79	107	225945	26.81	ug/L	100
52) Chlorobenzene	11.21	112	995404	26.01	ug/L	100
53) Ethylbenzene	11.29	91	2025822	26.58	ug/L	100
54) m,p-Xylene	11.40	106	728784	26.51	ug/L	100
55) o-xylene	11.73	106	711462	27.21	ug/L	100
56) Styrene	11.74	104	1119085	26.99	ug/L	100
57) Isopropylbenzene	12.03	105	2079728	27.36	ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	307571	26.95	ug/L	100
61) Bromoform	11.91	173	150485	26.53	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	769085	26.43	ug/L	100
63) 1,4-Dichlorobenzene	13.14	146	771742	25.87	ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	687580	25.95	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	54433	28.53	ug/L	100
66) 1,2,4-trichlorobenzene	14.68	180	437405	28.88	ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	366425	28.21	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:43:15 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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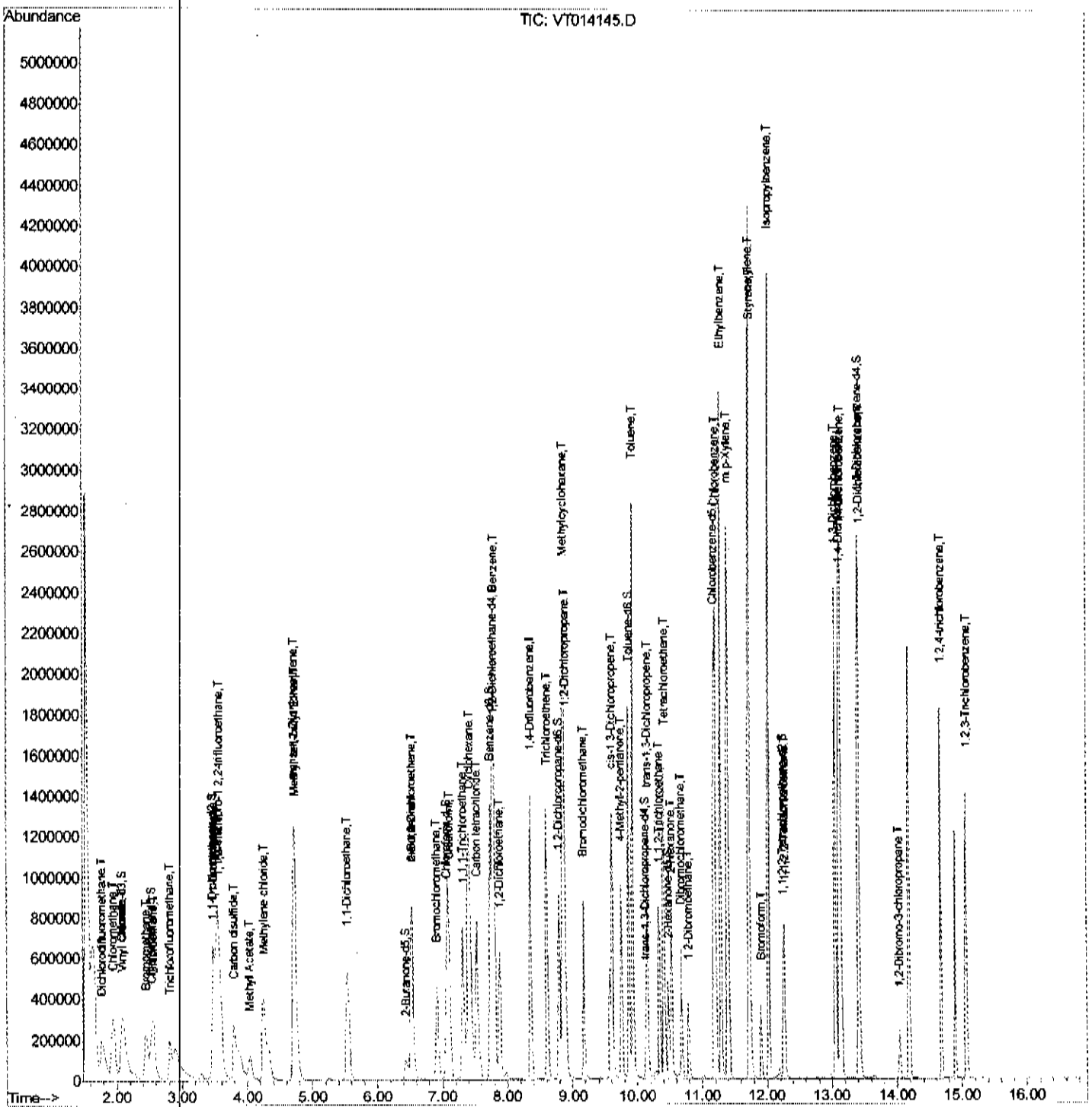

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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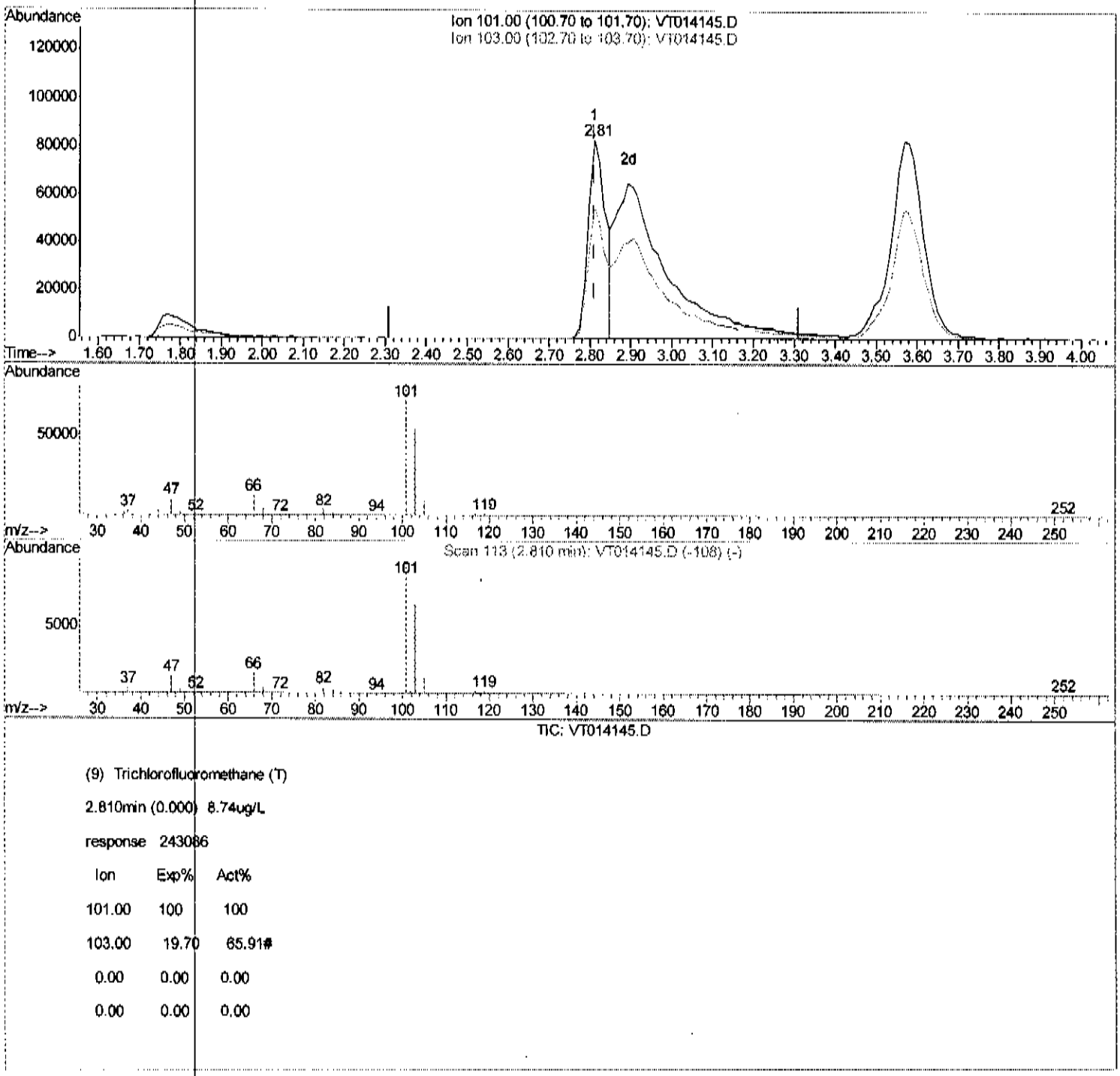

TIC: VT014145.D

(9) Trichlorofluoromethane (T)

2.810min (0.000) 8.74ug/L

response 243086

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	65.91#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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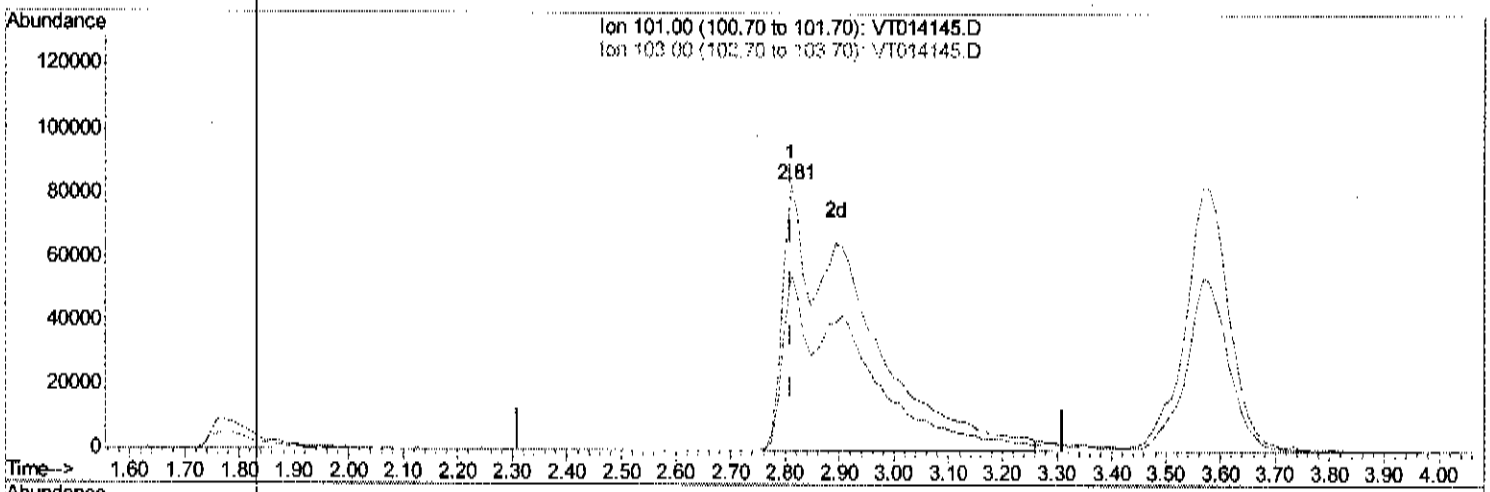
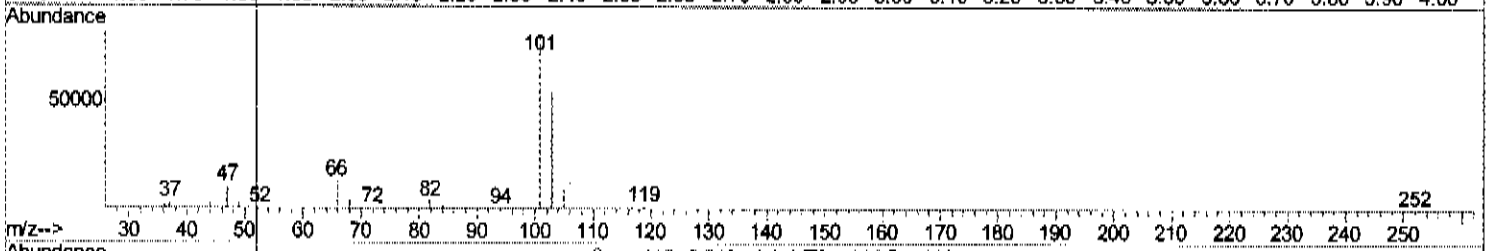
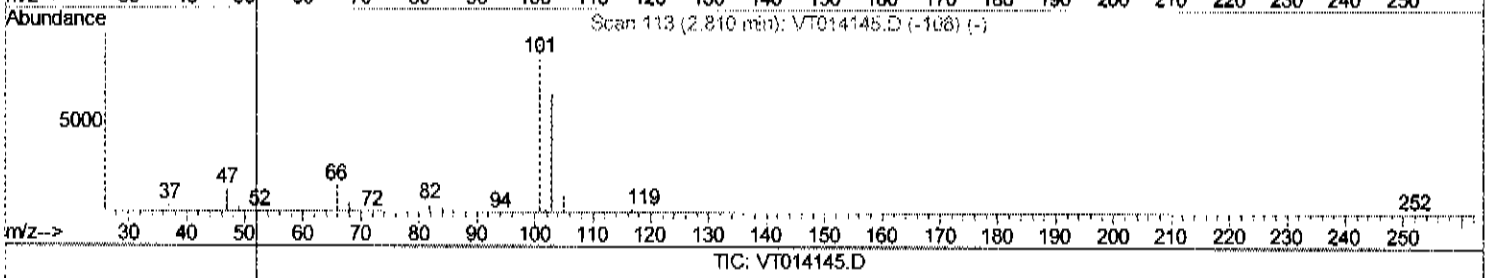
5/16/2016 6:44:43 PM







TIC: VT014145.D

(9) Trichlorofluoromethane (T)
2.810min (0.000) 29.18ug/L m
response 811338

FY
5/16/2016

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	19.75
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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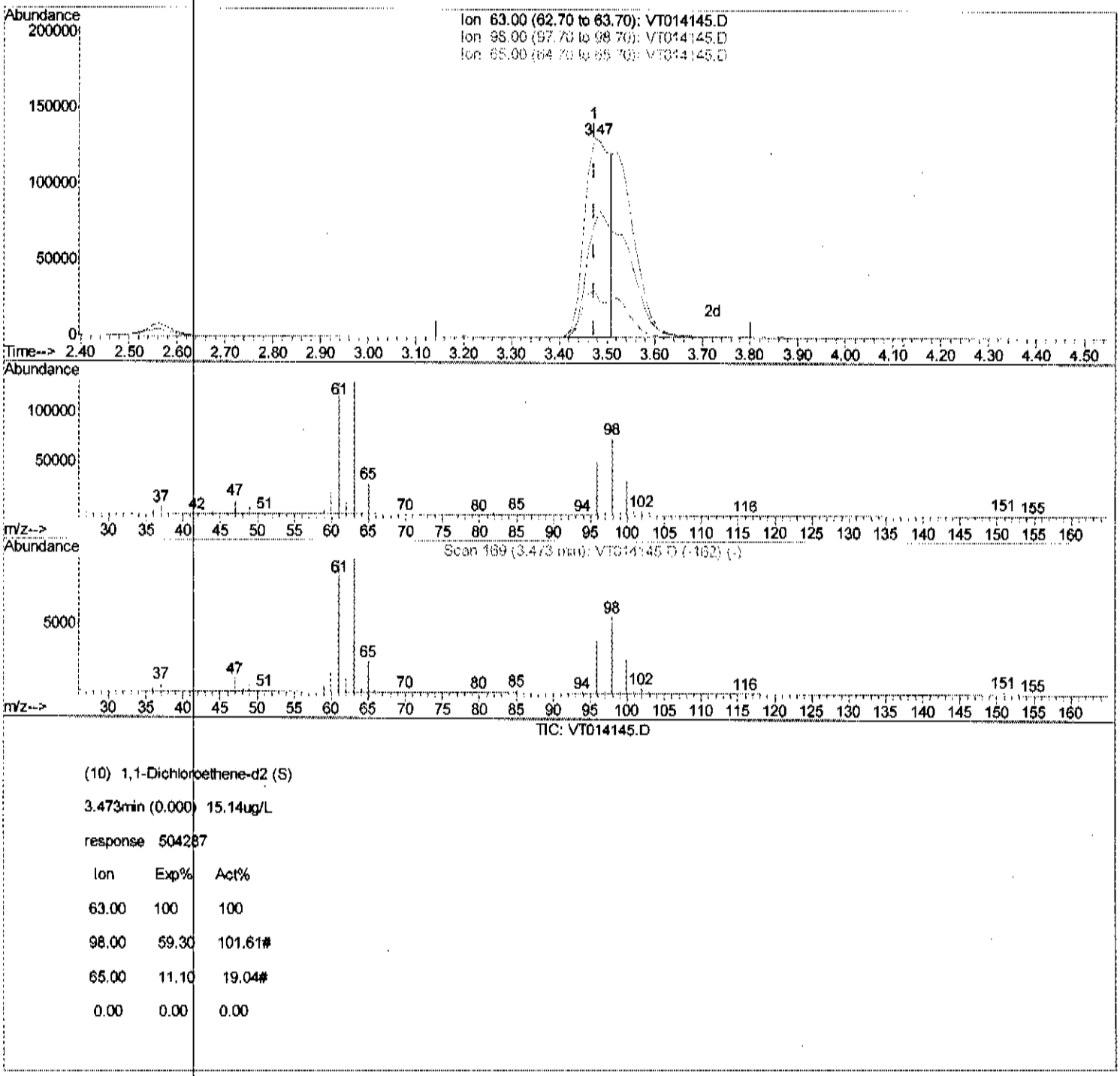

(10) 1,1-Dichloroethene-d2 (S)

3.473min (0.000) 15.14ug/L

response 504287

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	101.61#
65.00	11.10	19.04#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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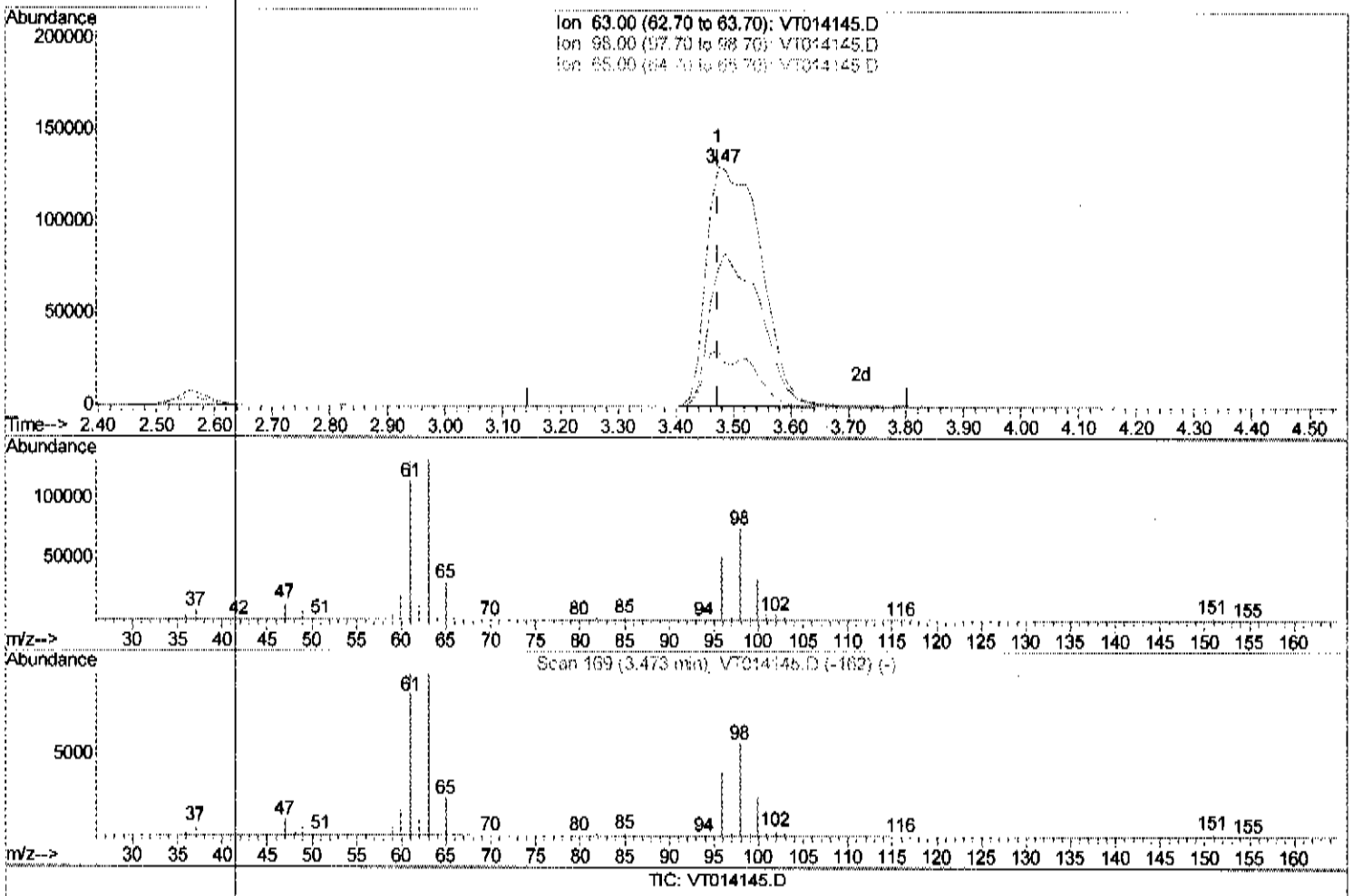


(10) 1,1-Dichloroethene-d2 (S)

3.473min (0.000) 25.97ug/L m FY

response 864862

5/16/2016

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	59.25
65.00	11.10	11.10
0.00	0.00	0.00

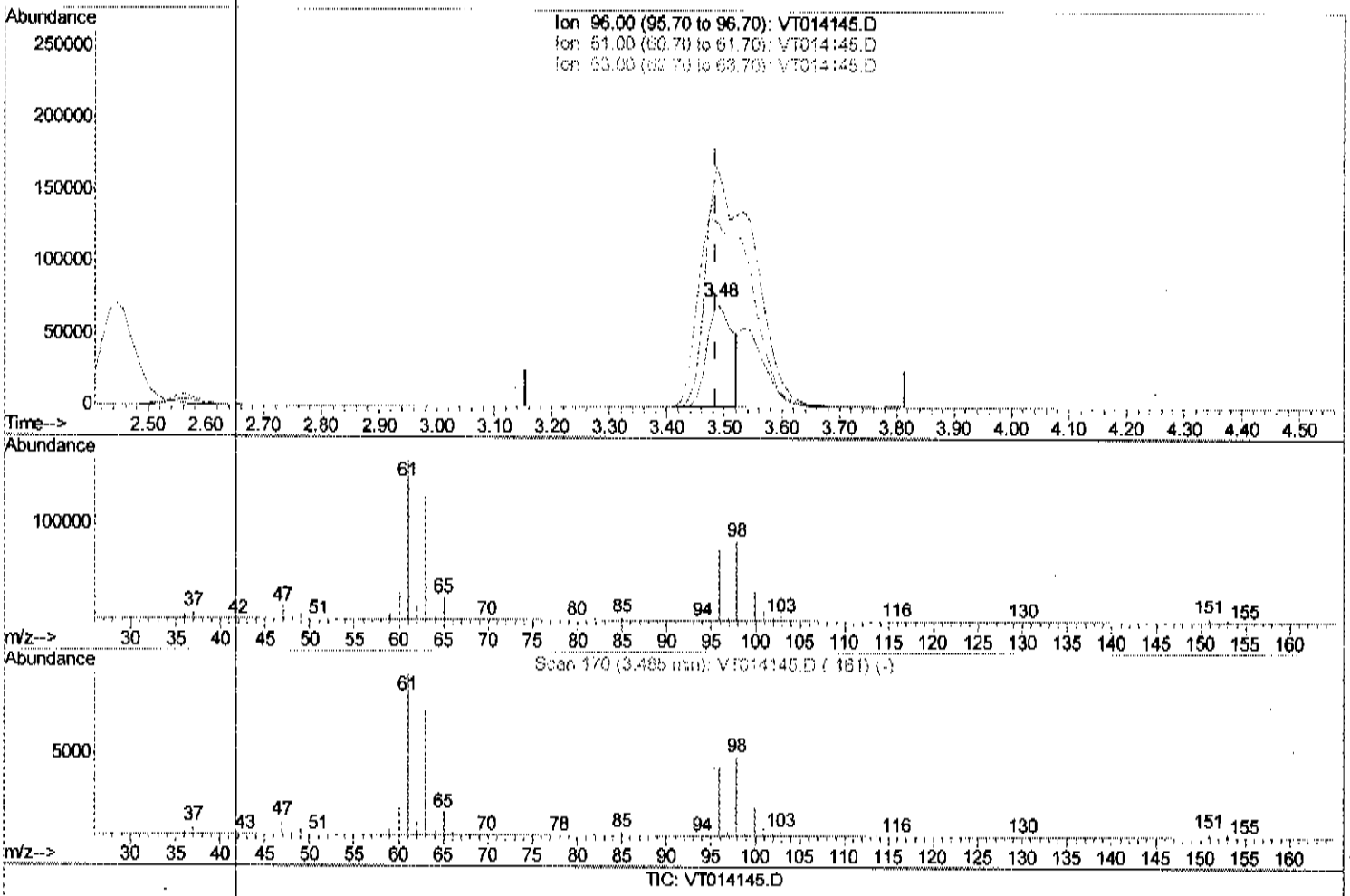
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:43 PM



(12) 1,1-Dichloroethene (T)

3.485min (0.000) 15.01ug/L

response 230773

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	228.58
63.00	176.20	176.23
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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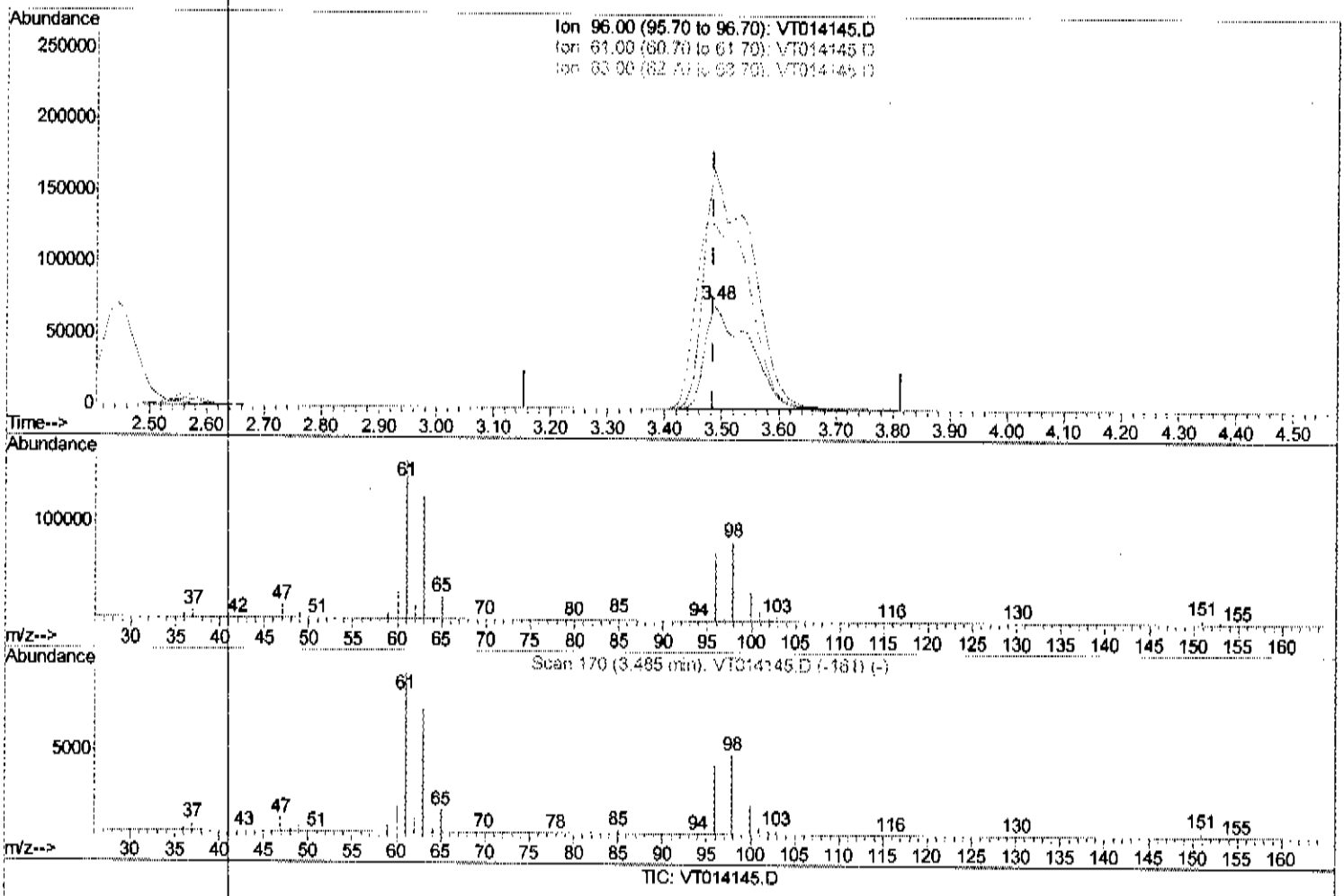
5/16/2016 6:44:43 PM



(12) 1,1-Dichloroethene (T)

3.485min (0.000) 25.97ug/L m

response 399198

FY
5/16/2016

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	228.58
63.00	176.20	176.23
0.00	0.00	0.00

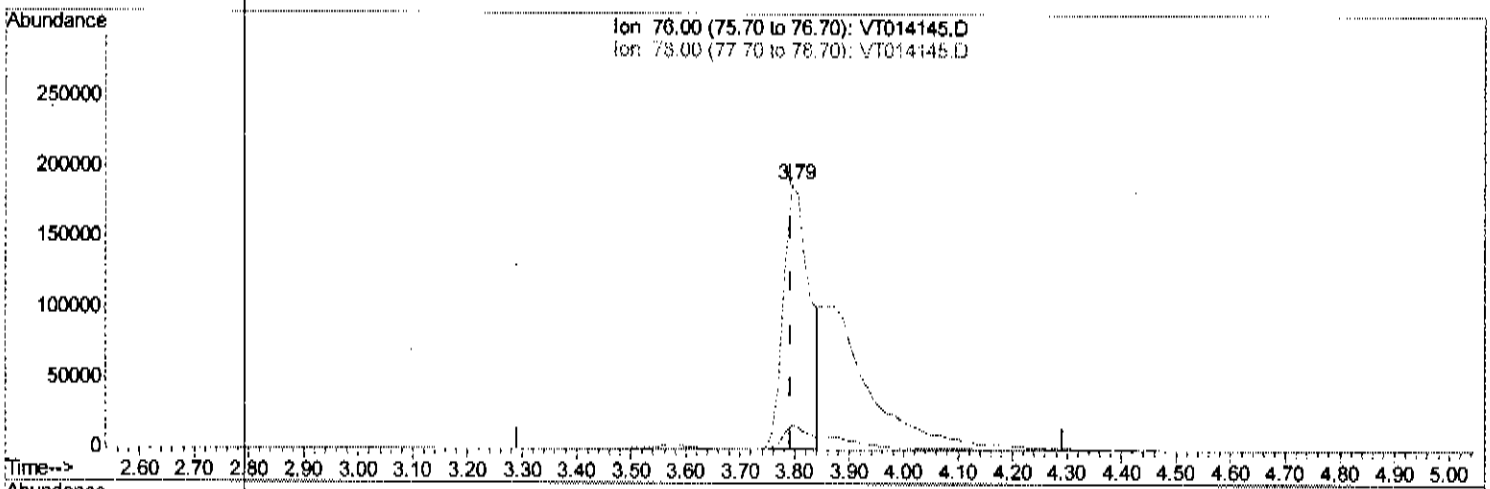
Quantitation Report (Qedit)

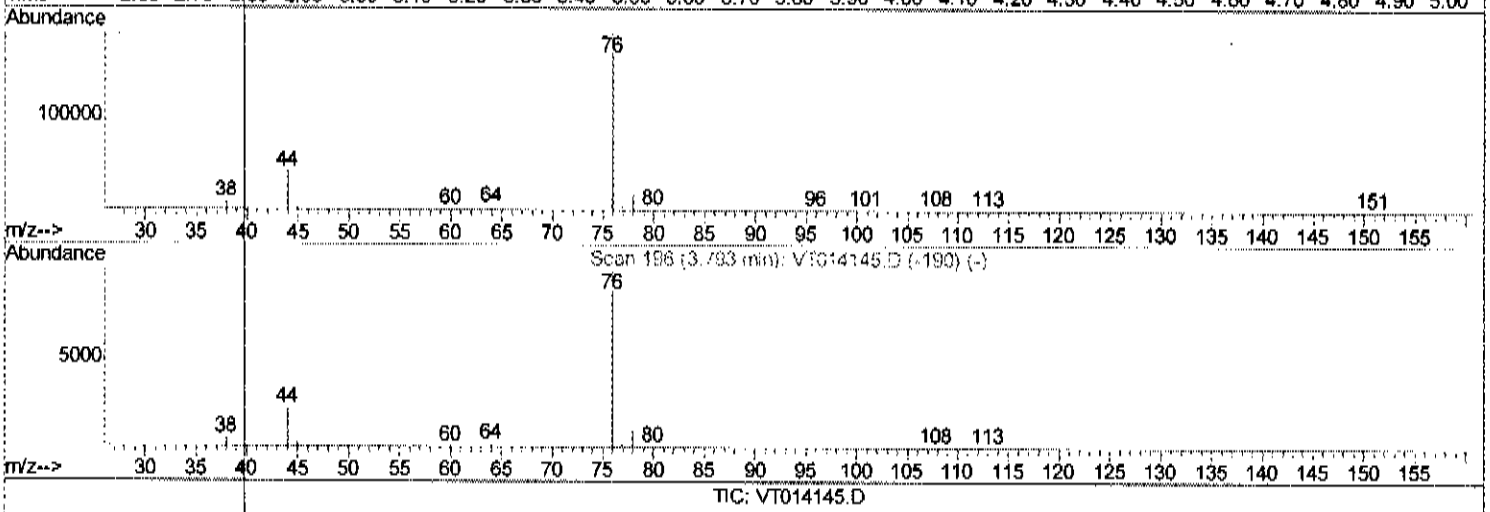
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:43 PM





Scan 196 (3.793 min): VT014145.D (-190) (-)

TIC: VT014145.D

(14) Carbon disulfide (T)

3.793min (0.000) 13.18ug/L

response 640738

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.14
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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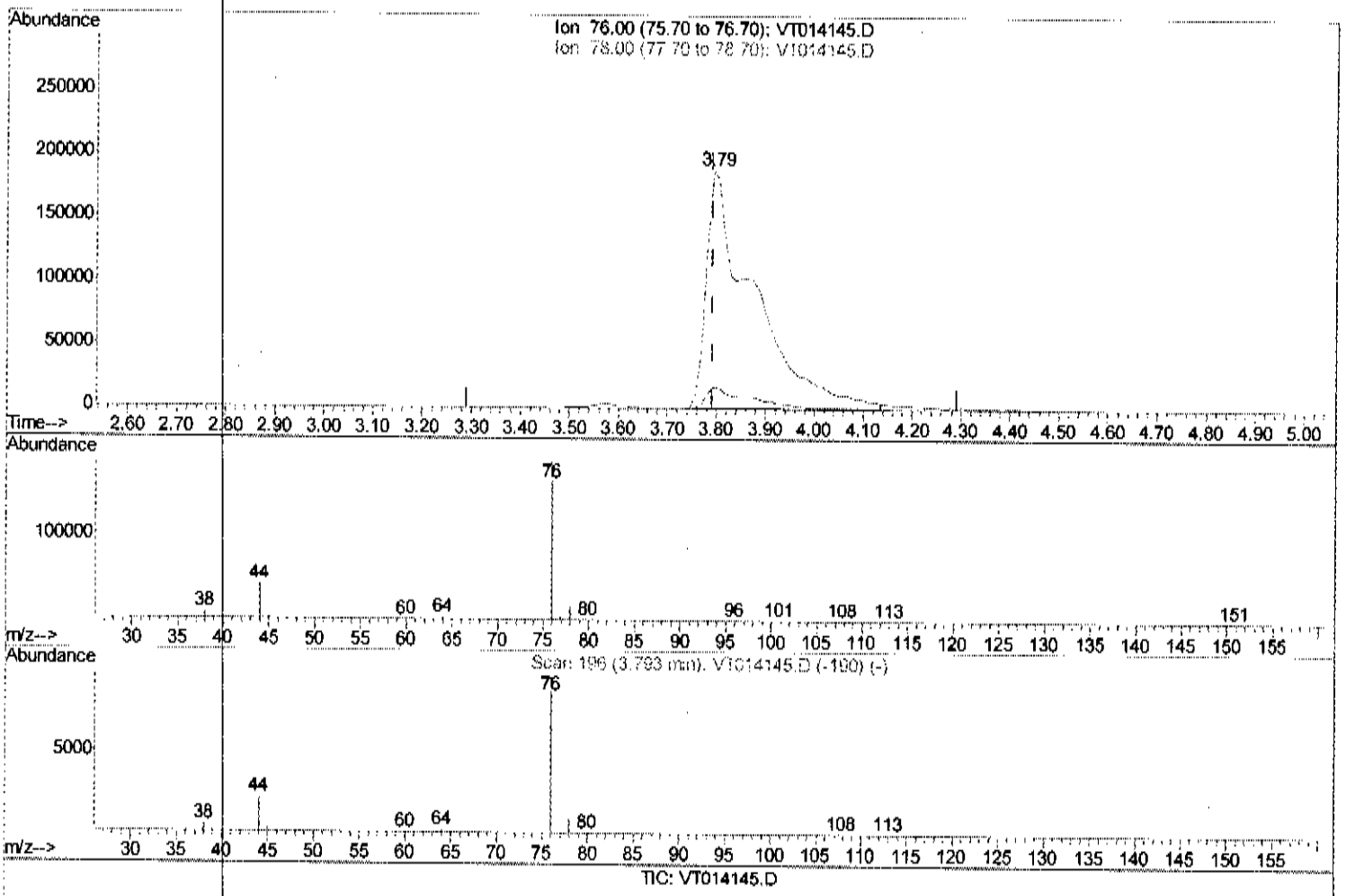

(14) Carbon disulfide (T)

3.793min (0.000) 26.32ug/L m

response 1279555

FY
5/16/2016

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.14
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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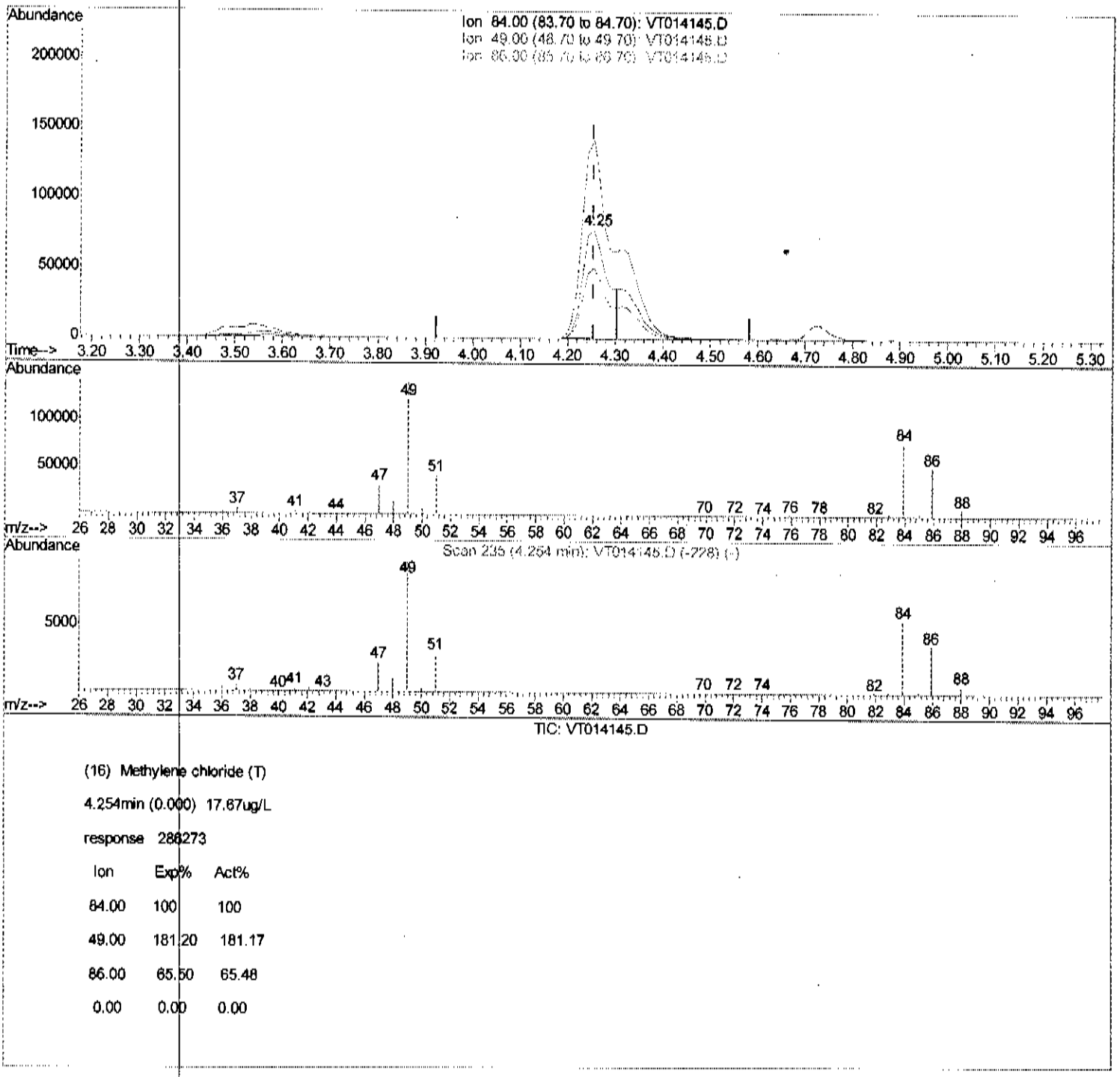
5/16/2016 6:44:43 PM



TIC: VT014145.D

(16) Methylene chloride (T)

4.254min (0.000) 17.67ug/L

response 286273

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	181.17
86.00	65.50	65.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:28:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02585

Manual Integrations APPROVED
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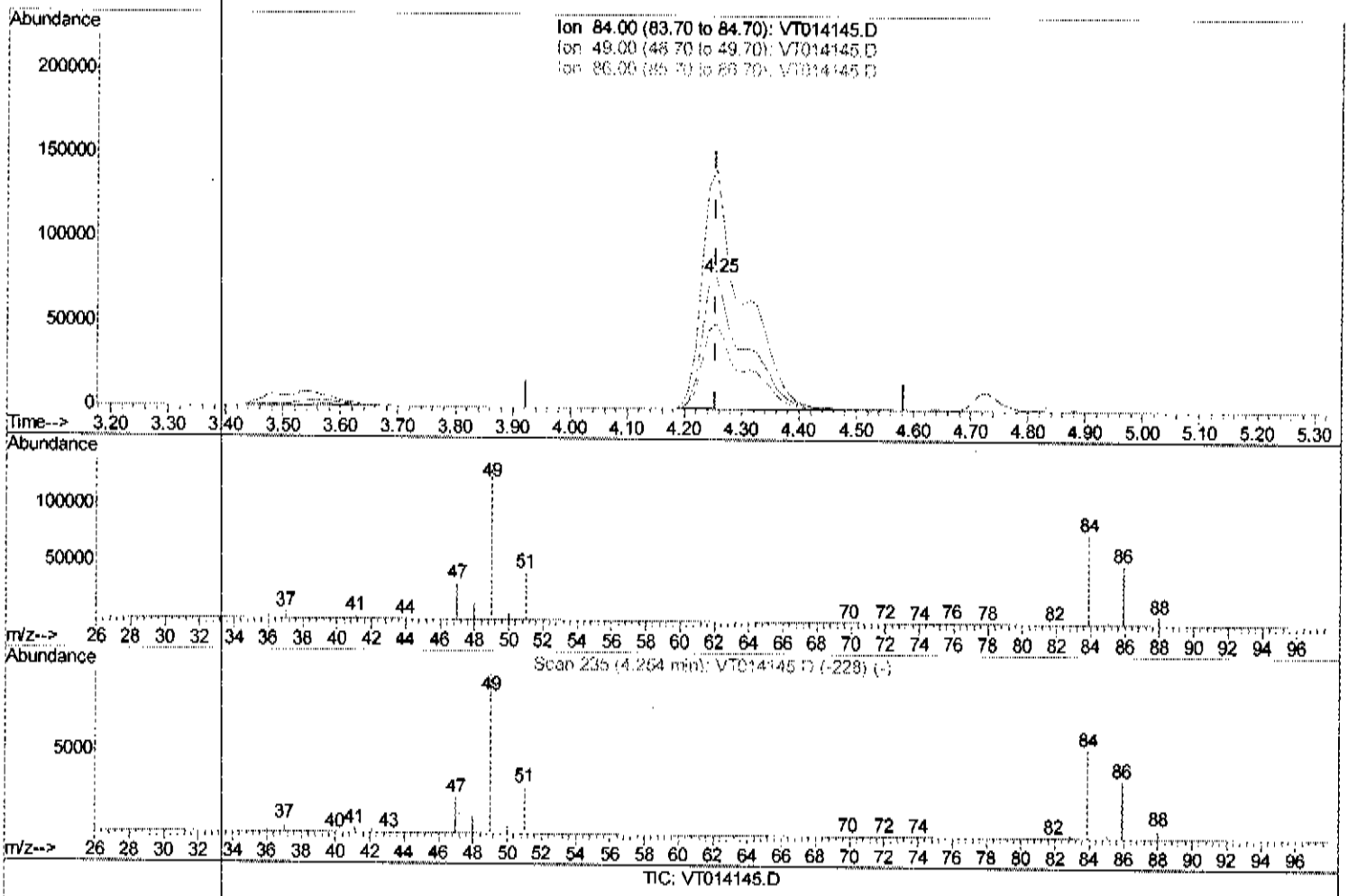
5/16/2016 6:44:43 PM



TIC: VT014145.D

(16) Methylene chloride (T)

4.254min (0.000) 24.50ug/L m

response 396857

FY
5/16/2016

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	181.17
86.00	65.50	65.48
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:43:15 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02585

Manual Integrations APPROVED
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Internal Standards	R.T.	Qion	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1010444	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	845709	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	435203	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	404576	26.11	ug/L	0.00
7) Chloroethane-d5	2.54	69	307759	25.95	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.47	63	864862m	25.97	ug/L	0.00
20) 2-Butanone-d5	6.43	46	205634	48.63	ug/L	0.00
24) Chloroform-d	7.07	84	694164	24.97	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	423595	25.60	ug/L	0.00
29) Benzene-d6	7.74	84	1229999	22.13	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	373973	22.57	ug/L	0.00
37) Toluene-d8	9.87	98	1103441	22.43	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.14	79	151013	25.71	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	134343	48.69	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	273254	24.31	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	357065	22.14	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	577110	27.34	ug/L	100
3) Chloromethane	1.95	50	665208	26.95	ug/L	100
5) Vinyl chloride	2.09	62	649331	27.66	ug/L	100
6) Bromomethane	2.44	94	328130	27.95	ug/L	100
8) Chloroethane	2.56	64	361817	27.55	ug/L	100
9) Trichlorofluoromethane	2.81	101	811338m	29.18	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	449421	26.78	ug/L	100
12) 1,1-Dichloroethene	3.48	96	399198m	25.97	ug/L	
13) Acetone	3.56	43	344268	72.82	ug/L	100
14) Carbon disulfide	3.79	76	1279555m	26.32	ug/L	
15) Methyl Acetate	4.04	43	235540	26.17	ug/L	100
16) Methylene chloride	4.25	84	396857m	24.50	ug/L	
17) Methyl tert-butyl Ether	4.74	73	859245	29.61	ug/L	100
18) trans-1,2-Dichloroethene	4.73	96	406202	26.13	ug/L	100
19) 1,1-Dichloroethane	5.54	63	935896	27.56	ug/L	100
21) 2-Butanone	6.54	43	355386	59.51	ug/L	100
22) cis-1,2-Dichloroethene	6.54	96	403211	27.14	ug/L	100
23) Bromochloromethane	6.92	128	147694	26.66	ug/L	100
25) Chloroform	7.11	83	814484	27.99	ug/L	100
27) 1,2-Dichloroethane	7.89	62	628248	29.00	ug/L	100
30) Cyclohexane	7.41	56	955839	25.52	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	746418	27.80	ug/L	100
32) Carbon tetrachloride	7.53	117	679878	27.77	ug/L	100
34) Benzene	7.79	78	1735491	25.19	ug/L	100
35) Trichloroethene	8.61	95	448493	25.87	ug/L	100
36) Methylcyclohexane	8.87	83	860754	25.02	ug/L	100
40) 1,2-Dichloropropane	8.89	63	442748	25.43	ug/L	100
41) Bromodichloromethane	9.18	83	538616	28.48	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	591507	28.80	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	641383	54.30	ug/L	100

FY 5/16/2016

FY 5/16/2016

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014145.D
Acq On : 13 May 2016 15:30
Operator : FY/SY
Sample : VSTD02585
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 23:43:15 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02585

Manual Integrations APPROVED
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Internal Standards	R.T.	Qlon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	1717954	25.54	ug/L	100
45) trans-1,3-Dichloropropene	10.16	75	524715	29.98	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	237832	26.20	ug/L	100
47) Tetrachloroethene	10.42	164	315940	25.37	ug/L	100
49) 2-Hexanone	10.53	43	520608	59.72	ug/L	100
50) Dibromochloromethane	10.68	129	293880	27.93	ug/L	100
51) 1,2-Dibromoethane	10.79	107	225945	26.81	ug/L	100
52) Chlorobenzene	11.21	112	995404	26.01	ug/L	100
53) Ethylbenzene	11.29	91	2025822	26.58	ug/L	100
54) m,p-Xylene	11.40	106	728784	26.51	ug/L	100
55) o-xylene	11.73	106	711462	27.21	ug/L	100
56) Styrene	11.74	104	1119085	26.99	ug/L	100
57) Isopropylbenzene	12.03	105	2079728	27.36	ug/L	100
58) 1,1,2,2-Tetrachloroethane	12.28	83	307571	26.95	ug/L	100
61) Bromoform	11.91	173	150485	26.53	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	769085	26.43	ug/L	100
63) 1,4-Dichlorobenzene	13.14	146	771742	25.87	ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	687580	25.95	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	54433	28.53	ug/L	100
66) 1,2,4-trichlorobenzene	14.68	180	437405	28.88	ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	366425	28.21	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:46:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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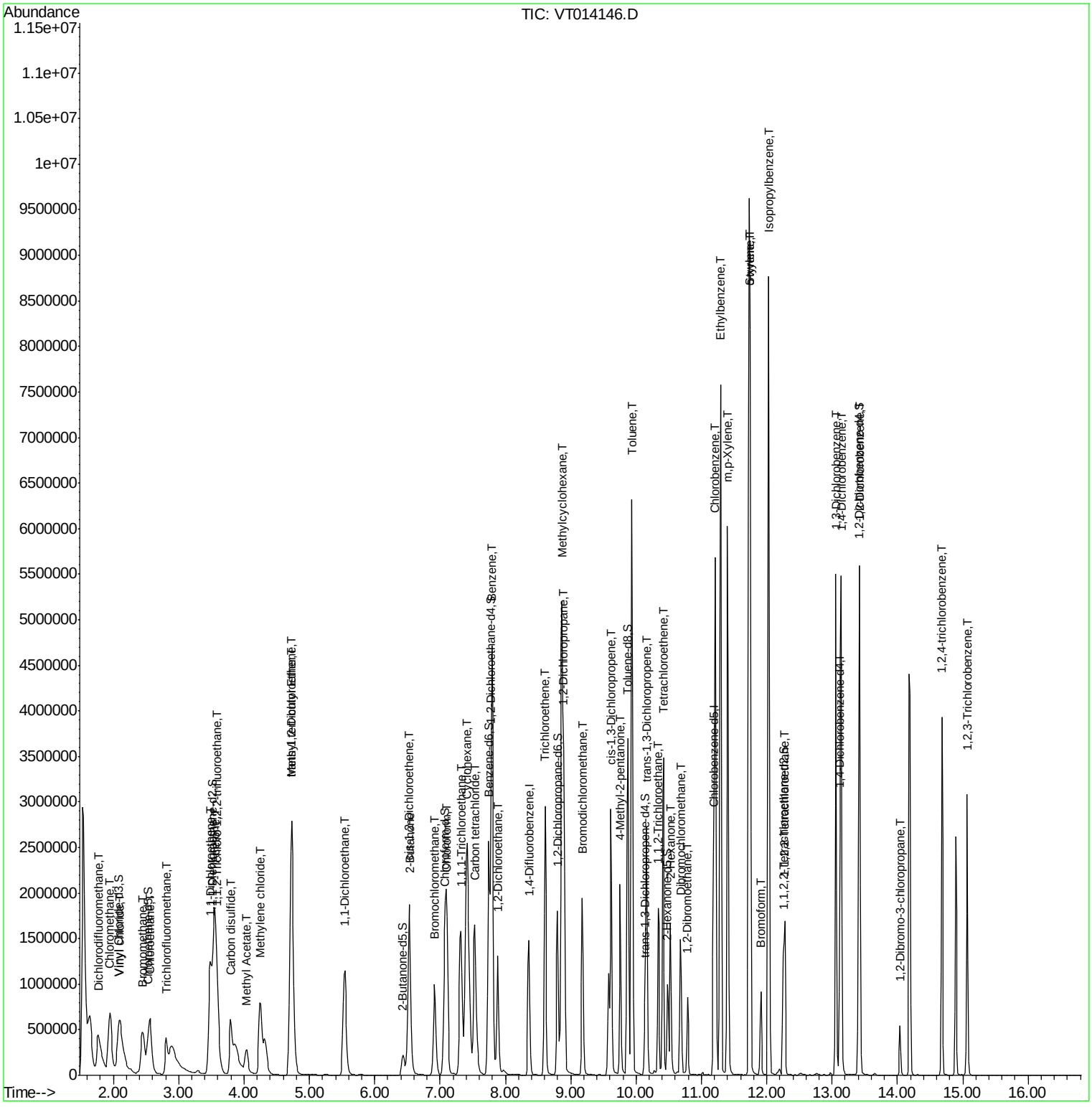

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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Quant Time: May 13 23:46:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1088611	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	908319	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	475449	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	777121	46.56	ug/L	0.00
7) Chloroethane-d5	2.54	69	584443	45.74	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.52	63	1729510m	48.20	ug/L	0.05
20) 2-Butanone-d5	6.43	46	430325	94.46	ug/L	0.00
24) Chloroform-d	7.07	84	1334249	44.54	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	808314	45.34	ug/L	0.00
29) Benzene-d6	7.74	84	2411700	40.41	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	737747	41.46	ug/L	0.00
37) Toluene-d8	9.87	98	2153818	40.77	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	311917	49.44	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	282873	95.46	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	532997	44.16	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	704587	40.00	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	1313667	57.76	ug/L	100
3) Chloromethane	1.95	50	1469401	55.25	ug/L	99
5) Vinyl chloride	2.10	62	1444114	57.10	ug/L	97
6) Bromomethane	2.44	94	704593	55.71	ug/L	98
8) Chloroethane	2.56	64	775713	54.82	ug/L	97
9) Trichlorofluoromethane	2.81	101	1756175m	58.62	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.58	101	972442	53.78	ug/L	99
12) 1,1-Dichloroethene	3.48	96	860263m	51.95	ug/L	
13) Acetone	3.56	43	615218	120.78	ug/L	100
14) Carbon disulfide	3.79	76	2917917m	55.70	ug/L	
15) Methyl Acetate	4.04	43	512597	52.86	ug/L	100
16) Methylene chloride	4.24	84	819174m	46.94	ug/L	
17) Methyl tert-butyl Ether	4.73	73	1897583	60.69	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	903412	53.94	ug/L	99
19) 1,1-Dichloroethane	5.54	63	2007391	54.87	ug/L	99
21) 2-Butanone	6.54	43	724167	112.55	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	870638	54.39	ug/L	98
23) Bromochloromethane	6.92	128	317443	53.18	ug/L	99
25) Chloroform	7.11	83	1715255	54.70	ug/L	100
27) 1,2-Dichloroethane	7.89	62	1348552	57.78	ug/L	99
30) Cyclohexane	7.41	56	2127989	52.91	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	1626942	56.42	ug/L	99
32) Carbon tetrachloride	7.53	117	1487025	56.55	ug/L	99
34) Benzene	7.79	78	3795751	51.31	ug/L	100
35) Trichloroethene	8.61	95	981811	52.73	ug/L	99
36) Methylcyclohexane	8.87	83	1927656	52.16	ug/L	100
40) 1,2-Dichloropropane	8.89	63	968908	51.82	ug/L	99
41) Bromodichloromethane	9.18	83	1182729	58.24	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	1332573	60.41	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	1435348	113.14	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:46:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	3828362	53.00	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	1191367	63.37	ug/L	97
46) 1,1,2-Trichloroethane	10.34	97	515641	52.89	ug/L	98
47) Tetrachloroethene	10.42	164	720863	53.90	ug/L	98
49) 2-Hexanone	10.53	43	1054881	112.66	ug/L	95
50) Dibromochloromethane	10.68	129	665370	58.89	ug/L	99
51) 1,2-Dibromoethane	10.79	107	503637	55.63	ug/L	99
52) Chlorobenzene	11.21	112	2200658	53.54	ug/L	99
53) Ethylbenzene	11.29	91	4539501	55.45	ug/L	100
54) m,p-Xylene	11.40	106	1628879	55.16	ug/L	99
55) o-xylene	11.73	106	1604247	57.12	ug/L	99
56) Styrene	11.74	104	2541820	57.07	ug/L	100
57) Isopropylbenzene	12.03	105	4631215	56.73	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	668204	54.51	ug/L	97
61) Bromoform	11.91	173	358013	57.78	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	1707944	53.72	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	1695524	52.03	ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	1508242	52.10	ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.04	75	125989	60.44	ug/L	98
66) 1,2,4-trichlorobenzene	14.68	180	968828	58.55	ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	781340	55.05	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:46:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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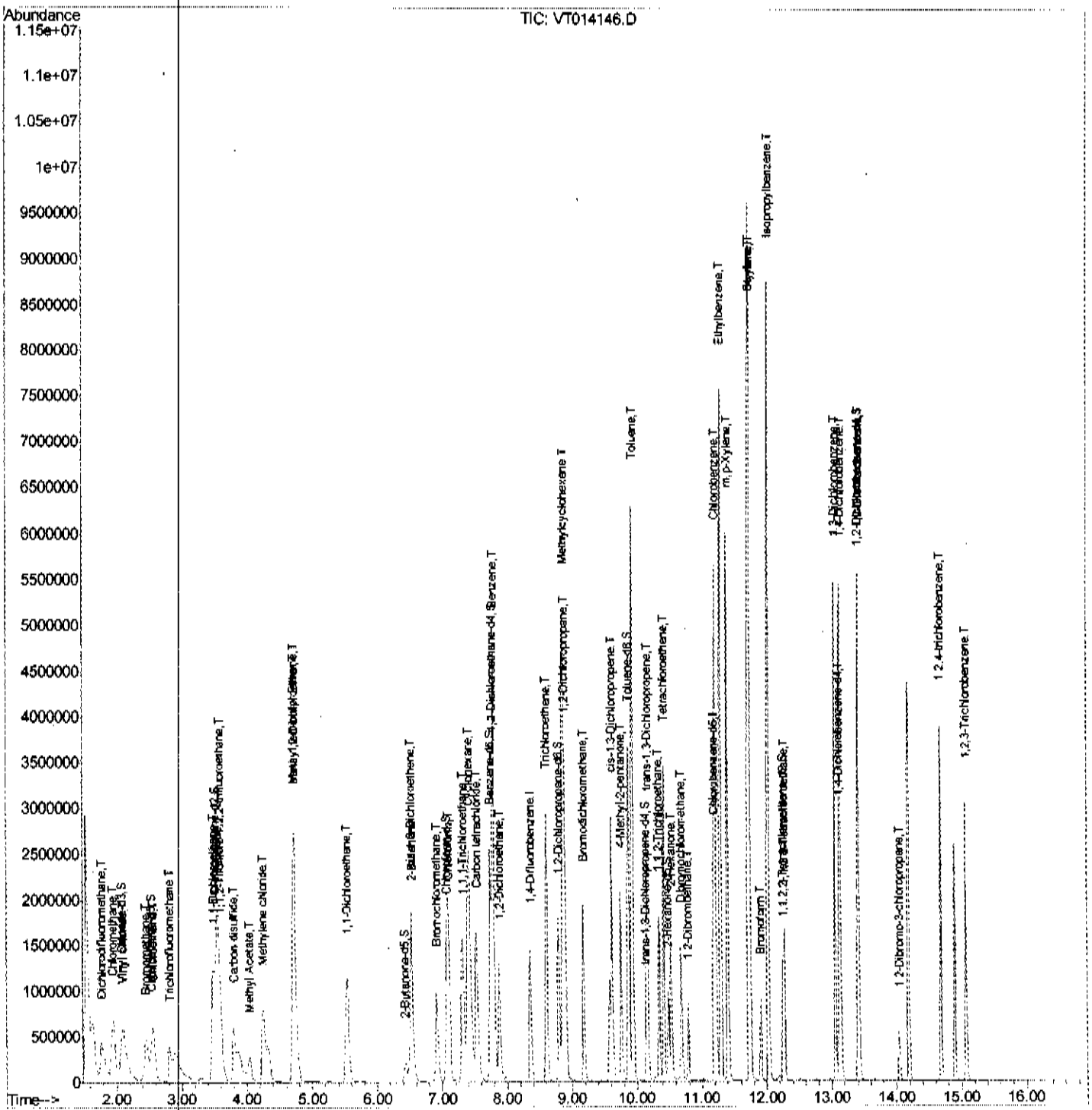

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:29:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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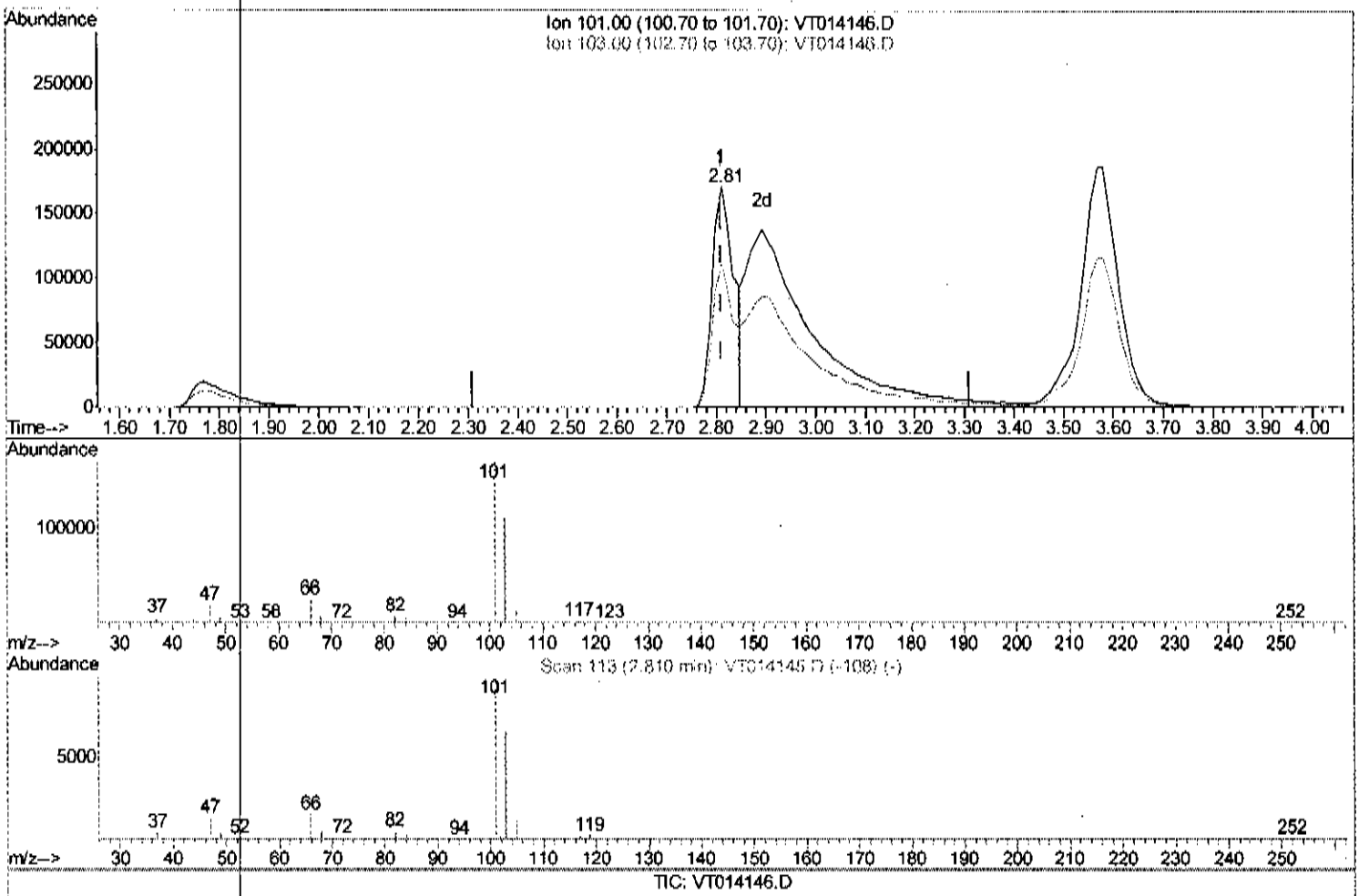

TIC: VT014146.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 17.15ug/L

response 513863

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	65.37#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:29:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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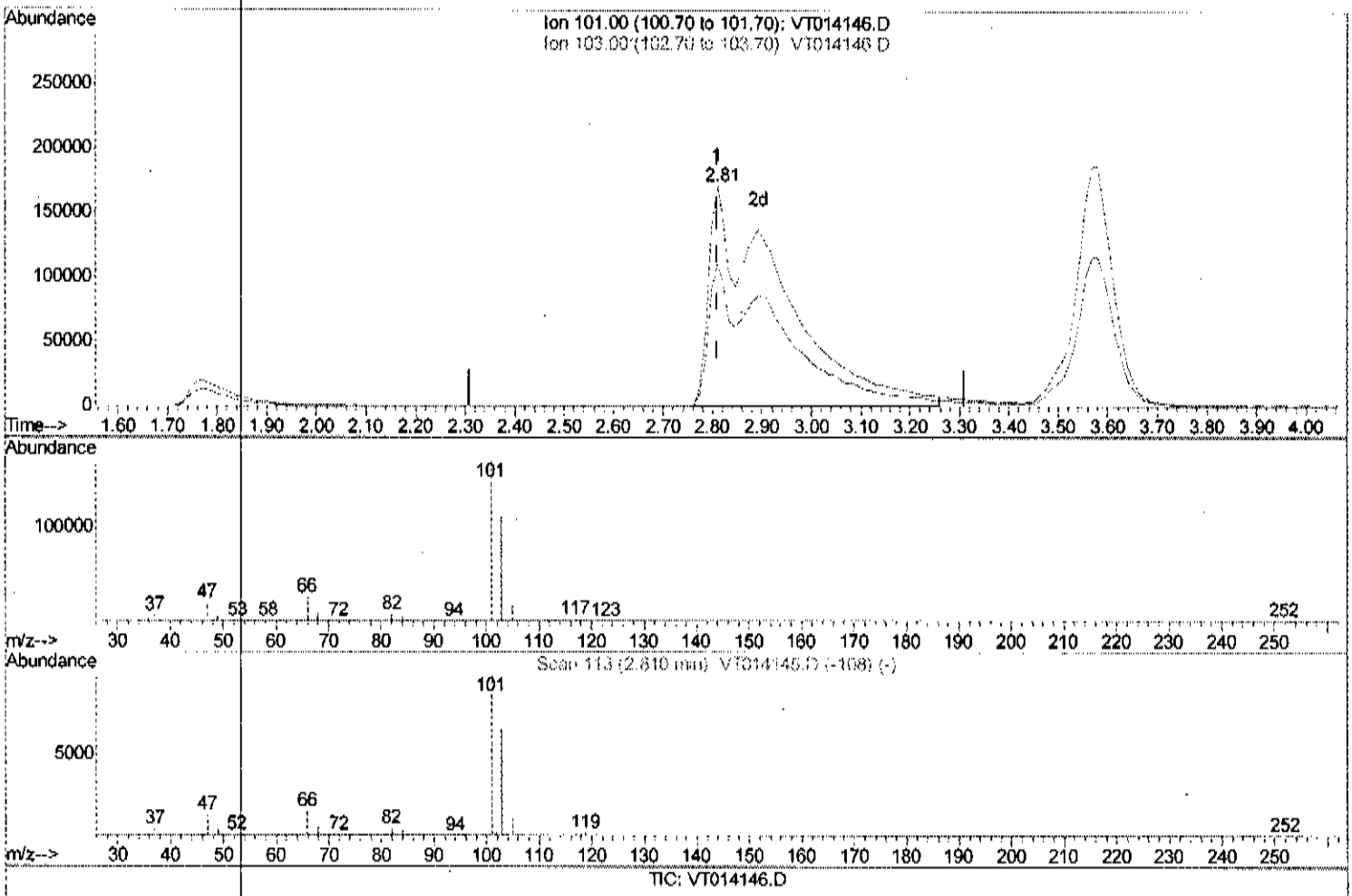


TIC: VT014146.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 58.62ug/L m

response 1756175

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	19.13
0.00	0.00	0.00
0.00	0.00	0.00

FY
5/16/2016

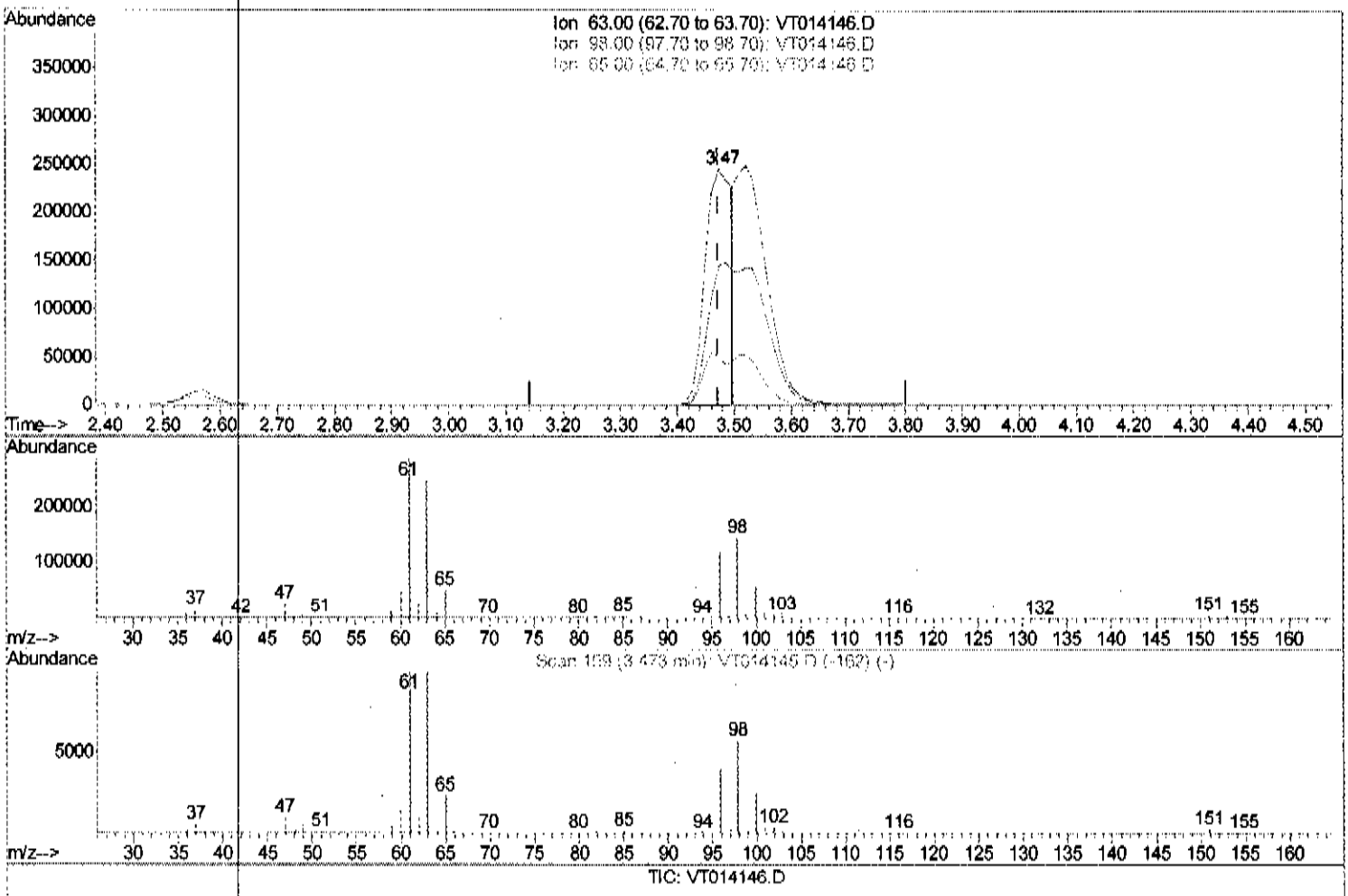
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:29:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:45 PM



TIC: VT014146.D

(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.000) 22.75ug/L

response 816153

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	67.53
65.00	11.10	18.20#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:29:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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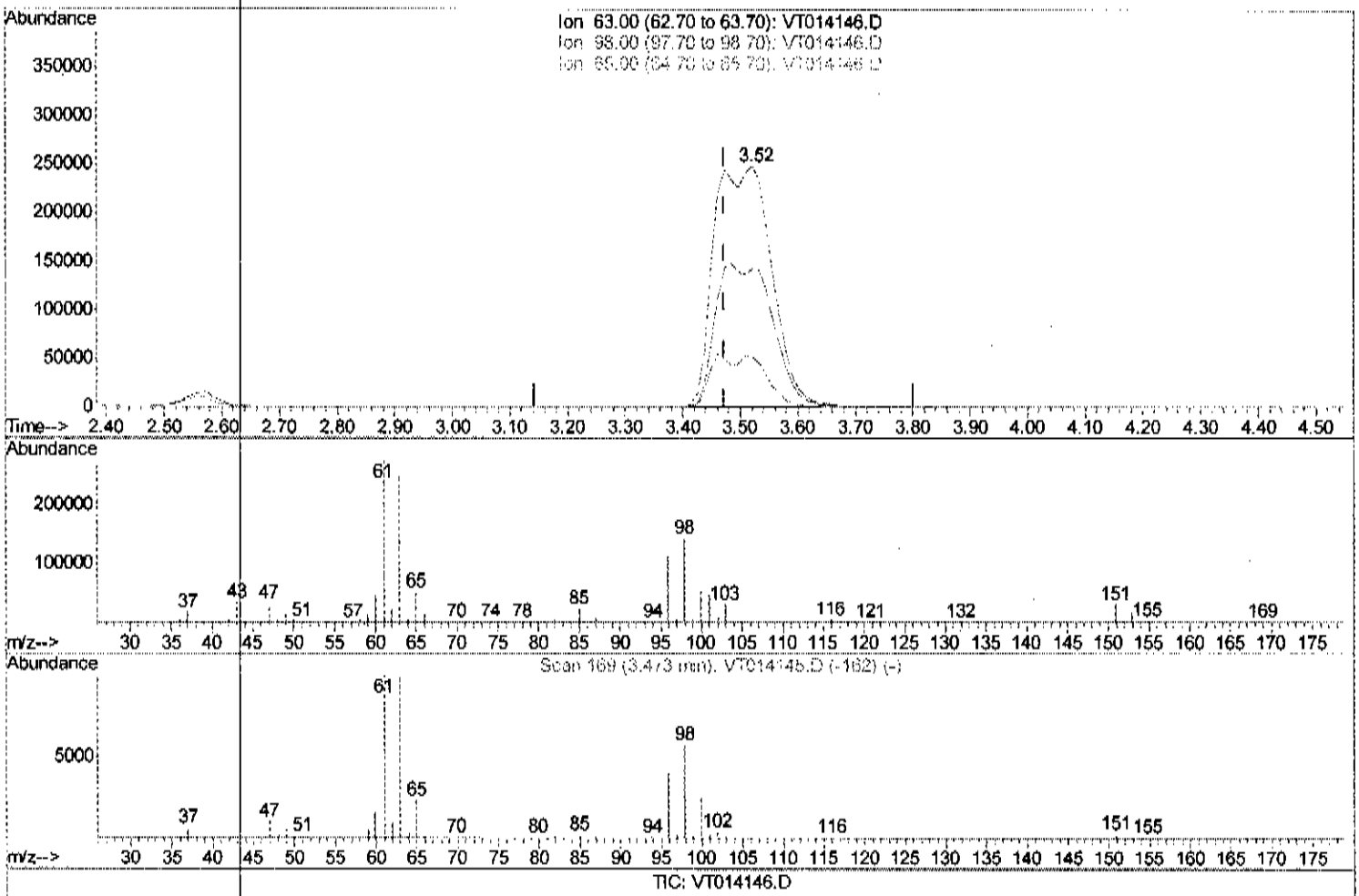

TIC: VT014146.D

(10) 1,1-Dichloroethene-d2 (S)

3.520min (+0.047) 48.20ug/L m

response 1729510

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	31.87#
65.00	11.10	8.59
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:29:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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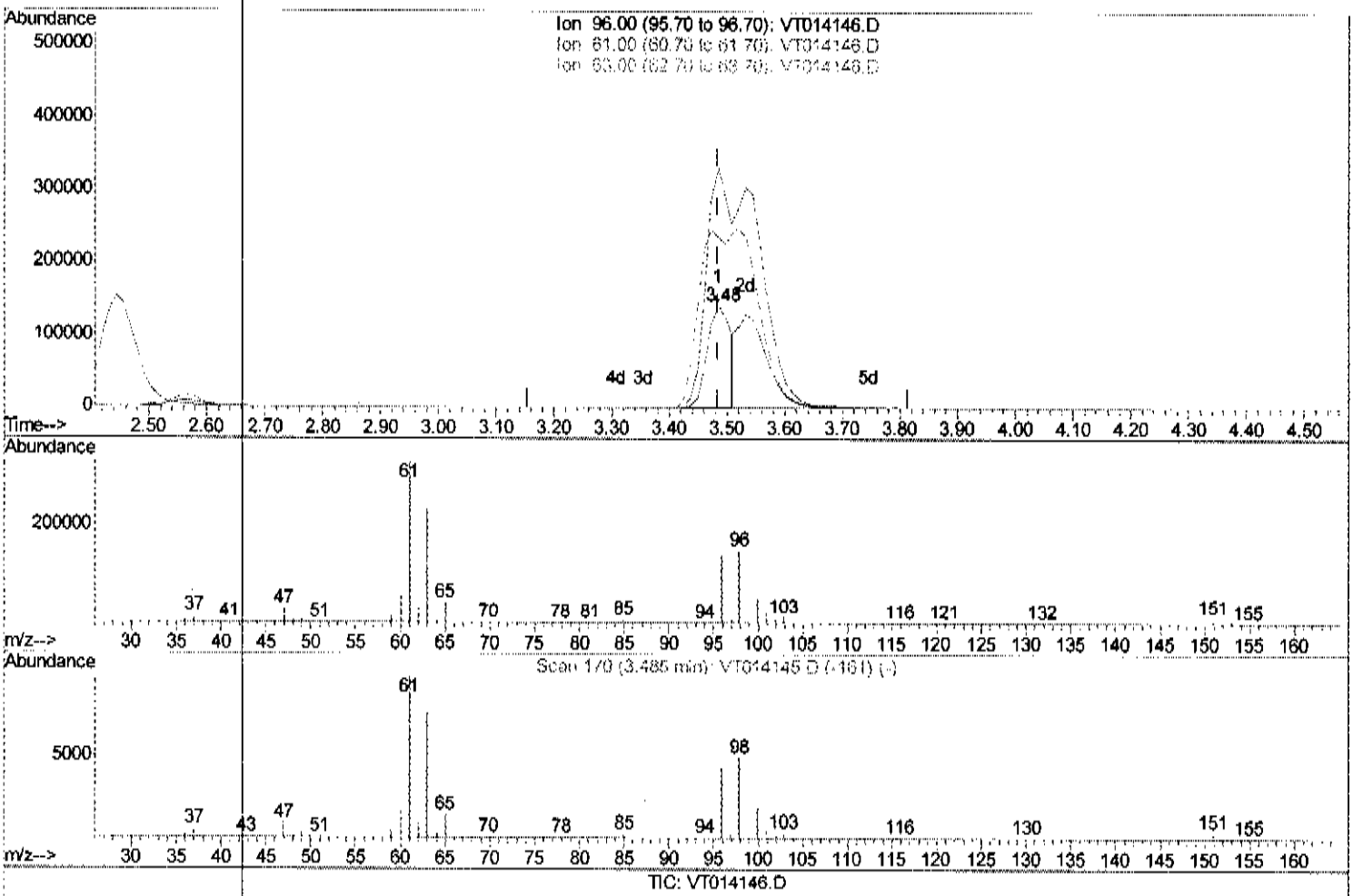
5/16/2016 6:44:45 PM



(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 24.05ug/L

response 398326

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	236.26
63.00	176.20	167.24
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:29:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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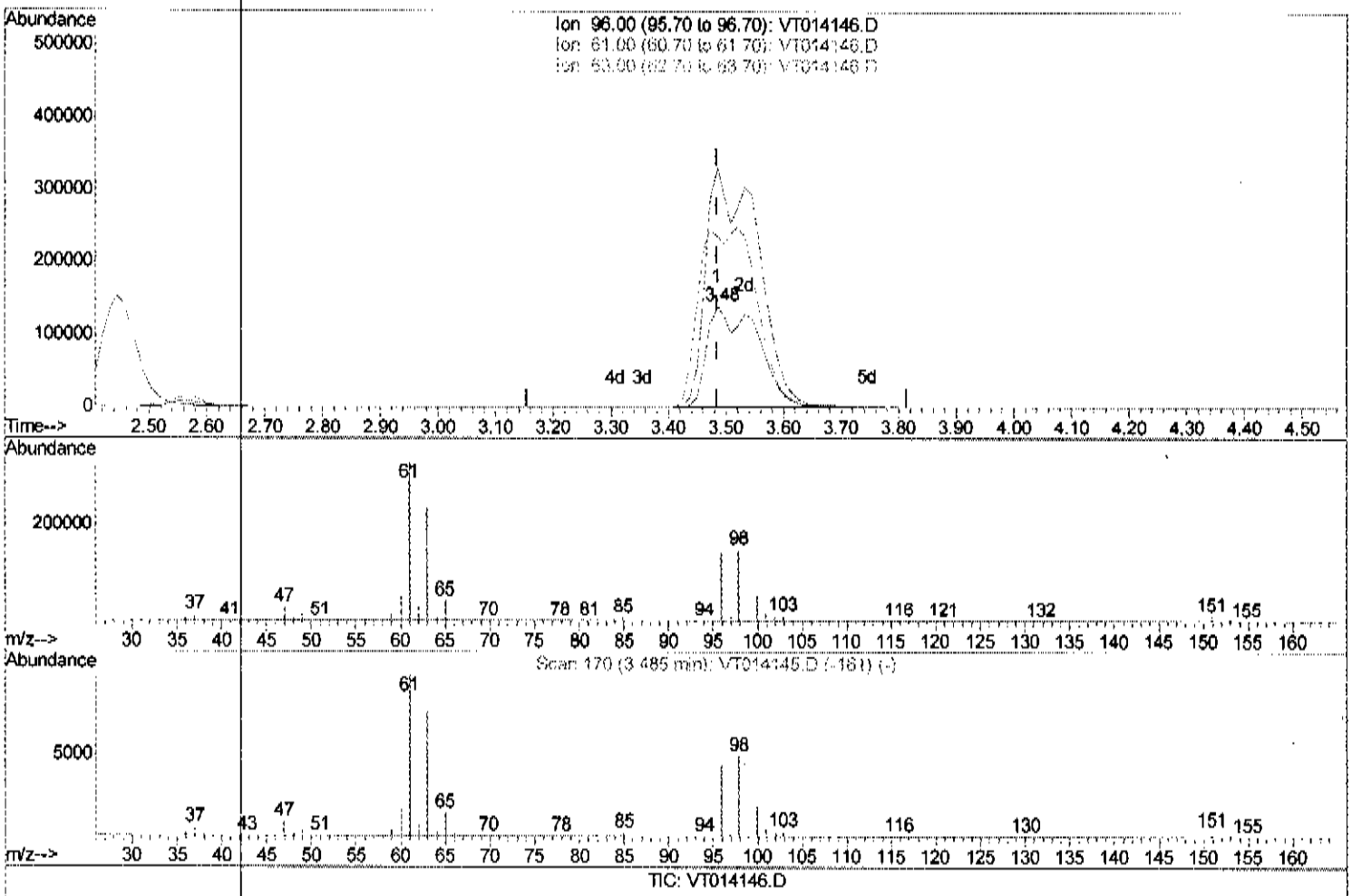

TIC: VT014146.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 51.95ug/L m

response 860263

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	236.26
63.00	176.20	167.24
0.00	0.00	0.00

FY
5/16/2016

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:29:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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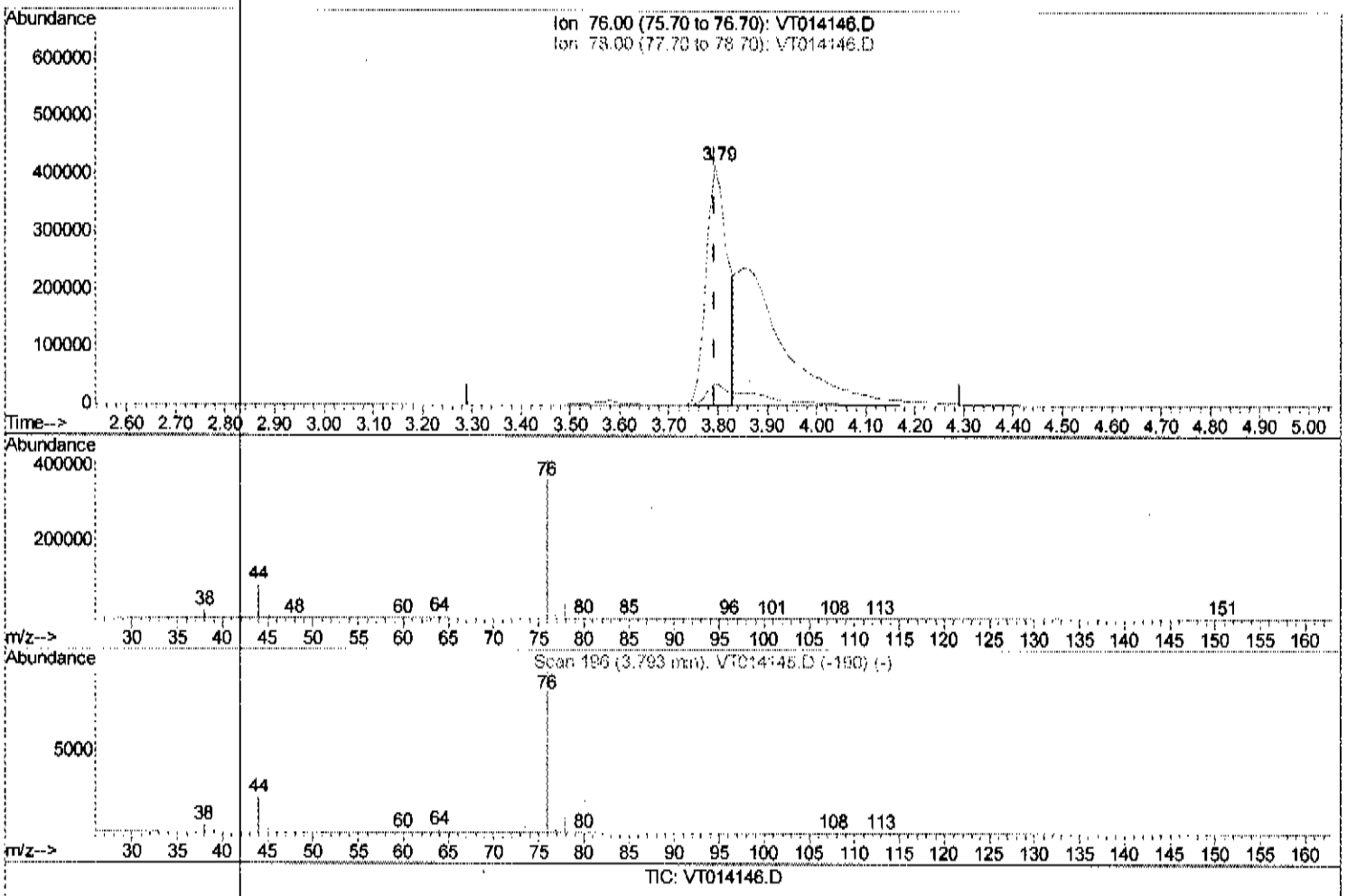

TIC: VT014146.D

(14) Carbon disulfide (T)

3.792min (-0.000) 24.14ug/L

response 1264690

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.32
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:29:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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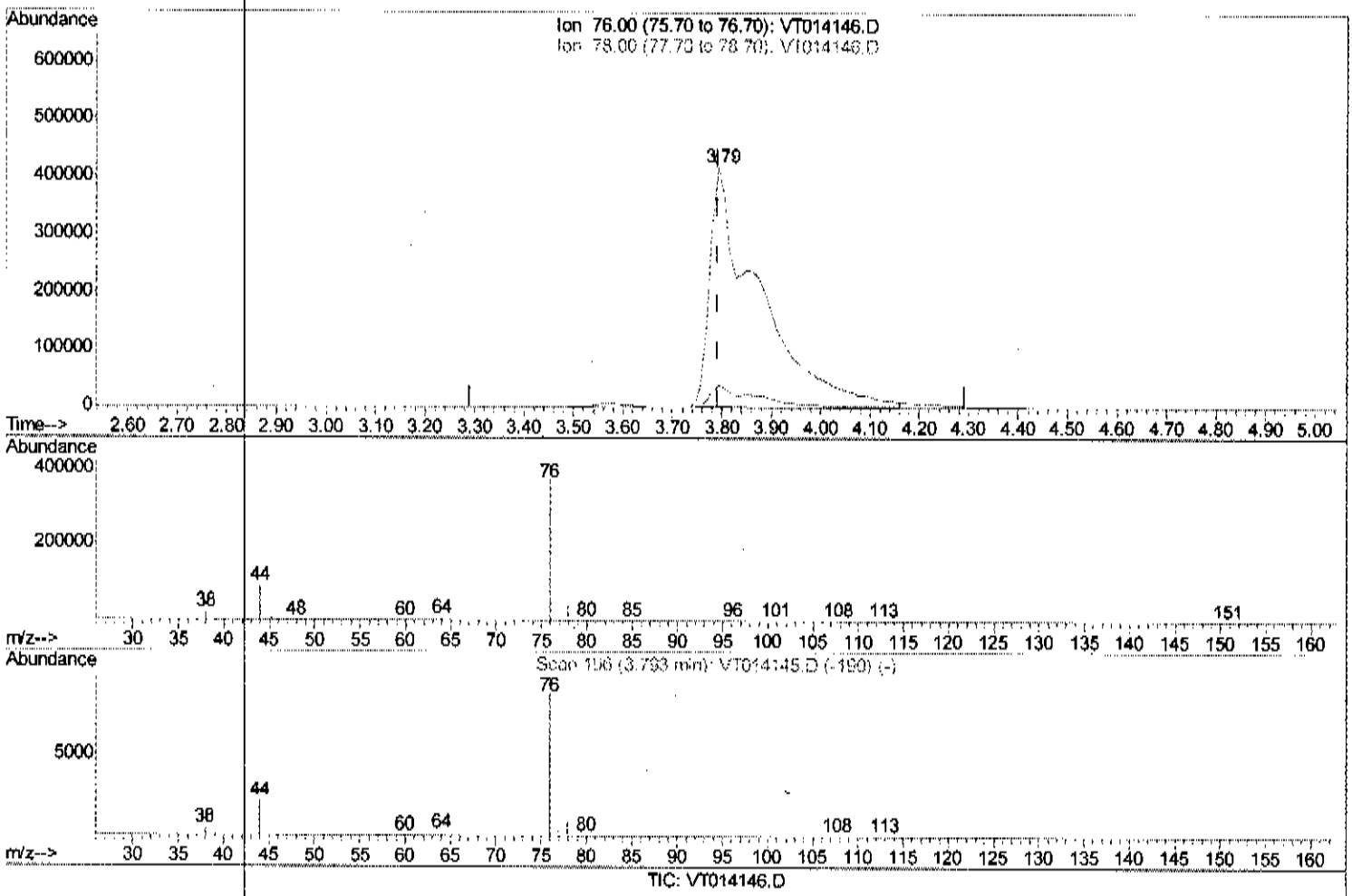

TIC: VT014146.D

(14) Carbon disulfide (T)

3.792min (-0.000) 55.70ug/L m

response 2917917

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.32
0.00	0.00	0.00
0.00	0.00	0.00

FY
5/16/2016.

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:29:11 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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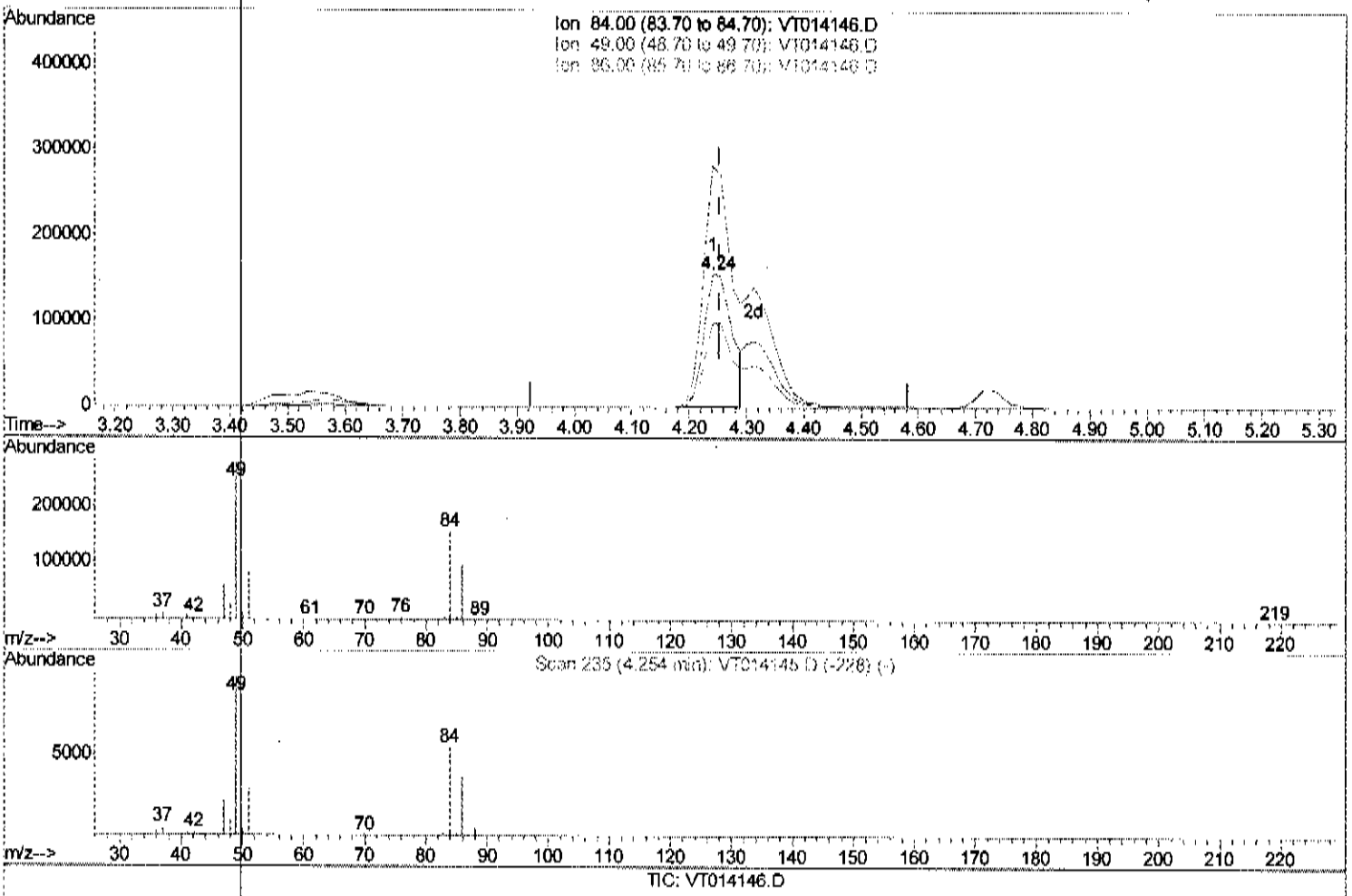

(16) Methylene chloride (T)

4.242min (-0.012) 30.50ug/L

response 532311

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	181.59
86.00	65.50	62.61
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:46:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD05086

Manual Integrations APPROVED
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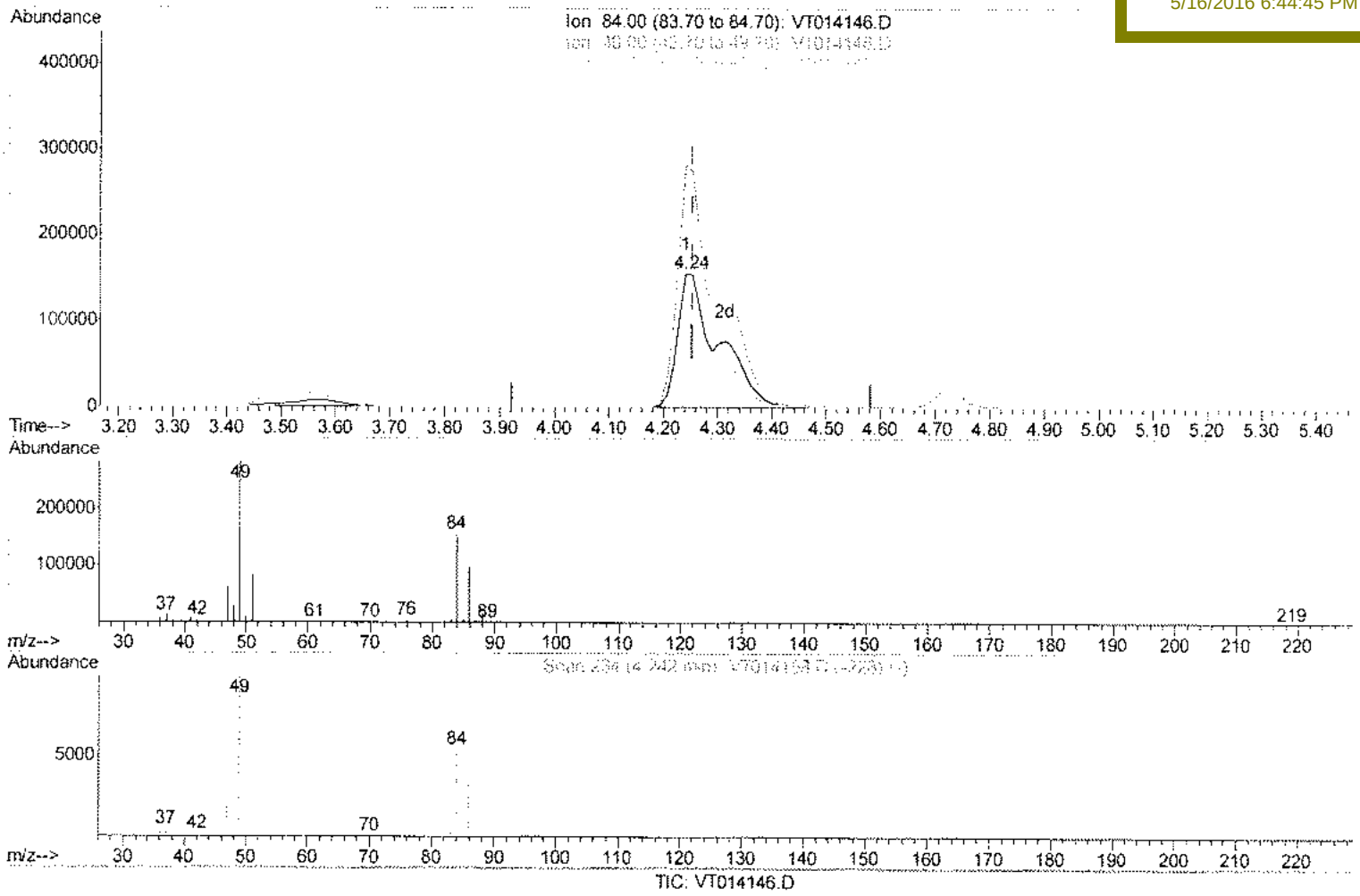

TIC: VT014146.D

(16) Methylene chloride (T)

4.242min (-0.012) 46.94ug/L m

response 819174

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	181.59
86.00	65.50	62.61
0.00	0.00	0.00

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05/16/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:46:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD05086

Manual Integrations APPROVED
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5/16/2016 6:44:45 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1088611	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	908319	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	475449	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	777121	46.56	ug/L	0.00
7) Chloroethane-d5	2.54	69	584443	45.74	ug/L	0.00
10) 1,1-Dichloroethene-d2	3.52	63	1729510m	48.20	ug/L	0.05
20) 2-Butanone-d5	6.43	46	430325	94.46	ug/L	0.00
24) Chloroform-d	7.07	84	1334249	44.54	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	808314	45.34	ug/L	0.00
29) Benzene-d6	7.74	84	2411700	40.41	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	737747	41.46	ug/L	0.00
37) Toluene-d8	9.87	98	2153818	40.77	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	311917	49.44	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	282873	95.46	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	532997	44.16	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	704587	40.00	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	1313667	57.76	ug/L	100
3) Chloromethane	1.95	50	1469401	55.25	ug/L	99
5) Vinyl chloride	2.10	62	1444114	57.10	ug/L	97
6) Bromomethane	2.44	94	704593	55.71	ug/L	98
8) Chloroethane	2.56	64	775713	54.82	ug/L	97
9) Trichlorofluoromethane	2.81	101	1756175m	58.62	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.58	101	972442	53.78	ug/L	99
12) 1,1-Dichloroethene	3.48	96	860263m	51.95	ug/L	
13) Acetone	3.56	43	615218	120.78	ug/L	100
14) Carbon disulfide	3.79	76	2917917m	55.70	ug/L	
15) Methyl Acetate	4.04	43	512597	52.86	ug/L	100
16) Methylene chloride	4.24	84	819174m	46.94	ug/L	
17) Methyl tert-butyl Ether	4.73	73	1897583	60.69	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	903412	53.94	ug/L	99
19) 1,1-Dichloroethane	5.54	63	2007391	54.87	ug/L	99
21) 2-Butanone	6.54	43	724167	112.55	ug/L	100
22) cis-1,2-Dichloroethene	6.53	96	870638	54.39	ug/L	98
23) Bromochloromethane	6.92	128	317443	53.18	ug/L	99
25) Chloroform	7.11	83	1715255	54.70	ug/L	100
27) 1,2-Dichloroethane	7.89	62	1348552	57.78	ug/L	99
30) Cyclohexane	7.41	56	2127989	52.91	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	1626942	56.42	ug/L	99
32) Carbon tetrachloride	7.53	117	1487025	56.55	ug/L	99
34) Benzene	7.79	78	3795751	51.31	ug/L	100
35) Trichloroethene	8.61	95	981811	52.73	ug/L	99
36) Methylcyclohexane	8.87	83	1927656	52.16	ug/L	100
40) 1,2-Dichloropropane	8.89	63	968908	51.82	ug/L	99
41) Bromodichloromethane	9.18	83	1182729	58.24	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	1332573	60.41	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	1435348	113.14	ug/L	100

FY 5/16/2016

FY 5/16/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014146.D
Acq On : 13 May 2016 15:57
Operator : FY/SY
Sample : VSTD05086
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 13 23:46:01 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD05086

Manual Integrations APPROVED
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5/16/2016 6:44:45 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	3828362	53.00	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	1191367	63.37	ug/L	97
46) 1,1,2-Trichloroethane	10.34	97	515641	52.89	ug/L	98
47) Tetrachloroethene	10.42	164	720863	53.90	ug/L	98
49) 2-Hexanone	10.53	43	1054881	112.66	ug/L	95
50) Dibromochloromethane	10.68	129	665370	58.89	ug/L	99
51) 1,2-Dibromoethane	10.79	107	503637	55.63	ug/L	99
52) Chlorobenzene	11.21	112	2200658	53.54	ug/L	99
53) Ethylbenzene	11.29	91	4539501	55.45	ug/L	100
54) m,p-Xylene	11.40	106	1628879	55.16	ug/L	99
55) o-xylene	11.73	106	1604247	57.12	ug/L	99
56) Styrene	11.74	104	2541820	57.07	ug/L	100
57) Isopropylbenzene	12.03	105	4631215	56.73	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	668204	54.51	ug/L	97
61) Bromoform	11.91	173	358013	57.78	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	1707944	53.72	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	1695524	52.03	ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	1508242	52.10	ug/L	99
65) 1,2-Dibromo-3-chloropropan	14.04	75	125989	60.11	ug/L	98
66) 1,2,4-trichlorobenzene	14.68	180	968828	58.55	ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	781340	55.05	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:49:02 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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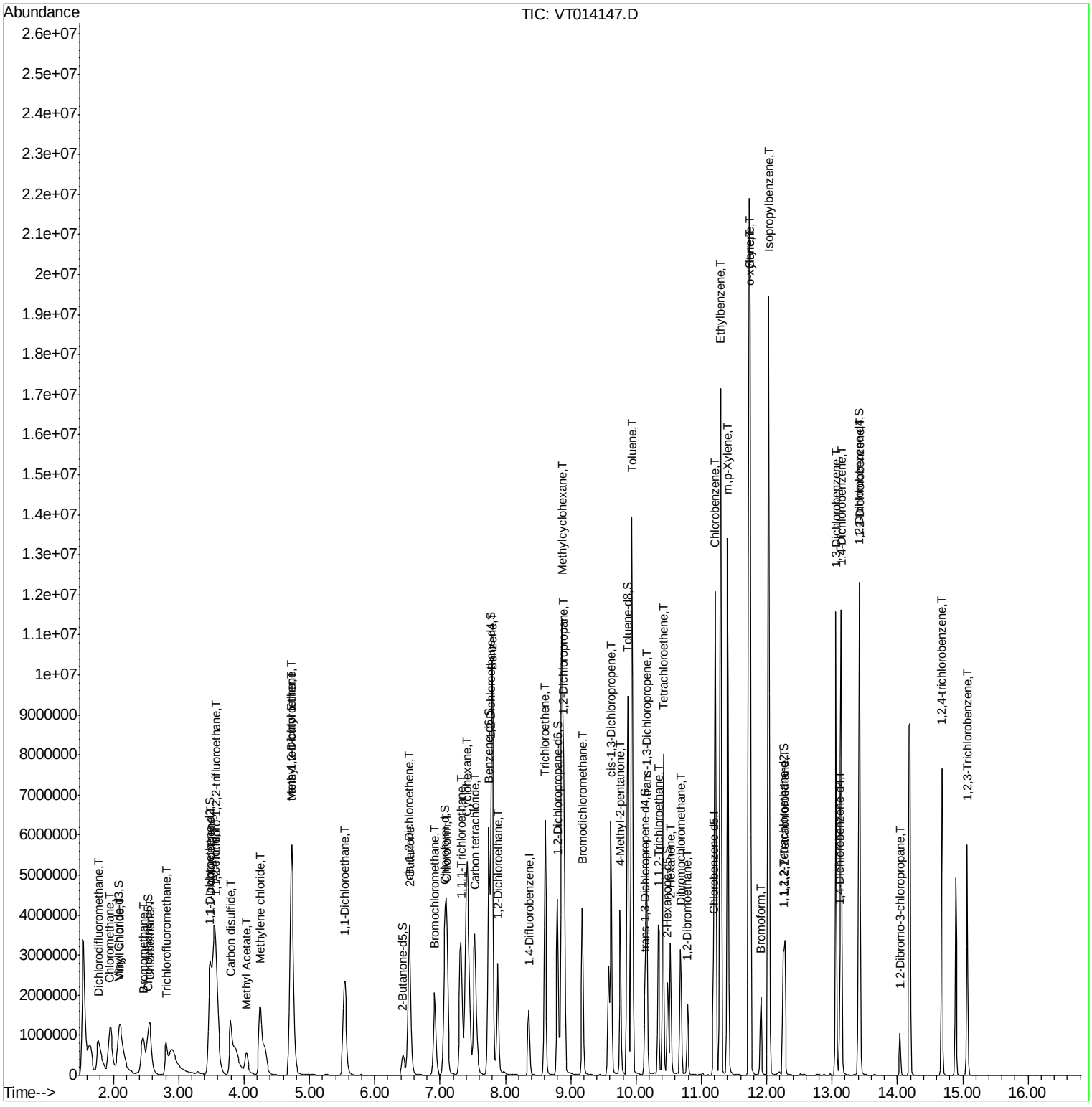

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:49:02 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10087

Manual Integrations APPROVED
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5/16/2016 6:44:50 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1195528	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1008340	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	512036	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	1818870	99.22	ug/L	0.00
7) Chloroethane-d5	2.53	69	1376967	98.12	ug/L	-0.01
10) 1,1-Dichloroethene-d2	3.47	63	3970806m	100.77	ug/L	0.00
20) 2-Butanone-d5	6.43	46	1012731	202.42	ug/L	0.00
24) Chloroform-d	7.07	84	3194362	97.10	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	1964349	100.34	ug/L	0.00
29) Benzene-d6	7.74	84	6056976	91.41	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	1828597	92.57	ug/L	0.00
37) Toluene-d8	9.87	98	5528586	94.27	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	792492	113.15	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	667890	203.03	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	1239206	92.48	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	1715951	90.45	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	2623022	105.02	ug/L	99
3) Chloromethane	1.95	50	2989753	102.36	ug/L	99
5) Vinyl chloride	2.10	62	2887659	103.96	ug/L	97
6) Bromomethane	2.46	94	1453163	104.62	ug/L	98
8) Chloroethane	2.56	64	1583370	101.89	ug/L	98
9) Trichlorofluoromethane	2.81	101	3570518m	108.52	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	2011510	101.29	ug/L	99
12) 1,1-Dichloroethene	3.48	96	1809595m	99.50	ug/L	
13) Acetone	3.56	43	1166641	208.55	ug/L	100
14) Carbon disulfide	3.79	76	6198144m	107.74	ug/L	
15) Methyl Acetate	4.04	43	1043736	98.00	ug/L	100
16) Methylene chloride	4.25	84	1663824m	86.81	ug/L	
17) Methyl tert-butyl Ether	4.73	73	3999717	116.48	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	1914140	104.07	ug/L	96
19) 1,1-Dichloroethane	5.54	63	4216967	104.95	ug/L	99
21) 2-Butanone	6.54	43	1388581	196.51	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	1826338	103.88	ug/L	99
23) Bromochloromethane	6.92	128	650187	99.18	ug/L	98
25) Chloroform	7.11	83	3582851	104.05	ug/L	99
27) 1,2-Dichloroethane	7.89	62	2782703	108.57	ug/L	99
30) Cyclohexane	7.41	56	4568760	102.32	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	3435786	107.34	ug/L	98
32) Carbon tetrachloride	7.53	117	3175982	108.80	ug/L	99
34) Benzene	7.80	78	8352526	101.70	ug/L	100
35) Trichloroethene	8.61	95	2121924	102.66	ug/L	98
36) Methylcyclohexane	8.87	83	4243282	103.43	ug/L	99
40) 1,2-Dichloropropane	8.89	63	2142299	103.22	ug/L	100
41) Bromodichloromethane	9.18	83	2529613	112.20	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	2903252	118.56	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	2855373	202.74	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:49:02 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Toluene	9.93	91	8665446	108.06	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	2519522	120.73	ug/L	98
46) 1,1,2-Trichloroethane	10.35	97	1077370	99.55	ug/L	95
47) Tetrachloroethene	10.42	164	1593655	107.33	ug/L	98
49) 2-Hexanone	10.53	43	2134742	205.38	ug/L	97
50) Dibromochloromethane	10.68	129	1444212	115.14	ug/L	99
51) 1,2-Dibromoethane	10.79	107	1045283	104.01	ug/L	98
52) Chlorobenzene	11.21	112	4830584	105.87	ug/L	97
53) Ethylbenzene	11.29	91	10199172	112.23	ug/L	98
54) m,p-Xylene	11.40	106	3637175	110.95	ug/L	100
55) o-xylene	11.73	106	3574111	114.63	ug/L	97
56) Styrene	11.74	104	5674527	114.77	ug/L	98
57) Isopropylbenzene	12.03	105	10373694	114.46	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	1356096	99.66	ug/L	98
61) Bromoform	11.91	173	767543	115.03	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	3634516	106.16	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	3599626	102.56	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	3250187	104.25	ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.04	75	247712	110.34	ug/L	98
66) 1,2,4-trichlorobenzene	14.68	180	1922758	107.89	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	1461616	95.63	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:49:02 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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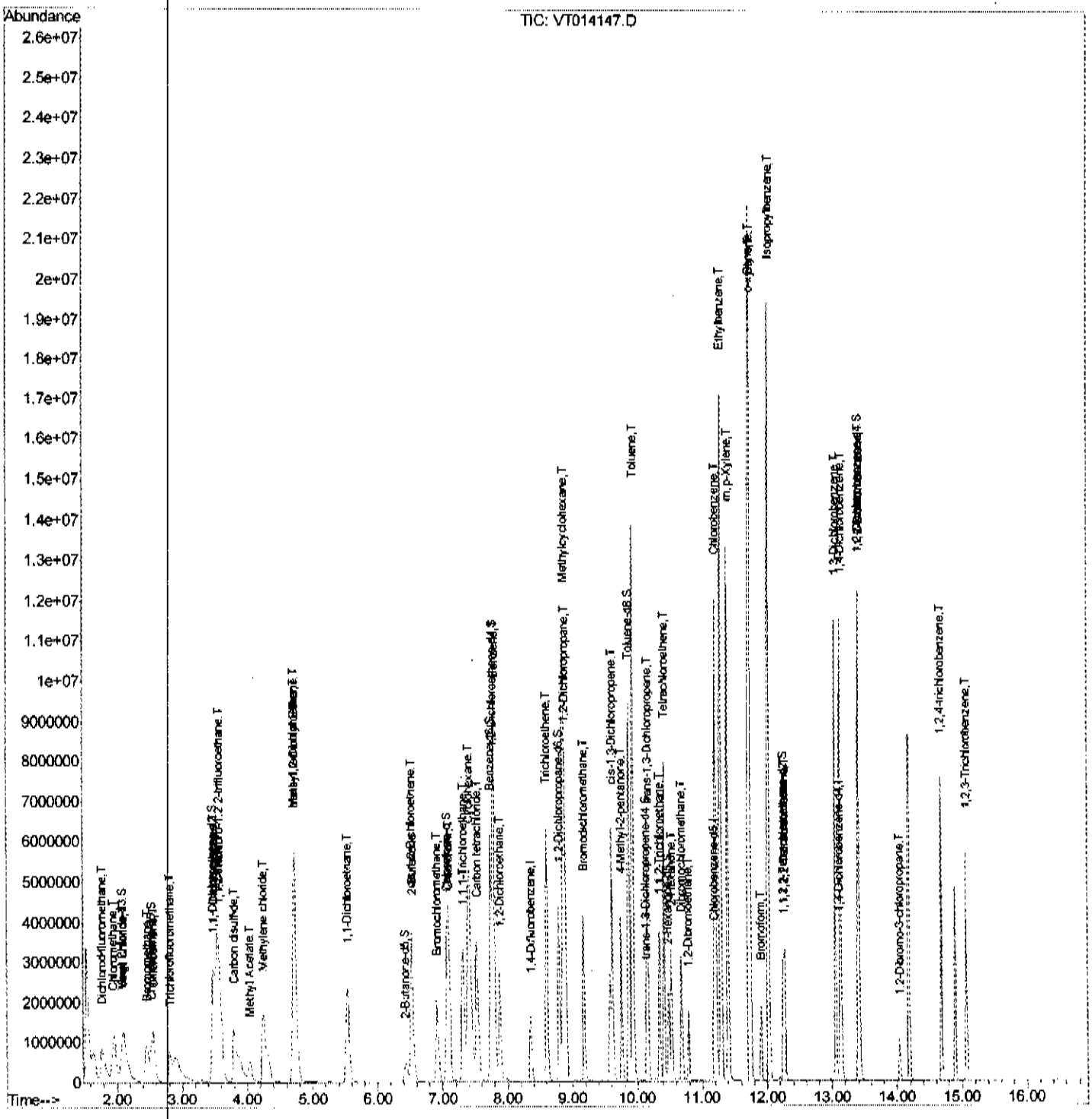

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:29:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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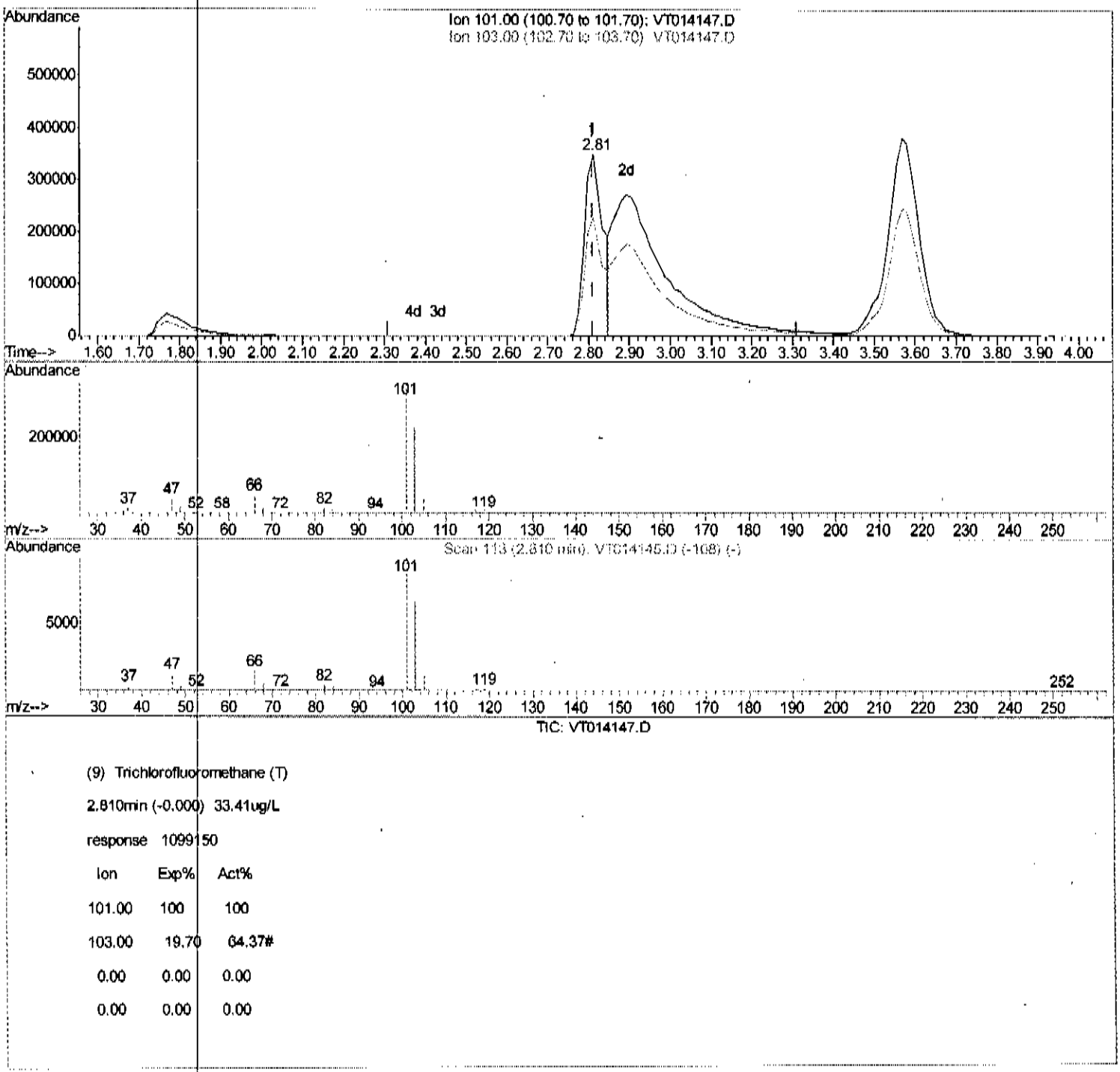

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 33.41ug/L

response 1099150

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	64.37#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
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Quant Time: May 13 23:29:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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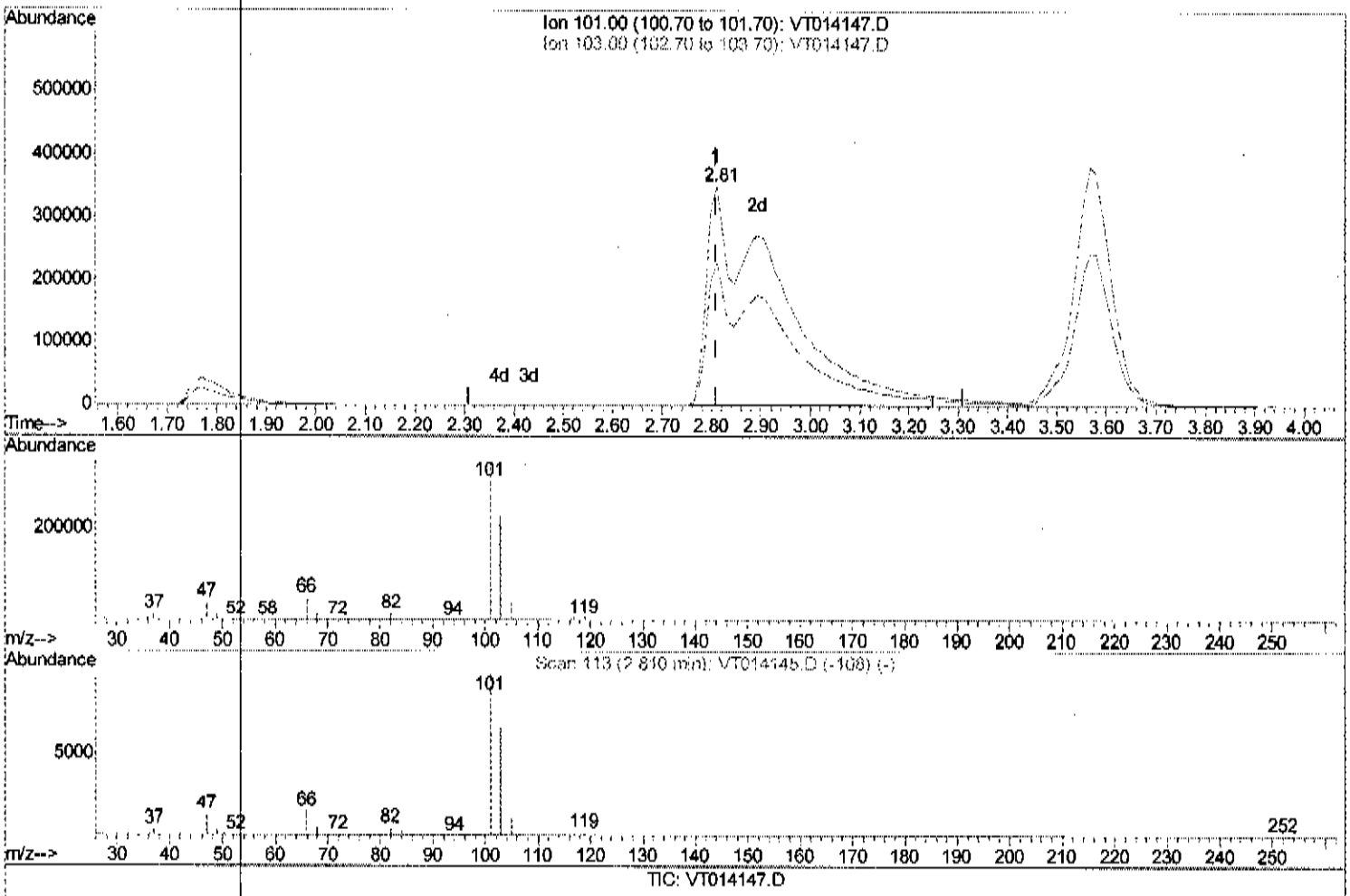

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 108.52ug/L m

response 3570518

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	19.82
0.00	0.00	0.00
0.00	0.00	0.00

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5/16/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:29:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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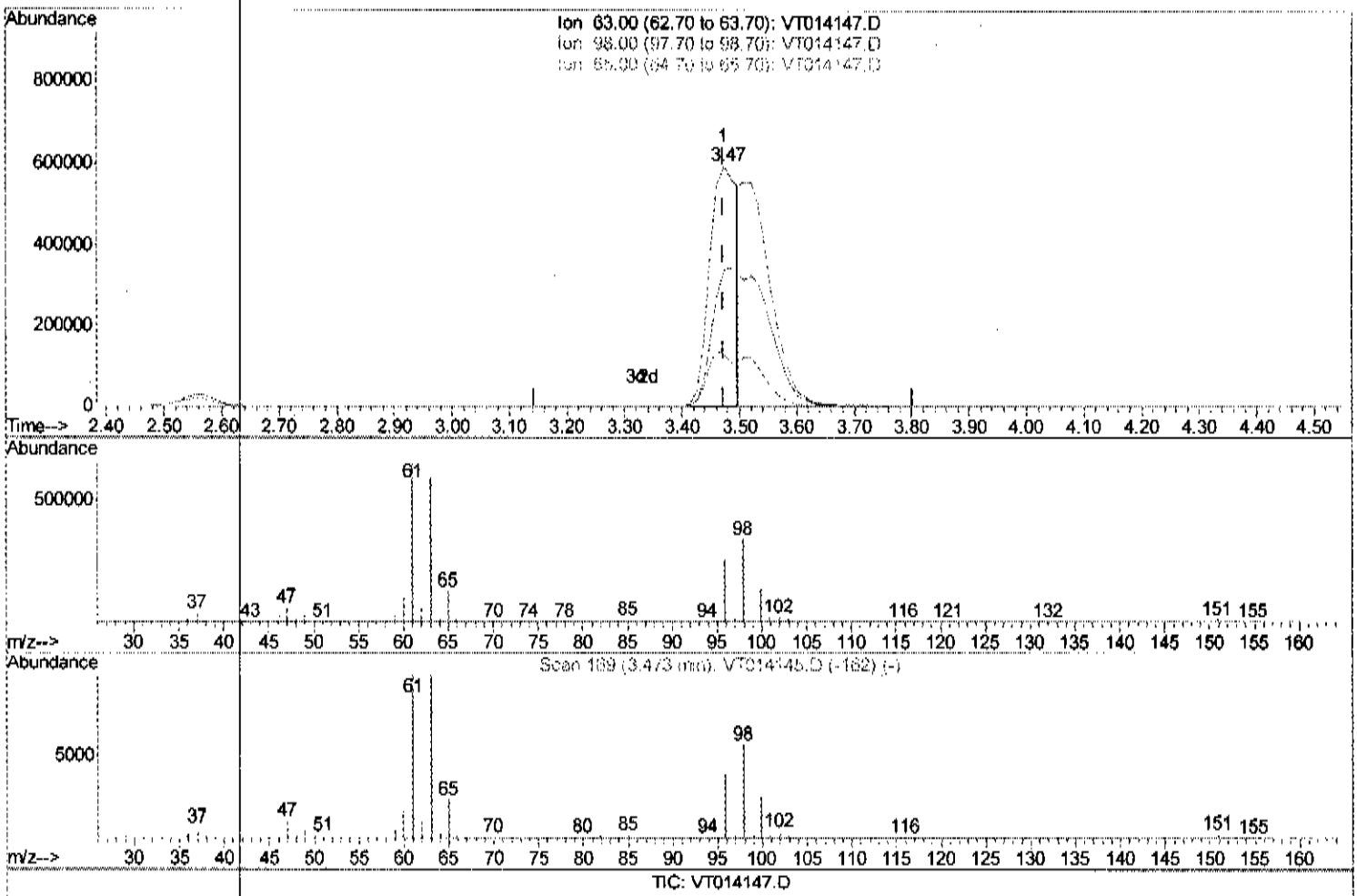

TIC: VT014147.D

(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.000) 51.00ug/L

response 2009657

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	64.69
65.00	11.10	19.08#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:29:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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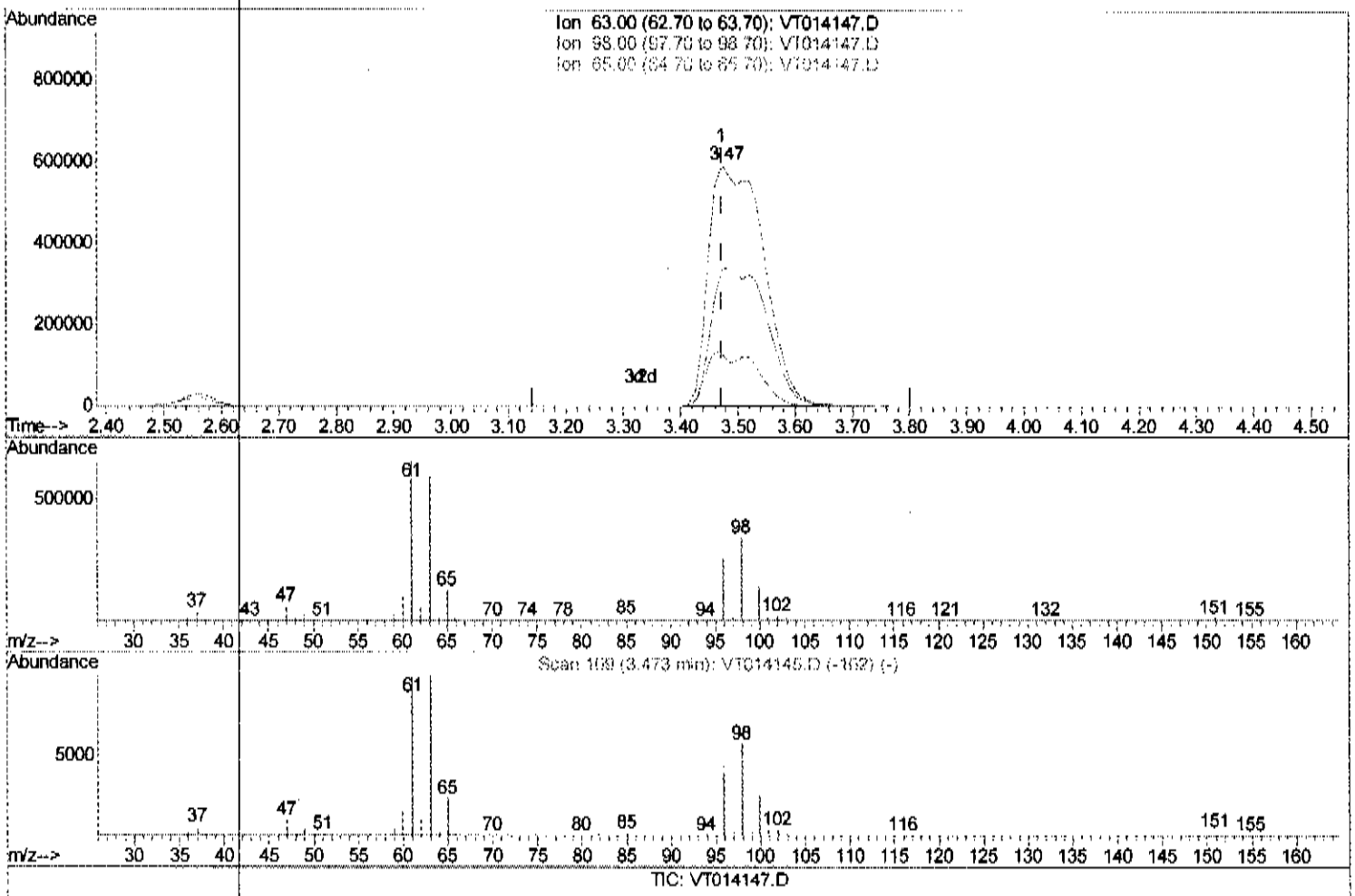

TIC: VT014147.D

(10) 1,1-Dichloroethene-d2 (S)

3.473min (-0.000) 100.77ug/L m

response 3970806

FY
5/16/2016

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	32.74#
65.00	11.10	9.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
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Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:29:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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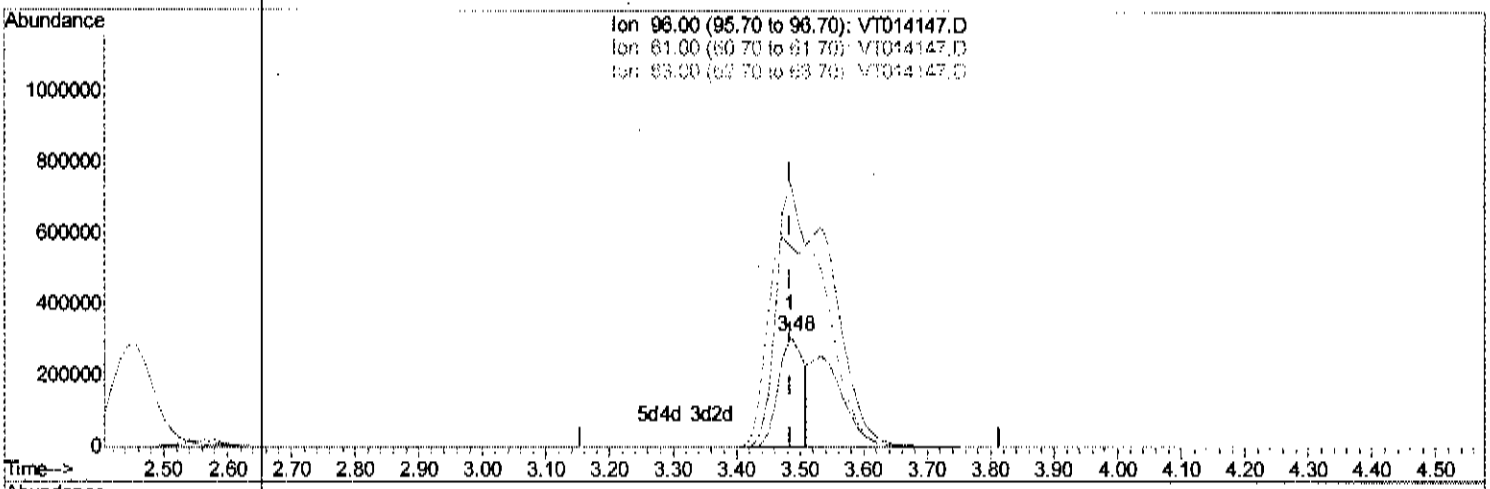

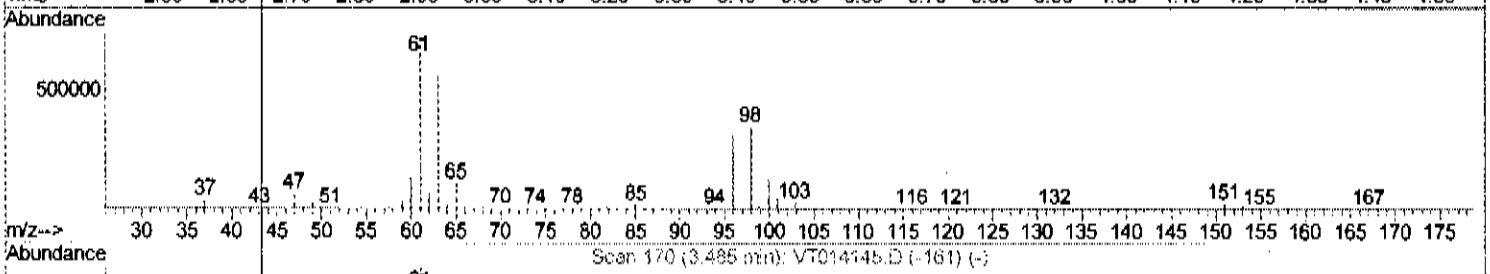

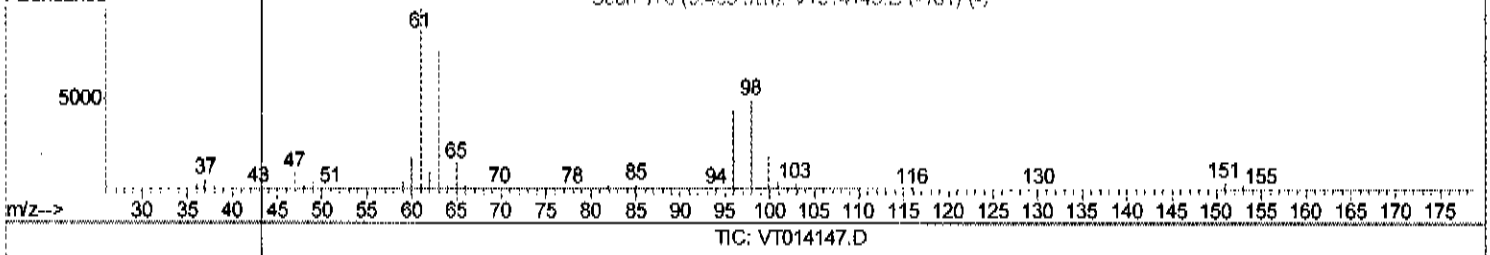

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 48.58ug/L

response 883599

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	238.67
63.00	176.20	181.71
0.00	0.00	0.00

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:29:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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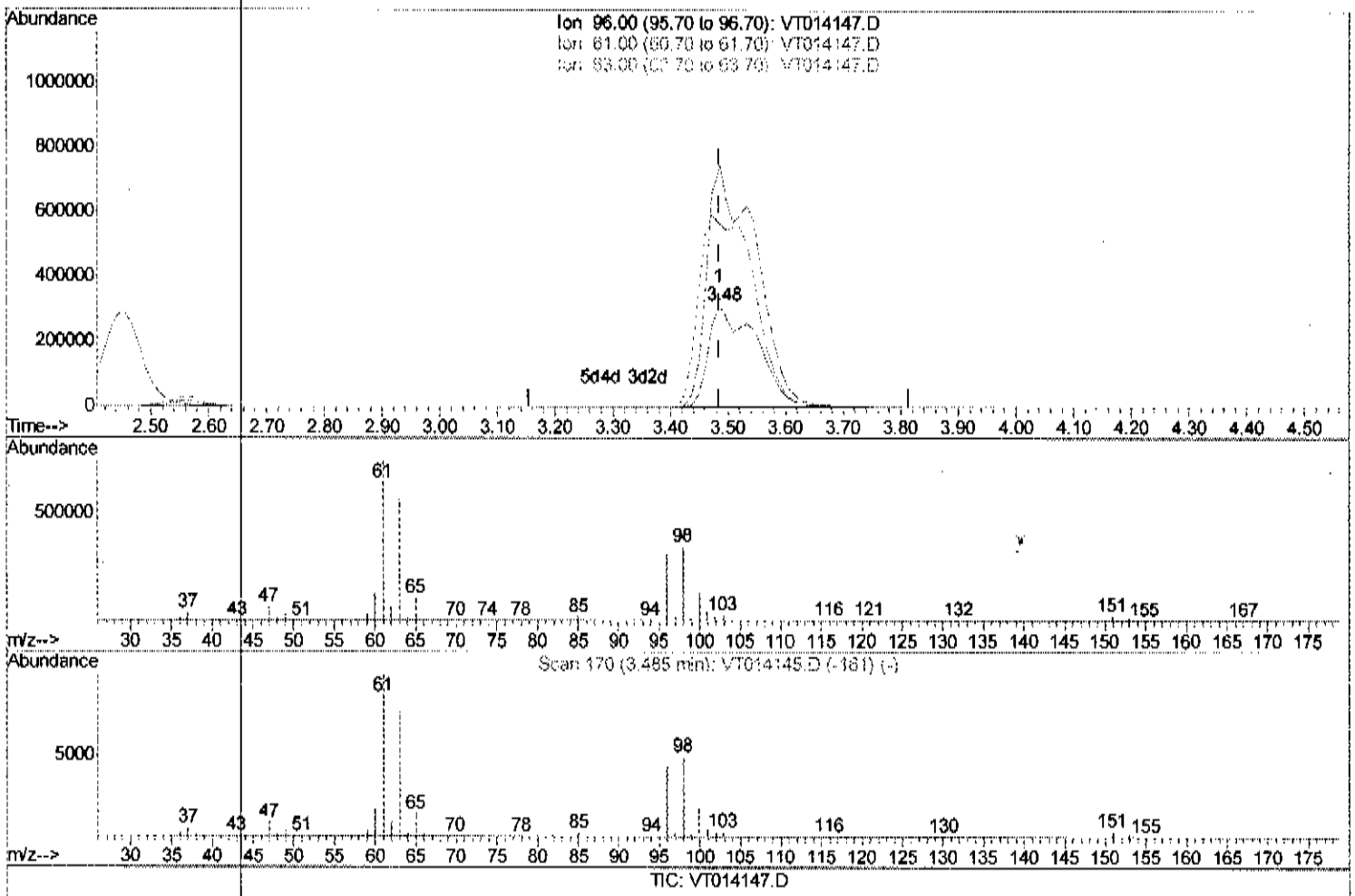

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 99.50ug/L m

response 1809595

FY
5/16/2016

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	238.67
63.00	176.20	181.71
0.00	0.00	0.00

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:29:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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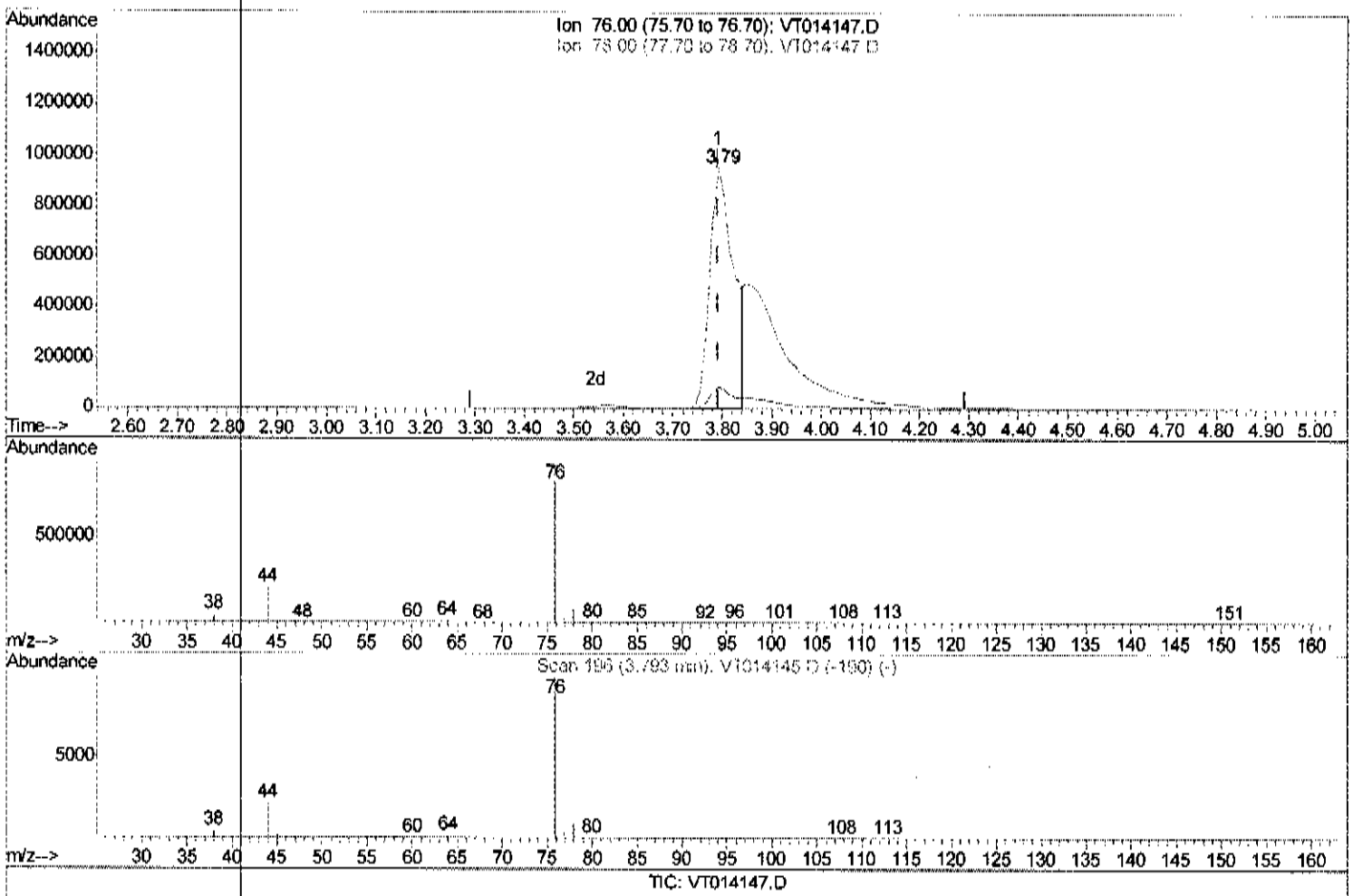

(14) Carbon disulfide (T)

3.792min (-0.000) 56.39ug/L

response 3243987

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:29:33 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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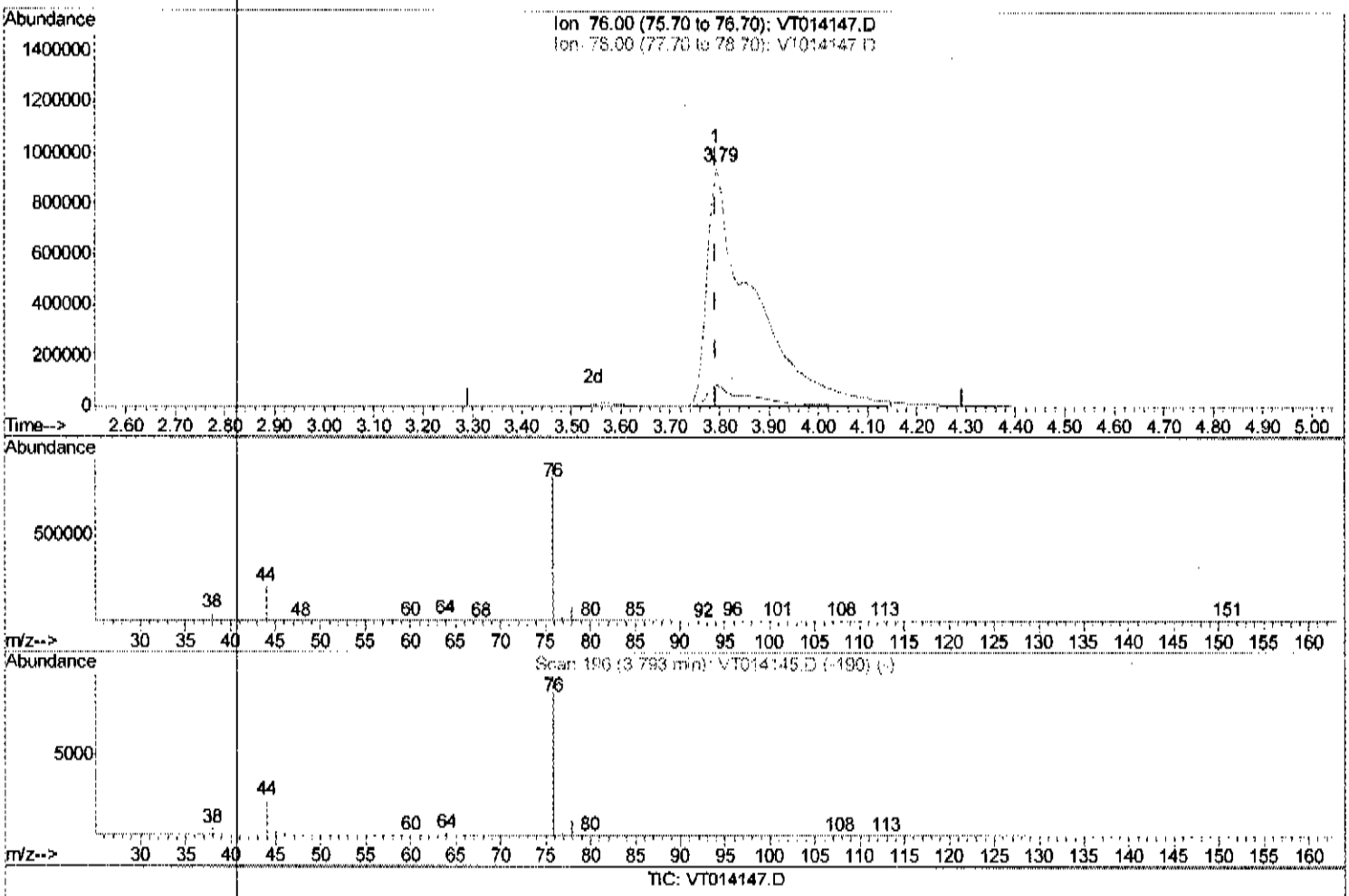

(14) Carbon disulfide (T)

3.792min (-0.000) 107.74ug/L m

response 6198144

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.00
0.00	0.00	0.00
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
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Sample : VSTD10087
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Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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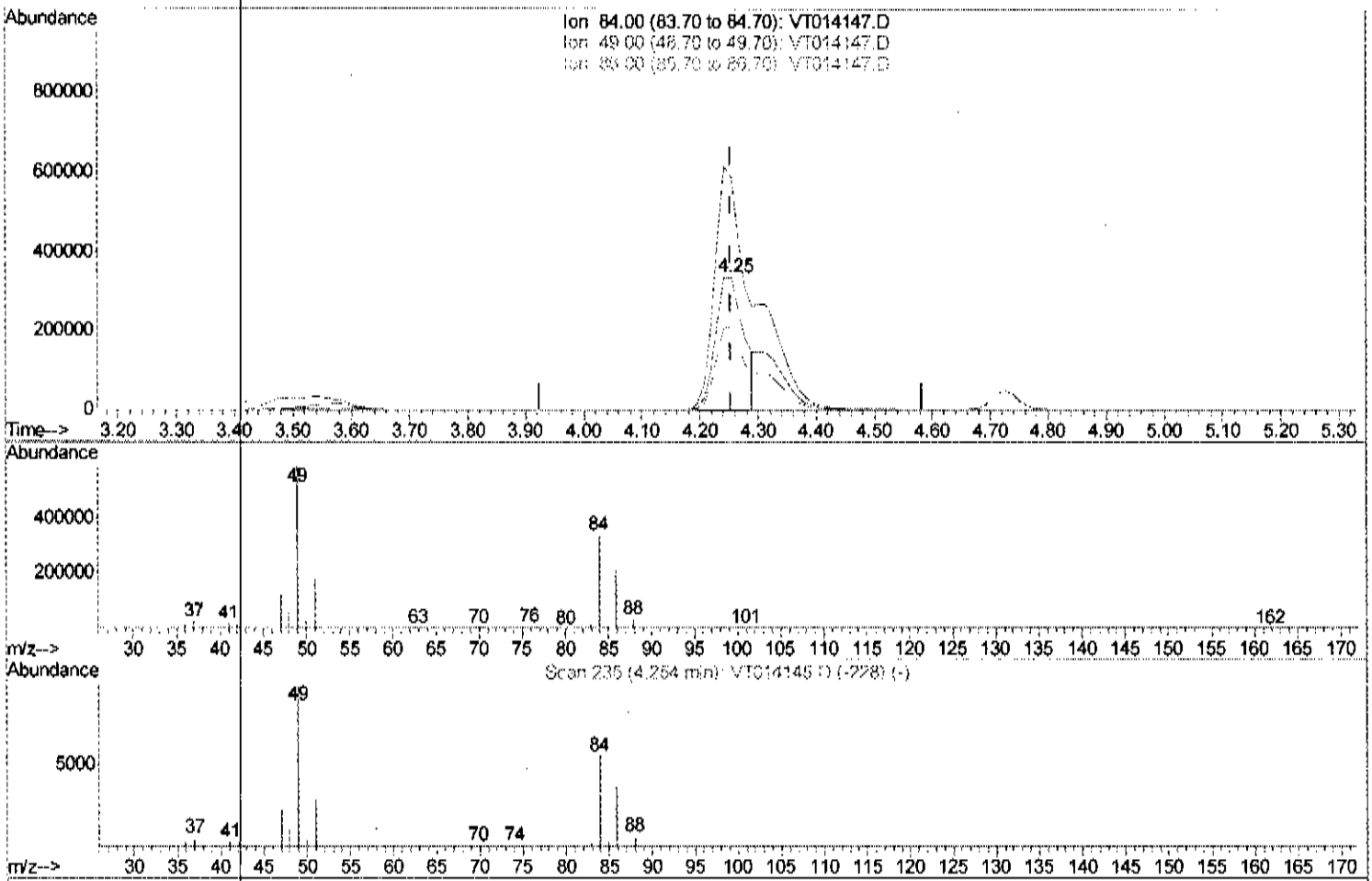

(16) Methylene chloride (T)

4.254min (-0.000) 59.99ug/L

response 1149823

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	175.25
86.00	65.50	63.35
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:29:33 2016
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Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD10087

Manual Integrations APPROVED
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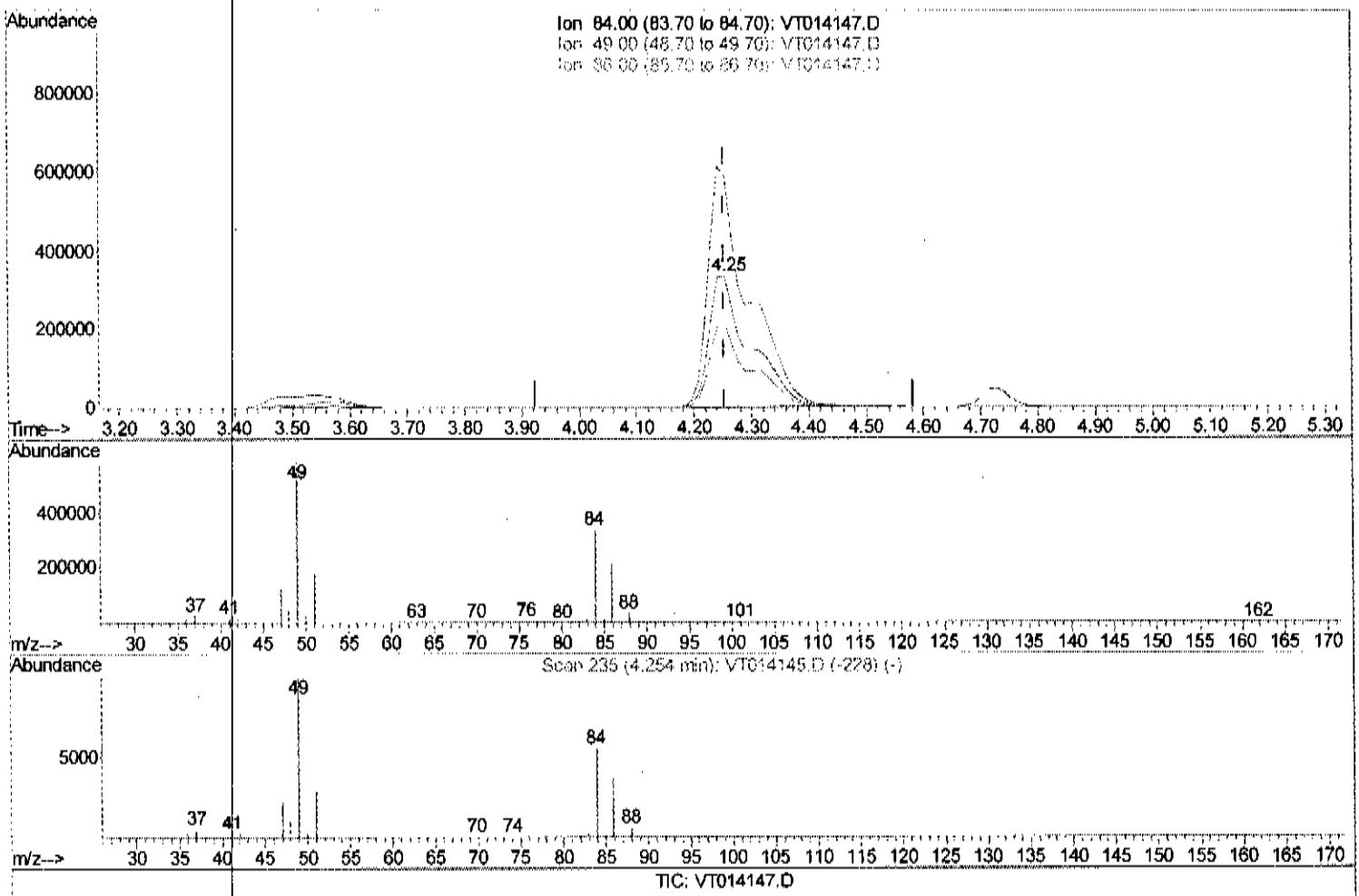

(16) Methylene chloride (T)

4.254min (-0.000) 86.81ug/L m

FY
5/16/2016.

response 1663824

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	175.25
86.00	65.50	83.35
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:49:02 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10087

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1195528	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1008340	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	512036	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	1818870	99.22	ug/L	0.00
7) Chloroethane-d5	2.53	69	1376967	98.12	ug/L	-0.01
10) 1,1-Dichloroethene-d2	3.47	63	3970806m	100.77	ug/L	0.00
20) 2-Butanone-d5	6.43	46	1012731	202.42	ug/L	0.00
24) Chloroform-d	7.07	84	3194362	97.10	ug/L	0.00
26) 1,2-Dichloroethane-d4	7.78	65	1964349	100.34	ug/L	0.00
29) Benzene-d6	7.74	84	6056976	91.41	ug/L	0.00
33) 1,2-Dichloropropane-d6	8.80	67	1828597	92.57	ug/L	0.00
37) Toluene-d8	9.87	98	5528586	94.27	ug/L	0.00
38) trans-1,3-Dichloropropene-	10.13	79	792492	113.15	ug/L	0.00
39) 2-Hexanone-d5	10.48	63	667890	203.03	ug/L	0.00
48) 1,1,2,2-Tetrachloroethane-	12.25	84	1239206	92.48	ug/L	0.00
60) 1,2-Dichlorobenzene-d4	13.41	152	1715951	90.45	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	2623022	105.02	ug/L	99
3) Chloromethane	1.95	50	2989753	102.36	ug/L	99
5) Vinyl chloride	2.10	62	2887659	103.96	ug/L	97
6) Bromomethane	2.46	94	1453163	104.62	ug/L	98
8) Chloroethane	2.56	64	1583370	101.89	ug/L	98
9) Trichlorofluoromethane	2.81	101	3570518m	108.52	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	2011510	101.29	ug/L	99
12) 1,1-Dichloroethene	3.48	96	1809595m	99.50	ug/L	
13) Acetone	3.56	43	1166641	208.55	ug/L	100
14) Carbon disulfide	3.79	76	6198144m	107.74	ug/L	
15) Methyl Acetate	4.04	43	1043736	98.00	ug/L	100
16) Methylene chloride	4.25	84	1663824m	86.81	ug/L	
17) Methyl tert-butyl Ether	4.73	73	3999717	116.48	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	1914140	104.07	ug/L	96
19) 1,1-Dichloroethane	5.54	63	4216967	104.95	ug/L	99
21) 2-Butanone	6.54	43	1388581	196.51	ug/L	99
22) cis-1,2-Dichloroethene	6.53	96	1826338	103.88	ug/L	99
23) Bromochloromethane	6.92	128	650187	99.18	ug/L	98
25) Chloroform	7.11	83	3582851	104.05	ug/L	99
27) 1,2-Dichloroethane	7.89	62	2782703	108.57	ug/L	99
30) Cyclohexane	7.41	56	4568760	102.32	ug/L	100
31) 1,1,1-Trichloroethane	7.32	97	3435786	107.34	ug/L	98
32) Carbon tetrachloride	7.53	117	3175982	108.80	ug/L	99
34) Benzene	7.80	78	8352526	101.70	ug/L	100
35) Trichloroethene	8.61	95	2121924	102.66	ug/L	98
36) Methylcyclohexane	8.87	83	4243282	103.43	ug/L	99
40) 1,2-Dichloropropane	8.89	63	2142299	103.22	ug/L	100
41) Bromodichloromethane	9.18	83	2529613	112.20	ug/L	100
42) cis-1,3-Dichloropropene	9.61	75	2903252	118.56	ug/L	99
43) 4-Methyl-2-pentanone	9.76	43	2855373	202.74	ug/L	99

FY 5/16/2016

FY 5/16/2016

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014147.D
Acq On : 13 May 2016 16:23
Operator : FY/SY
Sample : VSTD10087
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 13 23:49:02 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:27:43 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD10087

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:50 PM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
44) Toluene	9.93	91	8665446	108.06 ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	2519522	120.73 ug/L	98
46) 1,1,2-Trichloroethane	10.35	97	1077370	99.55 ug/L	95
47) Tetrachloroethene	10.42	164	1593655	107.33 ug/L	98
49) 2-Hexanone	10.53	43	2134742	205.38 ug/L	97
50) Dibromochloromethane	10.68	129	1444212	115.14 ug/L	99
51) 1,2-Dibromoethane	10.79	107	1045283	104.01 ug/L	98
52) Chlorobenzene	11.21	112	4830584	105.87 ug/L	97
53) Ethylbenzene	11.29	91	10199172	112.23 ug/L	98
54) m,p-Xylene	11.40	106	3637175	110.95 ug/L	100
55) o-xylene	11.73	106	3574111	114.63 ug/L	97
56) Styrene	11.74	104	5674527	114.77 ug/L	98
57) Isopropylbenzene	12.03	105	10373694	114.46 ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	1356096	99.66 ug/L	98
61) Bromoform	11.91	173	767543	115.03 ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	3634516	106.16 ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	3599626	102.56 ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	3250187	104.25 ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.04	75	247712	110.34 ug/L	98
66) 1,2,4-trichlorobenzene	14.68	180	1922758	107.89 ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	1461616	95.63 ug/L	99

(#) - qualifier out of range (m) = manual integration (+) = signals summed

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/12/2016 Time: 13:10

Lab File ID: VT014119.D Init. Calib Date(s): 05/11/2016 05/11/2016

EPA Sample No.: VSTD02581 Init. Calib Time(s): 04:51 06:35

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.511	0.487	0.01	-4.6	± 40.0
Chloromethane	0.602	0.585	0.01	-2.8	± 30.0
Vinyl chloride	0.569	0.563	0.01	-1	± 25.0
Bromomethane	0.284	0.284	0.01	0.0	± 30.0
Chloroethane	0.318	0.309	0.01	-2.8	± 25.0
Trichlorofluoromethane	0.667	0.642	0.01	-3.7	± 30.0
1,1-Dichloroethene	0.379	0.380	0.06	0.4	± 20.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.412	0.413	0.05	0.4	± 25.0
Acetone	0.104	0.117	0.01	12.9	± 40.0
Carbon disulfide	1.205	1.247	0.1	3.5	± 25.0
Methyl Acetate	0.223	0.211	0.01	-5.4	± 40.0
Methylene chloride	0.397	0.359	0.01	-9.6	± 30.0
trans-1,2-Dichloroethene	0.385	0.394	0.1	2.5	± 20.0
Methyl tert-butyl Ether	0.699	0.735	0.1	5.2	± 25.0
1,1-Dichloroethane	0.828	0.833	0.3	0.5	± 20.0
cis-1,2-Dichloroethene	0.366	0.380	0.2	3.9	± 20.0
2-Butanone	0.142	0.145	0.01	2.0	± 40.0
Bromochloromethane	0.136	0.139	0.1	2.5	± 20.0
Chloroform	0.703	0.673	0.3	-4.3	± 20.0
1,1,1-Trichloroethane	0.785	0.768	0.05	-2.1	± 25.0
Cyclohexane	1.121	1.171	0.01	4.5	± 25.0
Carbon tetrachloride	0.715	0.680	0.1	-5	± 25.0
Benzene	2.045	2.049	0.2	0.2	± 20.0
1,2-Dichloroethane	0.520	0.478	0.07	-8.1	± 20.0
Trichloroethene	0.514	0.511	0.2	-0.5	± 20.0
Methylcyclohexane	1.028	1.035	0.05	0.7	± 25.0
1,2-Dichloropropane	0.516	0.513	0.2	-0.5	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/12/2016 Time: 13:10

Lab File ID: VT014119.D Init. Calib Date(s): 05/11/2016 05/11/2016

EPA Sample No.: VSTD02581 Init. Calib Time(s): 04:51 06:35

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Bromodichloromethane	0.554	0.554	0.3	0.1	± 20.0
cis-1,3-Dichloropropene	0.605	0.646	0.3	6.7	± 20.0
4-Methyl-2-pentanone	0.351	0.343	0.03	-2.3	± 30.0
Toluene	1.982	1.985	0.3	0.2	± 20.0
trans-1,3-Dichloropropene	0.507	0.539	0.2	6.4	± 20.0
1,1,2-Trichloroethane	0.267	0.261	0.2	-2.5	± 20.0
Tetrachloroethene	0.367	0.371	0.1	0.9	± 20.0
2-Hexanone	0.250	0.258	0.01	3.2	± 40.0
Dibromochloromethane	0.310	0.309	0.2	-0.3	± 20.0
1,2-Dibromoethane	0.249	0.249	0.2	0.0	± 20.0
Chlorobenzene	1.123	1.130	0.4	0.5	± 20.0
Ethylbenzene	2.236	2.266	0.4	1.3	± 20.0
o-xylene	0.769	0.796	0.2	3.5	± 20.0
m,p-Xylene	0.809	0.832	0.2	2.9	± 20.0
Styrene	1.219	1.262	0.2	3.6	± 20.0
Bromoform	0.337	0.319	0.1	-5.4	± 25.0
Isopropylbenzene	2.219	2.266	0.4	2.1	± 25.0
1,1,2,2-Tetrachloroethane	0.335	0.326	0.2	-2.7	± 25.0
1,3-Dichlorobenzene	1.669	1.772	0.5	6.2	± 20.0
1,4-Dichlorobenzene	1.703	1.728	0.6	1.5	± 20.0
1,2-Dichlorobenzene	1.518	1.522	0.6	0.3	± 20.0
1,2-Dibromo-3-chloropropane	0.112	0.109	0.01	-2.4	± 30.0
1,2,4-trichlorobenzene	0.852	1.032	0.4	21.2	± 30.0
1,2,3-Trichlorobenzene	0.732	0.849	0.4	16.1	± 30.0
Vinyl Chloride-d3	0.387	0.398	0.01	2.9	± 30.0
Chloroethane-d5	0.293	0.291	0.01	-0.5	± 30.0
1,1-Dichloroethene-d2	0.817	0.777	0.05	-4.9	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/12/2016 Time: 13:10

Lab File ID: VT014119.D Init. Calib Date(s): 05/11/2016 05/11/2016

EPA Sample No.: VSTD02581 Init. Calib Time(s): 04:51 06:35

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
2-Butanone-d5	0.106	0.099	0.01	-6.3	± 40.0
Chloroform-d	0.682	0.628	0.3	-7.9	± 20.0
1,2-Dichloroethane-d4	0.401	0.339	0.06	-15.6	± 25.0
Benzene-d6	1.674	1.597	0.3	-4.6	± 20.0
1,2-Dichloropropane-d6	0.499	0.483	0.2	-3.2	± 20.0
Toluene-d8	1.473	1.391	0.3	-5.6	± 20.0
trans-1,3-Dichloropropene-d4	0.173	0.172	0.2	-0.5	± 20.0
2-Hexanone-d5	0.083	0.085	0.01	1.4	± 40.0
1,1,2,2-Tetrachloroethane-d2	0.333	0.311	0.2	-6.5	± 25.0
1,2-Dichlorobenzene-d4	0.935	0.865	0.4	-7.6	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/12/2016 Time: 23:12

Lab File ID: VT014141.D Init. Calib Date(s): 05/11/2016 05/11/2016

EPA Sample No.: VSTD02582 Init. Calib Time(s): 04:51 06:35

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.511	0.549	0.01	7.4	± 50.0
Chloromethane	0.602	0.589	0.01	-2.1	± 50.0
Vinyl chloride	0.569	0.608	0.01	6.9	± 50.0
Bromomethane	0.284	0.295	0.01	4.1	± 50.0
Chloroethane	0.318	0.335	0.01	5.1	± 50.0
Trichlorofluoromethane	0.667	0.783	0.01	17.4	± 50.0
1,1-Dichloroethene	0.379	0.379	0.06	0.0	± 25.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.412	0.435	0.05	5.6	± 50.0
Acetone	0.104	0.131	0.01	25.9	± 50.0
Carbon disulfide	1.205	1.178	0.1	-2.3	± 25.0
Methyl Acetate	0.223	0.225	0.01	0.9	± 50.0
Methylene chloride	0.397	0.348	0.01	-12.5	± 50.0
trans-1,2-Dichloroethene	0.385	0.383	0.1	-0.4	± 25.0
Methyl tert-butyl Ether	0.699	0.774	0.1	10.7	± 50.0
1,1-Dichloroethane	0.828	0.859	0.3	3.7	± 25.0
cis-1,2-Dichloroethene	0.366	0.374	0.2	2.0	± 25.0
2-Butanone	0.142	0.148	0.01	4.0	± 50.0
Bromochloromethane	0.136	0.134	0.1	-1.5	± 25.0
Chloroform	0.703	0.756	0.3	7.5	± 25.0
1,1,1-Trichloroethane	0.785	0.860	0.05	9.6	± 25.0
Cyclohexane	1.121	1.140	0.01	1.7	± 50.0
Carbon tetrachloride	0.715	0.799	0.1	11.7	± 25.0
Benzene	2.045	2.008	0.2	-1.8	± 25.0
1,2-Dichloroethane	0.520	0.592	0.07	13.8	± 25.0
Trichloroethene	0.514	0.528	0.2	2.9	± 25.0
Methylcyclohexane	1.028	1.021	0.05	-0.7	± 50.0
1,2-Dichloropropane	0.516	0.515	0.2	-0.1	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/12/2016 Time: 23:12

Lab File ID: VT014141.D Init. Calib Date(s): 05/11/2016 05/11/2016

EPA Sample No.: VSTD02582 Init. Calib Time(s): 04:51 06:35

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Bromodichloromethane	0.554	0.606	0.3	9.4	± 25.0
cis-1,3-Dichloropropene	0.605	0.674	0.3	11.4	± 25.0
4-Methyl-2-pentanone	0.351	0.372	0.03	6.1	± 50.0
Toluene	1.982	2.001	0.3	1.0	± 25.0
trans-1,3-Dichloropropene	0.507	0.567	0.2	11.9	± 25.0
1,1,2-Trichloroethane	0.267	0.269	0.2	0.7	± 25.0
Tetrachloroethene	0.367	0.368	0.1	0.1	± 25.0
2-Hexanone	0.250	0.280	0.01	11.9	± 50.0
Dibromochloromethane	0.310	0.329	0.2	6.1	± 25.0
1,2-Dibromoethane	0.249	0.257	0.2	3.1	± 25.0
Chlorobenzene	1.123	1.153	0.4	2.6	± 25.0
Ethylbenzene	2.236	2.386	0.4	6.7	± 25.0
o-xylene	0.769	0.808	0.2	5.0	± 25.0
m,p-Xylene	0.809	0.850	0.2	5.1	± 25.0
Styrene	1.219	1.263	0.2	3.7	± 25.0
Bromoform	0.337	0.336	0.1	-0.3	± 50.0
Isopropylbenzene	2.219	2.401	0.4	8.2	± 25.0
1,1,2,2-Tetrachloroethane	0.335	0.349	0.2	4.2	± 25.0
1,3-Dichlorobenzene	1.669	1.682	0.5	0.7	± 25.0
1,4-Dichlorobenzene	1.703	1.708	0.6	0.3	± 25.0
1,2-Dichlorobenzene	1.518	1.503	0.6	-1	± 25.0
1,2-Dibromo-3-chloropropane	0.112	0.123	0.01	10	± 50.0
1,2,4-trichlorobenzene	0.852	0.956	0.4	12.3	± 50.0
1,2,3-Trichlorobenzene	0.732	0.820	0.4	12	± 50.0
Vinyl Chloride-d3	0.387	0.402	0.01	3.8	± 50.0
Chloroethane-d5	0.293	0.279	0.01	-4.7	± 50.0
1,1-Dichloroethene-d2	0.817	0.841	0.05	2.9	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/12/2016 Time: 23:12

Lab File ID: VT014141.D Init. Calib Date(s): 05/11/2016 05/11/2016

EPA Sample No.: VSTD02582 Init. Calib Time(s): 04:51 06:35

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
2-Butanone-d5	0.106	0.097	0.01	-7.8	± 50.0
Chloroform-d	0.682	0.663	0.3	-2.7	± 25.0
1,2-Dichloroethane-d4	0.401	0.406	0.06	1.2	± 25.0
Benzene-d6	1.674	1.444	0.3	-13.7	± 25.0
1,2-Dichloropropane-d6	0.499	0.443	0.2	-11.4	± 25.0
Toluene-d8	1.473	1.313	0.3	-10.9	± 25.0
trans-1,3-Dichloropropene-d4	0.173	0.167	0.2	-3.5	± 25.0
2-Hexanone-d5	0.083	0.082	0.01	-1.9	± 50.0
1,1,2,2-Tetrachloroethane-d2	0.333	0.318	0.2	-4.5	± 25.0
1,2-Dichlorobenzene-d4	0.935	0.811	0.4	-13.3	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/13/2016 Time: 19:26

Lab File ID: VT014152.D Init. Calib Date(s): 05/13/2016 05/13/2016

EPA Sample No.: VSTD02583 Init. Calib Time(s): 14:37 16:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.579	0.532	0.01	-8.1	± 50.0
Chloromethane	0.672	0.645	0.01	-4	± 50.0
Vinyl chloride	0.654	0.635	0.01	-2.8	± 50.0
Bromomethane	0.333	0.322	0.01	-3.2	± 50.0
Chloroethane	0.362	0.358	0.01	-1.1	± 50.0
Trichlorofluoromethane	0.806	0.812	0.01	0.7	± 50.0
1,1-Dichloroethene	0.398	0.417	0.06	4.7	± 25.0
1,1,2-Trichloro-1,2,2-trifluoroet	0.454	0.455	0.05	0.3	± 50.0
Acetone	0.173	0.125	0.01	-27.7	± 50.0
Carbon disulfide	1.271	1.263	0.1	-0.7	± 25.0
Methyl Acetate	0.232	0.235	0.01	1.2	± 50.0
Methylene chloride	0.463	0.384	0.01	-17	± 50.0
trans-1,2-Dichloroethene	0.407	0.398	0.1	-2.2	± 25.0
Methyl tert-butyl Ether	0.814	0.793	0.1	-2.6	± 50.0
1,1-Dichloroethane	0.919	0.903	0.3	-1.8	± 25.0
cis-1,2-Dichloroethene	0.393	0.384	0.2	-2.5	± 25.0
2-Butanone	0.177	0.150	0.01	-15.1	± 50.0
Bromochloromethane	0.145	0.138	0.1	-4.6	± 25.0
Chloroform	0.801	0.783	0.3	-2.2	± 25.0
1,1,1-Trichloroethane	0.893	0.883	0.05	-1.1	± 25.0
Cyclohexane	1.122	1.102	0.01	-1.8	± 50.0
Carbon tetrachloride	0.803	0.805	0.1	0.2	± 25.0
Benzene	2.126	1.979	0.2	-7	± 25.0
1,2-Dichloroethane	0.621	0.610	0.07	-1.8	± 25.0
Trichloroethene	0.543	0.514	0.2	-5.3	± 25.0
Methylcyclohexane	1.031	0.966	0.05	-6.3	± 50.0
1,2-Dichloropropane	0.545	0.506	0.2	-7.2	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/13/2016 Time: 19:26

Lab File ID: VT014152.D Init. Calib Date(s): 05/13/2016 05/13/2016

EPA Sample No.: VSTD02583 Init. Calib Time(s): 14:37 16:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
Bromodichloromethane	0.624	0.619	0.3	-0.8	± 25.0
cis-1,3-Dichloropropene	0.675	0.705	0.3	4.3	± 25.0
4-Methyl-2-pentanone	0.369	0.364	0.03	-1.3	± 50.0
Toluene	2.098	1.983	0.3	-5.5	± 25.0
trans-1,3-Dichloropropene	0.588	0.592	0.2	0.5	± 25.0
1,1,2-Trichloroethane	0.281	0.267	0.2	-5.1	± 25.0
Tetrachloroethene	0.386	0.372	0.1	-3.7	± 25.0
2-Hexanone	0.294	0.277	0.01	-6	± 50.0
Dibromochloromethane	0.338	0.334	0.2	-1.2	± 25.0
1,2-Dibromoethane	0.267	0.261	0.2	-2.2	± 25.0
Chlorobenzene	1.225	1.144	0.4	-6.6	± 25.0
Ethylbenzene	2.463	2.399	0.4	-2.6	± 25.0
o-xylene	0.829	0.811	0.2	-2.2	± 25.0
m,p-Xylene	0.867	0.844	0.2	-2.7	± 25.0
Styrene	1.342	1.286	0.2	-4.2	± 25.0
Bromoform	0.332	0.339	0.1	2.1	± 50.0
Isopropylbenzene	2.436	2.434	0.4	-0.1	± 25.0
1,1,2,2-Tetrachloroethane	0.360	0.354	0.2	-1.6	± 25.0
1,3-Dichlorobenzene	1.808	1.711	0.5	-5.4	± 25.0
1,4-Dichlorobenzene	1.845	1.714	0.6	-7.1	± 25.0
1,2-Dichlorobenzene	1.628	1.530	0.6	-6	± 25.0
1,2-Dibromo-3-chloropropane	0.118	0.123	0.01	3.6	± 50.0
1,2,4-trichlorobenzene	0.970	0.959	0.4	-1.1	± 50.0
1,2,3-Trichlorobenzene	0.834	0.821	0.4	-1.6	± 50.0
Vinyl Chloride-d3	0.393	0.419	0.01	6.7	± 50.0
Chloroethane-d5	0.305	0.316	0.01	3.6	± 50.0
1,1-Dichloroethene-d2	0.876	0.880	0.05	0.5	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: VOA Level: LOW

Instrument ID: MSVOA_T Date Analyzed: 05/13/2016 Time: 19:26

Lab File ID: VT014152.D Init. Calib Date(s): 05/13/2016 05/13/2016

EPA Sample No.: VSTD02583 Init. Calib Time(s): 14:37 16:23

GC Column: RXI-624 ID: 0.25 (mm) Length: 20 (m)

Heated Purge: (Y/N) Y Purge Volume: 10 (mL)

ANALYTE	$\overline{RRF}$	RRF25	MIN RRF	%D	MAX %D
2-Butanone-d5	0.106	0.107	0.01	0.8	± 50.0
Chloroform-d	0.730	0.713	0.3	-2.3	± 25.0
1,2-Dichloroethane-d4	0.452	0.428	0.06	-5.2	± 25.0
Benzene-d6	1.603	1.478	0.3	-7.8	± 25.0
1,2-Dichloropropane-d6	0.486	0.453	0.2	-6.7	± 25.0
Toluene-d8	1.422	1.343	0.3	-5.6	± 25.0
trans-1,3-Dichloropropene-d4	0.182	0.173	0.2	-4.7	± 25.0
2-Hexanone-d5	0.079	0.083	0.01	4.6	± 50.0
1,1,2,2-Tetrachloroethane-d2	0.335	0.332	0.2	-0.8	± 25.0
1,2-Dichlorobenzene-d4	0.922	0.840	0.4	-8.9	± 25.0

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:19:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
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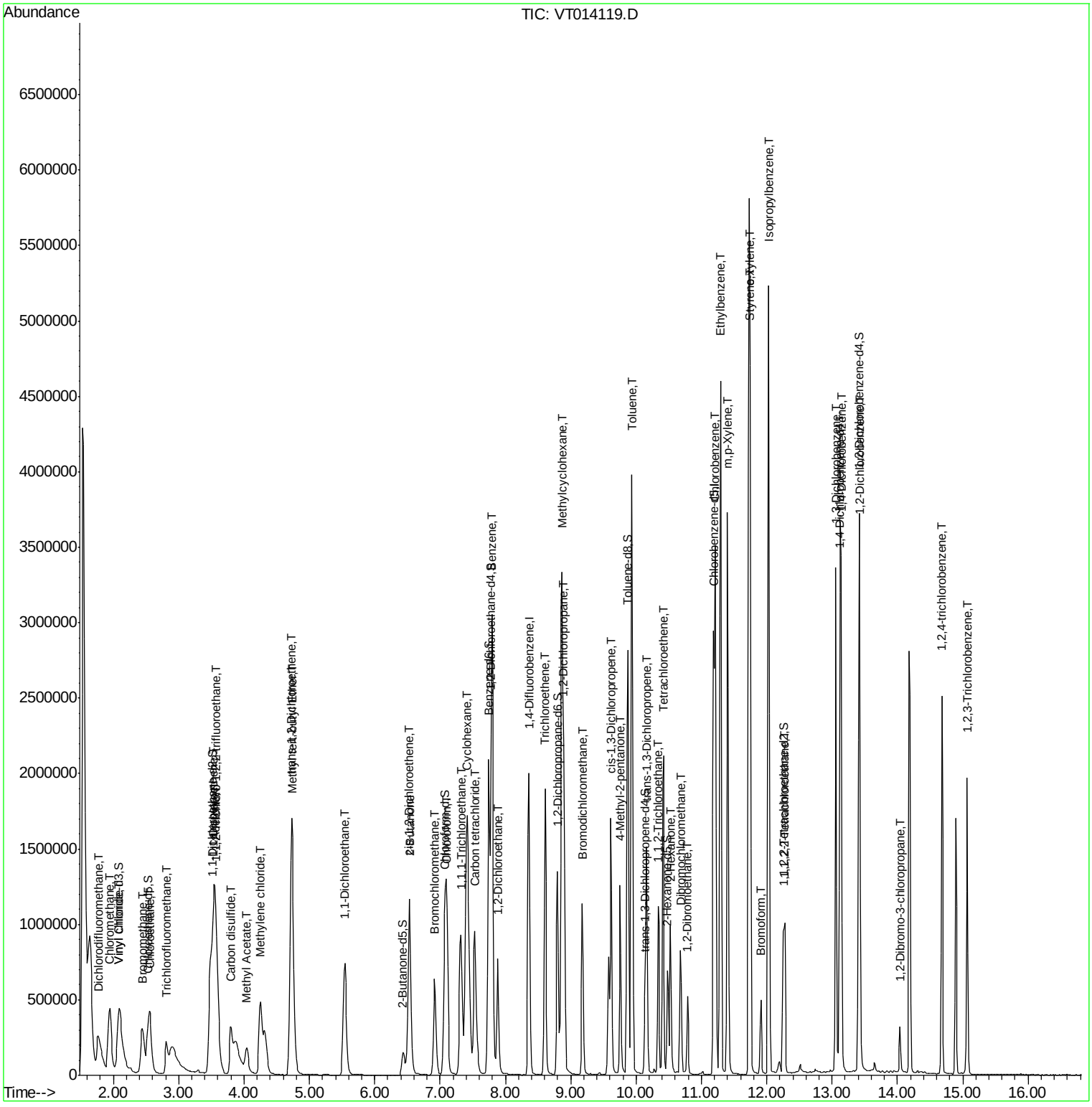

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014119.D
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Operator : FY/SY
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Manual Integrations APPROVED
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Quant Time: May 13 05:19:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1571312	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1269547	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	638039	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	625819	25.72	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 102.88%			
7) Chloroethane-d5	2.54	69	457669	24.86	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 99.44%			
10) 1,1-Dichloroethene-d2	3.52	63	1220626	23.77	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 95.08%			
20) 2-Butanone-d5	6.43	46	310793	46.83	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 93.66%			
24) Chloroform-d	7.07	84	986512	23.03	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 92.12%			
26) 1,2-Dichloroethane-d4	7.78	65	532240	21.10	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 84.40%			
29) Benzene-d6	7.74	84	2027840	23.85	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 95.40%			
33) 1,2-Dichloropropane-d6	8.80	67	613749	24.21	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 96.84%			
37) Toluene-d8	9.87	98	1766413	23.61	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 94.44%			
38) trans-1,3-Dichloropropene-	10.13	79	218154	24.87	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 99.48%			
39) 2-Hexanone-d5	10.48	63	214842	50.71	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 101.42%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	394822	23.38	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 93.52%			
60) 1,2-Dichlorobenzene-d4	13.41	152	551608	23.11	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 92.44%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	765618	23.84	ug/L	99
3) Chloromethane	1.95	50	918891	24.30	ug/L	100
5) Vinyl chloride	2.09	62	885132	24.76	ug/L	99
6) Bromomethane	2.44	94	445497	25.00	ug/L	100
8) Chloroethane	2.56	64	486234	24.29	ug/L	98
9) Trichlorofluoromethane	2.81	101	1008449m	24.07	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	649701	25.09	ug/L	98
12) 1,1-Dichloroethene	3.53	96	597829m	25.11	ug/L	
13) Acetone	3.56	43	368166	56.45	ug/L	98
14) Carbon disulfide	3.79	76	1960035m	25.87	ug/L	
15) Methyl Acetate	4.04	43	331184	23.64	ug/L	100
16) Methylene chloride	4.25	84	564522m	22.61	ug/L	
17) Methyl tert-butyl Ether	4.74	73	1155434	26.29	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	619757	25.64	ug/L	97
19) 1,1-Dichloroethane	5.54	63	1308135	25.13	ug/L	99
21) 2-Butanone	6.54	43	456226	51.02	ug/L	97
22) cis-1,2-Dichloroethene	6.53	96	597545	25.96	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:19:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02581

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	218532	25.62	ug/L	99
25) Chloroform	7.11	83	1057586	23.93	ug/L	99
27) 1,2-Dichloroethane	7.89	62	751403	22.98	ug/L	97
30) Cyclohexane	7.41	56	1486476	26.12	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	975447	24.47	ug/L	98
32) Carbon tetrachloride	7.53	117	862955	23.76	ug/L	99
34) Benzene	7.79	78	2601086	25.04	ug/L	100
35) Trichloroethene	8.61	95	648541	24.86	ug/L	99
36) Methylcyclohexane	8.87	83	1313430	25.16	ug/L	99
40) 1,2-Dichloropropane	8.89	63	651483	24.87	ug/L	100
41) Bromodichloromethane	9.18	83	703305	25.01	ug/L	97
42) cis-1,3-Dichloropropene	9.61	75	819793	26.67	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	871286	48.87	ug/L	99
44) Toluene	9.93	91	2519940	25.04	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	684488	26.60	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	330927	24.38	ug/L	99
47) Tetrachloroethene	10.42	164	470479	25.22	ug/L	98
49) 2-Hexanone	10.53	43	654528	51.60	ug/L	99
50) Dibromochloromethane	10.68	129	392758	24.94	ug/L	100
51) 1,2-Dibromoethane	10.79	107	316363	25.00	ug/L	100
52) Chlorobenzene	11.21	112	1434045	25.14	ug/L	98
53) Ethylbenzene	11.29	91	2876325	25.33	ug/L	100
54) m,p-Xylene	11.40	106	1056337	25.72	ug/L	98
55) o-xylene	11.73	106	1010100	25.87	ug/L	100
56) Styrene	11.74	104	1602351	25.89	ug/L	98
57) Isopropylbenzene	12.03	105	2876761	25.53	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	413725	24.34	ug/L	100
61) Bromoform	11.91	173	203601	23.64	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	1130676	26.54	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	1102636	25.37	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	971243	25.06	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	69615	24.41	ug/L	96
66) 1,2,4-trichlorobenzene	14.68	180	658679	30.30	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	541913	29.02	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:19:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
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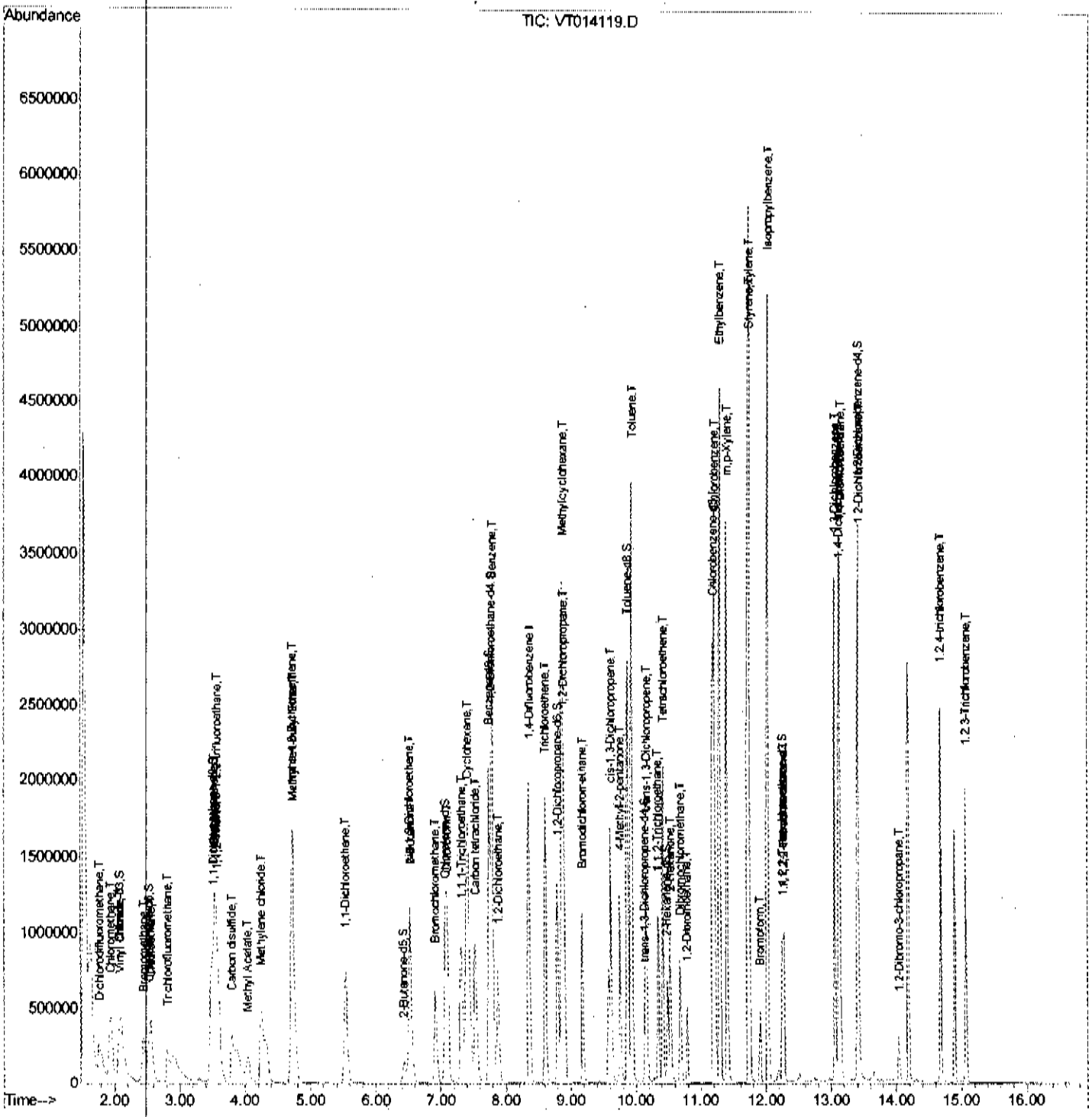

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:18:25 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
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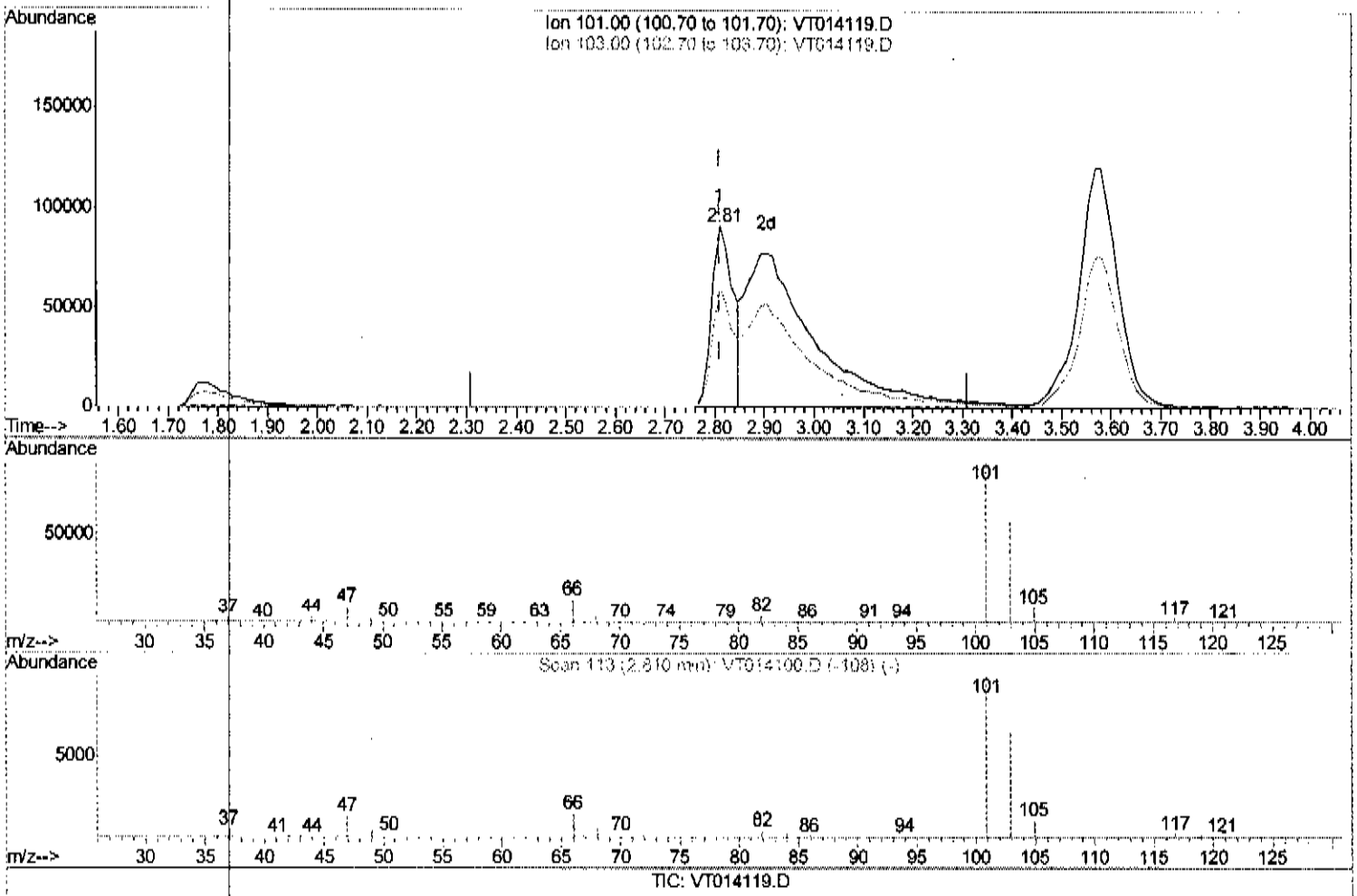

TIC: VT014119.D

(9) Trichlorofluoromethane (T)

2.810min (+0.000) 6.57ug/L

response 275235

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	64.15#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:18:25 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
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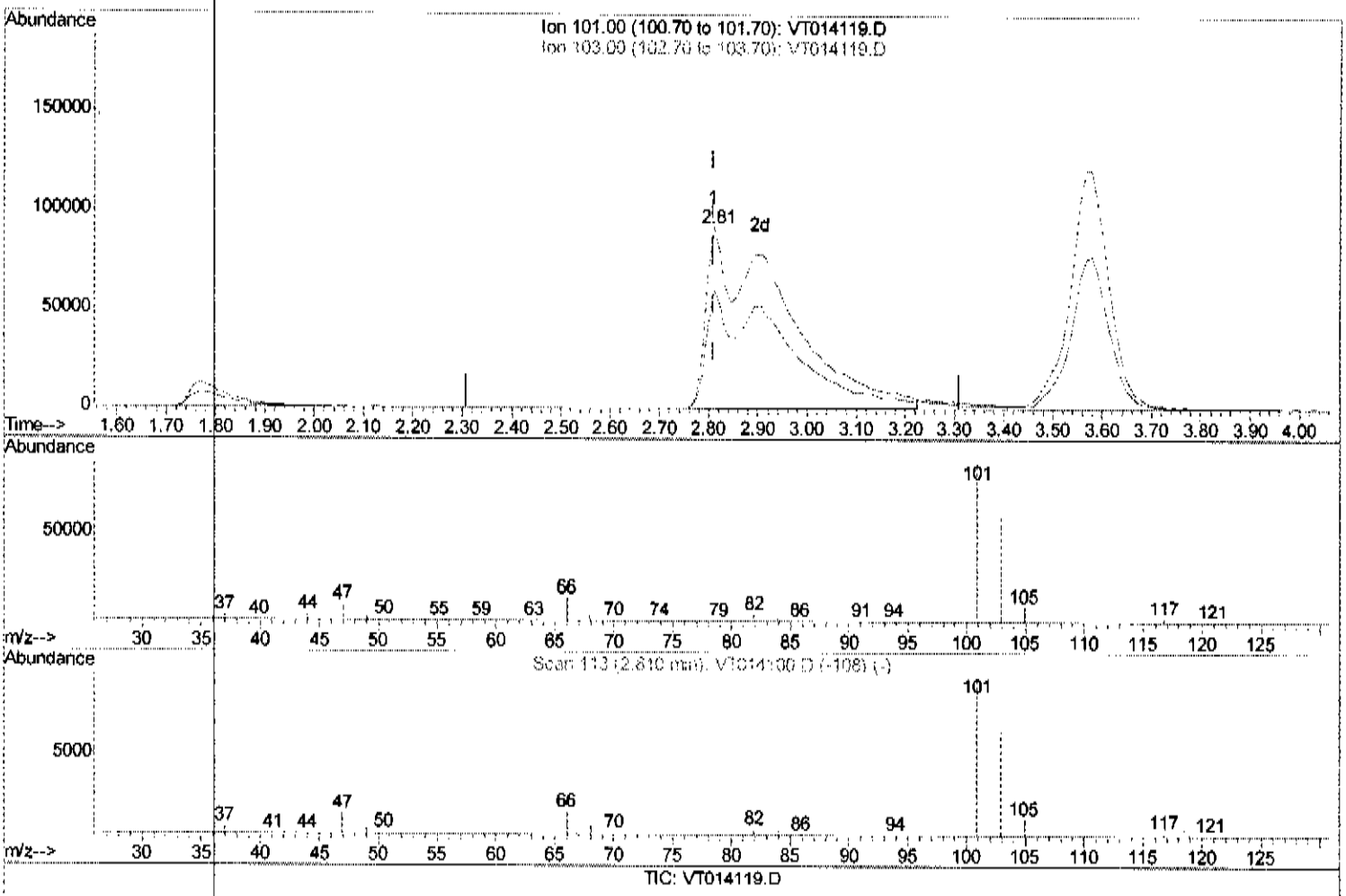
5/13/2016 5:59:31 PM



(9) Trichlorofluoromethane (T)

2.810min (+0.000) 24.07ug/L m E.M 05/13/2016

response 1008449

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	17.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:18:25 2016
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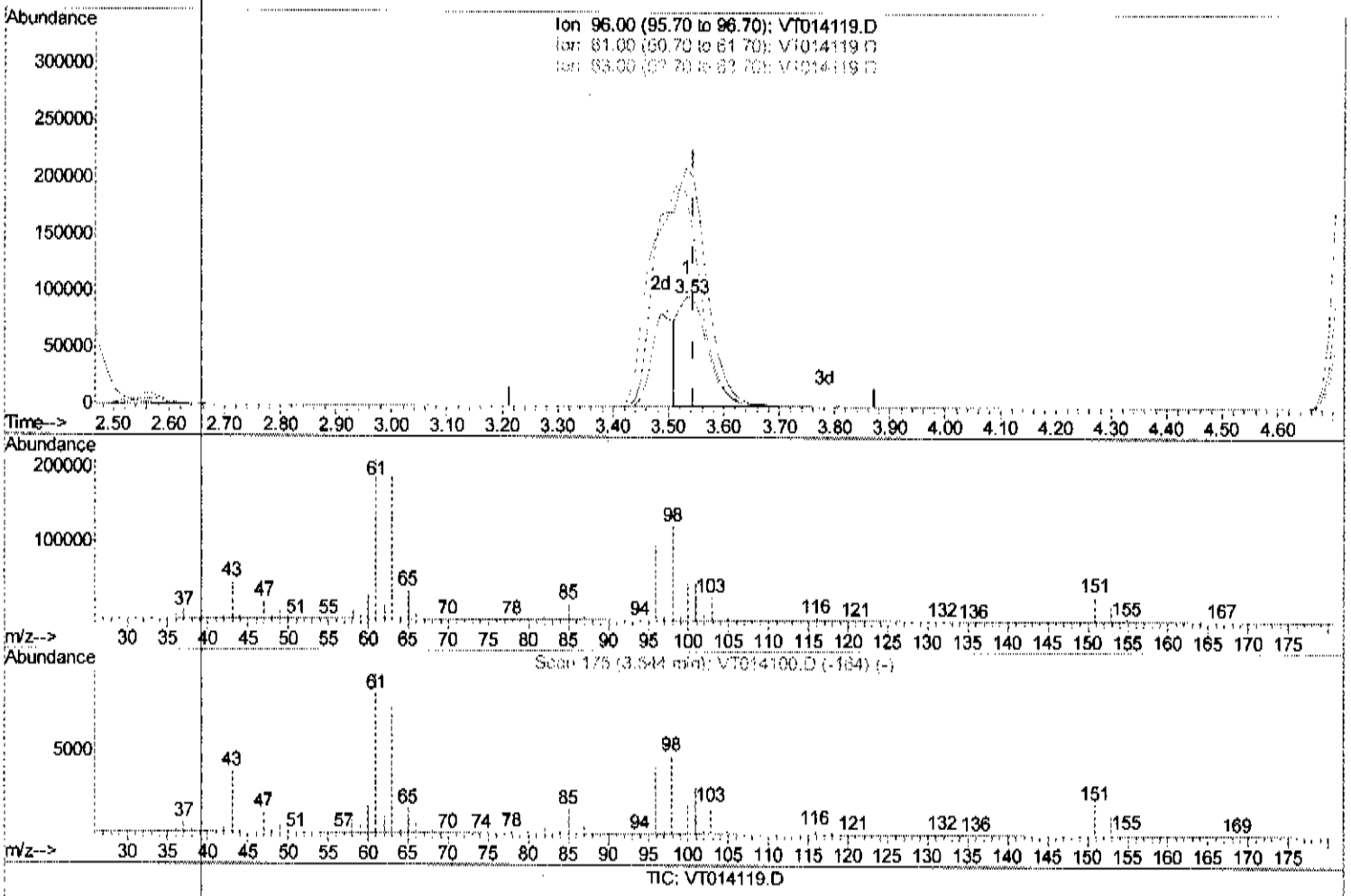
Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:31 PM



TIC: VT014119.D

(12) 1,1-Dichloroethene (T)

3.532min (-0.012) 15.06ug/L

response 358498

Ion	Exp%	Act%
96.00	100	100
61.00	220.10	218.28
63.00	187.80	193.82
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00a/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:18:25 2016
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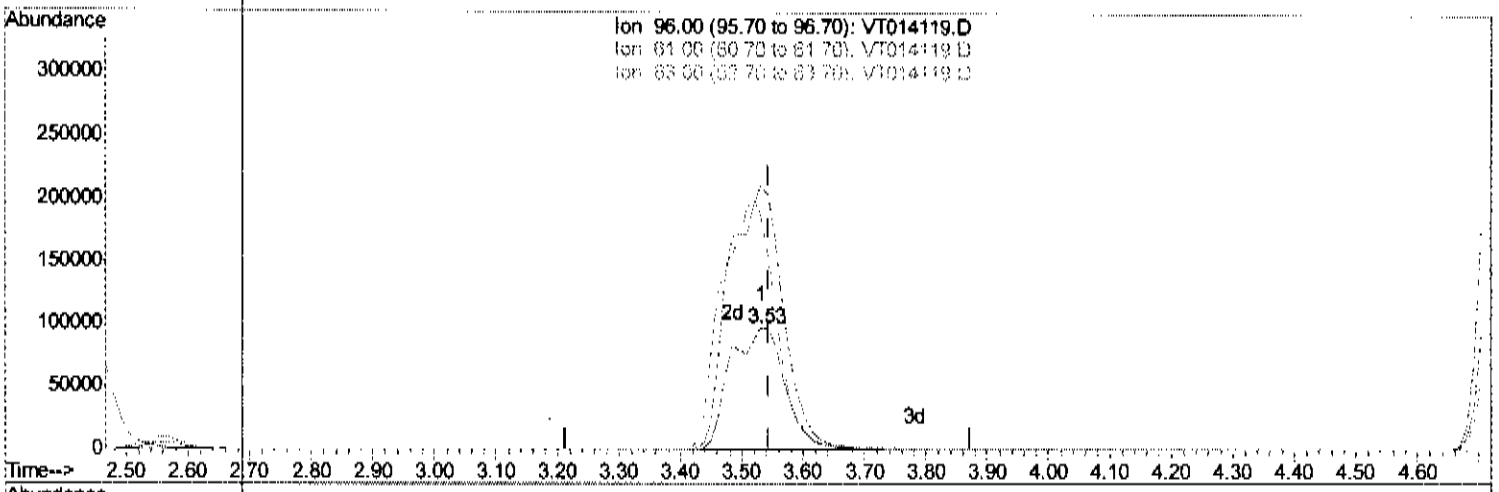
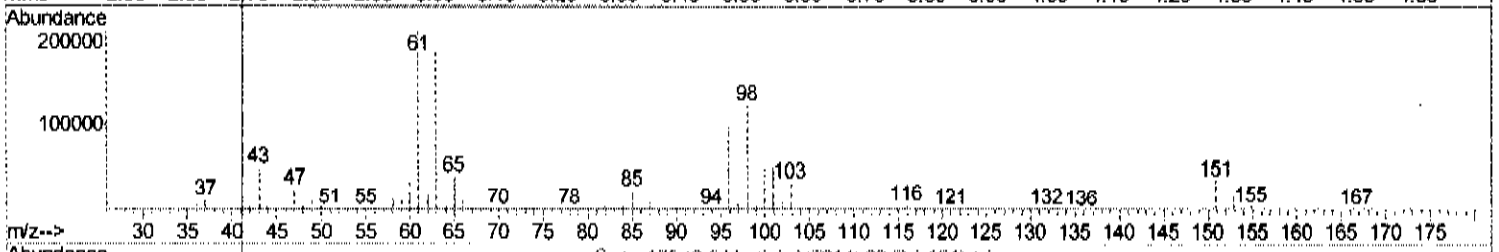
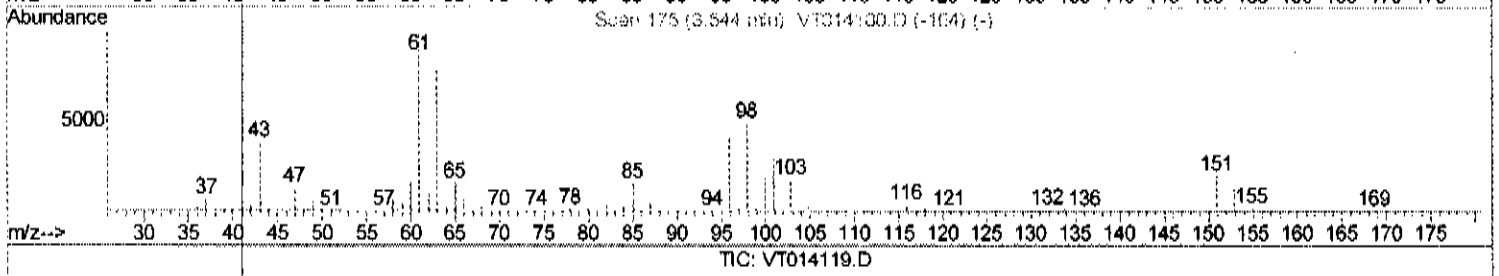
Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:31 PM







TIC: VT014119.D

(12) 1,1-Dichloroethene (T)

3.532min (-0.012) 25.11ug/L m E.M. 05/13/2016

response 597829

Ion	Exp%	Act%
96.00	100	100
61.00	220.10	218.28
63.00	187.80	193.82
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:18:25 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
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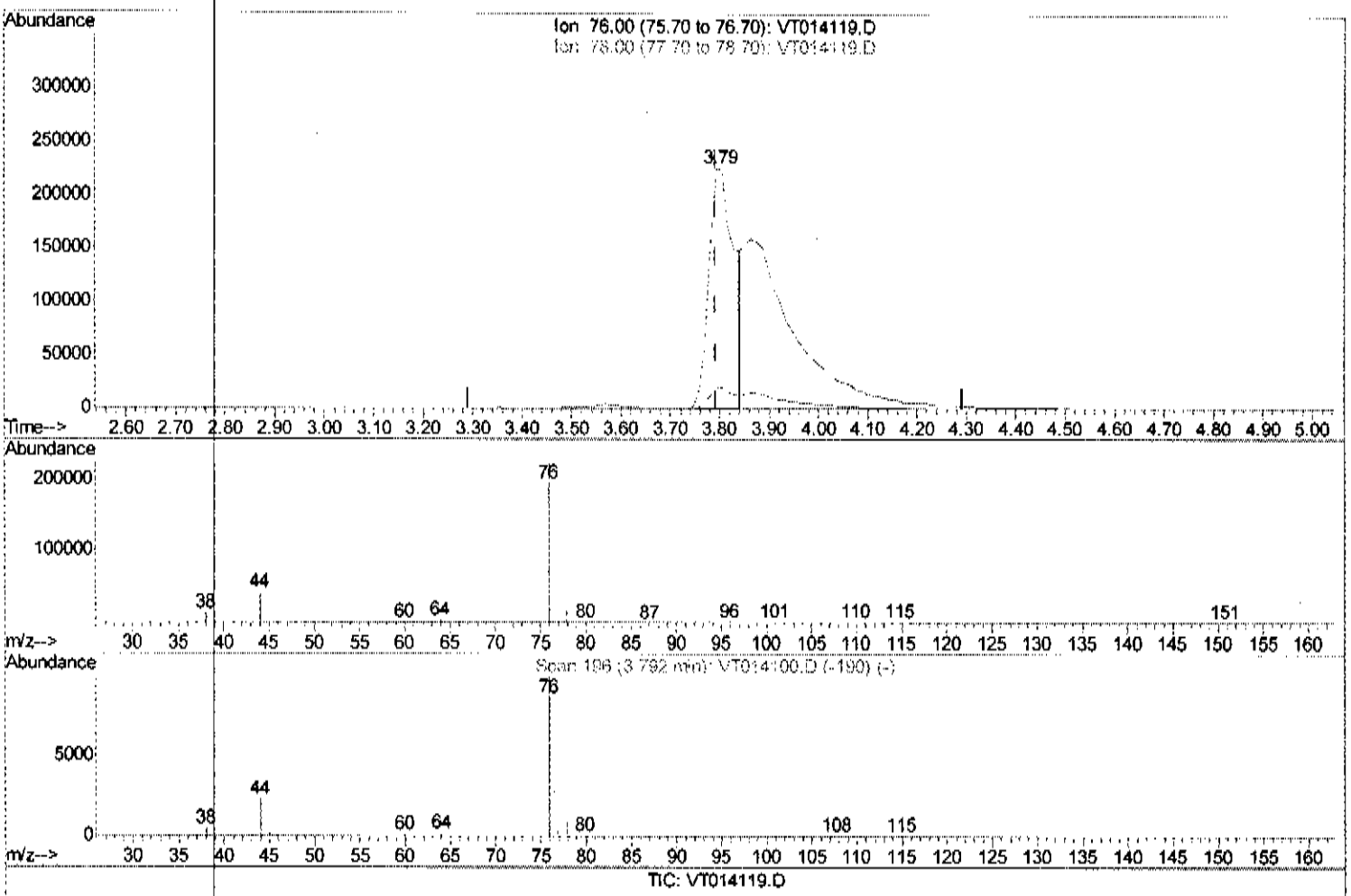
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:31 PM



TIC: VT014119.D

(14) Carbon disulfide (T)

3.792min (+0.000) 10.64ug/L

response 806533

Ion	Exp%	Act%
76.00	100	100
78.00	9.00	8.59
0.00	0.00	0.00
0.00	0.00	0.00

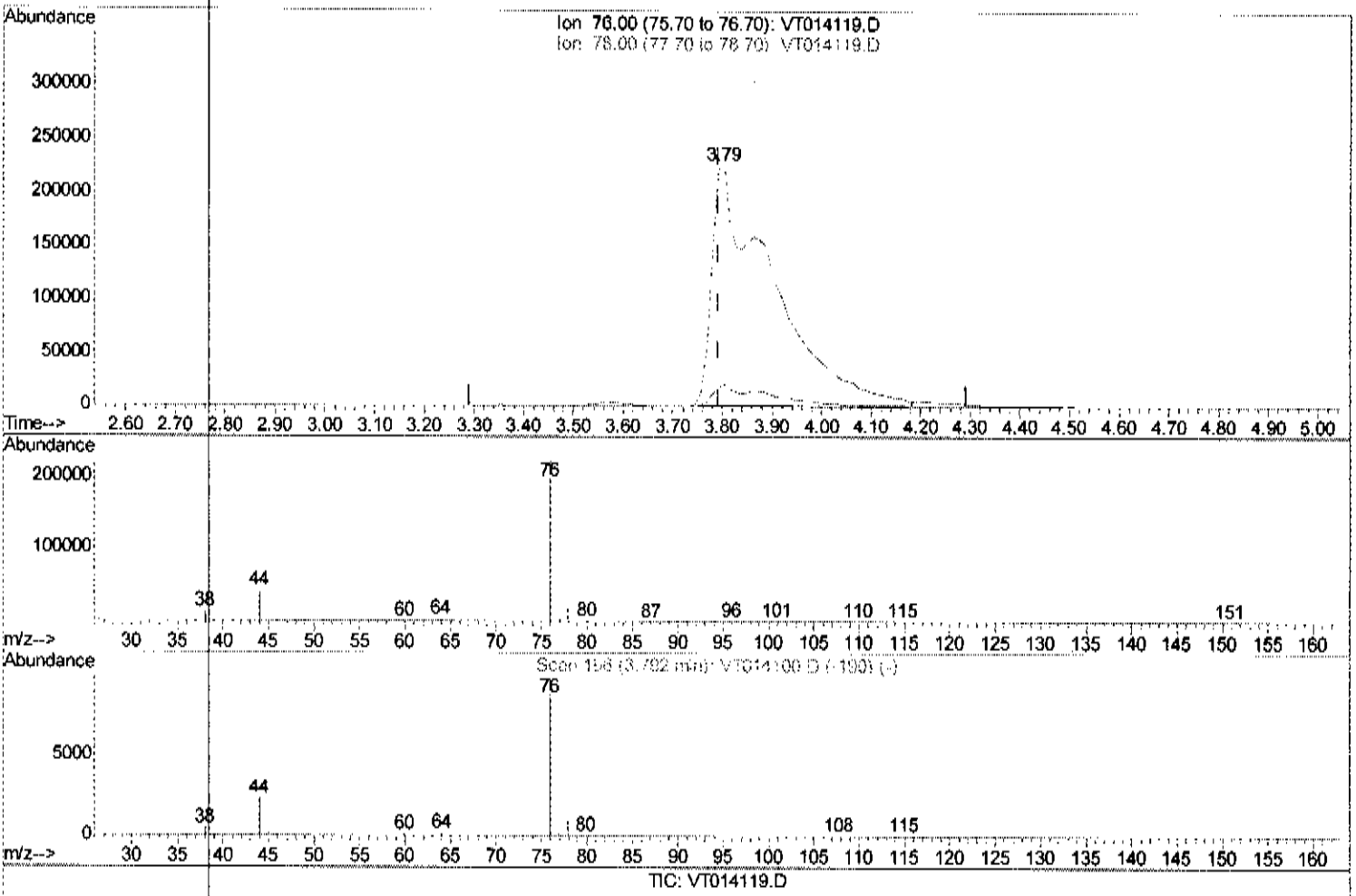
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:18:25 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:31 PM



TIC: VT014119.D

(14) Carbon disulfide (T)

3.792min (+0.000) 25.87ug/L m E.M 05/13/2016

response 1960035

Ion	Exp%	Act%
76.00	100	100
78.00	9.00	8.59
0.00	0.00	0.00
0.00	0.00	0.00

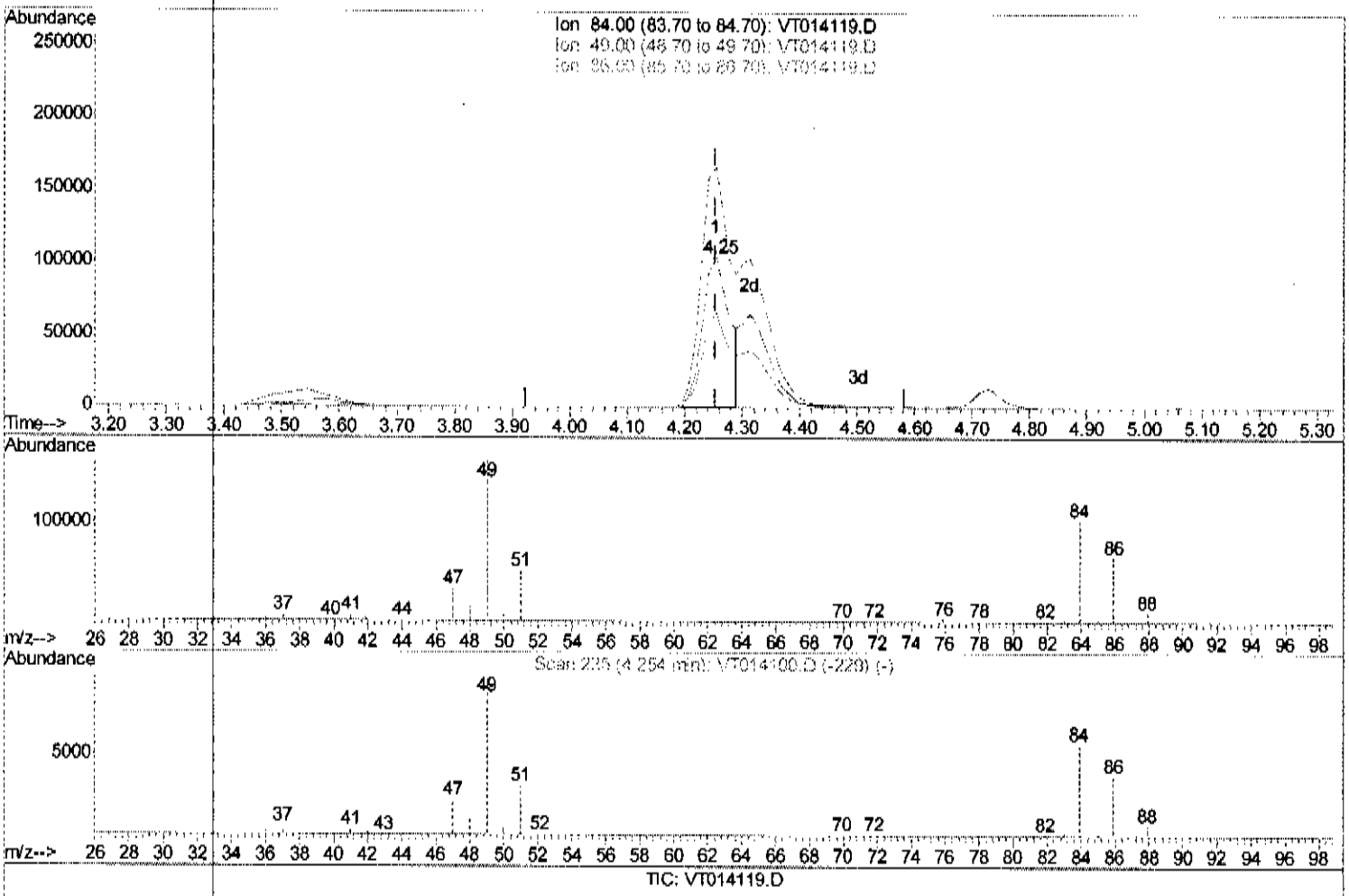
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:18:25 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:31 PM



TIC: VT014119.D

(16) Methylene chloride (T)

4.254min (+0.000) 13.67ug/L

response 341306

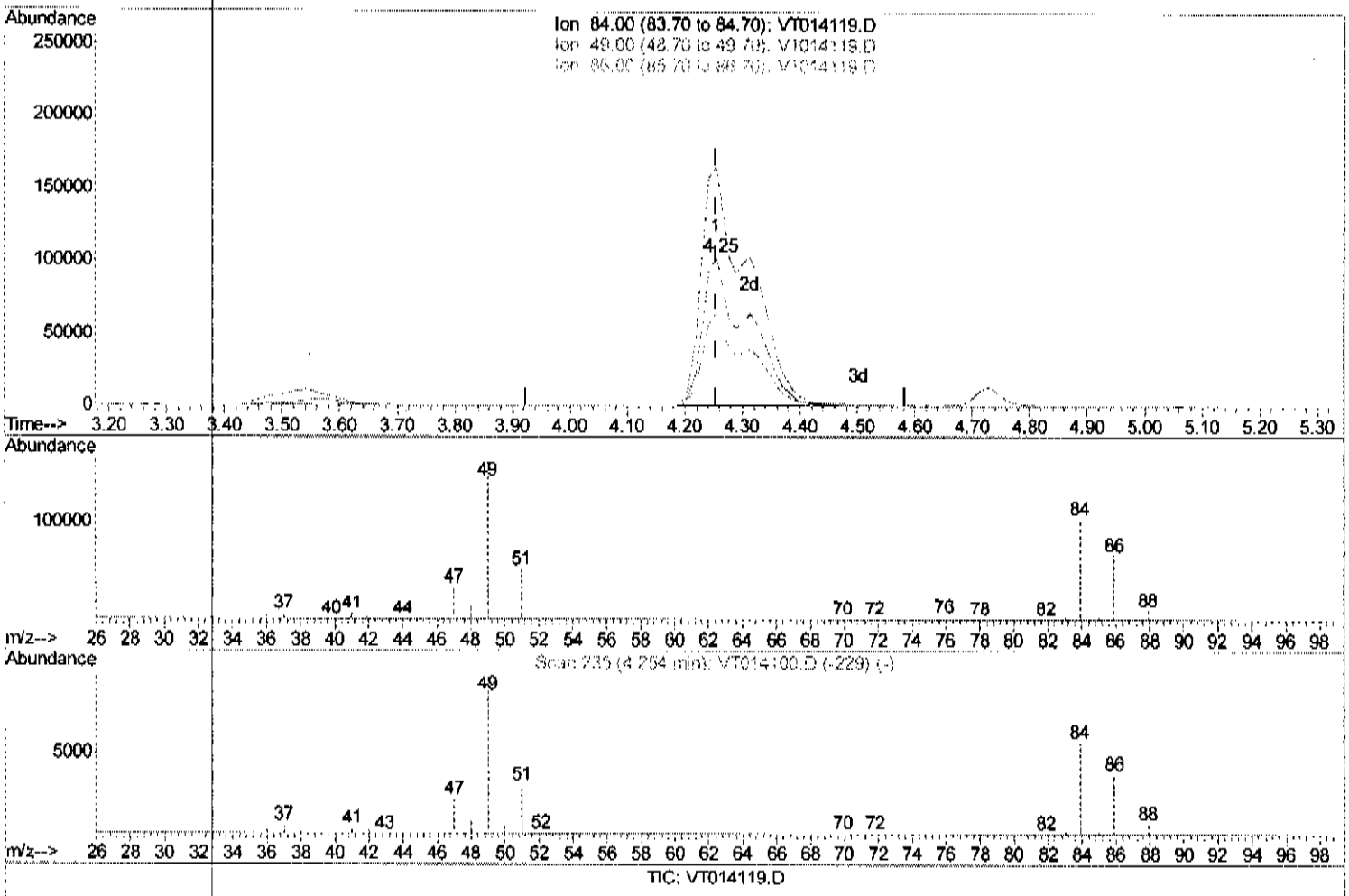
Ion	Exp%	Act%
84.00	100	100
49.00	168.80	159.94
86.00	62.00	63.14
0.00	0.00	0.00

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:18:25 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02581

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:31 PM



TIC: VT014119.D

(16) Methylene chloride (T)

4.254min (+0.000) 22.61ug/L m E.M 05/13/2016

response 564522

Ion	Exp%	Act%
84.00	100	100
49.00	168.80	159.94
86.00	62.00	63.14
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:19:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02581

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1571312	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1269547	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	638039	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	625819	25.72	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 102.88%			
7) Chloroethane-d5	2.54	69	457669	24.86	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 99.44%			
10) 1,1-Dichloroethene-d2	3.52	63	1220626	23.77	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 95.08%			
20) 2-Butanone-d5	6.43	46	310793	46.83	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 93.66%			
24) Chloroform-d	7.07	84	986512	23.03	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 92.12%			
26) 1,2-Dichloroethane-d4	7.78	65	532240	21.10	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 84.40%			
29) Benzene-d6	7.74	84	2027840	23.85	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 95.40%			
33) 1,2-Dichloropropane-d6	8.80	67	613749	24.21	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 96.84%			
37) Toluene-d8	9.87	98	1766413	23.61	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 94.44%			
38) trans-1,3-Dichloropropene-	10.13	79	218154	24.87	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 99.48%			
39) 2-Hexanone-d5	10.48	63	214842	50.71	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 101.42%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	394822	23.38	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 93.52%			
60) 1,2-Dichlorobenzene-d4	13.41	152	551608	23.11	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 92.44%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	765618	23.84	ug/L	99
3) Chloromethane	1.95	50	918891	24.30	ug/L	100
5) Vinyl chloride	2.09	62	885132	24.76	ug/L	99
6) Bromomethane	2.44	94	445497	25.00	ug/L	100
8) Chloroethane	2.56	64	486234	24.29	ug/L	98
9) Trichlorofluoromethane	2.81	101	1008449m	24.07	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	649701	25.09	ug/L	98
12) 1,1-Dichloroethene	3.53	96	597829m	25.11	ug/L	
13) Acetone	3.56	43	368166	56.45	ug/L	98
14) Carbon disulfide	3.79	76	1960035m	25.87	ug/L	
15) Methyl Acetate	4.04	43	331184	23.64	ug/L	100
16) Methylene chloride	4.25	84	564522m	22.61	ug/L	
17) Methyl tert-butyl Ether	4.74	73	1155434	26.29	ug/L	98
18) trans-1,2-Dichloroethene	4.73	96	619757	25.64	ug/L	97
19) 1,1-Dichloroethane	5.54	63	1308135	25.13	ug/L	99
21) 2-Butanone	6.54	43	456226	51.02	ug/L	97
22) cis-1,2-Dichloroethene	6.53	96	597545	25.96	ug/L	98

E.M 05/13/2016

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014119.D
Acq On : 12 May 2016 13:10
Operator : FY/SY
Sample : VSTDCCC025
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 05:19:58 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Thu May 12 04:25:34 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02581

Manual Integrations APPROVED
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5/13/2016 5:59:31 PM

Internal Standards	R.T.	Qlon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	218532	25.62	ug/L	99
25) Chloroform	7.11	83	1057586	23.93	ug/L	99
27) 1,2-Dichloroethane	7.89	62	751403	22.98	ug/L	97
30) Cyclohexane	7.41	56	1486476	26.12	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	975447	24.47	ug/L	98
32) Carbon tetrachloride	7.53	117	862955	23.76	ug/L	99
34) Benzene	7.79	78	2601086	25.04	ug/L	100
35) Trichloroethene	8.61	95	648541	24.86	ug/L	99
36) Methylcyclohexane	8.87	83	1313430	25.16	ug/L	99
40) 1,2-Dichloropropane	8.89	63	651483	24.87	ug/L	100
41) Bromodichloromethane	9.18	83	703305	25.01	ug/L	97
42) cis-1,3-Dichloropropene	9.61	75	819793	26.67	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	871286	48.87	ug/L	99
44) Toluene	9.93	91	2519940	25.04	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	684488	26.60	ug/L	100
46) 1,1,2-Trichloroethane	10.34	97	330927	24.38	ug/L	99
47) Tetrachloroethene	10.42	164	470479	25.22	ug/L	98
49) 2-Hexanone	10.53	43	654528	51.60	ug/L	99
50) Dibromochloromethane	10.68	129	392758	24.94	ug/L	100
51) 1,2-Dibromoethane	10.79	107	316363	25.00	ug/L	100
52) Chlorobenzene	11.21	112	1434045	25.14	ug/L	98
53) Ethylbenzene	11.29	91	2876325	25.33	ug/L	100
54) m,p-Xylene	11.40	106	1056337	25.72	ug/L	98
55) o-xylene	11.73	106	1010100	25.87	ug/L	100
56) Styrene	11.74	104	1602351	25.89	ug/L	98
57) Isopropylbenzene	12.03	105	2876761	25.53	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	413725	24.34	ug/L	100
61) Bromoform	11.91	173	203601	23.64	ug/L	100
62) 1,3-Dichlorobenzene	13.06	146	1130676	26.54	ug/L	98
63) 1,4-Dichlorobenzene	13.14	146	1102636	25.37	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	971243	25.06	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	69615	24.41	ug/L	96
66) 1,2,4-trichlorobenzene	14.68	180	658679	30.30	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	541913	29.02	ug/L	97

(#) = qualifier out of range (m) - manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:49:54 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
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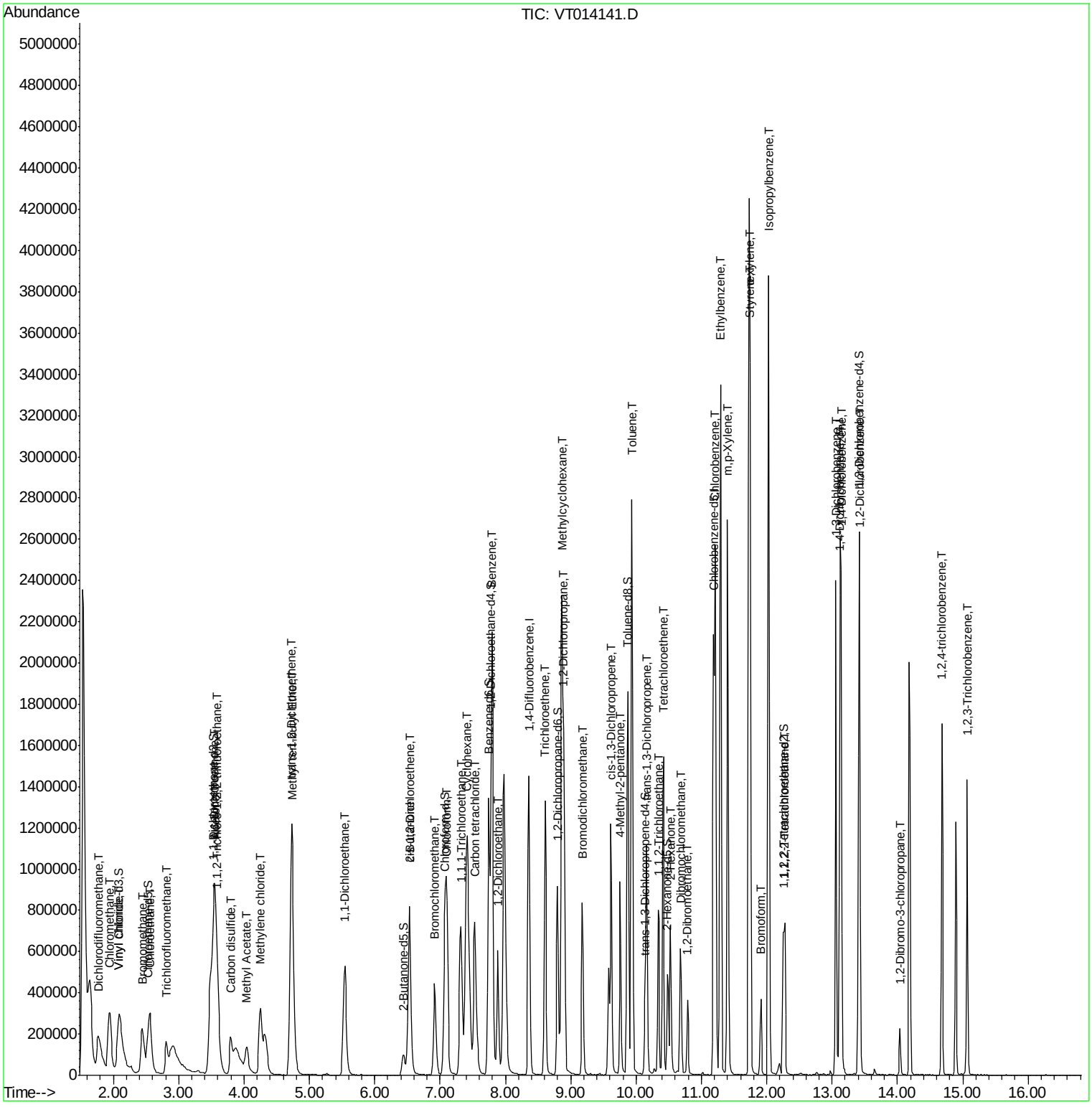
5/13/2016 6:00:13 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:13 PM

Quant Time: May 13 10:49:54 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1038450	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	845373	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	431417	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	417439	25.96	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 103.84%			
7) Chloroethane-d5	2.54	69	289732	23.82	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 95.28%			
10) 1,1-Dichloroethene-d2	3.53	63	873409	25.73	ug/L	0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 102.92%			
20) 2-Butanone-d5	6.44	46	202219	46.11	ug/L	0.01
Spiked Amount 50.000	Range 20 - 135		Recovery = 92.22%			
24) Chloroform-d	7.07	84	688997	24.34	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 97.36%			
26) 1,2-Dichloroethane-d4	7.78	65	421565	25.29	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 101.16%			
29) Benzene-d6	7.74	84	1220946	21.56	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 86.24%			
33) 1,2-Dichloropropane-d6	8.80	67	374149	22.16	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 88.64%			
37) Toluene-d8	9.87	98	1110091	22.28	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 89.12%			
38) trans-1,3-Dichloropropene-	10.13	79	140893	24.12	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 96.48%			
39) 2-Hexanone-d5	10.48	63	138250	49.01	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 98.02%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	268514	23.88	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 95.52%			
60) 1,2-Dichlorobenzene-d4	13.41	152	349813	21.67	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 86.68%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	569592	26.84	ug/L	100
3) Chloromethane	1.95	50	611769	24.48	ug/L	98
5) Vinyl chloride	2.09	62	631673	26.73	ug/L	99
6) Bromomethane	2.44	94	306348	26.01	ug/L	99
8) Chloroethane	2.56	64	347401	26.26	ug/L	98
9) Trichlorofluoromethane	2.81	101	812679m	29.35	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.58	101	451745	26.40	ug/L	98
12) 1,1-Dichloroethene	3.54	96	393280m	25.00	ug/L	
13) Acetone	3.56	43	271453	62.97	ug/L	94
14) Carbon disulfide	3.79	76	1223451m	24.43	ug/L	
15) Methyl Acetate	4.04	43	233616	25.23	ug/L	97
16) Methylene chloride	4.25	84	361080m	21.88	ug/L	
17) Methyl tert-butyl Ether	4.74	73	803475	27.67	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	397714	24.90	ug/L	94
19) 1,1-Dichloroethane	5.54	63	891649	25.92	ug/L	97
21) 2-Butanone	6.54	43	307394	52.01	ug/L	99
22) cis-1,2-Dichloroethene	6.54	96	388082	25.51	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:13 PM

Quant Time: May 13 10:49:54 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	138766	24.62	ug/L	93
25) Chloroform	7.11	83	784612	26.86	ug/L	97
27) 1,2-Dichloroethane	7.89	62	614878	28.45	ug/L	98
30) Cyclohexane	7.41	56	963890	25.43	ug/L	98
31) 1,1,1-Trichloroethane	7.32	97	727040	27.39	ug/L	99
32) Carbon tetrachloride	7.53	117	675588	27.94	ug/L	98
34) Benzene	7.79	78	1697209	24.54	ug/L	100
35) Trichloroethene	8.61	95	446773	25.72	ug/L	97
36) Methylcyclohexane	8.87	83	863233	24.84	ug/L	97
40) 1,2-Dichloropropane	8.89	63	435609	24.97	ug/L	100
41) Bromodichloromethane	9.18	83	512218	27.36	ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	570104	27.86	ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	629756	53.05	ug/L	98
44) Toluene	9.93	91	1691797	25.24	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	479421	27.98	ug/L	100
46) 1,1,2-Trichloroethane	10.35	97	227562	25.18	ug/L	95
47) Tetrachloroethene	10.42	164	310823	25.02	ug/L	97
49) 2-Hexanone	10.53	43	472608	55.96	ug/L	97
50) Dibromochloromethane	10.68	129	278267	26.53	ug/L	99
51) 1,2-Dibromoethane	10.79	107	217045	25.76	ug/L	99
52) Chlorobenzene	11.21	112	974447	25.65	ug/L	98
53) Ethylbenzene	11.29	91	2017021	26.68	ug/L	98
54) m,p-Xylene	11.40	106	718219	26.26	ug/L	96
55) o-xylene	11.73	106	682686	26.26	ug/L	97
56) Styrene	11.74	104	1068059	25.92	ug/L	94
57) Isopropylbenzene	12.03	105	2029526	27.05	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	295006	26.06	ug/L	99
61) Bromoform	11.91	173	145154	24.93	ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	725491	25.18	ug/L	97
63) 1,4-Dichlorobenzene	13.14	146	736766	25.07	ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	648298	24.74	ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.04	75	53070	27.52	ug/L	89
66) 1,2,4-trichlorobenzene	14.68	180	412516	28.07	ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	353644	28.01	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

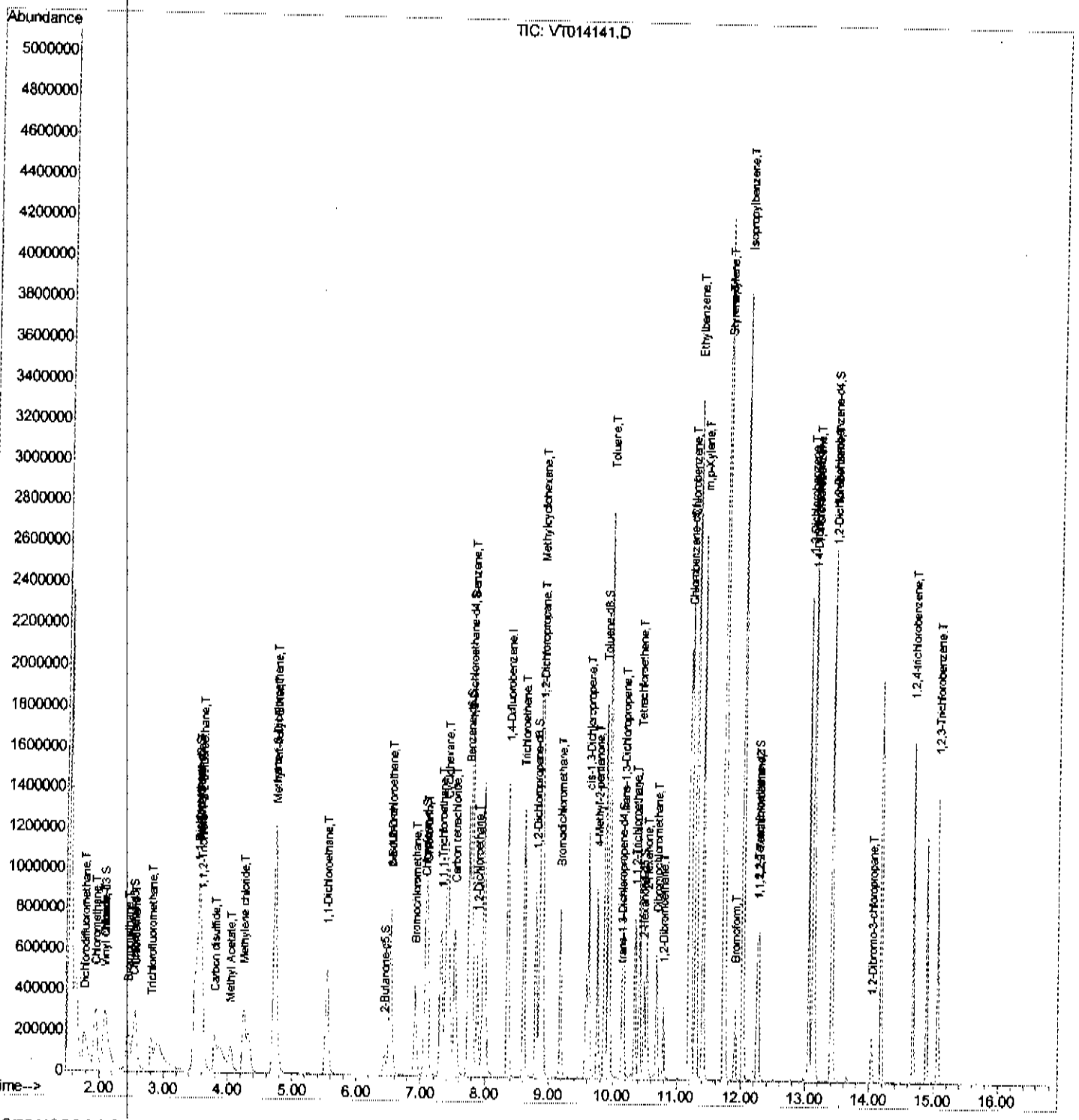
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:49:54 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:13 PM



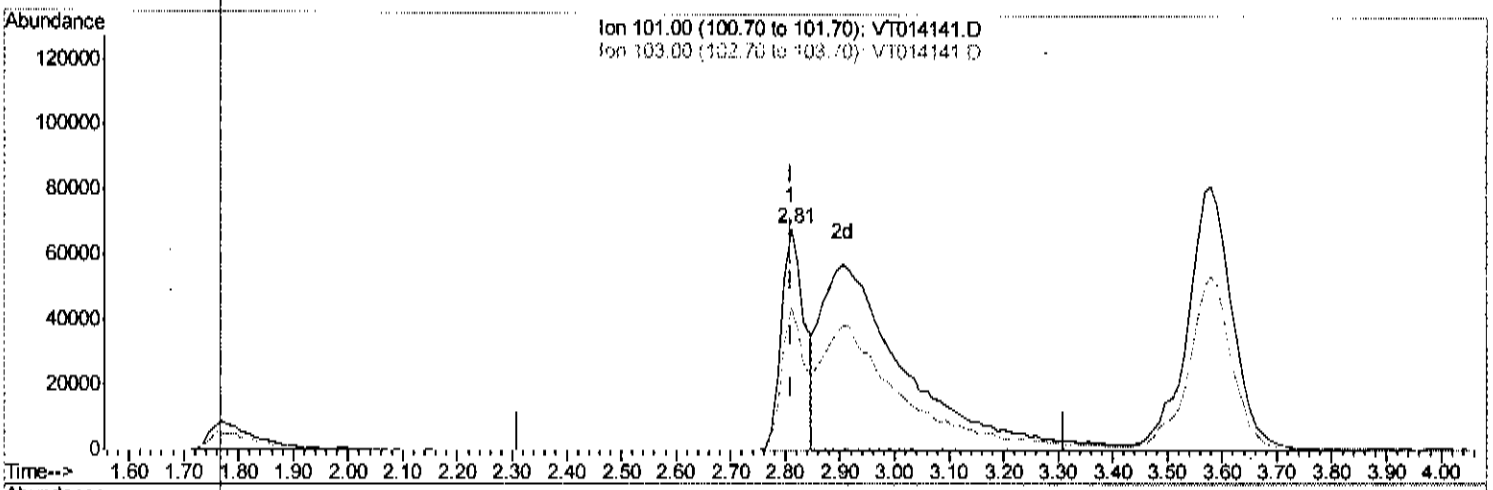
Quantitation Report (Qedit)

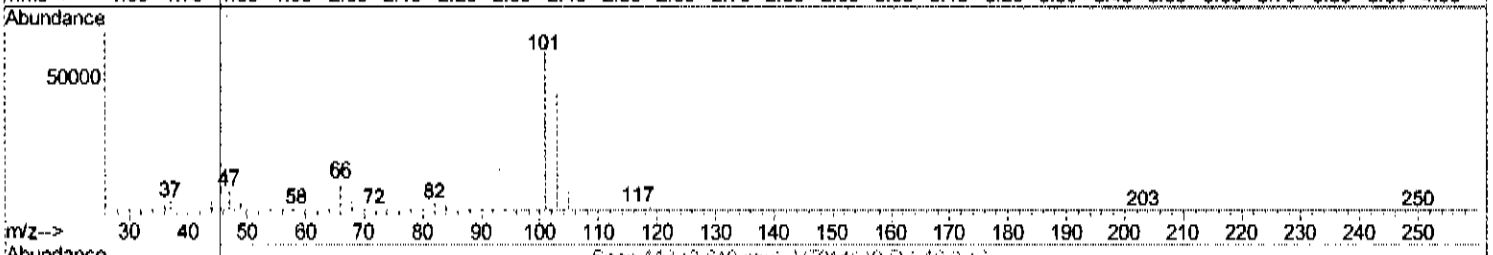
Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

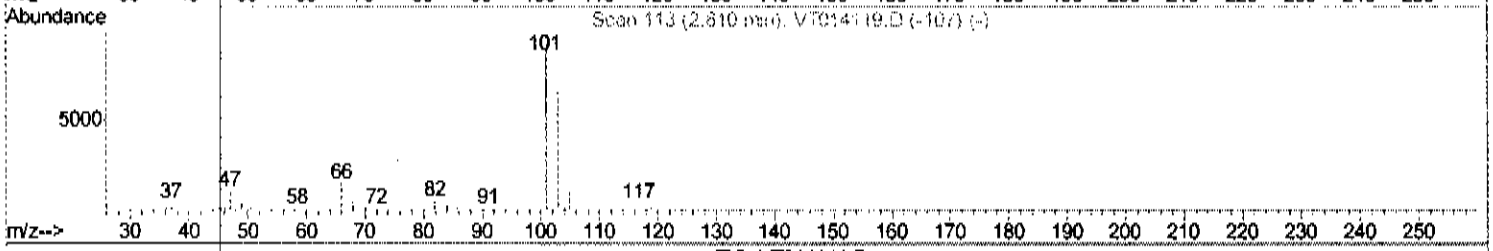
Quant Time: May 13 10:46:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
MMdadoda
5/13/2016 6:00:13 PM







TIC: VT014141.D

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 7.30ug/L

response 202149

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	64.38#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:46:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
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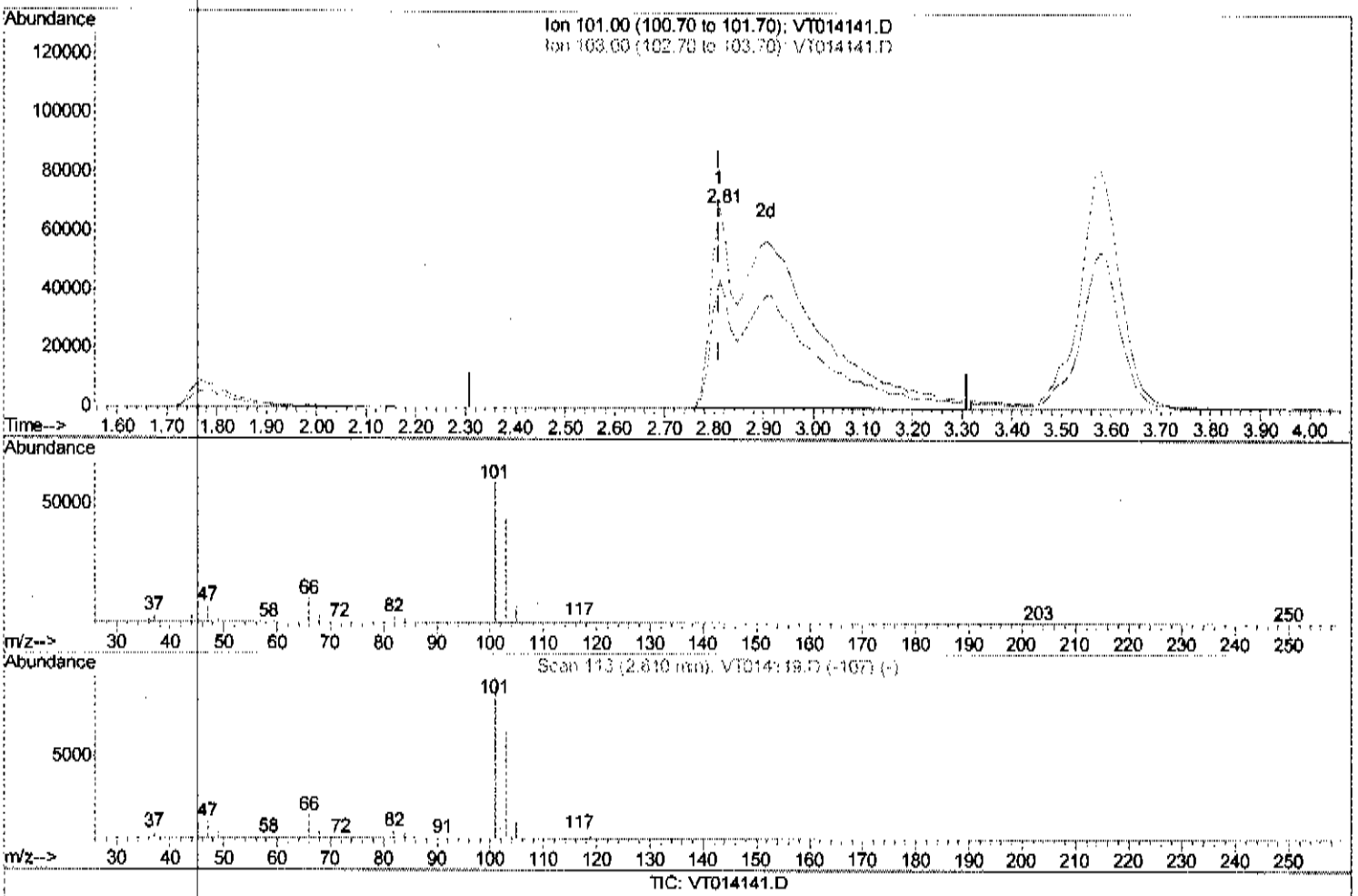
5/13/2016 6:00:13 PM



(9) Trichlorofluoromethane (T)

2.810min (-0.000) 29.35ug/L m

response 812679

Ion	Exp%	Act%
101.00	100	100
103.00	24.30	16.01#
0.00	0.00	0.00
0.00	0.00	0.00

E.M 05.13.2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:46:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
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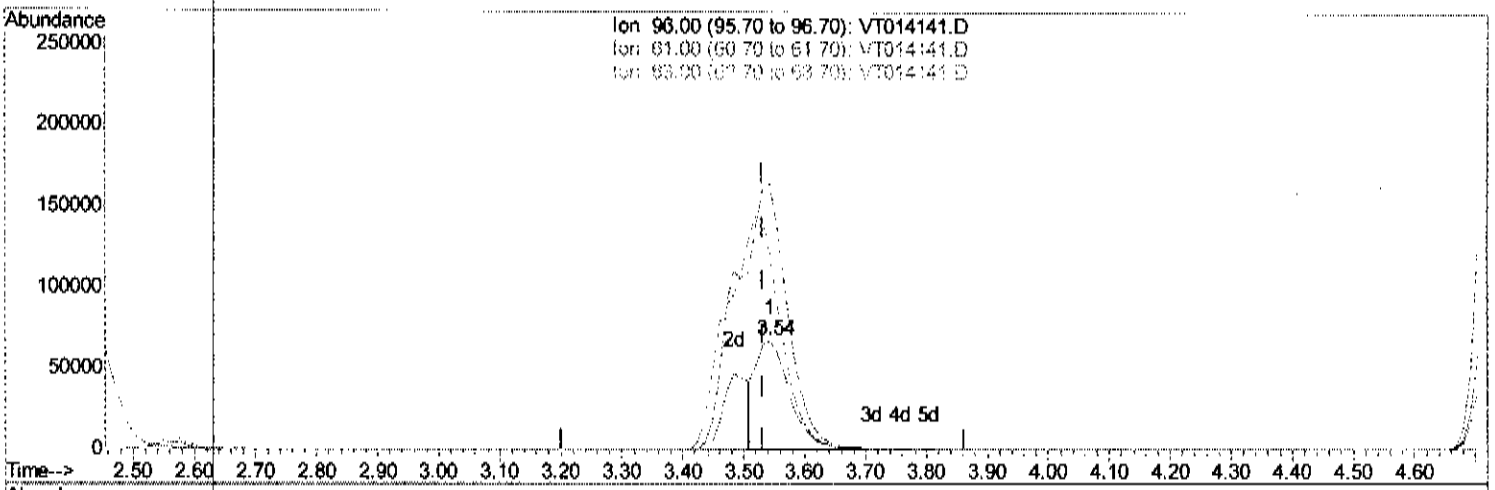

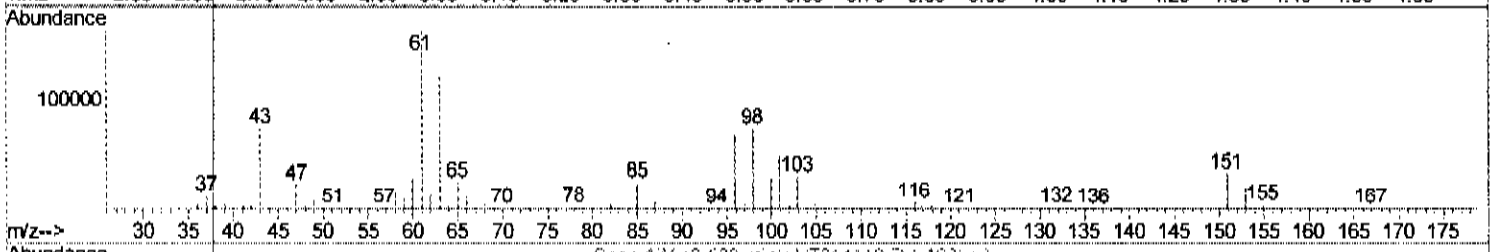

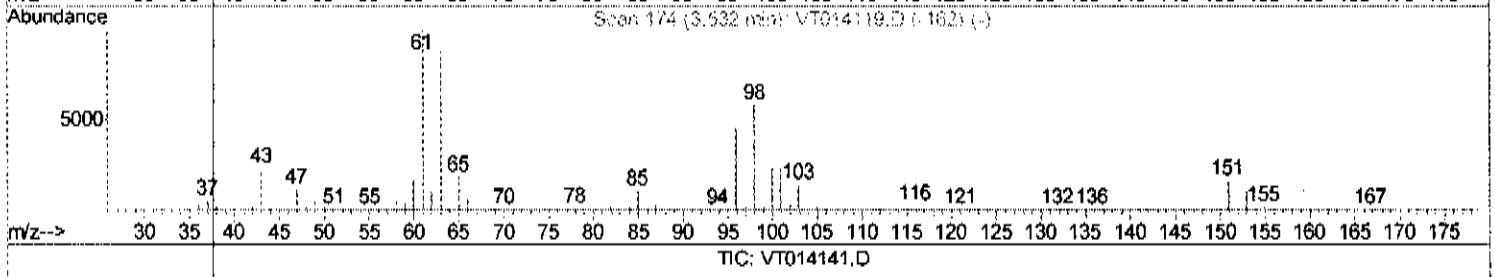

(12) 1,1-Dichloroethene (T)

3.544min (+0.012) 16.10ug/L

response 253230

Ion	Exp%	Act%
96.00	100	100
61.00	220.10	243.40
63.00	187.80	180.46
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:46:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
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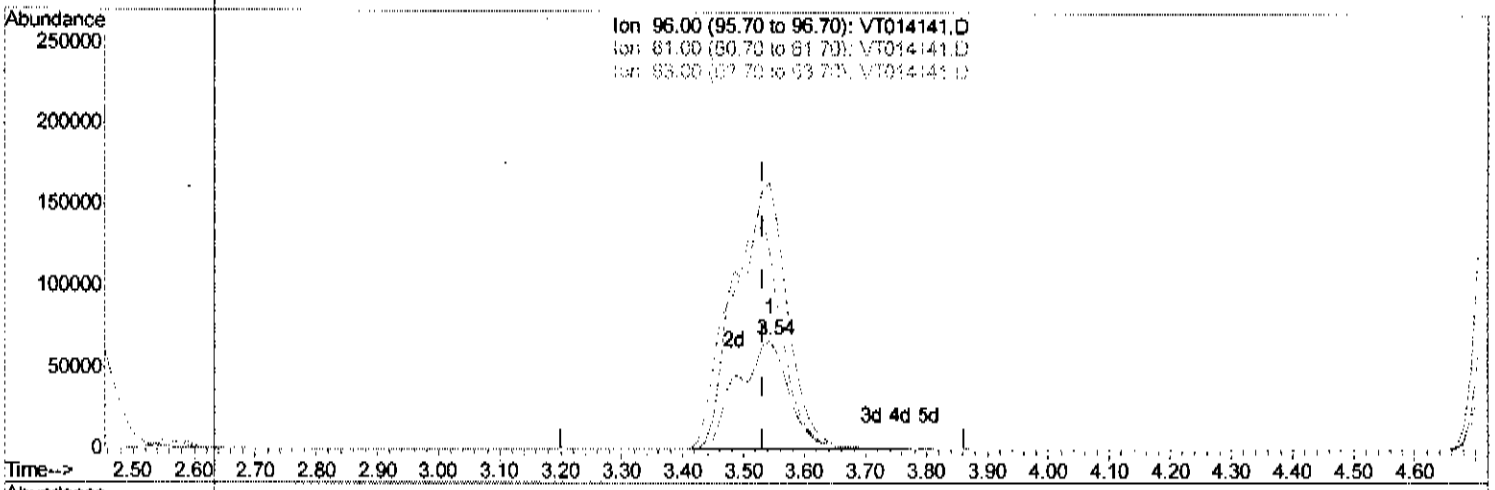

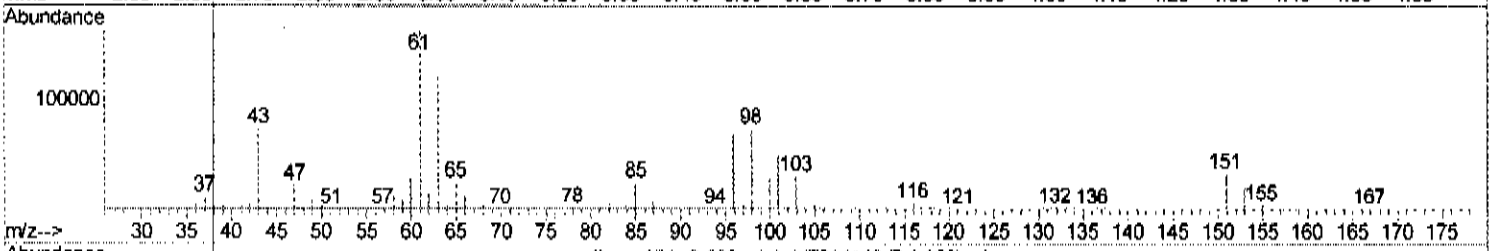

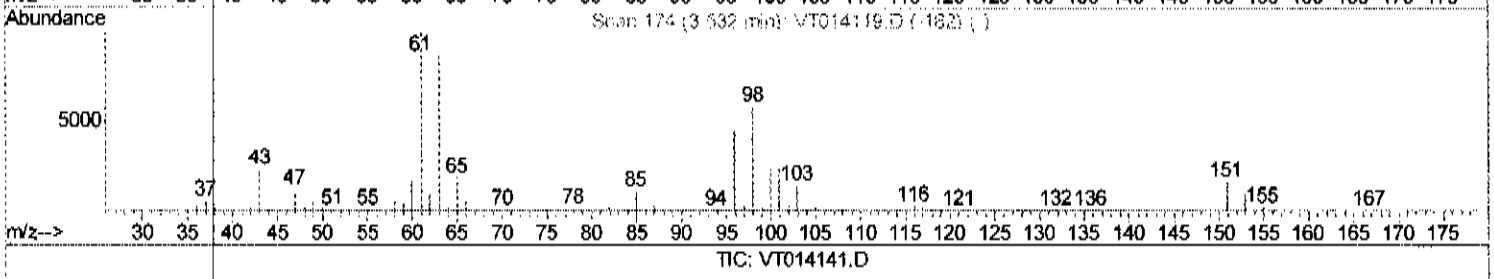

TIC: VT014141.D

(12) 1,1-Dichloroethene (T)

3.544min (+0.012) 25.00ug/L m

response 393280

Ion	Exp%	Act%
96.00	100	100
61.00	220.10	243.40
63.00	187.80	180.46
0.00	0.00	0.00

E.M. 05.13.2016

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:46:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
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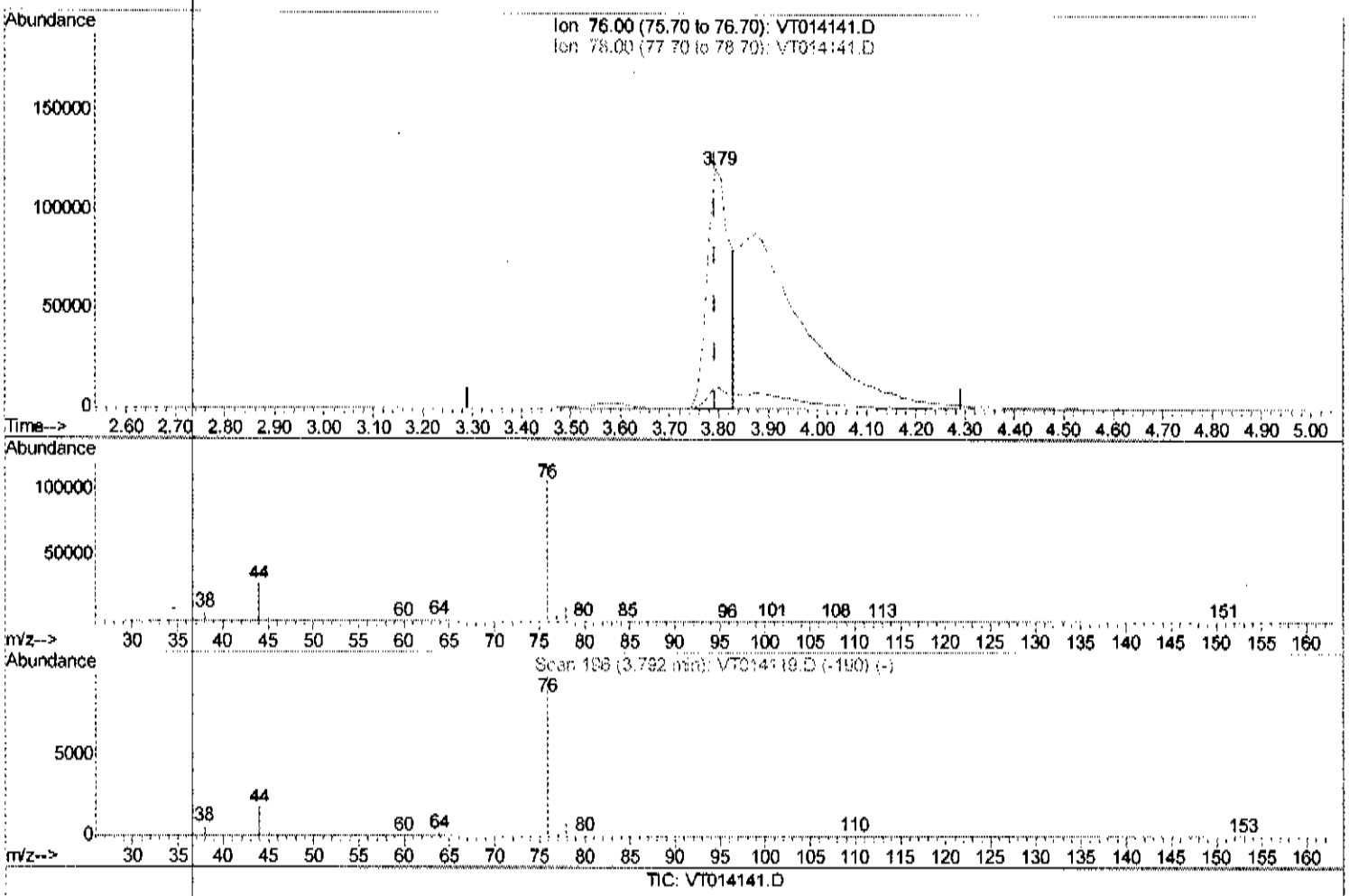
5/13/2016 6:00:13 PM



(14) Carbon disulfide (T)

3.792min (-0.000) 7.66ug/L

response 383445

Ion	Exp%	Act%
76.00	100	100
78.00	9.00	9.35
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:46:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
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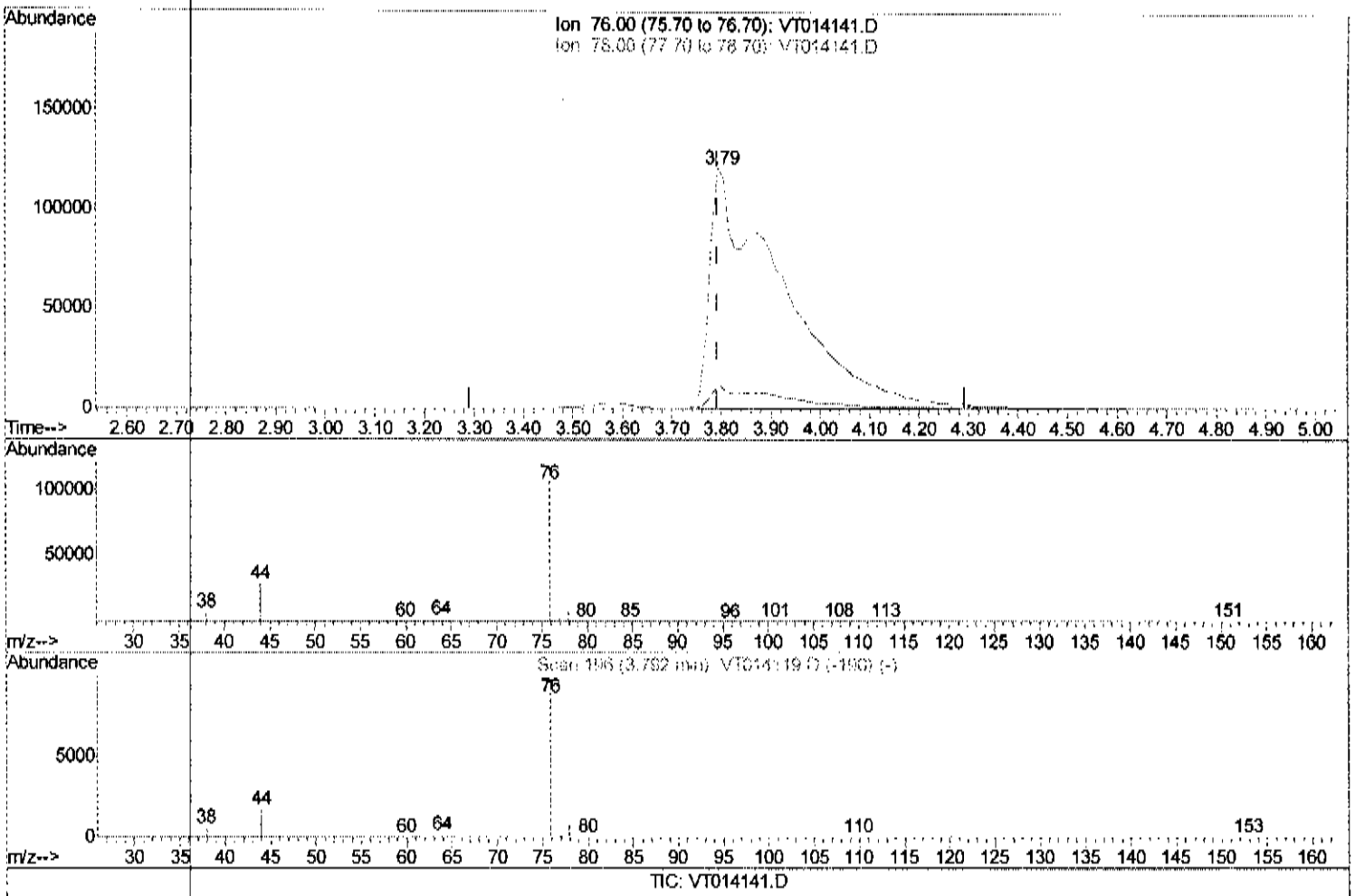

TIC: VT014141.D

(14) Carbon disulfide (T)

3.792min (-0.000) 24.43ug/L m

response 1223451

Ion	Exp%	Act%
76.00	100	100
78.00	9.00	9.35
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:46:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
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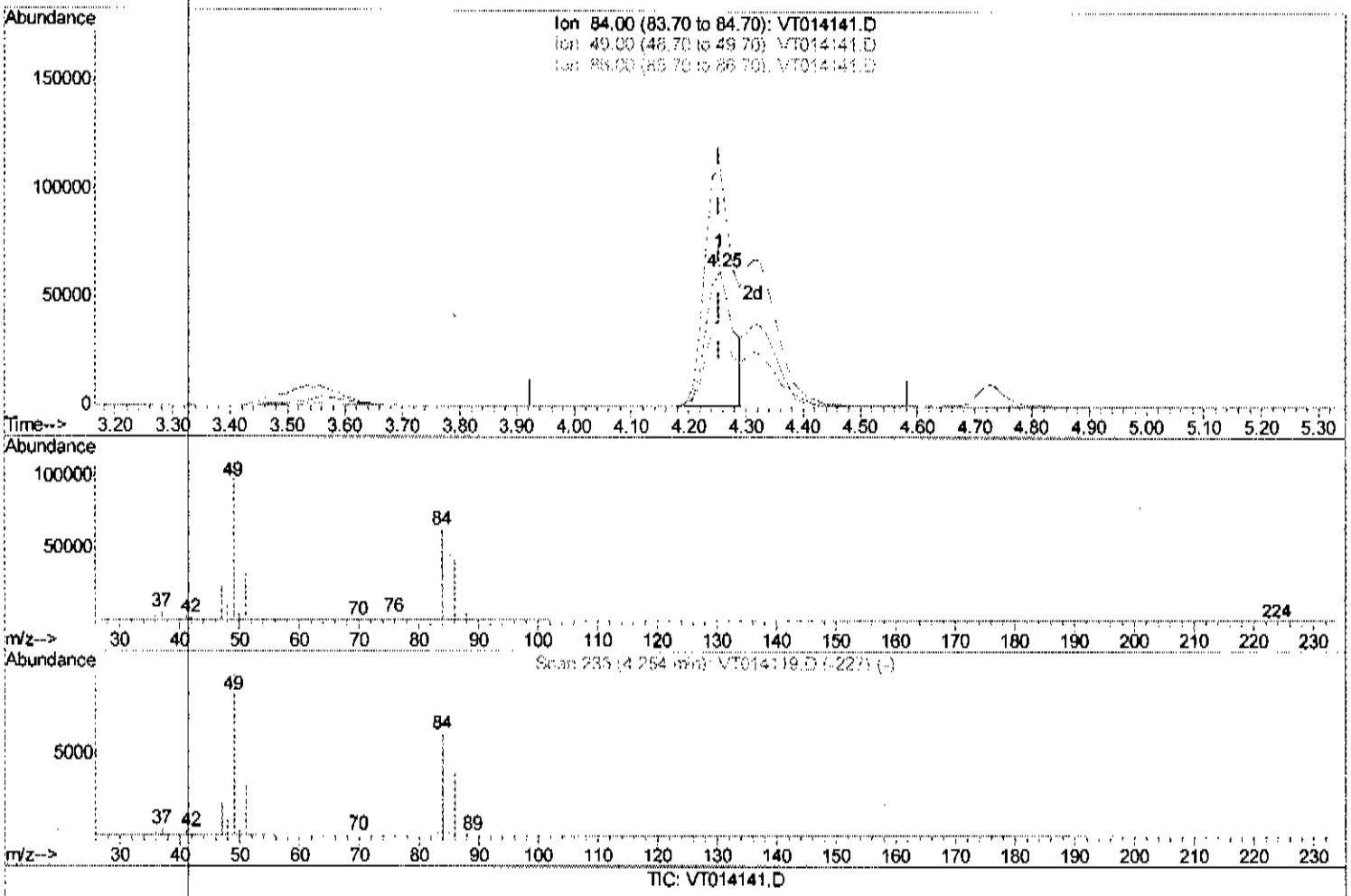

(16) Methylene chloride (T)

4.254min (-0.000) 12.57ug/L

response 207356

Ion	Exp%	Act%
84.00	100	100
49.00	168.80	177.69
86.00	62.00	67.28
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:46:31 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02582

Manual Integrations APPROVED
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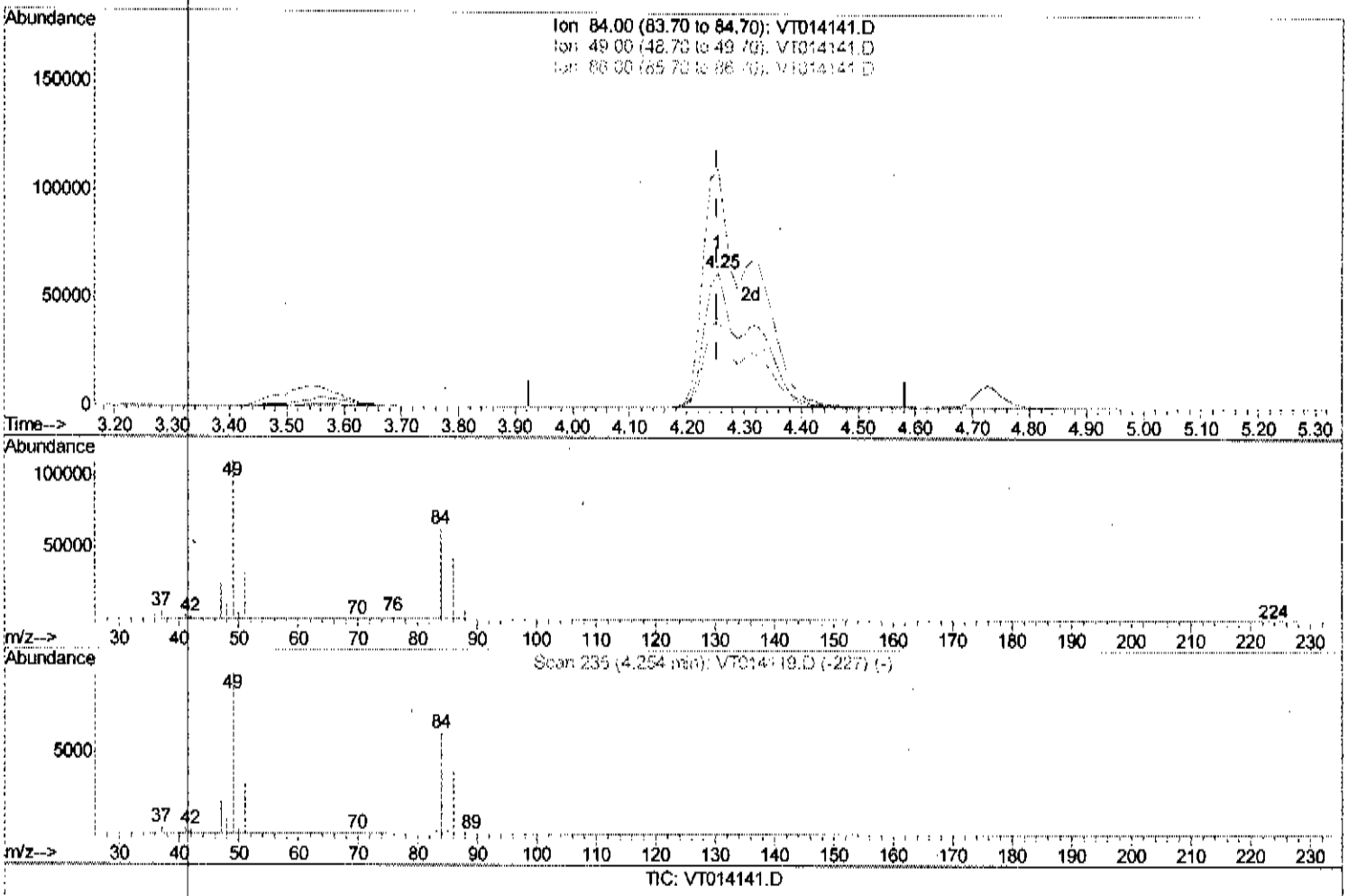

(16) Methylene chloride (T)

4.254min (-0.000) 21.88ug/L m

response 361080

Ion	Exp%	Act%
84.00	100	100
49.00	168.80	177.69
86.00	62.00	67.28
0.00	0.00	0.00

E.M 05.13.2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:49:54 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02582

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1038450	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	845373	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	431417	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.09	65	417439	25.96	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 103.84%			
7) Chloroethane-d5	2.54	69	289732	23.82	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 95.28%			
10) 1,1-Dichloroethene-d2	3.53	63	873409	25.73	ug/L	0.01
Spiked Amount 25.000	Range 45 - 110		Recovery = 102.92%			
20) 2-Butanone-d5	6.44	46	202219	46.11	ug/L	0.01
Spiked Amount 50.000	Range 20 - 135		Recovery = 92.22%			
24) Chloroform-d	7.07	84	688997	24.34	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 97.36%			
26) 1,2-Dichloroethane-d4	7.78	65	421565	25.29	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 101.16%			
29) Benzene-d6	7.74	84	1220946	21.56	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 86.24%			
33) 1,2-Dichloropropane-d6	8.80	67	374149	22.16	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 88.64%			
37) Toluene-d8	9.87	98	1110091	22.28	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 89.12%			
38) trans-1,3-Dichloropropene-	10.13	79	140893	24.12	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 96.48%			
39) 2-Hexanone-d5	10.48	63	138250	49.01	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 98.02%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	268514	23.88	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 95.52%			
60) 1,2-Dichlorobenzene-d4	13.41	152	349813	21.67	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 86.68%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.77	85	569592	26.84	ug/L	100
3) Chloromethane	1.95	50	611769	24.48	ug/L	98
5) Vinyl chloride	2.09	62	631673	26.73	ug/L	99
6) Bromomethane	2.44	94	306348	26.01	ug/L	99
8) Chloroethane	2.56	64	347401	26.26	ug/L	98
9) Trichlorofluoromethane	2.81	101	812679m	29.35	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.58	101	451745	26.40	ug/L	98
12) 1,1-Dichloroethene	3.54	96	393280m	25.00	ug/L	
13) Acetone	3.56	43	271453	62.97	ug/L	94
14) Carbon disulfide	3.79	76	1223451m	24.43	ug/L	
15) Methyl Acetate	4.04	43	233616	25.23	ug/L	97
16) Methylene chloride	4.25	84	361080m	21.88	ug/L	
17) Methyl tert-butyl Ether	4.74	73	803475	27.67	ug/L	97
18) trans-1,2-Dichloroethene	4.73	96	397714	24.90	ug/L	94
19) 1,1-Dichloroethane	5.54	63	891649	25.92	ug/L	97
21) 2-Butanone	6.54	43	307394	52.01	ug/L	99
22) cis-1,2-Dichloroethene	6.54	96	388082	25.51	ug/L	98

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E.M 05.13.2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\Data\VT051216\
Data File : VT014141.D
Acq On : 12 May 2016 23:12
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:49:54 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02582

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
23) Bromochloromethane	6.92	128	138766	24.62 ug/L	93
25) Chloroform	7.11	83	784612	26.86 ug/L	97
27) 1,2-Dichloroethane	7.89	62	614878	28.45 ug/L	98
30) Cyclohexane	7.41	56	963890	25.43 ug/L	98
31) 1,1,1-Trichloroethane	7.32	97	727040	27.39 ug/L	99
32) Carbon tetrachloride	7.53	117	675588	27.94 ug/L	98
34) Benzene	7.79	78	1697209	24.54 ug/L	100
35) Trichloroethene	8.61	95	446773	25.72 ug/L	97
36) Methylcyclohexane	8.87	83	863233	24.84 ug/L	97
40) 1,2-Dichloropropane	8.89	63	435609	24.97 ug/L	100
41) Bromodichloromethane	9.18	83	512218	27.36 ug/L	99
42) cis-1,3-Dichloropropene	9.61	75	570104	27.86 ug/L	100
43) 4-Methyl-2-pentanone	9.76	43	629756	53.05 ug/L	98
44) Toluene	9.93	91	1691797	25.24 ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	479421	27.98 ug/L	100
46) 1,1,2-Trichloroethane	10.35	97	227562	25.18 ug/L	95
47) Tetrachloroethene	10.42	164	310823	25.02 ug/L	97
49) 2-Hexanone	10.53	43	472608	55.96 ug/L	97
50) Dibromochloromethane	10.68	129	278267	26.53 ug/L	99
51) 1,2-Dibromoethane	10.79	107	217045	25.76 ug/L	99
52) Chlorobenzene	11.21	112	974447	25.65 ug/L	98
53) Ethylbenzene	11.29	91	2017021	26.68 ug/L	98
54) m,p-Xylene	11.40	106	718219	26.26 ug/L	96
55) o-xylene	11.73	106	682686	26.26 ug/L	97
56) Styrene	11.74	104	1068059	25.92 ug/L	94
57) Isopropylbenzene	12.03	105	2029526	27.05 ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	295006	26.06 ug/L	99
61) Bromoform	11.91	173	145154	24.93 ug/L	98
62) 1,3-Dichlorobenzene	13.06	146	725491	25.18 ug/L	97
63) 1,4-Dichlorobenzene	13.14	146	736766	25.07 ug/L	99
64) 1,2-Dichlorobenzene	13.42	146	648298	24.74 ug/L	98
65) 1,2-Dibromo-3-chloropropan	14.04	75	53070	27.52 ug/L	89
66) 1,2,4-trichlorobenzene	14.68	180	412516	28.07 ug/L	99
67) 1,2,3-Trichlorobenzene	15.07	180	353644	28.01 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:15:16 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
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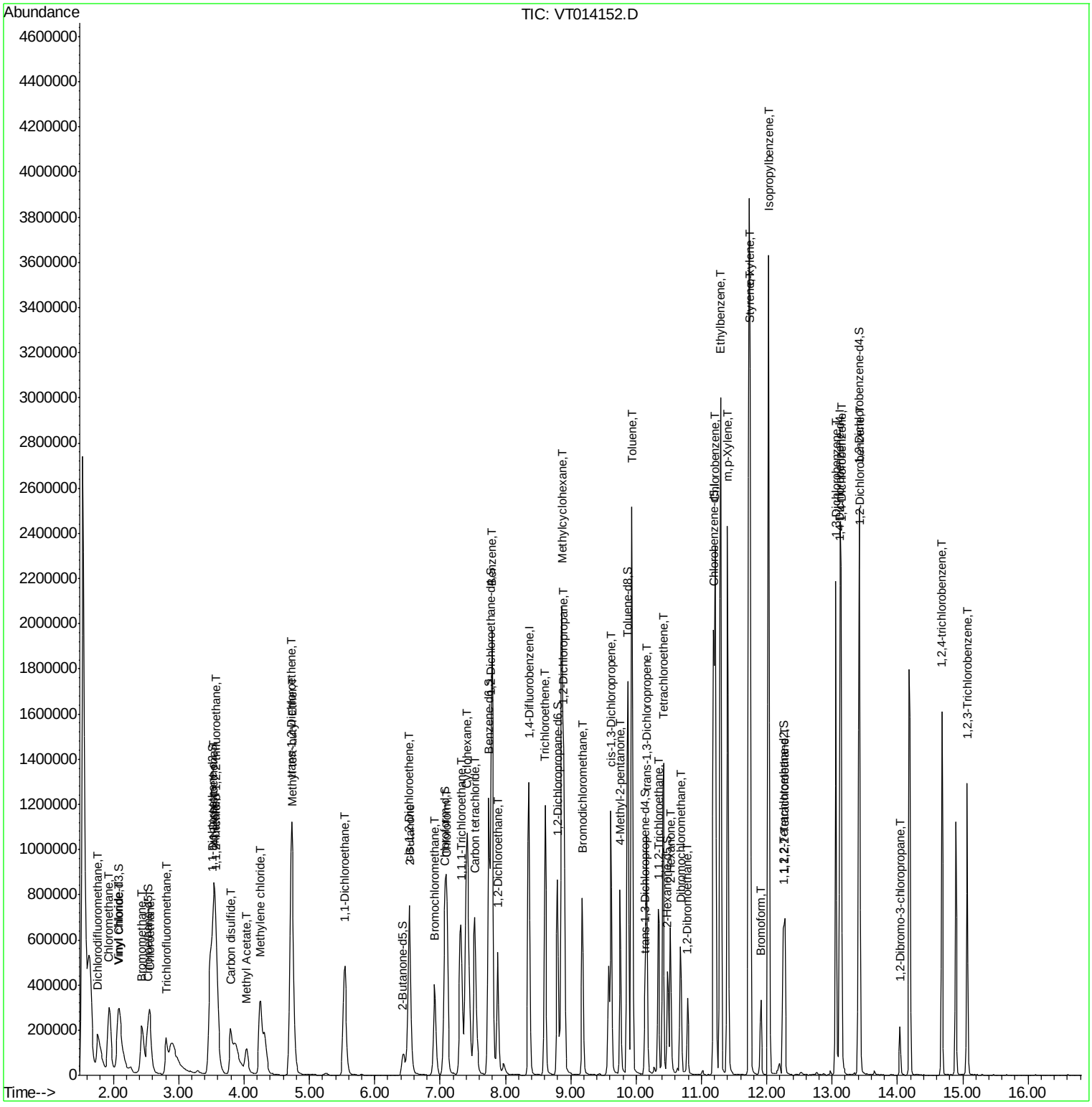
5/16/2016 6:44:59 PM



Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:15:16 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02583

Manual Integrations APPROVED
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5/16/2016 6:44:59 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	913273	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	765950	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	398253	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	382536	26.67	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 106.68%			
7) Chloroethane-d5	2.53	69	288455	25.91	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 103.64%			
10) 1,1-Dichloroethene-d2	3.52	63	803927	25.13	ug/L	0.05
Spiked Amount 25.000	Range 45 - 110		Recovery = 100.52%			
20) 2-Butanone-d5	6.43	46	195444	50.37	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 100.74%			
24) Chloroform-d	7.07	84	651338	24.43	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 97.72%			
26) 1,2-Dichloroethane-d4	7.78	65	391080	23.69	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 94.76%			
29) Benzene-d6	7.74	84	1131968	23.06	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 92.24%			
33) 1,2-Dichloropropane-d6	8.80	67	347063	23.33	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 93.32%			
37) Toluene-d8	9.87	98	1028463	23.60	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 94.40%			
38) trans-1,3-Dichloropropene-	10.14	79	132638	23.83	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 95.32%			
39) 2-Hexanone-d5	10.48	63	126408	52.32	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 104.64%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	254676	24.80	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 99.20%			
60) 1,2-Dichlorobenzene-d4	13.41	152	334585	22.79	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 91.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.76	85	485676	22.96	ug/L	100
3) Chloromethane	1.93	50	588812	24.00	ug/L	99
5) Vinyl chloride	2.09	62	580319	24.30	ug/L	95
6) Bromomethane	2.43	94	294012	24.20	ug/L	99
8) Chloroethane	2.56	64	326733	24.73	ug/L	98
9) Trichlorofluoromethane	2.81	101	741266m	25.17	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	415978	25.07	ug/L	96
12) 1,1-Dichloroethene	3.53	96	380863m	26.19	ug/L	
13) Acetone	3.56	43	228575	36.15	ug/L	98
14) Carbon disulfide	3.79	76	1153050m	24.84	ug/L	
15) Methyl Acetate	4.04	43	214403	25.28	ug/L	98
16) Methylene chloride	4.24	84	350924m	20.76	ug/L	
17) Methyl tert-butyl Ether	4.74	73	724170	24.35	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	363793	24.45	ug/L	99
19) 1,1-Dichloroethane	5.54	63	824729	24.56	ug/L	100
21) 2-Butanone	6.54	43	274276	42.42	ug/L	98
22) cis-1,2-Dichloroethene	6.53	96	350242	24.37	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
mmdadoda
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Quant Time: May 16 10:15:16 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	126338	23.85	ug/L	97
25) Chloroform	7.11	83	715314	24.45	ug/L	100
27) 1,2-Dichloroethane	7.89	62	556851	24.55	ug/L	99
30) Cyclohexane	7.41	56	843953	24.55	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	676399	24.73	ug/L	99
32) Carbon tetrachloride	7.53	117	616612	25.06	ug/L	99
34) Benzene	7.79	78	1515473	23.26	ug/L	100
35) Trichloroethene	8.61	95	393865	23.68	ug/L	98
36) Methylcyclohexane	8.87	83	740122	23.42	ug/L	98
40) 1,2-Dichloropropane	8.89	63	387234	23.20	ug/L	100
41) Bromodichloromethane	9.18	83	473783	24.80	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	539630	26.07	ug/L	97
43) 4-Methyl-2-pentanone	9.76	43	558108	49.33	ug/L	99
44) Toluene	9.93	91	1519105	23.63	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	453142	25.14	ug/L	98
46) 1,1,2-Trichloroethane	10.35	97	204141	23.73	ug/L	95
47) Tetrachloroethene	10.42	164	284822	24.08	ug/L	98
49) 2-Hexanone	10.53	43	423893	46.99	ug/L	98
50) Dibromochloromethane	10.68	129	256168	24.72	ug/L	100
51) 1,2-Dibromoethane	10.79	107	200182	24.44	ug/L	100
52) Chlorobenzene	11.21	112	876281	23.34	ug/L	99
53) Ethylbenzene	11.29	91	1837311	24.34	ug/L	100
54) m,p-Xylene	11.40	106	646152	24.32	ug/L	97
55) o-xylene	11.73	106	621029	24.45	ug/L	98
56) Styrene	11.74	104	984798	23.96	ug/L	100
57) Isopropylbenzene	12.03	105	1864635	24.98	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	270871	24.59	ug/L	96
61) Bromoform	11.91	173	135113	25.52	ug/L	96
62) 1,3-Dichlorobenzene	13.06	146	681574	23.66	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	682720	23.23	ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	609225	23.49	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	48789	25.90	ug/L	100
66) 1,2,4-trichlorobenzene	14.68	180	382067	24.74	ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	326833	24.60	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:15:16 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
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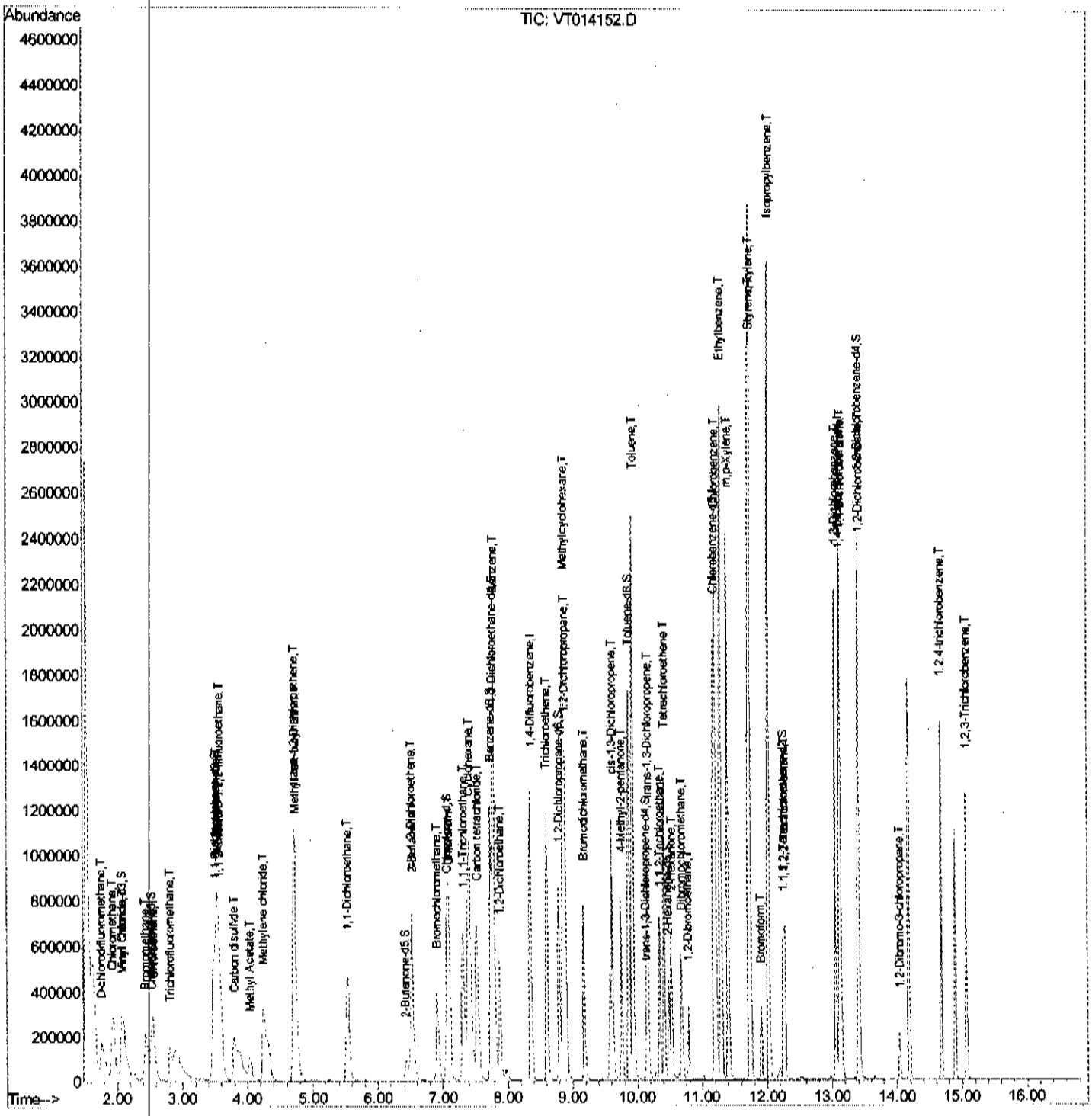

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
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Quant Time: May 16 10:07:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
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Manual Integrations APPROVED
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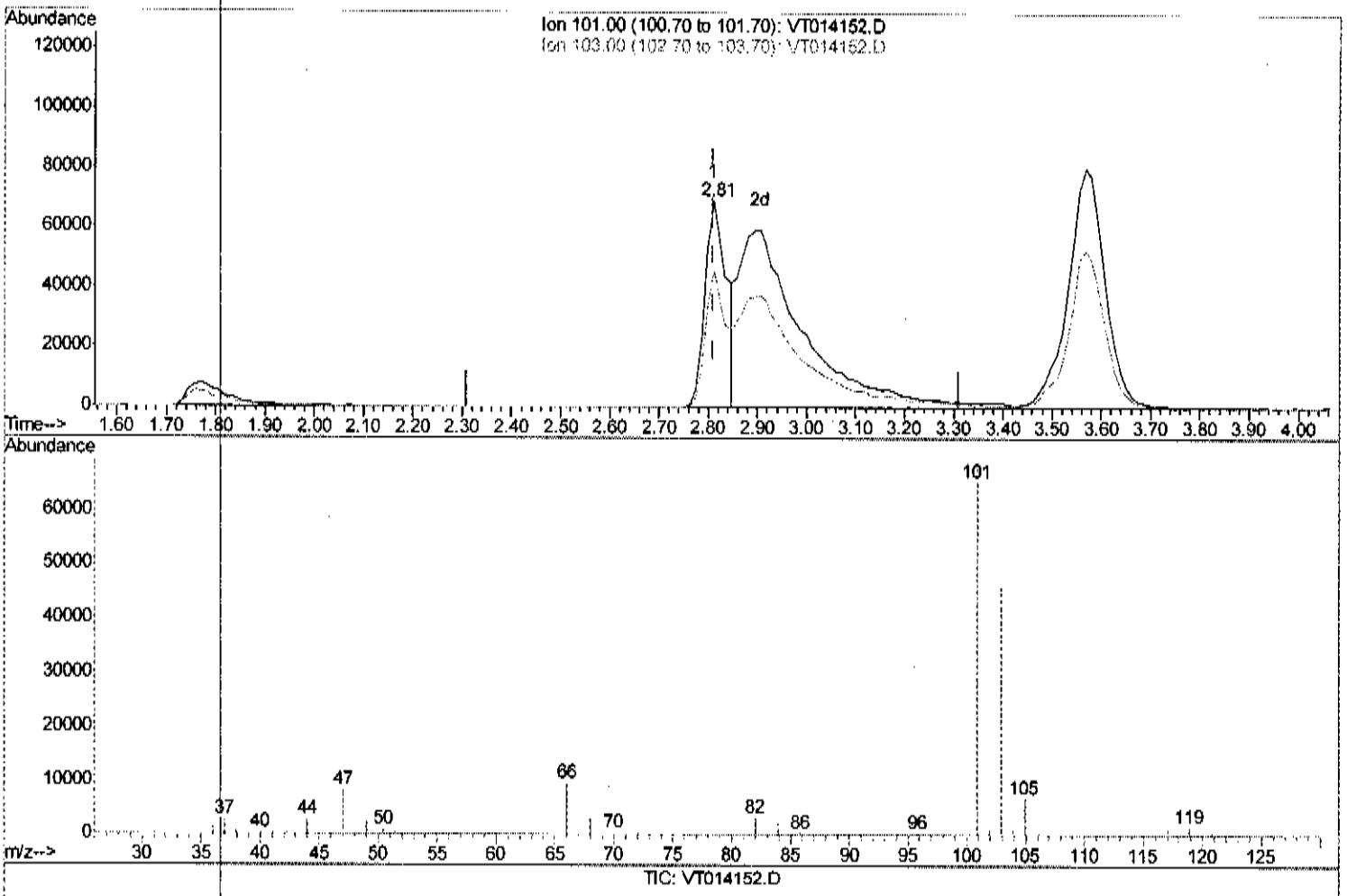

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 7.12ug/L

response 209566

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	63.66#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:07:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
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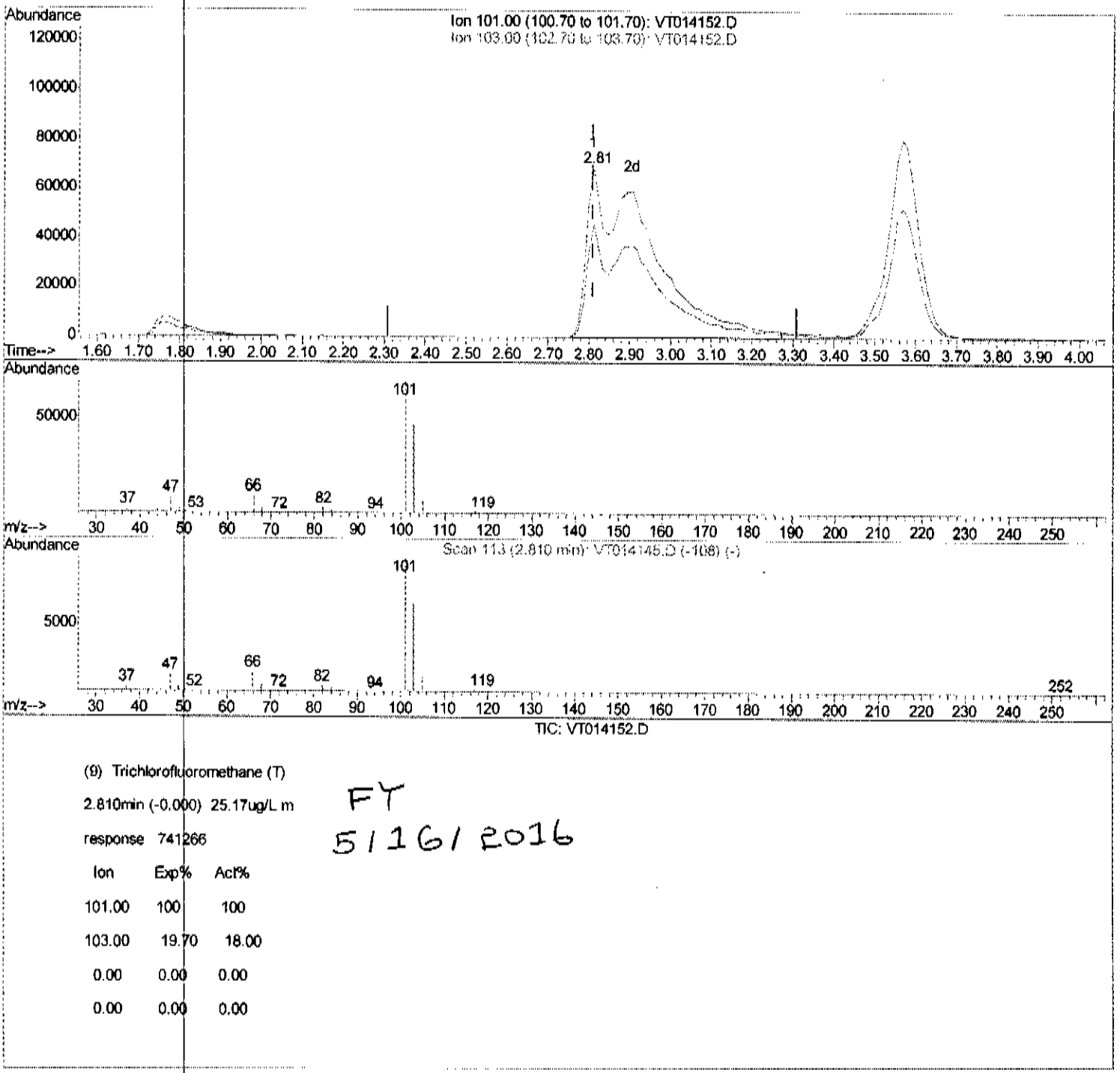

(9) Trichlorofluoromethane (T)

2.810min (-0.000) 25.17ug/L m

response 741266

Ion	Exp%	Act%
101.00	100	100
103.00	19.70	18.00
0.00	0.00	0.00
0.00	0.00	0.00

FY
5/16/2016

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:07:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
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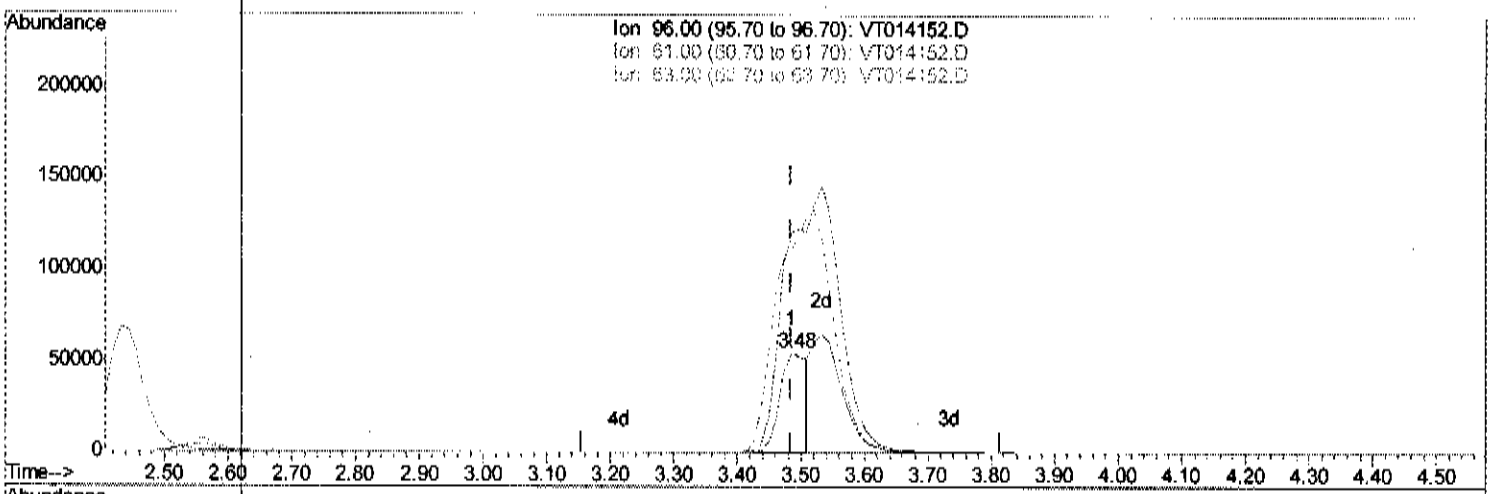
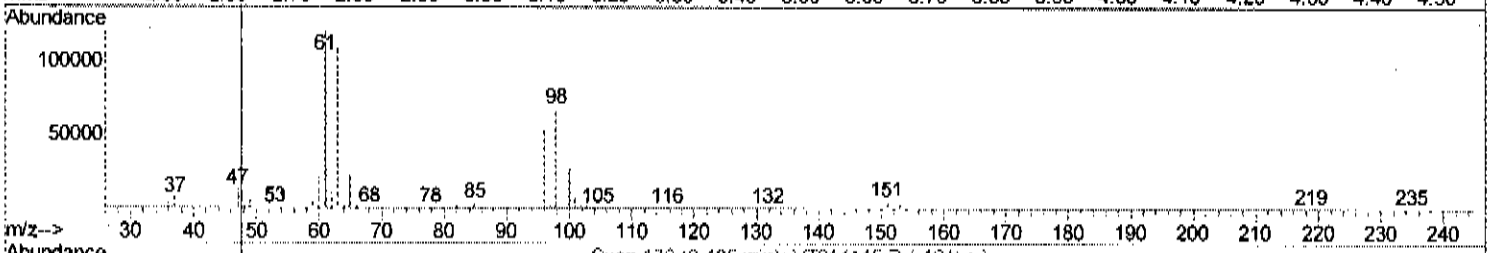
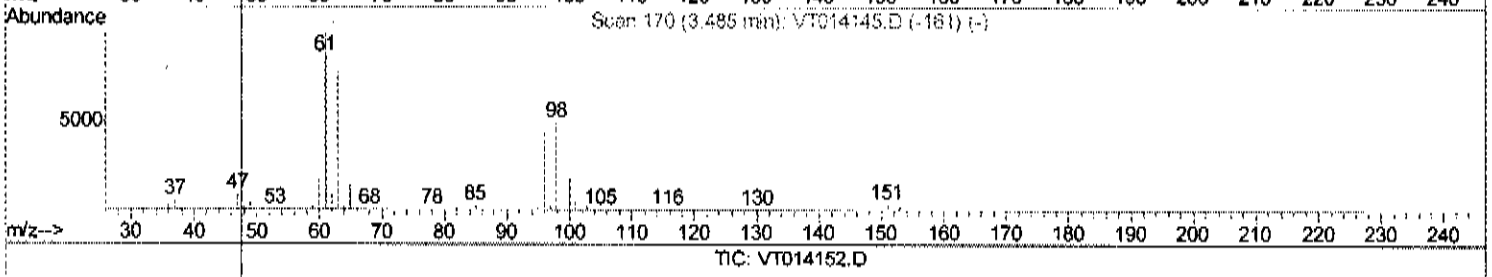
5/16/2016 6:44:59 PM





Scan 170 (3.485 min): VT014145.D (-161) (-)



TIC: VT014152.D

(12) 1,1-Dichloroethene (T)

3.485min (-0.000) 11.18ug/L

response 162604

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	220.13
63.00	176.20	203.22
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:07:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
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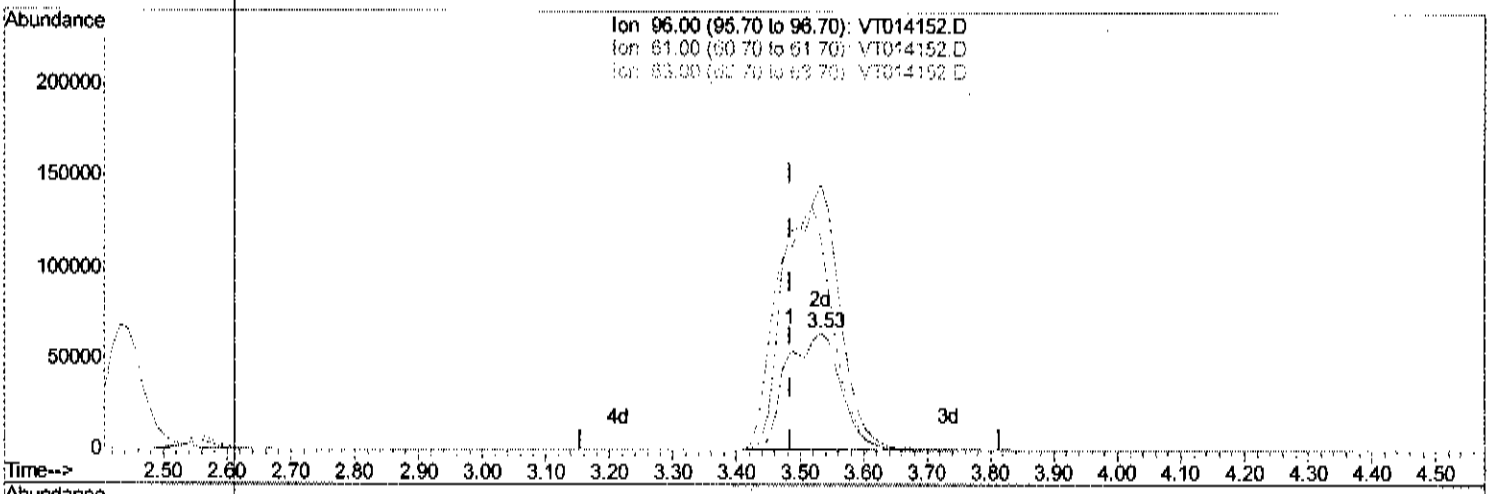
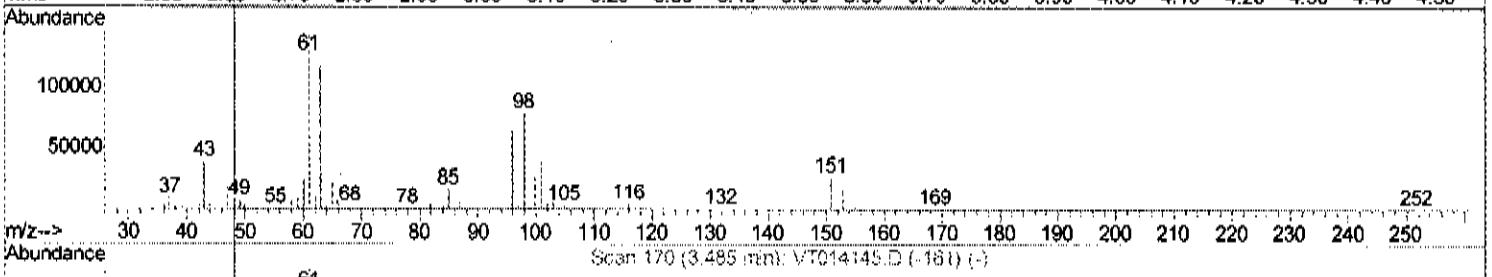
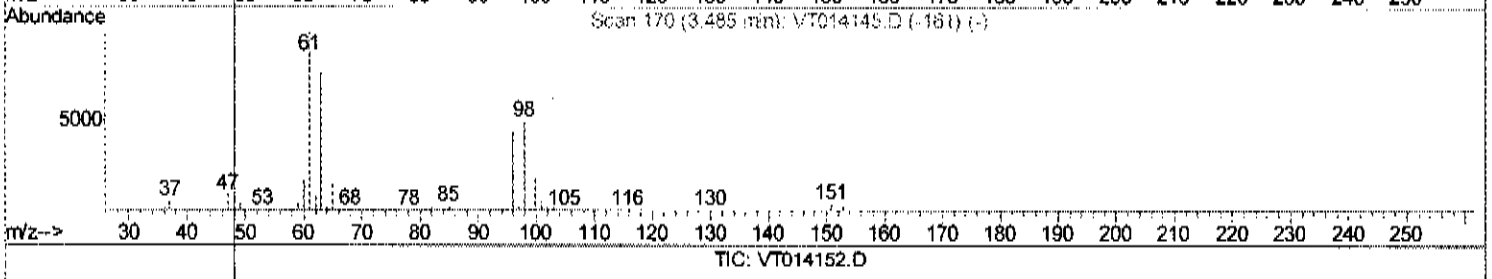




Scan 170 (3.485 min): VT014145.D (-161) (-)



TIC: VT014152.D

(12) 1,1-Dichloroethene (T)

3.532min (+0.047) 26.19ug/L m

response 380863

Ion	Exp%	Act%
96.00	100	100
61.00	228.60	225.69
63.00	178.20	180.40
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:07:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
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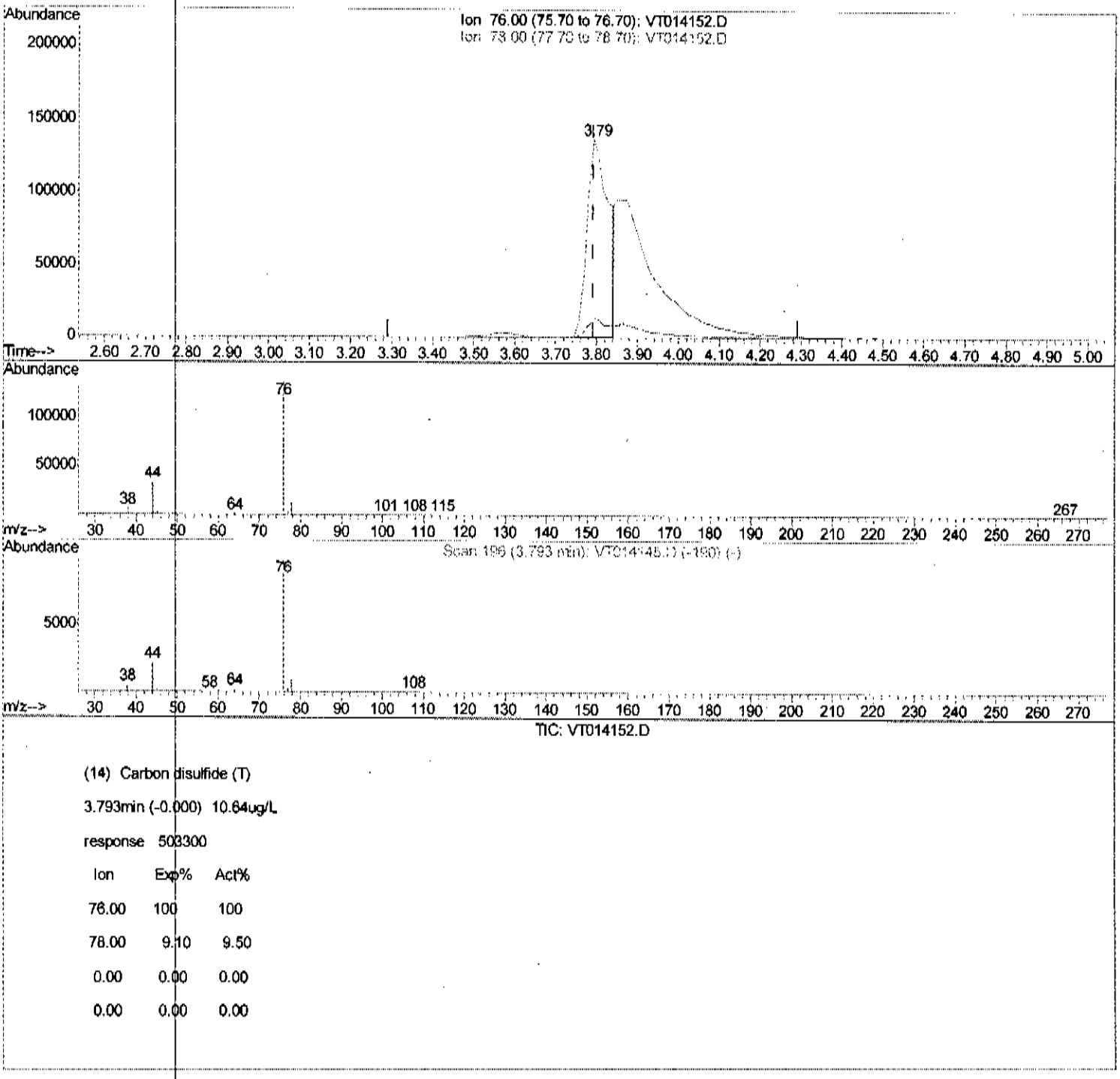

(14) Carbon disulfide (T)

3.793min (-0.000) 10.64ug/L

response 503300

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.50
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00ɑ/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:07:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
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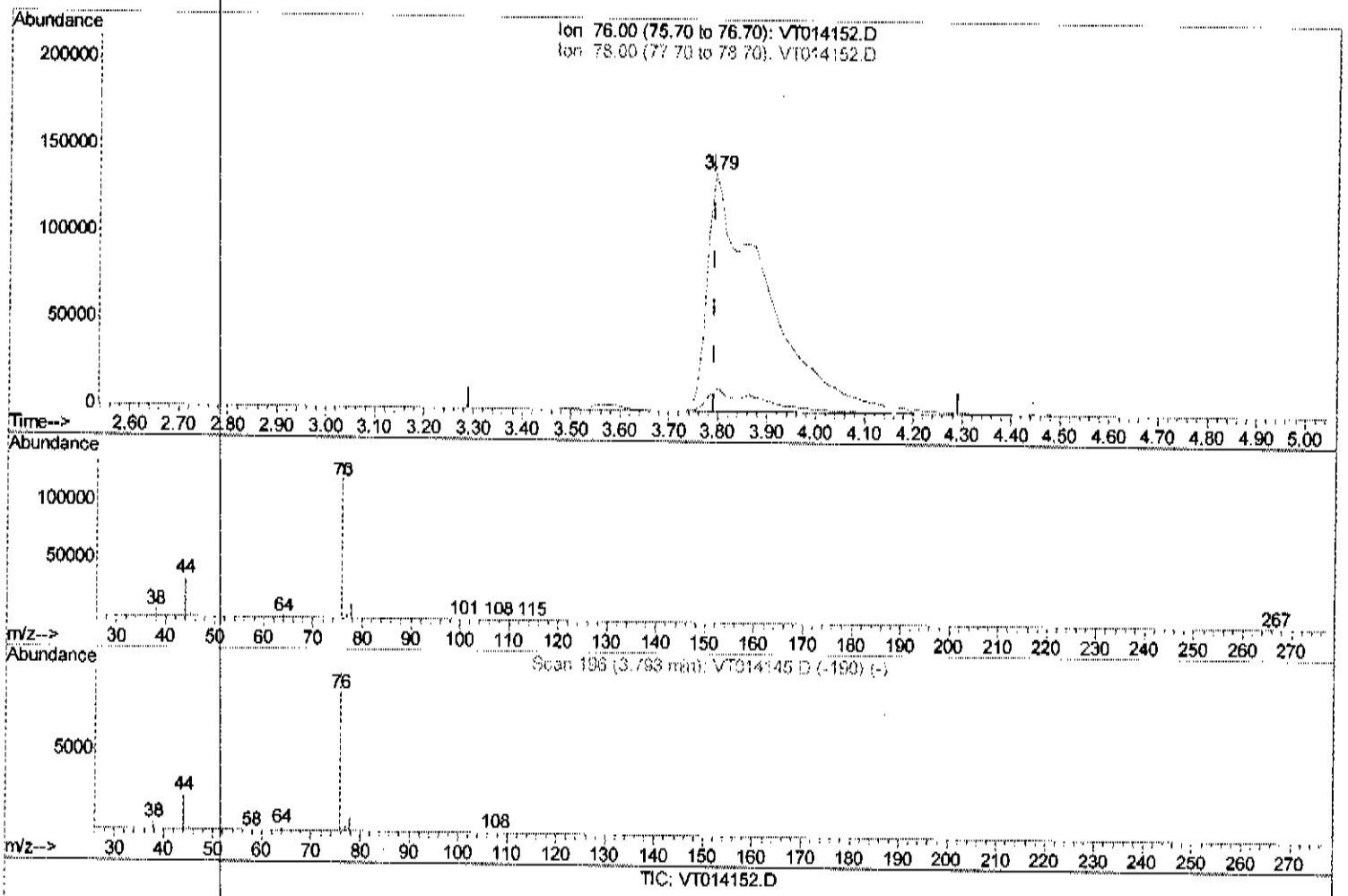

(14) Carbon disulfide (T)

3.793min (-0.000) 24.84ug/L m

response 1153050

FY
5/16/2016

Ion	Exp%	Act%
76.00	100	100
78.00	9.10	9.50
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:07:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
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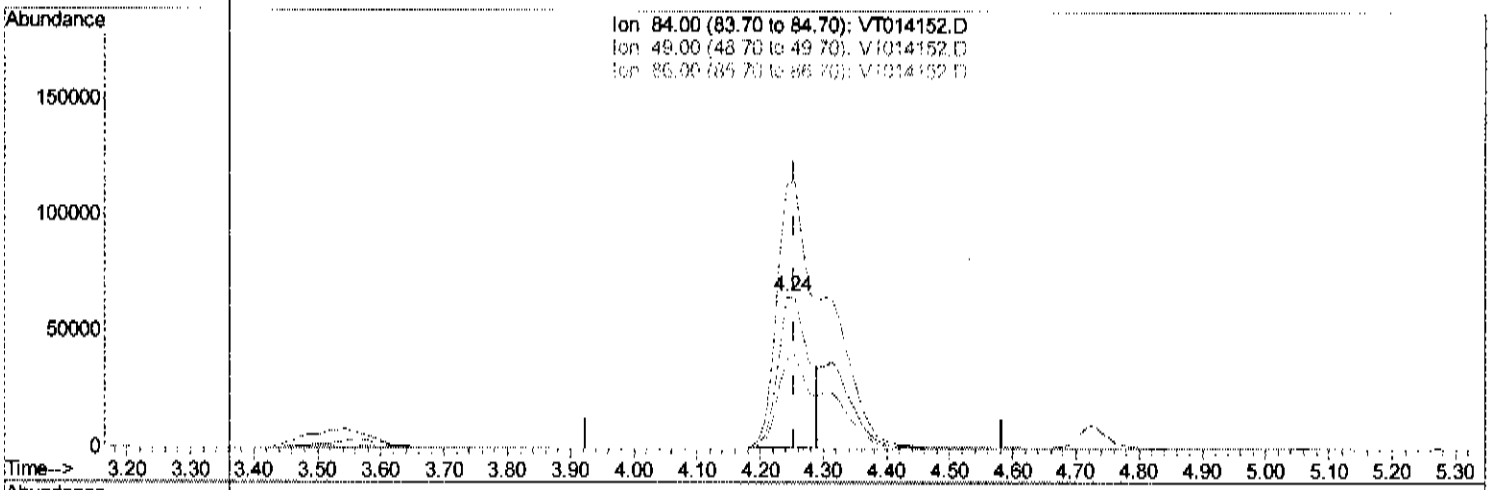

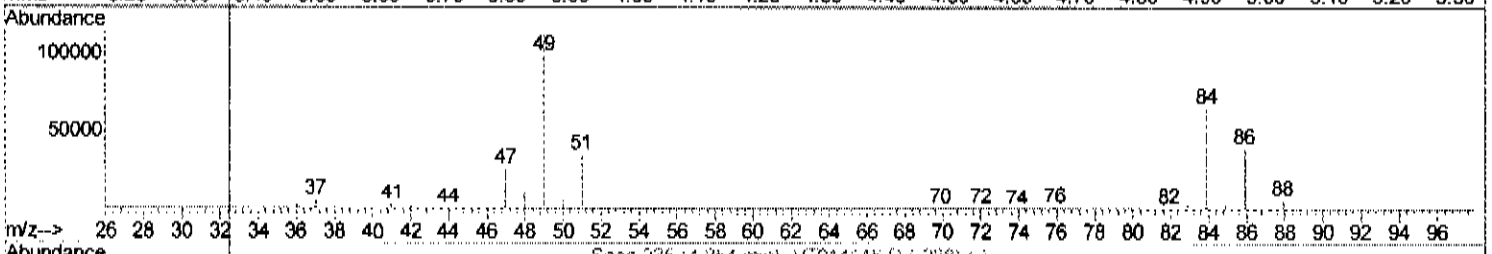

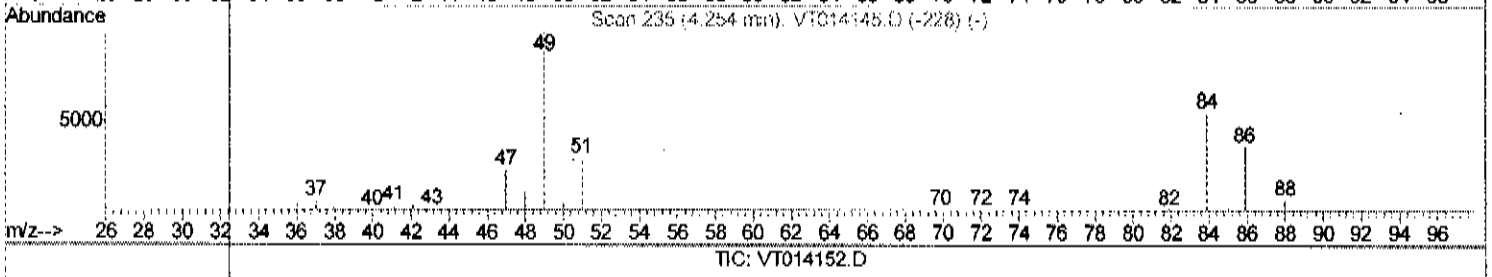

TIC: VT014152.D

(16) Methylene chloride (T)

4.242min (-0.012) 13.36ug/L

response 225805

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	175.29
86.00	65.50	60.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:07:41 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VSTD02583

Manual Integrations APPROVED
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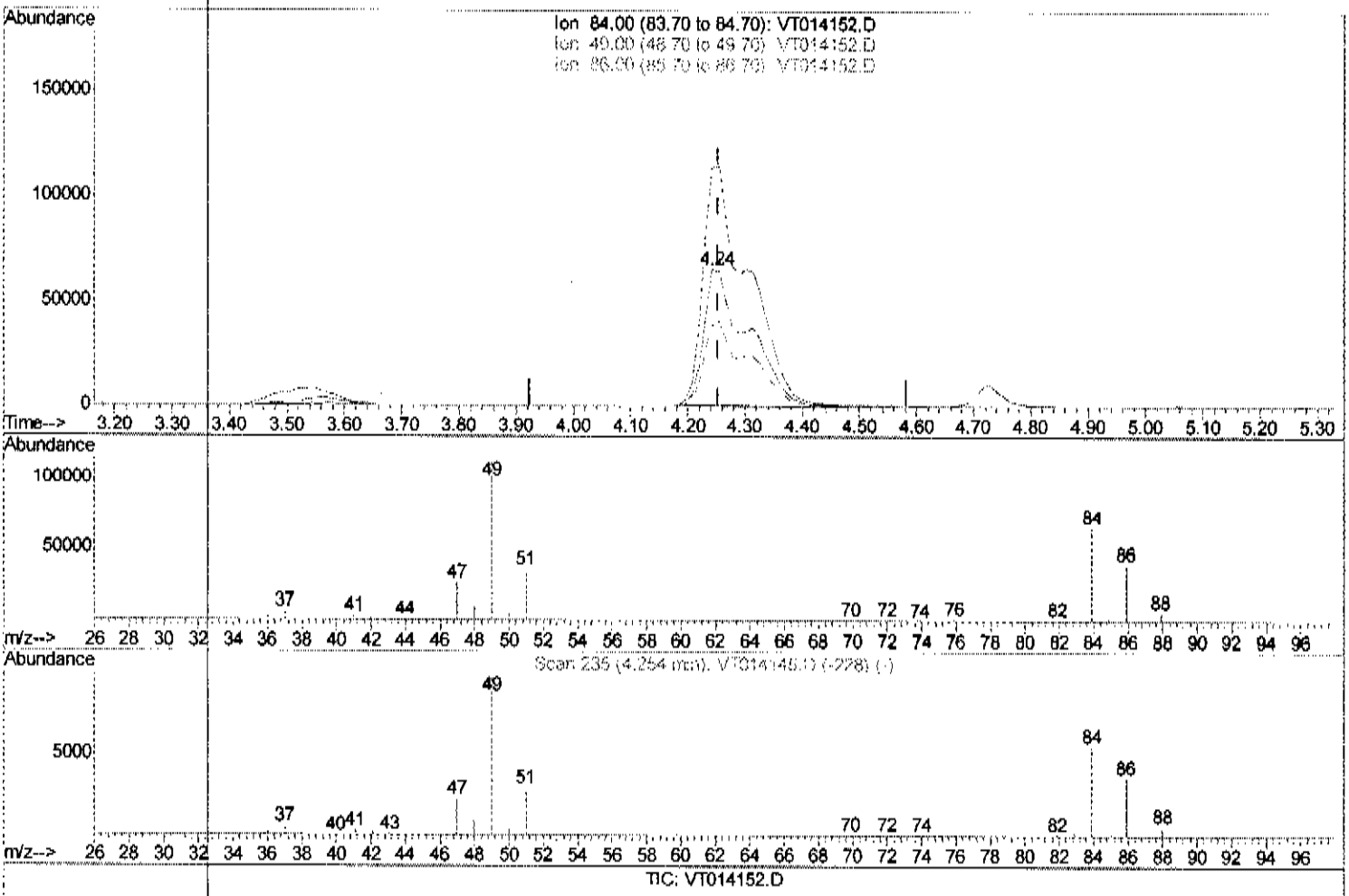

TIC: VT014152.D

(16) Methylene chloride (T)

4.242min (-0.012) 20.76ug/L m

response 350924

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	175.29
86.00	65.50	59.45
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:15:16 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02583

Manual Integrations APPROVED
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5/16/2016 6:44:59 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	913273	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	765950	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	398253	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	382536	26.67	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 106.68%			
7) Chloroethane-d5	2.53	69	288455	25.91	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 103.64%			
10) 1,1-Dichloroethene-d2	3.52	63	803927	25.13	ug/L	0.05
Spiked Amount 25.000	Range 45 - 110		Recovery = 100.52%			
20) 2-Butanone-d5	6.43	46	195444	50.37	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 100.74%			
24) Chloroform-d	7.07	84	651338	24.43	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 97.72%			
26) 1,2-Dichloroethane-d4	7.78	65	391080	23.69	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 94.76%			
29) Benzene-d6	7.74	84	1131968	23.06	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 92.24%			
33) 1,2-Dichloropropane-d6	8.80	67	347063	23.33	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 93.32%			
37) Toluene-d8	9.87	98	1028463	23.60	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 94.40%			
38) trans-1,3-Dichloropropene-	10.14	79	132638	23.83	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 95.32%			
39) 2-Hexanone-d5	10.48	63	126408	52.32	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 104.64%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	254676	24.80	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 99.20%			
60) 1,2-Dichlorobenzene-d4	13.41	152	334585	22.79	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 91.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.76	85	485676	22.96	ug/L	100
3) Chloromethane	1.93	50	588812	24.00	ug/L	99
5) Vinyl chloride	2.09	62	580319	24.30	ug/L	95
6) Bromomethane	2.43	94	294012	24.20	ug/L	99
8) Chloroethane	2.56	64	326733	24.73	ug/L	98
9) Trichlorofluoromethane	2.81	101	741266m	25.17	ug/L	
11) 1,1,2-Trichloro-1,2,2-trif	3.57	101	415978	25.07	ug/L	96
12) 1,1-Dichloroethene	3.53	96	380863m	26.19	ug/L	
13) Acetone	3.56	43	228575	36.15	ug/L	98
14) Carbon disulfide	3.79	76	1153050m	24.84	ug/L	
15) Methyl Acetate	4.04	43	214403	25.28	ug/L	98
16) Methylene chloride	4.24	84	350924m	20.76	ug/L	
17) Methyl tert-butyl Ether	4.74	73	724170	24.35	ug/L	99
18) trans-1,2-Dichloroethene	4.73	96	363793	24.45	ug/L	99
19) 1,1-Dichloroethane	5.54	63	824729	24.56	ug/L	100
21) 2-Butanone	6.54	43	274276	42.42	ug/L	98
22) cis-1,2-Dichloroethene	6.53	96	350242	24.37	ug/L	94

FY 5/16/2016

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014152.D
Acq On : 13 May 2016 19:26
Operator : FY/SY
Sample : VSTDCCC025EC
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 16 10:15:16 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VSTD02583

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:59 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
23) Bromochloromethane	6.92	128	126338	23.85	ug/L	97
25) Chloroform	7.11	83	715314	24.45	ug/L	100
27) 1,2-Dichloroethane	7.89	62	556851	24.55	ug/L	99
30) Cyclohexane	7.41	56	843953	24.55	ug/L	99
31) 1,1,1-Trichloroethane	7.32	97	676399	24.73	ug/L	99
32) Carbon tetrachloride	7.53	117	616612	25.06	ug/L	99
34) Benzene	7.79	78	1515473	23.26	ug/L	100
35) Trichloroethene	8.61	95	393865	23.68	ug/L	98
36) Methylcyclohexane	8.87	83	740122	23.42	ug/L	98
40) 1,2-Dichloropropane	8.89	63	387234	23.20	ug/L	100
41) Bromodichloromethane	9.18	83	473783	24.80	ug/L	98
42) cis-1,3-Dichloropropene	9.61	75	539630	26.07	ug/L	97
43) 4-Methyl-2-pentanone	9.76	43	558108	49.33	ug/L	99
44) Toluene	9.93	91	1519105	23.63	ug/L	99
45) trans-1,3-Dichloropropene	10.16	75	453142	25.14	ug/L	98
46) 1,1,2-Trichloroethane	10.35	97	204141	23.73	ug/L	95
47) Tetrachloroethene	10.42	164	284822	24.08	ug/L	98
49) 2-Hexanone	10.53	43	423893	46.99	ug/L	98
50) Dibromochloromethane	10.68	129	256168	24.72	ug/L	100
51) 1,2-Dibromoethane	10.79	107	200182	24.44	ug/L	100
52) Chlorobenzene	11.21	112	876281	23.34	ug/L	99
53) Ethylbenzene	11.29	91	1837311	24.34	ug/L	100
54) m,p-Xylene	11.40	106	646152	24.32	ug/L	97
55) o-xylene	11.73	106	621029	24.15	ug/L	98
56) Styrene	11.74	104	984798	23.96	ug/L	100
57) Isopropylbenzene	12.03	105	1864635	24.98	ug/L	99
58) 1,1,2,2-Tetrachloroethane	12.28	83	270871	24.59	ug/L	96
61) Bromoform	11.91	173	135113	25.52	ug/L	96
62) 1,3-Dichlorobenzene	13.06	146	681571	23.66	ug/L	99
63) 1,4-Dichlorobenzene	13.14	146	682720	23.23	ug/L	100
64) 1,2-Dichlorobenzene	13.42	146	609225	23.49	ug/L	100
65) 1,2-Dibromo-3-chloropropan	14.04	75	48789	25.90	ug/L	100
66) 1,2,4-trichlorobenzene	14.68	180	382067	24.74	ug/L	100
67) 1,2,3-Trichlorobenzene	15.07	180	326833	24.60	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

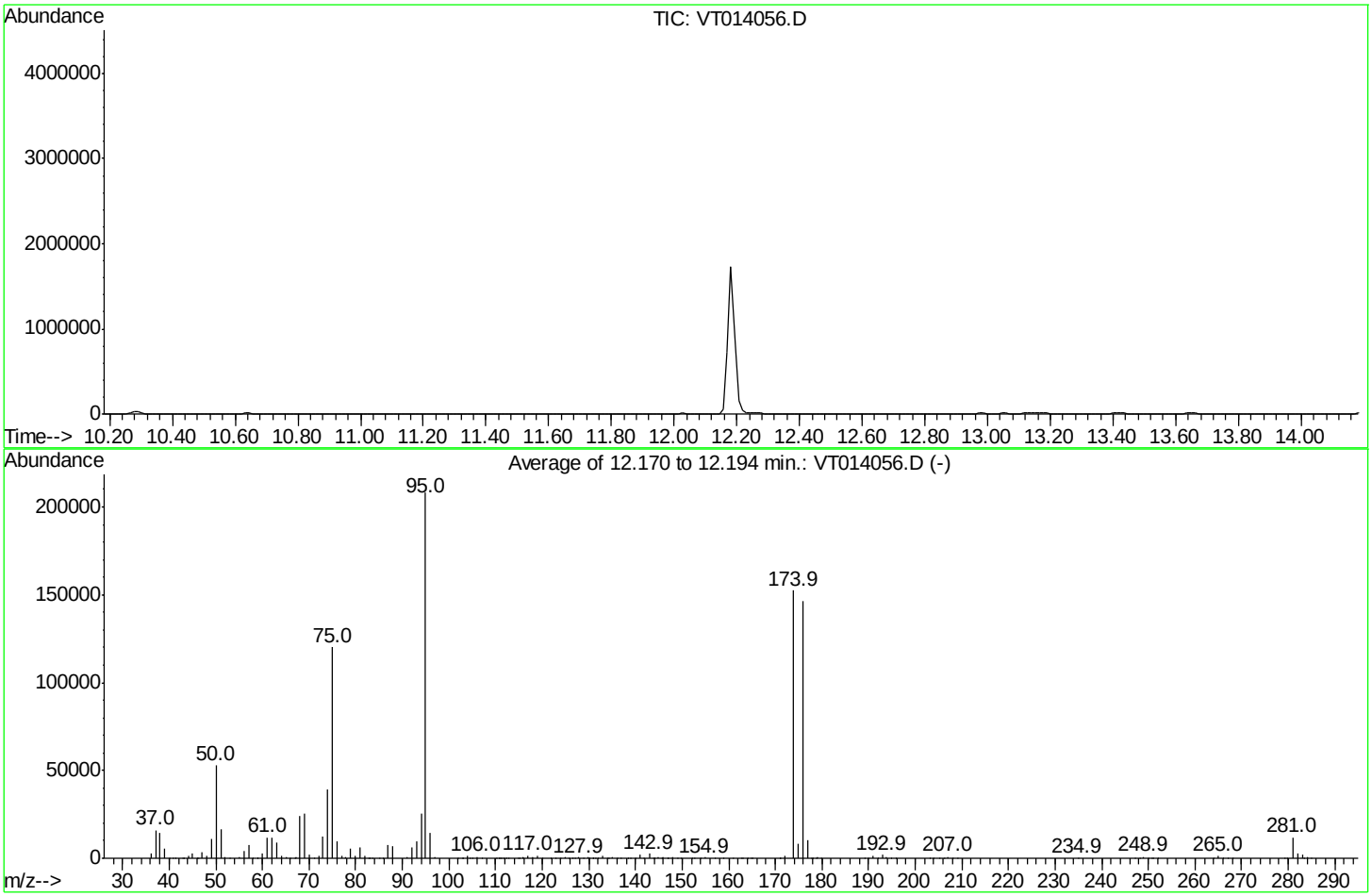
BFB

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT051116\
Data File : VT014056.D
Acq On : 11 May 2016 4:25
Operator : FY/SY
Sample : BFB91
Misc : 5.00g/10mL/MSVOA T/SOIL
ALS Vial : 35 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : BFB91

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Title : VOC Analysis
Last Update : Mon May 16 03:59:42 2016



AutoFind: Scans 904, 905, 906; Background Corrected with Scan 901

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.4	52861	PASS
75	95	30	80	57.7	120144	PASS
95	95	100	100	100.0	208149	PASS
96	95	5	9	6.9	14266	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	73.3	152474	PASS
175	174	5	9	5.5	8430	PASS
176	174	95	101	95.9	146298	PASS
177	176	5	9	6.9	10074	PASS

Scan 901 (12.134 min): VT014056.D
BFB91

m/z	Abundance
39.90	295.0
44.20	286.0
73.30	201.0
281.00	504.0
282.10	186.0

Instrument :
MSVOA_T
ClientSampleId :
BFB91

Scan 904 (12.170 min): VT014056.D
BFB91

Instrument :
MSVOA_T
ClientSampleId :
BFB91

m/z	Abundance
36.10	2471.0
37.00	16928.0
38.00	15119.0
39.10	6362.0
40.00	574.0
41.20	355.0
43.20	647.0
44.10	2139.0
45.00	2735.0
46.10	374.0
47.00	3549.0
47.90	1661.0
49.00	10752.0
50.00	50448.0
51.00	15560.0
52.10	806.0
53.10	460.0
54.90	1020.0
56.00	3689.0
57.00	6812.0
58.00	342.0
58.80	166.0
60.00	2115.0
61.00	10210.0
62.00	10729.0
63.00	8179.0
64.00	1476.0
65.00	1813.0
66.00	272.0
66.90	633.0
68.00	19992.0
69.00	22032.0
70.10	1594.0
71.10	189.0
72.00	1389.0
73.00	9817.0
74.00	32376.0
75.00	96312.0
76.00	8513.0
76.90	922.0
77.90	839.0
78.90	4671.0
80.00	1432.0
80.90	5058.0
81.80	1181.0
83.50	258.0
85.20	196.0
87.00	6288.0
87.90	4702.0
91.00	638.0
92.00	4465.0
93.00	6887.0
94.00	17432.0
95.00	147520.0
96.10	10719.0
97.10	445.0
102.80	172.0
103.90	723.0
104.60	151.0
105.90	470.0
110.80	229.0
112.20	228.0
112.80	197.0
115.80	527.0
117.00	913.0
118.00	521.0
119.00	531.0
128.00	329.0
128.80	228.0
129.80	516.0
131.30	159.0
131.90	178.0
133.00	307.0
134.10	183.0
134.80	187.0
138.30	175.0
140.90	1380.0
141.90	170.0
142.90	1504.0
144.90	404.0
145.60	187.0
145.90	155.0
148.00	185.0
150.10	150.0
152.70	154.0
154.90	341.0
157.00	214.0
158.90	263.0
170.90	159.0
171.90	1389.0
173.90	59792.0

174.90	5179.0
175.90	56304.0
176.90	4510.0
177.90	181.0
179.10	156.0
191.10	199.0
193.00	254.0
250.10	197.0
265.10	170.0
281.00	1222.0
282.10	335.0
283.00	276.0
283.30	230.0

Instrument :
MSVOA_T
ClientSampleId :
BFB91

Scan 905 (12.182 min): VT014056.D
BFB91

m/z	Abundance
36.00	4271.0
37.10	24208.0
38.10	21168.0
39.00	8253.0
40.00	752.0
40.90	219.0
41.30	251.0
42.90	418.0
44.00	2894.0
45.00	4257.0
45.90	264.0
47.00	4804.0
48.00	2606.0
49.00	16840.0
50.00	80496.0
51.10	26032.0
52.00	1249.0
53.00	225.0
55.00	1138.0
56.00	5879.0
57.00	11574.0
57.90	450.0
59.00	439.0
60.00	4243.0
61.00	18976.0
62.00	18176.0
63.00	13871.0
64.10	1199.0
65.10	714.0
67.10	1160.0
68.00	38872.0
69.00	40000.0
70.00	3261.0
71.00	178.0
72.10	1899.0
73.00	19168.0
74.00	62304.0
75.00	193600.0
76.00	16038.0
77.00	1891.0
77.90	1390.0
78.90	8906.0
80.00	2304.0
80.90	9100.0
81.90	1800.0
82.80	212.0
83.10	247.0
85.80	544.0
87.00	11858.0
87.90	11731.0
90.90	1002.0
92.00	9777.0
93.00	15651.0
94.00	41384.0
95.00	342336.0
96.00	23576.0
97.00	656.0
101.90	157.0
102.80	423.0
103.00	407.0
104.00	1539.0
104.90	435.0
106.00	1148.0
107.00	297.0
111.00	400.0
111.80	289.0
112.80	303.0
114.80	358.0
115.00	370.0
116.00	1226.0
116.90	2447.0
117.90	1314.0
118.90	2216.0
120.10	193.0
121.90	152.0
122.80	195.0
123.90	407.0
125.00	763.0
126.90	258.0
127.90	1049.0
128.90	405.0
129.80	1069.0
130.80	399.0
131.00	401.0
132.00	154.0
133.10	1754.0
134.20	475.0
134.90	882.0
136.00	220.0
136.90	695.0
139.00	159.0

Instrument :
MSVOA_T
ClientSampleId :
BFB91

139.90	179.0
140.90	3772.0
141.70	469.0
142.90	3875.0
143.80	153.0
145.00	405.0
145.90	762.0
146.80	533.0
147.80	808.0
148.90	289.0
149.90	359.0
152.00	287.0
152.80	300.0
153.90	211.0
154.90	818.0
156.90	422.0
158.90	485.0
161.00	543.0
162.80	405.0
165.10	342.0
171.10	304.0
172.00	1813.0
173.90	249472.0
175.00	20112.0
175.90	236608.0
176.90	16287.0
178.10	819.0
178.80	306.0
179.00	330.0
189.00	193.0
191.00	1590.0
191.80	276.0
192.90	2221.0
193.90	536.0
194.80	240.0
203.20	229.0
205.00	302.0
206.10	164.0
207.00	936.0
208.00	494.0
234.90	213.0
249.10	724.0
249.90	289.0
250.80	249.0
264.90	1095.0
266.10	233.0
267.00	326.0
279.80	161.0
281.00	9108.0
282.10	2327.0
283.00	1442.0
284.10	481.0

Instrument :
MSVOA_T
ClientSampleId :
BFB91

Scan 906 (12.194 min): VT014056.D
BFB91

m/z	Abundance
36.10	1240.0
37.10	7006.0
38.00	6644.0
39.00	2349.0
40.00	432.0
42.90	220.0
44.00	965.0
45.00	1372.0
46.20	223.0
47.00	1608.0
47.80	749.0
49.00	5453.0
50.00	27640.0
51.00	7812.0
52.10	386.0
55.00	591.0
56.00	2112.0
57.00	3662.0
57.90	157.0
59.00	373.0
60.00	1262.0
61.00	6487.0
62.00	6667.0
63.00	4924.0
64.00	503.0
65.10	533.0
68.00	14234.0
69.00	15100.0
70.00	1127.0
72.00	929.0
73.00	8259.0
74.00	22576.0
75.00	70520.0
76.10	5330.0
76.90	760.0
78.00	519.0
78.90	3515.0
80.00	874.0
80.90	3457.0
82.00	863.0
83.00	157.0
85.10	186.0
85.80	176.0
87.00	4552.0
87.90	4434.0
91.00	553.0
92.00	4384.0
93.00	6157.0
94.00	17496.0
95.00	134592.0
96.00	8504.0
97.10	312.0
102.90	436.0
103.80	916.0
104.90	569.0
106.00	532.0
110.10	226.0
110.80	398.0
111.20	277.0
111.90	315.0
112.90	288.0
115.10	270.0
115.90	627.0
117.00	1222.0
117.80	903.0
118.90	1108.0
124.90	646.0
125.80	272.0
126.60	157.0
127.90	475.0
128.90	234.0
130.00	482.0
131.00	344.0
132.90	1529.0
133.90	723.0
134.90	370.0
136.90	317.0
140.90	1833.0
143.00	2269.0
144.00	201.0
144.80	343.0
145.90	321.0
147.00	282.0
147.90	412.0
149.00	324.0
149.80	258.0
154.90	455.0
156.90	344.0
159.00	280.0
161.00	452.0
163.00	470.0

Instrument :
MSVOA_T
ClientSampleId :
BFB91

163.90	170.0
164.80	311.0
165.10	300.0
172.10	954.0
173.90	148160.0
175.90	145984.0
176.90	9426.0
177.70	473.0
179.10	681.0
179.90	194.0
189.00	240.0
190.00	165.0
191.00	2064.0
191.90	584.0
192.90	3068.0
193.90	795.0
194.80	417.0
195.90	173.0
203.00	164.0
204.00	187.0
205.10	536.0
207.00	1688.0
208.00	472.0
209.00	224.0
234.80	258.0
235.00	257.0
247.00	199.0
248.10	197.0
248.90	1914.0
250.00	502.0
251.10	578.0
252.00	284.0
264.00	184.0
265.00	2274.0
266.10	791.0
267.00	610.0
268.10	165.0
279.20	269.0
281.10	26856.0
282.10	6838.0
283.00	5118.0
284.10	1045.0
285.00	452.0

Instrument :
MSVOA_T
ClientSampleId :
BFB91

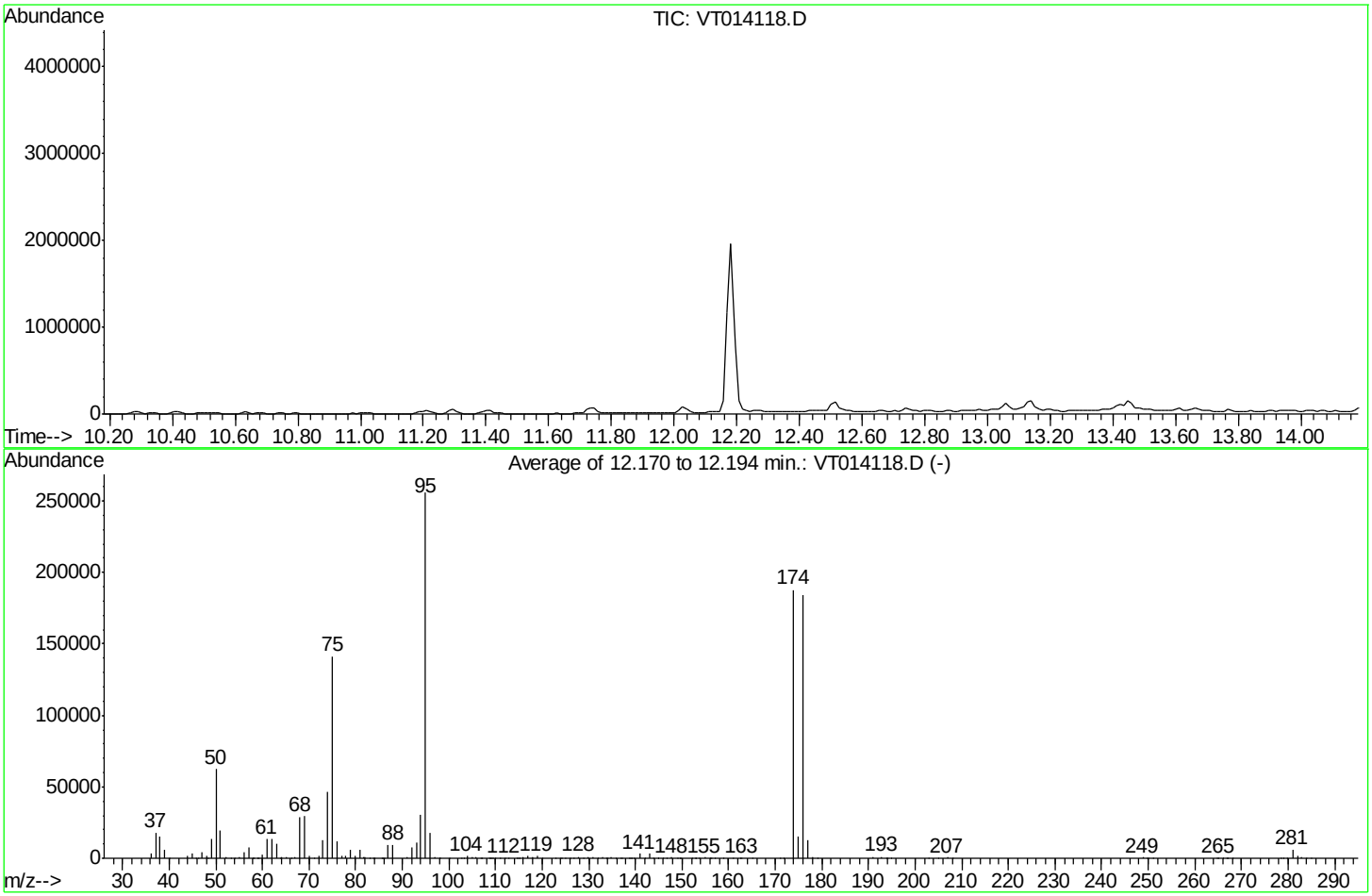
BFB

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014118.D
Acq On : 12 May 2016 12:44
Operator : FY/SY
Sample : BFB92
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : BFB92

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Title : VOC Analysis
Last Update : Fri May 13 05:21:52 2016



AutoFind: Scans 904, 905, 906; Background Corrected with Scan 901

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.3	62248	PASS
75	95	30	80	55.3	141429	PASS
95	95	100	100	100.0	255872	PASS
96	95	5	9	6.9	17768	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	73.4	187906	PASS
175	174	5	9	8.0	15068	PASS
176	174	95	101	98.1	184330	PASS
177	176	5	9	6.7	12326	PASS

Scan 901 (12.134 min): VT014118.D
BFB92

m/z	Abundance
36.00	204.0
38.90	913.0
40.00	570.0
41.00	1884.0
42.00	595.0
43.10	2168.0
44.00	639.0
51.00	155.0
52.90	273.0
55.00	966.0
56.10	921.0
57.10	2273.0
65.00	222.0
67.00	328.0
69.10	942.0
69.90	529.0
70.20	516.0
71.20	708.0
73.10	198.0
79.30	178.0
81.00	473.0
83.10	346.0
84.00	297.0
85.20	468.0
91.00	353.0
93.00	274.0
95.30	316.0
96.00	192.0
96.30	186.0
97.00	163.0
98.20	292.0
98.90	154.0
103.20	190.0
111.10	248.0
112.10	180.0
125.10	194.0
132.90	162.0
192.90	163.0
207.00	161.0
250.90	150.0
265.10	202.0
281.00	1498.0
282.10	379.0
283.10	159.0

Instrument :
MSVOA_T
ClientSampleId :
BFB92

Scan 904 (12.170 min): VT014118.D
BFB92

Instrument :
MSVOA_T
ClientSampleId :
BFB92

m/z	Abundance
36.10	3793.0
37.10	21656.0
38.00	20192.0
39.00	8759.0
39.90	1048.0
41.10	2020.0
42.00	385.0
43.10	2228.0
44.00	2319.0
45.00	3868.0
46.10	349.0
47.00	5501.0
47.90	2137.0
49.10	16082.0
50.00	75136.0
51.00	22472.0
52.10	1136.0
53.00	198.0
53.30	219.0
54.10	189.0
55.00	2113.0
56.10	6073.0
57.00	11630.0
58.00	632.0
58.90	176.0
60.00	2845.0
61.00	14324.0
62.00	15315.0
63.00	11178.0
64.00	1415.0
65.10	1059.0
67.00	1027.0
68.00	30784.0
69.00	33776.0
70.00	2884.0
70.90	858.0
72.00	1748.0
73.00	12819.0
74.00	50096.0
75.00	148480.0
76.00	12356.0
77.10	1473.0
77.90	1210.0
78.90	6323.0
79.90	2078.0
80.90	6835.0
81.80	1623.0
83.10	506.0
84.20	310.0
85.00	416.0
85.80	279.0
86.90	10476.0
87.90	8870.0
90.90	915.0
92.00	7685.0
93.00	10607.0
94.00	27560.0
95.00	241472.0
96.00	18128.0
97.20	858.0
97.90	331.0
98.10	327.0
98.90	276.0
100.00	158.0
103.20	231.0
103.90	1216.0
105.00	864.0
106.00	961.0
106.80	220.0
107.00	222.0
108.60	163.0
109.20	234.0
111.00	466.0
112.00	232.0
113.00	381.0
114.50	235.0
114.80	305.0
116.00	940.0
116.90	1376.0
117.90	737.0
118.90	1218.0
120.10	157.0
122.90	158.0
123.90	165.0
124.10	178.0
125.00	422.0
127.90	711.0
129.00	500.0
129.90	589.0
130.90	579.0
133.10	454.0
133.80	171.0

134.80	333.0
135.90	172.0
136.90	433.0
139.00	197.0
139.80	155.0
140.90	2140.0
142.00	370.0
142.90	2415.0
143.80	185.0
144.70	180.0
145.00	187.0
146.00	284.0
146.80	159.0
147.80	357.0
149.60	166.0
155.10	375.0
157.00	319.0
158.90	276.0
160.80	192.0
171.90	660.0
173.90	110792.0
174.90	9575.0
175.90	106656.0
177.00	7917.0
177.80	252.0
179.20	160.0
191.00	290.0
192.90	350.0
207.00	348.0
207.90	153.0
248.90	402.0
264.80	184.0
281.00	2152.0
282.10	905.0
283.00	402.0

Instrument :
MSVOA_T
ClientSampleId :
BFB92

Scan 905 (12.182 min): VT014118.D
BFB92

Instrument :
MSVOA_T
ClientSampleId :
BFB92

m/z	Abundance
36.10	4729.0
37.10	24904.0
38.10	20896.0
39.00	8629.0
40.00	812.0
41.10	1846.0
42.10	511.0
43.10	1712.0
44.00	3216.0
45.10	4470.0
45.80	219.0
46.10	233.0
47.10	5712.0
48.00	2359.0
49.00	18960.0
50.00	87128.0
51.00	28088.0
52.10	931.0
53.10	320.0
55.00	2340.0
56.00	7062.0
57.00	13088.0
58.00	630.0
58.90	384.0
59.10	373.0
60.00	4033.0
61.00	19120.0
62.00	19336.0
63.00	14829.0
64.10	1166.0
65.10	793.0
66.10	165.0
67.00	1277.0
68.00	43504.0
69.00	43944.0
70.00	3383.0
71.00	1134.0
72.10	2307.0
73.00	18224.0
74.00	68064.0
75.00	212352.0
76.10	16728.0
77.00	2504.0
78.00	1928.0
78.90	9211.0
79.90	2936.0
80.90	10354.0
82.00	2273.0
83.10	733.0
84.20	434.0
85.10	292.0
86.10	484.0
87.00	14043.0
88.00	14640.0
90.90	1545.0
92.00	11026.0
93.00	16976.0
94.00	47040.0
95.00	392256.0
96.00	26728.0
97.10	1075.0
98.00	301.0
99.00	158.0
100.10	151.0
103.10	360.0
104.00	2035.0
104.90	857.0
105.90	1401.0
107.00	305.0
109.50	197.0
110.00	201.0
111.00	607.0
111.80	380.0
112.00	377.0
112.90	368.0
114.80	402.0
116.00	1330.0
116.80	2221.0
117.90	1803.0
118.90	2620.0
120.00	259.0
123.00	214.0
124.00	285.0
125.10	480.0
125.80	355.0
126.80	242.0
127.90	1665.0
128.80	477.0
129.90	1648.0
130.90	972.0
132.00	256.0
132.90	729.0

133.70	311.0
134.90	1019.0
135.70	158.0
136.90	741.0
138.90	244.0
139.20	253.0
140.90	4794.0
143.00	4928.0
143.80	253.0
144.80	457.0
145.00	437.0
145.90	523.0
146.80	355.0
147.90	1053.0
149.00	190.0
149.80	372.0
152.00	232.0
152.80	259.0
153.80	243.0
155.00	1302.0
155.90	250.0
156.90	707.0
158.80	456.0
160.90	760.0
162.90	356.0
165.10	173.0
171.10	297.0
173.90	299840.0
175.00	22912.0
175.90	296256.0
176.90	19440.0
177.90	893.0
179.00	244.0
191.00	581.0
192.90	1402.0
193.80	234.0
194.00	249.0
195.00	228.0
206.90	741.0
208.00	224.0
248.90	486.0
251.00	189.0
265.00	745.0
266.00	238.0
266.80	167.0
267.10	165.0
268.10	192.0
278.40	151.0
281.10	7318.0
282.10	2226.0
283.00	1267.0
284.10	158.0
285.10	158.0

Instrument :
MSVOA_T
ClientSampleId :
BFB92

Scan 906 (12.194 min): VT014118.D
BFB92

Instrument :
MSVOA_T
ClientSampleId :
BFB92

m/z	Abundance
36.00	1469.0
37.00	7349.0
38.00	5821.0
39.10	3184.0
40.00	634.0
41.00	1488.0
42.10	435.0
43.00	2152.0
44.00	961.0
45.00	1199.0
46.20	263.0
47.00	1716.0
47.90	555.0
48.20	715.0
49.10	5337.0
50.00	24480.0
51.00	8450.0
52.00	437.0
53.10	175.0
55.00	1612.0
56.00	2480.0
57.00	5400.0
58.20	278.0
59.20	215.0
60.00	1093.0
61.00	5978.0
62.10	5492.0
63.00	3937.0
63.80	287.0
64.20	315.0
65.10	367.0
67.00	701.0
68.00	13075.0
69.00	14442.0
70.10	1422.0
71.10	1177.0
72.00	734.0
73.00	6641.0
74.00	22112.0
75.00	63456.0
76.00	5551.0
77.00	660.0
77.90	841.0
78.90	3037.0
80.00	959.0
80.90	3326.0
81.80	691.0
83.00	597.0
83.70	228.0
84.00	226.0
84.20	234.0
85.00	418.0
85.50	270.0
87.00	3650.0
88.00	5038.0
90.80	526.0
92.00	4120.0
93.00	5617.0
94.00	15778.0
95.00	133888.0
96.00	9025.0
97.10	698.0
98.20	289.0
102.70	277.0
103.00	223.0
103.90	694.0
105.10	455.0
105.80	575.0
106.60	224.0
108.90	184.0
110.00	256.0
111.10	435.0
112.10	335.0
112.80	195.0
115.00	394.0
116.00	594.0
116.80	961.0
118.00	633.0
118.80	1057.0
125.00	517.0
125.90	192.0
127.90	734.0
129.00	410.0
130.00	453.0
130.90	517.0
133.10	781.0
134.10	409.0
134.80	444.0
137.10	385.0
138.60	165.0
138.80	158.0
140.90	2516.0

141.90	286.0
142.90	1903.0
144.80	185.0
145.90	321.0
146.80	190.0
147.80	537.0
148.90	192.0
149.80	261.0
152.00	187.0
153.00	190.0
154.80	435.0
156.20	163.0
156.90	222.0
159.00	238.0
161.00	380.0
162.60	185.0
162.80	224.0
171.90	368.0
173.90	153088.0
175.00	12718.0
175.90	150080.0
176.90	9621.0
178.00	288.0
179.10	269.0
191.00	847.0
193.00	1635.0
194.00	310.0
194.90	308.0
203.00	182.0
204.90	297.0
207.00	1109.0
208.00	227.0
248.90	881.0
249.70	182.0
250.00	218.0
251.00	423.0
265.10	964.0
266.10	172.0
266.90	305.0
279.10	158.0
279.70	178.0
281.00	12816.0
282.00	3376.0
283.00	2481.0
283.90	595.0
285.00	203.0

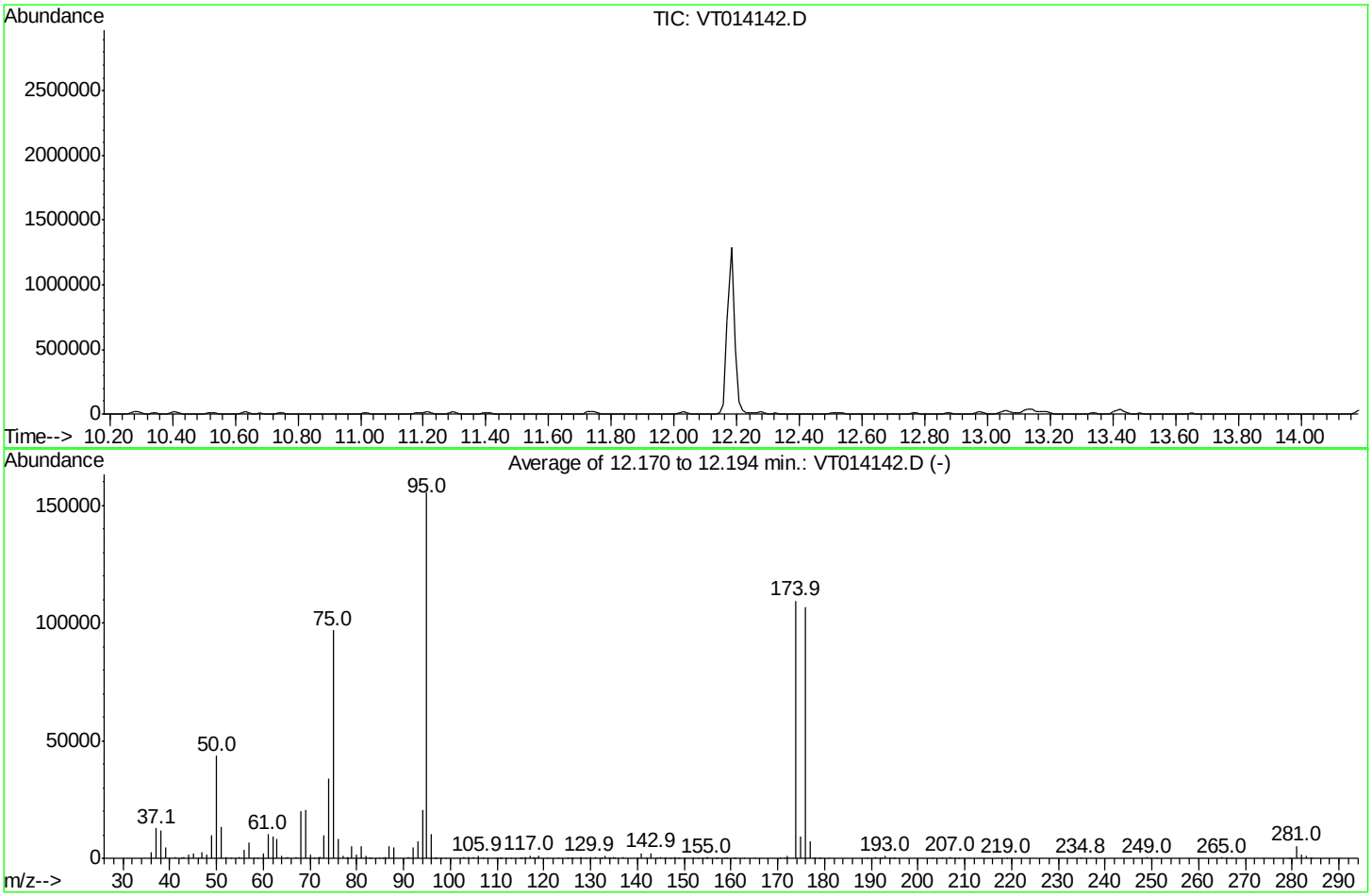
Instrument :
MSVOA_T
ClientSampleId :
BFB92

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014142.D
Acq On : 13 May 2016 13:01
Operator : FY/SY
Sample : BFB93
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : BFB93

Integration File: LSCINT.P

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis
Last Update : Fri May 13 23:58:56 2016



AutoFind: Scans 904, 905, 906; Background Corrected with Scan 901

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	27.9	43466	PASS
75	95	30	80	62.3	96936	PASS
95	95	100	100	100.0	155514	PASS
96	95	5	9	6.8	10510	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	70.4	109426	PASS
175	174	5	9	8.2	9013	PASS
176	174	95	101	97.7	106898	PASS
177	176	5	9	6.6	7012	PASS

Scan 901 (12.135 min): VT014142.D
BFB93

m/z	Abundance
39.90	427.0
43.90	337.0
193.00	177.0
281.10	751.0
282.10	275.0

Instrument :
MSVOA_T
ClientSampleId :
BFB93

Scan 904 (12.170 min): VT014142.D
BFB93

m/z	Abundance
36.00	3173.0
37.10	15437.0
38.10	14828.0
39.10	5983.0
40.10	720.0
41.10	1016.0
42.40	154.0
43.00	835.0
44.00	2017.0
45.10	2235.0
47.00	2711.0
48.00	1466.0
49.00	11143.0
50.00	50128.0
51.00	15252.0
52.10	647.0
53.10	371.0
55.00	913.0
56.00	4542.0
57.00	7878.0
58.10	359.0
60.00	2292.0
61.00	10840.0
62.00	10712.0
63.00	9011.0
64.00	1059.0
65.10	1186.0
67.00	682.0
68.00	20368.0
69.00	21728.0
70.10	2087.0
71.00	416.0
71.90	1027.0
73.00	9097.0
74.00	33816.0
75.00	98200.0
76.00	9030.0
77.10	1100.0
77.90	683.0
78.90	5144.0
79.90	1661.0
81.00	4985.0
81.90	1180.0
84.90	295.0
86.00	301.0
86.90	4937.0
87.90	4309.0
91.00	627.0
92.00	4561.0
93.00	6511.0
94.00	19112.0
95.00	139584.0
96.00	9600.0
96.80	345.0
98.00	269.0
99.10	152.0
102.90	265.0
103.90	570.0
105.00	322.0
105.90	591.0
110.90	173.0
115.20	238.0
116.00	657.0
117.00	818.0
117.90	490.0
118.80	699.0
119.00	672.0
122.90	164.0
127.80	550.0
130.00	368.0
131.10	296.0
132.90	305.0
134.90	210.0
135.10	224.0
137.10	257.0
140.90	1342.0
142.00	282.0
143.00	1557.0
145.00	444.0
145.80	223.0
147.90	310.0
155.00	318.0
158.80	213.0
171.90	1195.0
173.90	57744.0
175.00	5048.0
175.90	54392.0
177.00	3526.0
177.80	216.0
191.00	172.0
193.00	321.0
207.00	164.0

Instrument :
MSVOA_T
ClientSampleId :
BFB93

280.90	1177.0
282.10	334.0
282.90	234.0

Instrument :
MSVOA_T
ClientSampleId :
BFB93

Scan 905 (12.182 min): VT014142.D
BFB93

m/z	Abundance
36.00	3064.0
37.10	17624.0
38.00	16944.0
39.10	6316.0
40.00	411.0
41.20	250.0
43.00	467.0
44.00	2558.0
45.10	3016.0
46.00	397.0
47.00	3688.0
48.00	2162.0
49.00	14193.0
50.00	61944.0
51.00	19384.0
52.10	1191.0
55.00	1037.0
56.00	5003.0
57.00	9487.0
57.90	472.0
58.90	324.0
60.00	2640.0
61.00	15494.0
62.00	13463.0
63.00	11723.0
64.10	1419.0
65.10	598.0
67.00	862.0
68.00	30824.0
69.00	30888.0
70.10	2365.0
71.00	271.0
72.10	1396.0
73.00	13884.0
74.00	52768.0
75.00	146944.0
76.00	12046.0
77.00	1197.0
78.10	1204.0
78.90	7367.0
79.90	2084.0
80.90	8437.0
81.90	1812.0
83.00	285.0
85.60	160.0
85.90	314.0
86.10	329.0
87.00	7849.0
88.00	7777.0
91.00	1058.0
92.00	7442.0
93.00	11982.0
94.00	31896.0
95.00	244352.0
96.00	16286.0
97.00	419.0
103.00	290.0
103.90	1240.0
105.10	414.0
106.00	1655.0
106.90	285.0
109.80	241.0
110.00	230.0
111.00	248.0
112.00	343.0
113.00	303.0
114.90	383.0
115.90	963.0
116.90	1815.0
117.90	1394.0
119.00	1790.0
125.00	355.0
125.80	246.0
126.00	261.0
128.00	991.0
128.90	557.0
129.90	976.0
130.90	317.0
132.30	166.0
133.00	1285.0
134.10	187.0
134.90	601.0
136.90	541.0
140.90	3237.0
141.80	264.0
142.90	3407.0
144.10	166.0
145.00	550.0
146.10	364.0
146.90	273.0
148.00	567.0
148.90	160.0

Instrument :
MSVOA_T
ClientSampleId :
BFB93

150.00	282.0
152.00	223.0
152.90	273.0
153.90	252.0
155.00	603.0
156.80	370.0
157.00	385.0
158.60	359.0
159.10	358.0
160.70	419.0
165.10	169.0
170.50	181.0
172.00	879.0
173.90	180416.0
175.00	14260.0
175.90	179584.0
176.90	11540.0
177.80	443.0
178.90	170.0
190.90	539.0
191.90	260.0
193.00	1280.0
193.90	203.0
194.70	168.0
207.10	653.0
249.00	395.0
250.90	388.0
265.00	441.0
265.90	174.0
266.90	171.0
281.00	5430.0
282.00	1315.0
283.00	1183.0
283.90	271.0

Instrument :
MSVOA_T
ClientSampleId :
BFB93

Scan 906 (12.194 min): VT014142.D
BFB93

m/z	Abundance
35.90	798.0
37.00	5002.0
38.00	4206.0
39.10	2089.0
40.00	384.0
43.00	161.0
44.00	1104.0
45.10	1049.0
46.00	211.0
47.00	753.0
48.10	492.0
49.10	3969.0
50.00	18328.0
51.00	5271.0
52.10	326.0
54.90	204.0
56.00	1805.0
57.00	2463.0
58.80	216.0
60.00	769.0
61.00	4473.0
62.00	3962.0
63.10	3318.0
64.00	519.0
64.80	296.0
65.10	296.0
67.10	442.0
68.00	9717.0
69.00	8935.0
70.00	680.0
72.10	647.0
73.00	5795.0
74.00	15021.0
75.00	45664.0
76.00	3522.0
77.10	512.0
78.00	363.0
78.90	2756.0
80.00	673.0
80.90	2365.0
81.90	631.0
82.70	156.0
86.20	173.0
87.00	2471.0
88.00	1994.0
91.10	471.0
92.00	2594.0
93.00	3539.0
94.00	11202.0
95.00	82608.0
96.00	5645.0
97.00	192.0
103.00	343.0
103.80	494.0
105.10	251.0
105.80	542.0
109.70	151.0
110.50	159.0
111.00	231.0
115.90	444.0
116.90	869.0
117.90	391.0
118.10	423.0
118.80	850.0
120.80	171.0
125.20	338.0
128.00	355.0
128.90	235.0
129.90	488.0
130.80	235.0
133.00	932.0
133.80	329.0
134.90	283.0
136.90	259.0
140.10	205.0
140.90	1252.0
141.90	264.0
142.90	1527.0
144.00	260.0
144.90	184.0
146.00	193.0
146.80	196.0
147.00	200.0
147.90	354.0
148.80	160.0
150.00	177.0
154.70	241.0
156.90	300.0
158.80	206.0
161.00	225.0
162.70	175.0
164.90	235.0

Instrument :
MSVOA_T
ClientSampleId :
BFB93

171.50	273.0
172.10	684.0
173.90	90120.0
175.00	7732.0
175.90	86720.0
176.90	5971.0
178.10	233.0
179.10	255.0
180.90	181.0
189.10	227.0
191.00	899.0
192.10	308.0
193.00	1954.0
193.90	447.0
195.00	254.0
202.90	199.0
205.10	341.0
206.90	792.0
208.00	347.0
208.80	215.0
219.00	190.0
234.80	157.0
249.00	1010.0
249.60	156.0
251.00	283.0
265.00	1007.0
266.00	381.0
267.00	311.0
279.30	372.0
281.00	11299.0
282.00	3115.0
283.00	2179.0
284.10	566.0

Instrument :
MSVOA_T
ClientSampleId :
BFB93

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK85

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0512SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014120.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/12/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl Acetate	5.0	U
75-09-2	Methylene chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl Ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK85

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0512SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014120.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/12/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-trichlorobenzene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK85

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0512SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014120.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/12/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK85

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0512SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014120.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/12/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

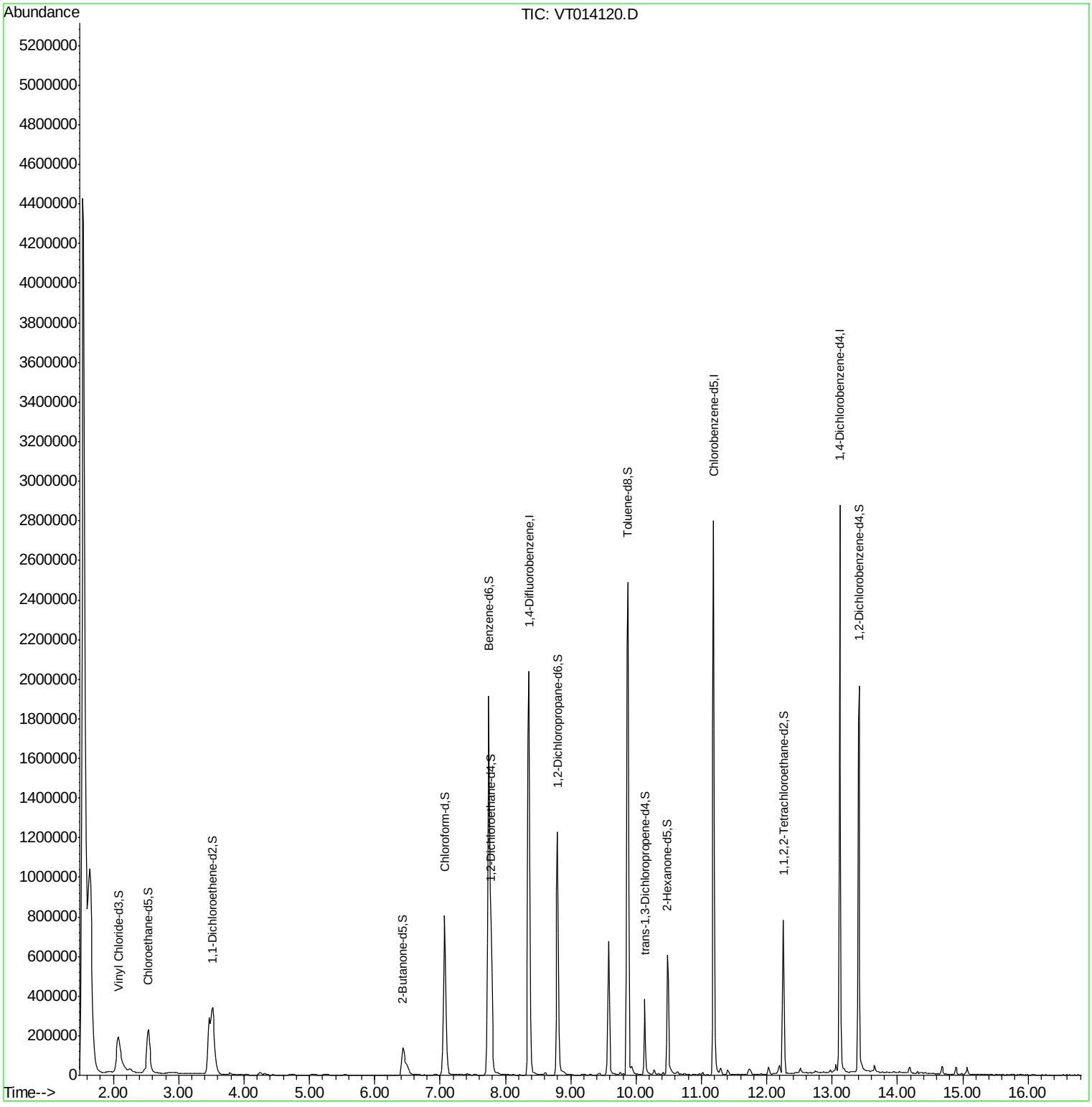
Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 05:27:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK85

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:32 PM



Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK85

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:32 PM

Quant Time: May 13 05:27:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1622116	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1275965	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	621501	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	571967	22.77	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 91.08%			
7) Chloroethane-d5	2.54	69	420449	22.13	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 88.52%			
10) 1,1-Dichloroethene-d2	3.52	63	809174m	15.26	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 61.04%			
20) 2-Butanone-d5	6.43	46	280321	40.92	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 81.84%			
24) Chloroform-d	7.07	84	890614	20.14	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 80.56%			
26) 1,2-Dichloroethane-d4	7.78	65	512907	19.70	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 78.80%			
29) Benzene-d6	7.74	84	1879948	22.00	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 88.00%			
33) 1,2-Dichloropropane-d6	8.80	67	559981	21.97	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 87.88%			
37) Toluene-d8	9.87	98	1616646	21.50	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 86.00%			
38) trans-1,3-Dichloropropene-	10.13	79	181336	20.57	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 82.28%			
39) 2-Hexanone-d5	10.48	63	189028	44.39	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 88.78%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	346295	20.40	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 81.60%			
60) 1,2-Dichlorobenzene-d4	13.41	152	488156	20.99	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 83.96%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK85

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.532	3	5	11	rVB	3590454	8852406	100.00%	16.312%
2	1.639	11	14	31	rVB	1030417	4200055	47.45%	7.739%
3	1.923	33	38	39	rBV4	6308	15167	0.17%	0.028%
4	2.077	44	51	64	rBV	178694	874747	9.88%	1.612%
5	2.254	64	66	74	rVB3	19562	68918	0.78%	0.127%
6	2.538	81	90	103	rVB	219815	799460	9.03%	1.473%
7	2.881	117	119	120	rBV2	2562	3698	0.04%	0.007%
8	3.094	136	137	144	rBV3	2190	6519	0.07%	0.012%
9	3.224	146	148	149	rVB2	2736	3049	0.03%	0.006%
10	3.461	163	168	170	rVV	286394	816484	9.22%	1.504%
11	3.520	170	173	188	rVB	340250	1260578	14.24%	2.323%
12	3.781	191	195	201	rBV2	8457	26242	0.30%	0.048%
13	4.041	216	217	221	rVB	1860	2746	0.03%	0.005%
14	4.242	229	234	238	rBV3	10699	33540	0.38%	0.062%
15	4.313	238	240	246	rVB5	5790	18531	0.21%	0.034%
16	4.727	271	275	282	rVB4	5529	20459	0.23%	0.038%
17	5.059	298	303	310	rVB5	3172	13342	0.15%	0.025%
18	5.260	315	320	325	rVB3	5044	18891	0.21%	0.035%
19	5.544	337	344	349	rVB3	2040	8076	0.09%	0.015%
20	6.431	414	419	433	rBV2	138032	604152	6.82%	1.113%
21	6.644	436	437	443	rVB4	2943	7305	0.08%	0.013%
22	6.763	443	447	450	rVB3	1789	5391	0.06%	0.010%
23	6.916	457	460	466	rVB4	3299	9872	0.11%	0.018%
24	7.070	467	473	485	rBV	805389	2224355	25.13%	4.099%
25	7.319	489	494	498	rVB3	2729	9095	0.10%	0.017%
26	7.413	498	502	507	rVB4	5806	17773	0.20%	0.033%
27	7.532	507	512	516	rVB3	3281	10734	0.12%	0.020%
28	7.745	525	530	539	rBV2	1914464	5888957	66.52%	10.851%
29	7.969	547	549	557	rVB5	5041	20140	0.23%	0.037%
30	8.123	560	562	567	rVB4	1777	4246	0.05%	0.008%
31	8.360	578	582	597	rVB	2038380	4145212	46.83%	7.638%
32	8.608	597	603	607	rVB6	11904	29518	0.33%	0.054%
33	8.798	615	619	624	rBV	1225002	2482710	28.05%	4.575%
34	8.987	633	635	638	rVB3	1539	3347	0.04%	0.006%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK85

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Title : VOC Analysis

35	9.176	648	651	656	rBV4	3772	11569	0.13%	0.021%
36	9.295	659	661	665	rVB4	3384	6815	0.08%	0.013%
37	9.437	669	673	676	rBV3	9329	20361	0.23%	0.038%
38	9.579	681	685	696	rVV	676499	1136042	12.83%	2.093%
39	9.756	697	700	703	rVV	10476	23860	0.27%	0.044%
40	9.804	703	704	706	rVV	5736	6976	0.08%	0.013%
41	9.875	706	710	714	rVV	2489668	4484343	50.66%	8.263%
42	9.934	714	715	726	rVV	43315	85737	0.97%	0.158%
43	10.076	726	727	728	rVV	2830	3196	0.04%	0.006%
44	10.135	728	732	741	rVV	380600	656707	7.42%	1.210%
45	10.277	741	744	747	rVV	24428	51315	0.58%	0.095%
46	10.336	747	749	752	rVV3	7168	12919	0.15%	0.024%
47	10.407	752	755	758	rVV3	12035	21977	0.25%	0.040%
48	10.478	758	761	772	rVV	603429	1086964	12.28%	2.003%
49	10.632	772	774	777	rVV2	13520	26317	0.30%	0.048%
50	10.738	781	783	786	rVB2	7045	12441	0.14%	0.023%
51	10.798	786	788	791	rVB3	3458	6417	0.07%	0.012%
52	10.904	795	797	799	rVB3	1895	3771	0.04%	0.007%
53	10.975	799	803	805	rBV3	5738	13217	0.15%	0.024%
54	11.022	805	807	810	rVB	11274	19215	0.22%	0.035%
55	11.082	810	812	817	rBV4	1771	3483	0.04%	0.006%
56	11.188	817	821	828	rBV	2798030	4384476	49.53%	8.079%
57	11.295	828	830	834	rVB	32855	52735	0.60%	0.097%
58	11.401	836	839	844	rVB	24598	52705	0.60%	0.097%
59	11.614	853	857	858	rBV4	1074	2898	0.03%	0.005%
60	11.732	864	867	873	rVB2	28211	71637	0.81%	0.132%
61	11.827	873	875	877	rBV2	2484	4549	0.05%	0.008%
62	11.910	879	882	883	rBV3	4067	6551	0.07%	0.012%
63	12.028	889	892	895	rBV	35691	52686	0.60%	0.097%
64	12.099	895	898	899	rBV3	2769	4648	0.05%	0.009%
65	12.194	899	906	908	rBV	45828	92950	1.05%	0.171%
66	12.253	908	911	915	rVB	774851	1168135	13.20%	2.152%
67	12.442	924	927	930	rBV4	6796	22508	0.25%	0.041%
68	12.513	930	933	937	rVV	27188	56119	0.63%	0.103%
69	12.655	943	945	948	rBV3	4925	9585	0.11%	0.018%
70	12.738	948	952	953	rBV3	10531	18623	0.21%	0.034%
71	12.868	961	963	965	rBV2	5595	6986	0.08%	0.013%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK85

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Title : VOC Analysis

72	12.975	966	972	974	rBV4	13439	29576	0.33%	0.054%
73	13.058	974	979	981	rBV	39048	77661	0.88%	0.143%
74	13.117	981	984	988	rBV	2854945	4147027	46.85%	7.641%
75	13.413	1005	1009	1012	rBV	1947626	3289826	37.16%	6.062%
76	13.649	1023	1029	1032	rVB2	32880	72989	0.82%	0.134%
77	13.768	1038	1039	1042	rVB3	9034	9984	0.11%	0.018%
78	13.839	1042	1045	1047	rVV3	6980	12822	0.14%	0.024%
79	13.910	1047	1051	1052	rVV3	4562	12042	0.14%	0.022%
80	13.945	1052	1054	1057	rVV3	8318	20511	0.23%	0.038%
81	14.040	1059	1062	1064	rVV4	5488	14430	0.16%	0.027%
82	14.075	1064	1065	1066	rVV	5328	5966	0.07%	0.011%
83	14.111	1066	1068	1070	rVV3	5141	8057	0.09%	0.015%
84	14.194	1070	1075	1078	rVB	30876	60709	0.69%	0.112%
85	14.300	1083	1084	1086	rVV	8195	13325	0.15%	0.025%
86	14.371	1086	1090	1092	rVV5	7616	19961	0.23%	0.037%
87	14.430	1092	1095	1098	rVB4	6275	12861	0.15%	0.024%
88	14.478	1098	1099	1102	rBV3	2785	4665	0.05%	0.009%
89	14.537	1102	1104	1105	rVB2	2115	2734	0.03%	0.005%
90	14.631	1110	1112	1113	rVB2	2902	2741	0.03%	0.005%
91	14.679	1113	1116	1120	rBV	39584	70266	0.79%	0.129%
92	14.892	1131	1134	1138	rVV	36206	67182	0.76%	0.124%
93	14.975	1140	1141	1143	rVV2	4174	5713	0.06%	0.011%
94	15.069	1143	1149	1156	rVB2	39888	79762	0.90%	0.147%
95	15.211	1159	1161	1165	rVB5	1860	4641	0.05%	0.009%
96	15.685	1197	1201	1204	rBV3	1608	3314	0.04%	0.006%
97	15.886	1215	1218	1220	rVV2	2434	4797	0.05%	0.009%
98	16.063	1229	1233	1235	rVV3	2452	3252	0.04%	0.006%
99	16.596	1275	1278	1280	rBV2	1400	3594	0.04%	0.007%
100	16.714	1284	1288	1290	rBV2	1188	2603	0.03%	0.005%

Sum of corrected areas: 54270159

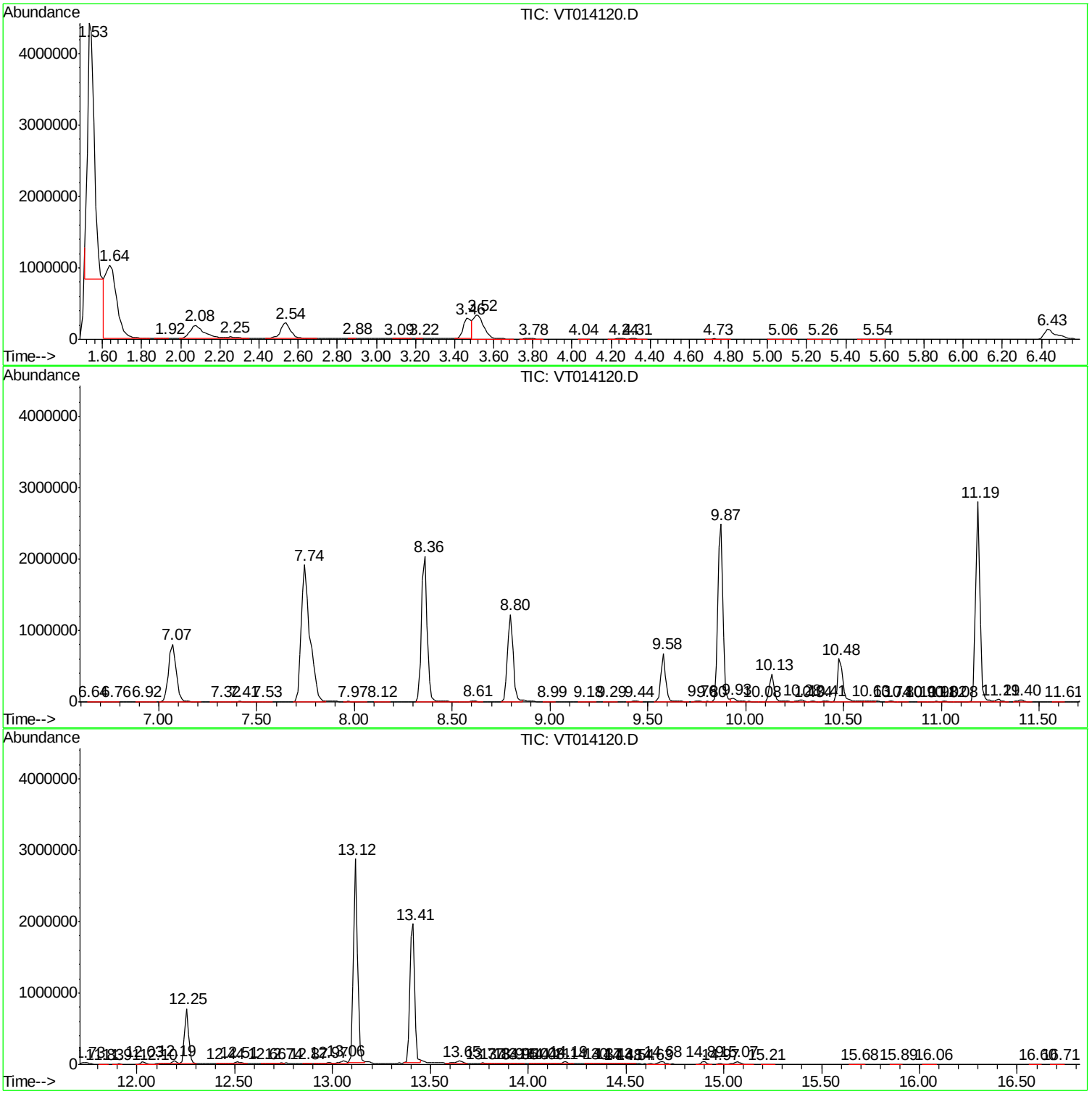
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK85

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK85

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK85

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

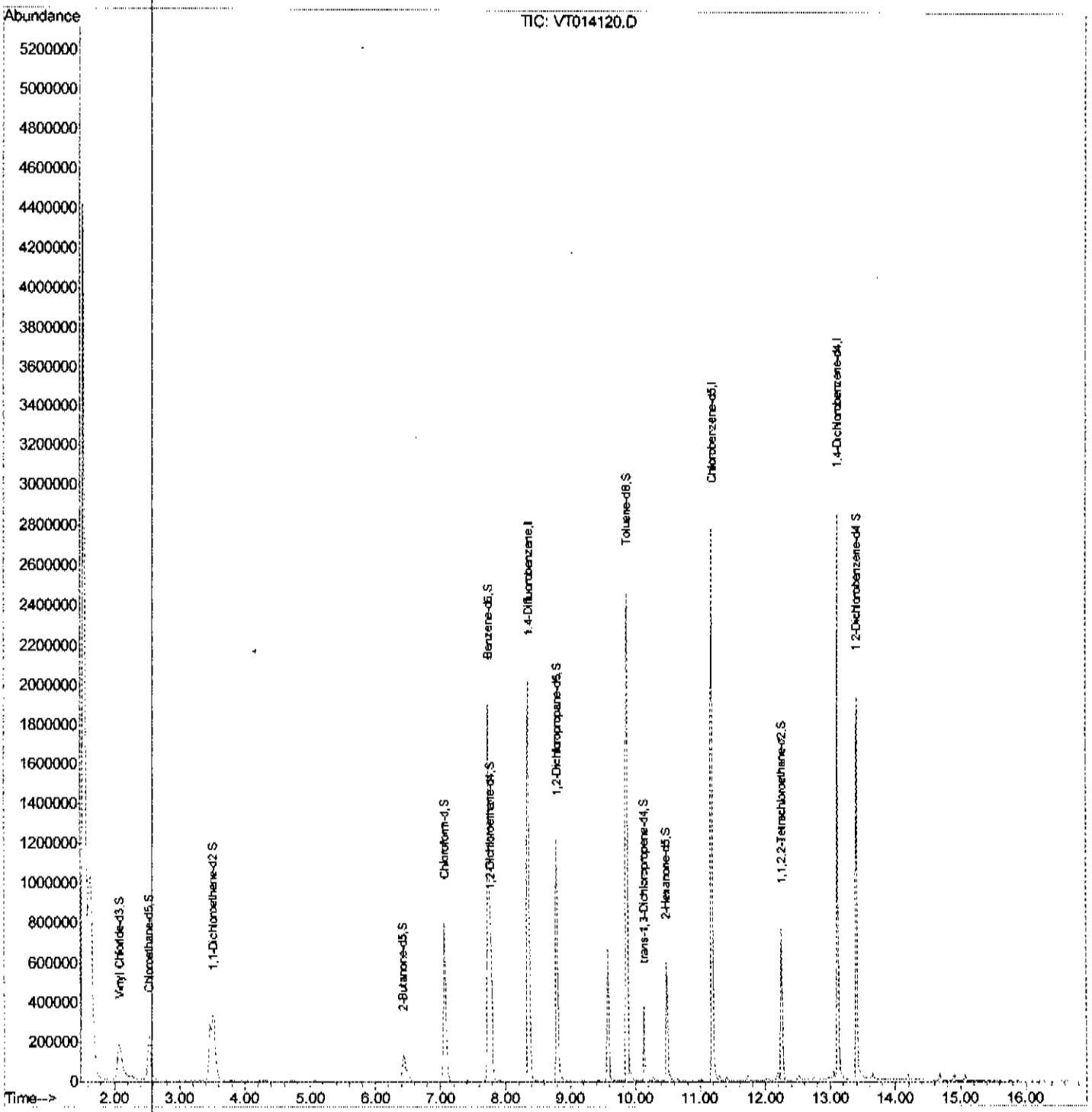
Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 05:27:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK85

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:32 PM



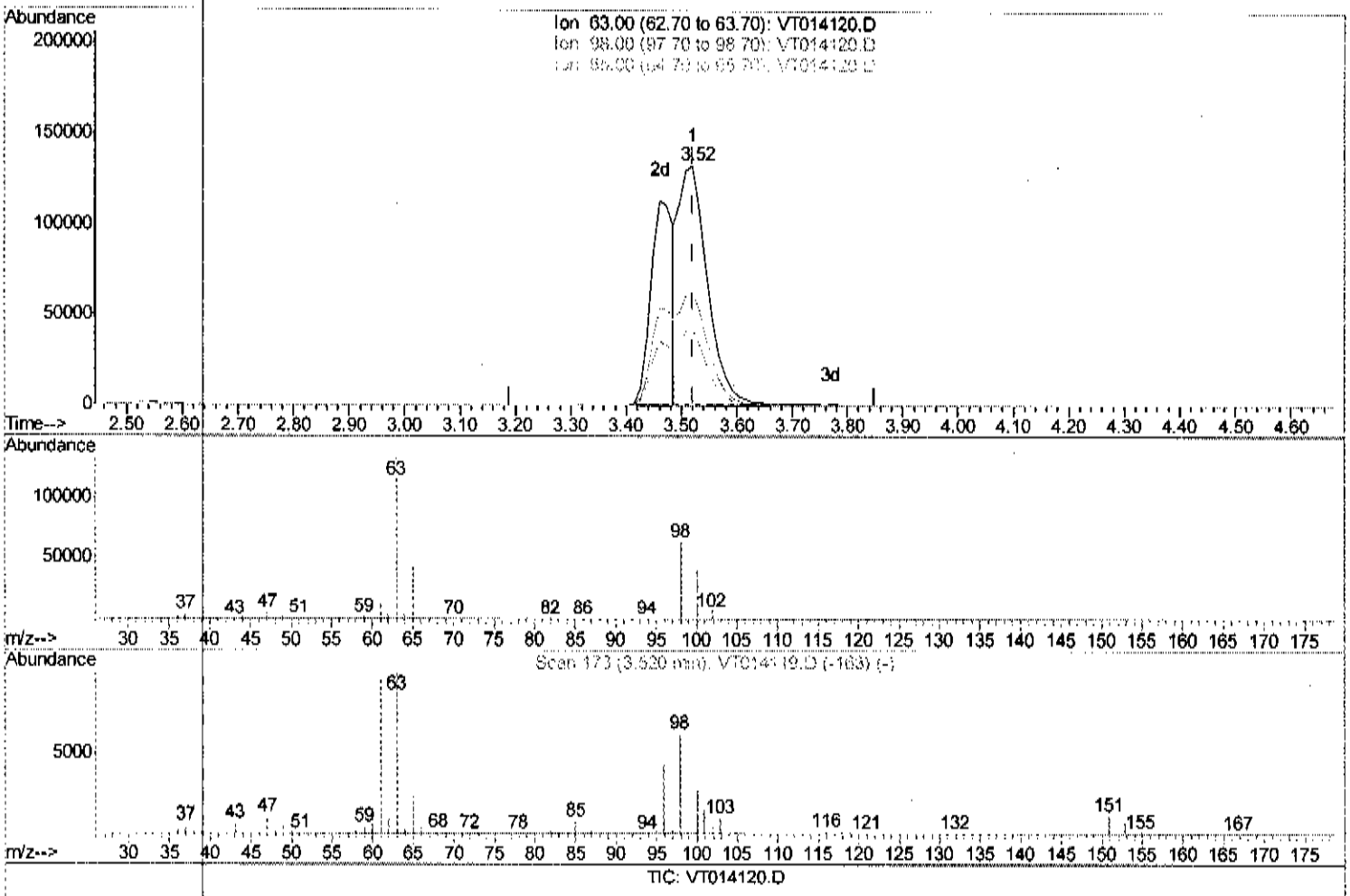
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 05:22:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK85

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:32 PM



TIC: VT014120.D

(10) 1,1-Dichloroethene-d2 (S)

3.520min (+0.000) 8.99ug/L

response 476763

Ion	Exp%	Act%
63.00	100	100
98.00	61.60	48.09
65.00	21.70	31.82#
0.00	0.00	0.00

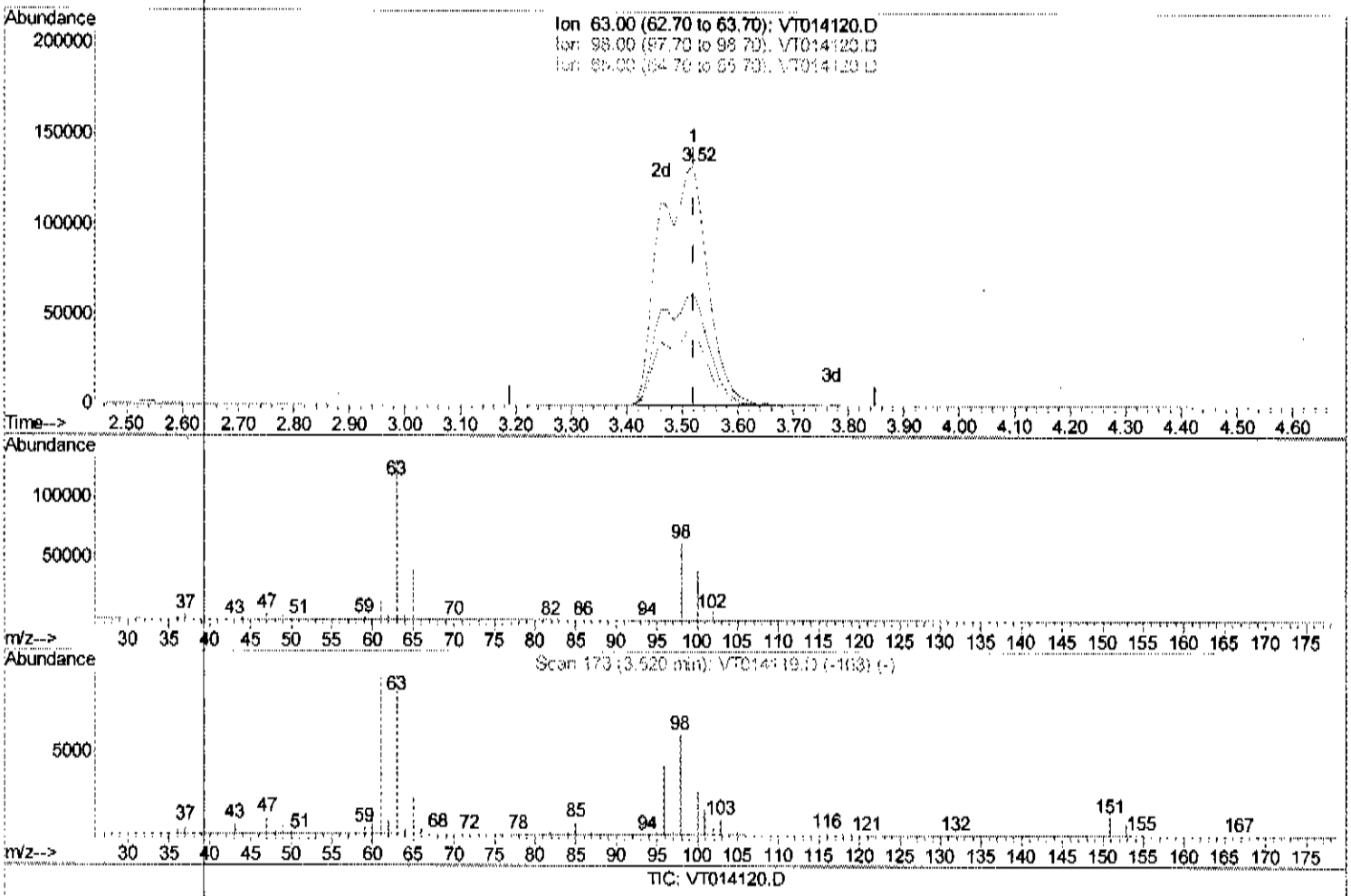
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 05:22:14 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK85

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:32 PM



TIC: VT014120.D

(10) 1,1-Dichloroethene-d2 (S)

3.520min (+0.000) 15.26ug/L m

response 809174

E.M 05/13/2016

Ion	Exp%	Act%
63.00	100	100
98.00	61.60	28.34#
65.00	21.70	18.75
0.00	0.00	0.00

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051216\
Data File : VT014120.D
Acq On : 12 May 2016 13:36
Operator : FY/SY
Sample : VT0512SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 05:27:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051116S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 05:21:52 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VBLK85

Manual Integrations APPROVED
MMdadoda
5/13/2016 5:59:32 PM

Internal Standards	R.T.	Qlon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1622116	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	1275965	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	621501	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	571967	22.77	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 91.08%			
7) Chloroethane-d5	2.54	69	420449	22.13	ug/L	0.00
Spiked Amount 25.000	Range 30 - 150		Recovery = 88.52%			
10) 1,1-Dichloroethene-d2	3.52	63	809174m	15.26	ug/L	0.00
Spiked Amount 25.000	Range 45 - 110		Recovery = 61.04%			
20) 2-Butanone-d5	6.43	46	280321	40.92	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 81.84%			
24) Chloroform-d	7.07	84	890614	20.14	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 80.56%			
26) 1,2-Dichloroethane-d4	7.78	65	512907	19.70	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 78.80%			
29) Benzene-d6	7.74	84	1879948	22.00	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 88.00%			
33) 1,2-Dichloropropane-d6	8.80	67	559981	21.97	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 87.88%			
37) Toluene-d8	9.87	98	1616646	21.50	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 86.00%			
38) trans-1,3-Dichloropropene-	10.13	79	181336	20.57	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 82.28%			
39) 2-Hexanone-d5	10.48	63	189028	44.39	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 88.78%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	346295	20.40	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 81.60%			
60) 1,2-Dichlorobenzene-d4	13.41	152	488156	20.99	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 83.96%			

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

E.M 05/13/2016

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK86

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0513SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014148.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl Acetate	5.0	U
75-09-2	Methylene chloride	1.4	J
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl Ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK86

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0513SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014148.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-trichlorobenzene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VBLK86

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0513SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014148.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK86

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : VT0513SBL01
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014148.D
% Solids : 100
Date Received :
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/13/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

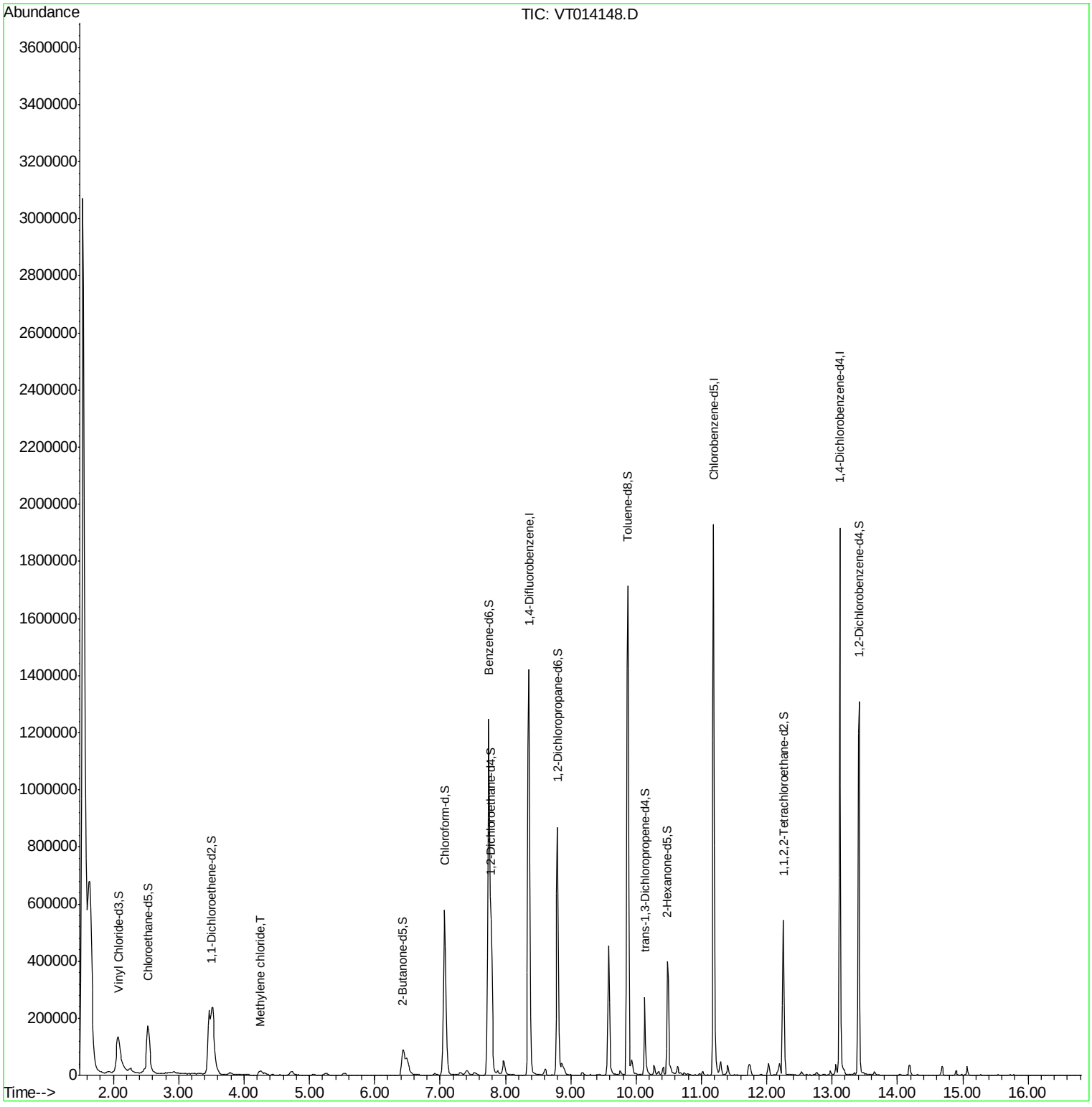
Quantitation Report (LSC Reviewed)

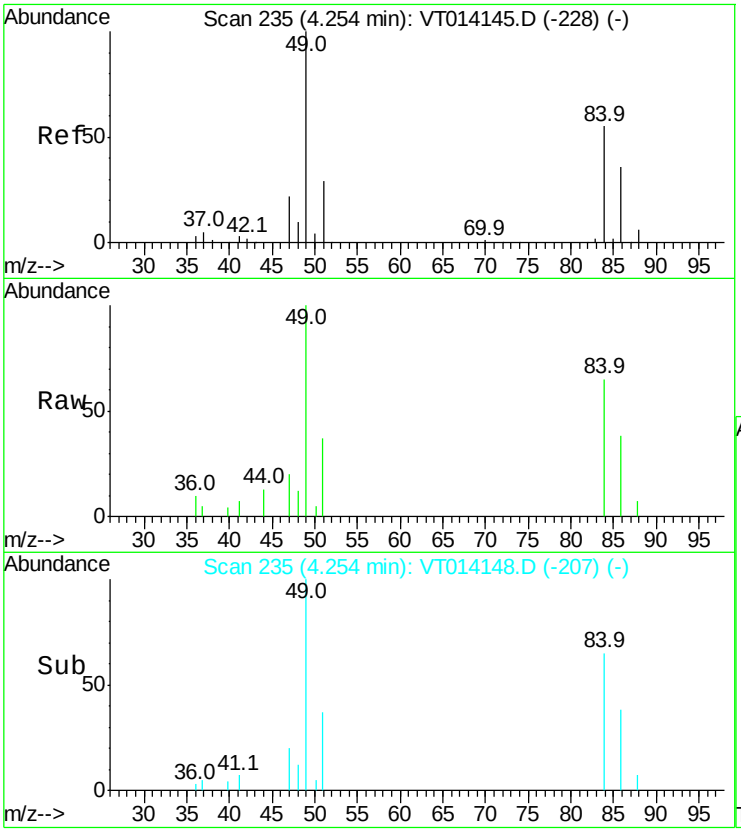
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 14 00:03:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK86

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:45:13 PM

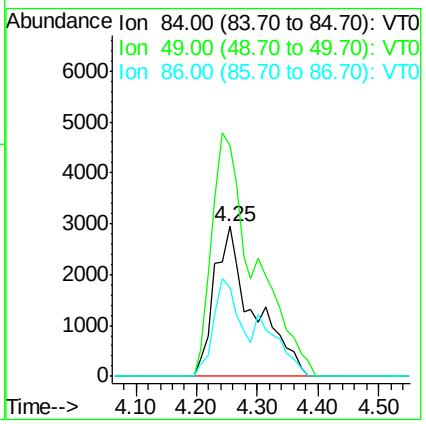




#16
Methylene chloride
Concen: 0.70 ug/L m
RT: 4.25 min Scan# 235
Delta R.T. -0.00 min
Lab File: VT014148.D
Acq: 13 May 2016 17:42

Tgt Ion: 84 Resp: 13330

Ion	Ratio	Lower	Upper
84	100		
49	153.7	126.8	235.6
86	58.8	45.8	85.2



Instrument :
MSVOA_T
ClientSampleId :
VBLK86

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:45:13 PM

Quantitation Report (LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK86

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:45:13 PM

Quant Time: May 14 00:03:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1030650	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	824945	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	379886	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	386044	23.85	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 95.40%			
7) Chloroethane-d5	2.53	69	297688	23.70	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 94.80%			
10) 1,1-Dichloroethene-d2	3.51	63	579345m	16.05	ug/L	0.04
Spiked Amount 25.000	Range 45 - 110		Recovery = 64.20%			
20) 2-Butanone-d5	6.43	46	177949	40.63	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 81.26%			
24) Chloroform-d	7.07	84	633163	21.05	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 84.20%			
26) 1,2-Dichloroethane-d4	7.78	65	401820	21.57	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 86.28%			
29) Benzene-d6	7.74	84	1162939	21.99	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 87.96%			
33) 1,2-Dichloropropane-d6	8.80	67	353170	22.04	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 88.16%			
37) Toluene-d8	9.87	98	1034760	22.05	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 88.20%			
38) trans-1,3-Dichloropropene-	10.13	79	123173	20.55	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 82.20%			
39) 2-Hexanone-d5	10.48	63	115751	44.48	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 88.96%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	223507	20.21	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 80.84%			
60) 1,2-Dichlorobenzene-d4	13.41	152	305303	21.80	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 87.20%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	13330m	0.70	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK86

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.532	3	5	11	rVB	2492410	5798696	100.00%	16.602%
2	1.935	33	39	42	rBV6	5885	20745	0.36%	0.059%
3	2.077	43	51	63	rVV	127821	659462	11.37%	1.888%
4	2.266	63	67	75	rVV5	17039	71986	1.24%	0.206%
5	2.526	78	89	102	rVB	168807	611953	10.55%	1.752%
6	2.704	102	104	106	rVB2	1394	2151	0.04%	0.006%
7	2.810	110	113	114	rBV2	4822	7983	0.14%	0.023%
8	2.881	114	119	121	rVV4	4192	16684	0.29%	0.048%
9	2.929	121	123	127	rVV5	5768	15565	0.27%	0.045%
10	3.035	130	132	133	rVV2	1834	2726	0.05%	0.008%
11	3.071	133	135	138	rVB4	1451	2759	0.05%	0.008%
12	3.142	140	141	144	rBV2	2276	4173	0.07%	0.012%
13	3.213	144	147	150	rBV2	1485	4190	0.07%	0.012%
14	3.307	152	155	156	rBV2	1308	2690	0.05%	0.008%
15	3.461	162	168	170	rBV	223853	634836	10.95%	1.818%
16	3.520	170	173	187	rVB	236753	870691	15.02%	2.493%
17	3.793	190	196	201	rBV3	6988	26386	0.46%	0.076%
18	3.958	207	210	214	rVB2	1176	2197	0.04%	0.006%
19	4.041	214	217	221	rVB2	1855	5409	0.09%	0.015%
20	4.254	230	235	238	rBV	13642	48866	0.84%	0.140%
21	4.443	248	251	254	rBV3	726	1727	0.03%	0.005%
22	4.550	256	260	262	rBV3	1130	1785	0.03%	0.005%
23	4.727	269	275	283	rBV2	13326	48017	0.83%	0.137%
24	4.964	291	295	298	rBV2	668	1648	0.03%	0.005%
25	5.059	298	303	309	rBV4	1485	4745	0.08%	0.014%
26	5.260	314	320	326	rBV2	7162	25813	0.45%	0.074%
27	5.544	337	344	351	rBV3	6683	21047	0.36%	0.060%
28	6.431	413	419	423	rBV	88023	326269	5.63%	0.934%
29	6.644	434	437	442	rVB4	2334	6673	0.12%	0.019%
30	6.916	456	460	467	rBV4	6422	19389	0.33%	0.056%
31	7.070	467	473	489	rVV	578812	1652002	28.49%	4.730%
32	7.307	489	493	497	rVV3	8886	25669	0.44%	0.073%
33	7.413	497	502	508	rVB3	14350	49746	0.86%	0.142%
34	7.532	508	512	519	rVB	9206	28744	0.50%	0.082%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK86

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

35	7.745	525	530	540	rBV2	1246644	3949074	68.10%	11.307%
36	7.875	540	541	545	rVV2	13446	28791	0.50%	0.082%
37	7.970	545	549	557	rVB	50618	140360	2.42%	0.402%
38	8.123	560	562	564	rVB	2023	3147	0.05%	0.009%
39	8.360	577	582	592	rBV	1420026	2853232	49.20%	8.169%
40	8.609	598	603	607	rVB3	20818	46871	0.81%	0.134%
41	8.798	615	619	623	rVV	868032	1735830	29.93%	4.970%
42	8.869	623	625	634	rVB3	40136	117443	2.03%	0.336%
43	8.987	634	635	639	rVB2	1081	2093	0.04%	0.006%
44	9.070	639	642	643	rVB	992	1732	0.03%	0.005%
45	9.177	647	651	660	rBB2	9487	20123	0.35%	0.058%
46	9.307	660	662	664	rVB2	1371	1705	0.03%	0.005%
47	9.437	671	673	675	rVB	2609	3419	0.06%	0.010%
48	9.579	681	685	697	rBV	451987	776310	13.39%	2.223%
49	9.756	697	700	703	rBV	11758	20395	0.35%	0.058%
50	9.804	703	704	706	rVB2	1898	2607	0.04%	0.007%
51	9.875	706	710	713	rBV	1712130	3005162	51.82%	8.604%
52	9.934	713	715	720	rVB	50819	90116	1.55%	0.258%
53	10.135	728	732	741	rBV	272135	471685	8.13%	1.350%
54	10.277	741	744	747	rVV	33169	63727	1.10%	0.182%
55	10.336	747	749	753	rVV	11749	23134	0.40%	0.066%
56	10.419	753	756	758	rVV	27236	48609	0.84%	0.139%
57	10.478	758	761	771	rVV	396594	737000	12.71%	2.110%
58	10.632	771	774	777	rVV2	29978	54647	0.94%	0.156%
59	10.679	777	778	781	rVV2	8683	12443	0.21%	0.036%
60	10.738	781	783	786	rVV2	7852	14035	0.24%	0.040%
61	10.786	786	787	792	rVB2	4466	7574	0.13%	0.022%
62	10.904	794	797	799	rVB2	907	1519	0.03%	0.004%
63	10.975	799	803	804	rBV3	4624	6110	0.11%	0.017%
64	11.022	804	807	810	rVB	13404	25012	0.43%	0.072%
65	11.188	817	821	827	rBV	1927786	3066969	52.89%	8.781%
66	11.295	827	830	833	rVV	46699	80406	1.39%	0.230%
67	11.401	835	839	843	rVB	33558	64077	1.11%	0.183%
68	11.732	863	867	873	rBV2	36763	87525	1.51%	0.251%
69	11.910	878	882	886	rVB3	3655	6693	0.12%	0.019%
70	12.028	889	892	895	rBV	41986	65111	1.12%	0.186%
71	12.194	900	906	908	rBV	39345	77470	1.34%	0.222%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK86

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

72	12.253	908	911	916	rVB	540765	813387	14.03%	2.329%
73	12.537	931	935	938	rBV	10097	21751	0.38%	0.062%
74	12.620	938	942	944	rVB3	1284	2673	0.05%	0.008%
75	12.655	944	945	947	rVB2	1854	1729	0.03%	0.005%
76	12.726	947	951	953	rBV3	2314	6325	0.11%	0.018%
77	12.774	953	955	960	rVB2	7462	13556	0.23%	0.039%
78	12.880	960	964	966	rBV3	3011	5485	0.09%	0.016%
79	12.975	968	972	976	rBV	13378	22906	0.40%	0.066%
80	13.058	976	979	981	rBV	37199	65378	1.13%	0.187%
81	13.117	981	984	988	rBV	1909879	2744913	47.34%	7.859%
82	13.283	997	998	1000	rVB2	1797	1901	0.03%	0.005%
83	13.342	1000	1003	1005	rBV3	6890	11780	0.20%	0.034%
84	13.413	1005	1009	1012	rBV	1306341	2236454	38.57%	6.403%
85	13.519	1017	1018	1023	rVV3	4421	6785	0.12%	0.019%
86	13.602	1023	1025	1026	rVV	1156	1766	0.03%	0.005%
87	13.649	1026	1029	1033	rVB2	12538	23180	0.40%	0.066%
88	13.780	1036	1040	1041	rBV2	602	1546	0.03%	0.004%
89	13.898	1047	1050	1053	rVB2	611	1734	0.03%	0.005%
90	13.957	1053	1055	1058	rVB3	795	1529	0.03%	0.004%
91	14.040	1058	1062	1066	rBV2	3407	6827	0.12%	0.020%
92	14.194	1072	1075	1080	rVB	34632	61130	1.05%	0.175%
93	14.300	1082	1084	1086	rVB	1224	1848	0.03%	0.005%
94	14.430	1090	1095	1098	rBV3	700	3145	0.05%	0.009%
95	14.679	1113	1116	1120	rBV	29949	51465	0.89%	0.147%
96	14.892	1132	1134	1140	rBV	15771	28508	0.49%	0.082%
97	15.069	1144	1149	1154	rVB2	29606	48453	0.84%	0.139%
98	15.637	1195	1197	1200	rBV2	771	1500	0.03%	0.004%
99	15.779	1207	1209	1214	rBV3	871	2093	0.04%	0.006%
100	16.631	1279	1281	1284	rVV2	727	1855	0.03%	0.005%

Sum of corrected areas: 34927180

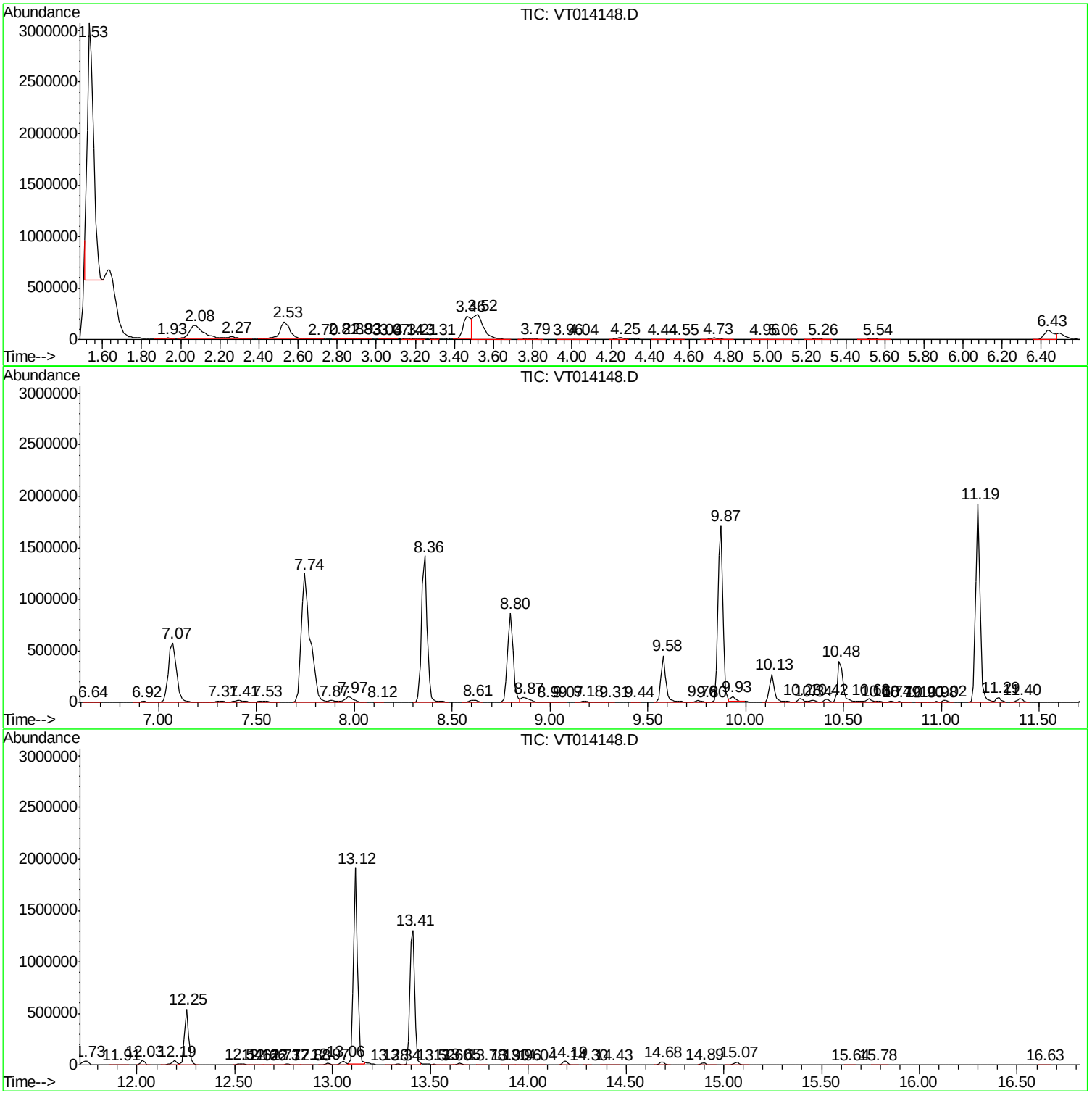
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK86

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VBLK86

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VBLK86

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

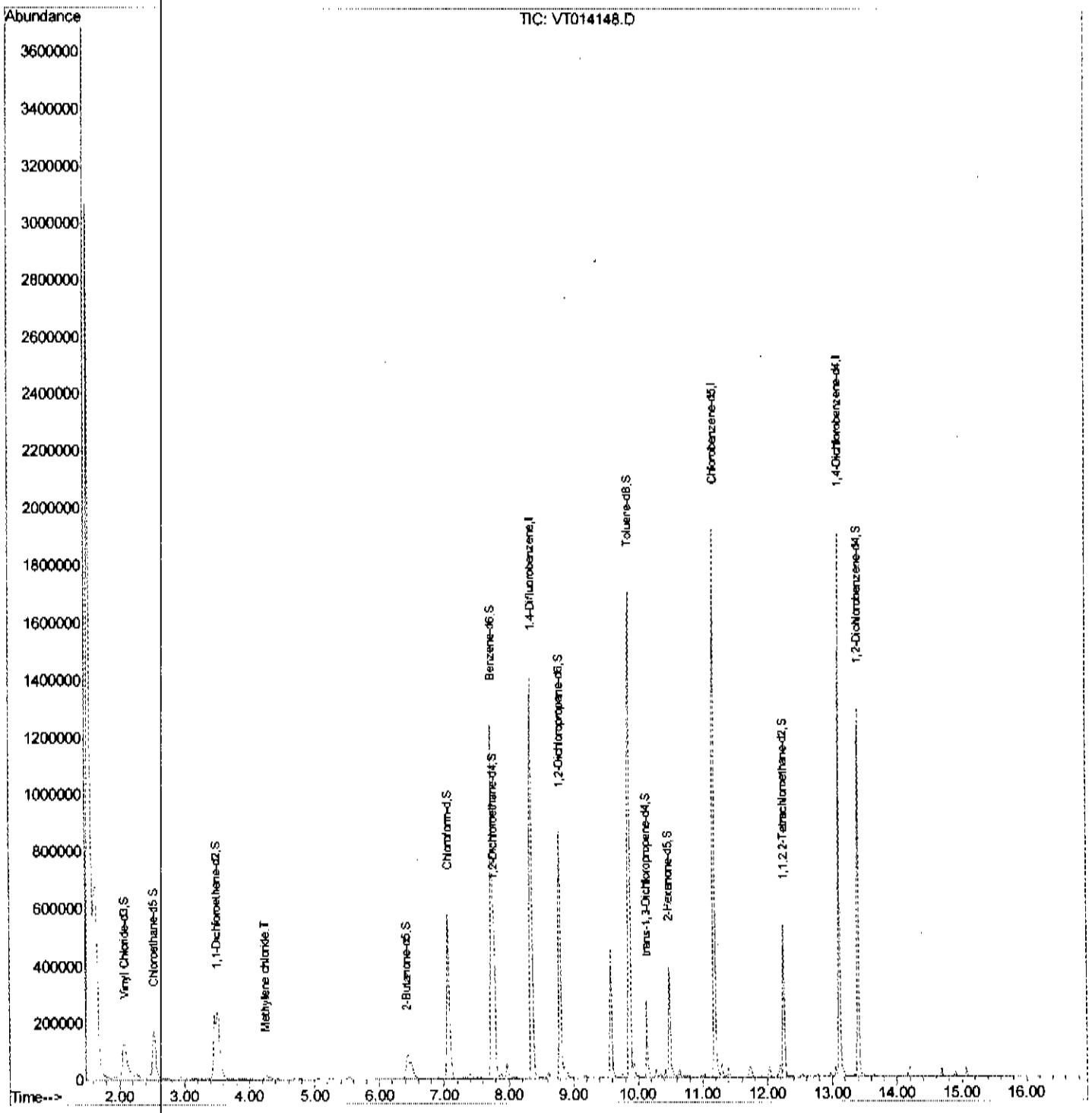
Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 14 00:03:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK86

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:45:13 PM



Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 14 00:00:51 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK86

Manual Integrations APPROVED
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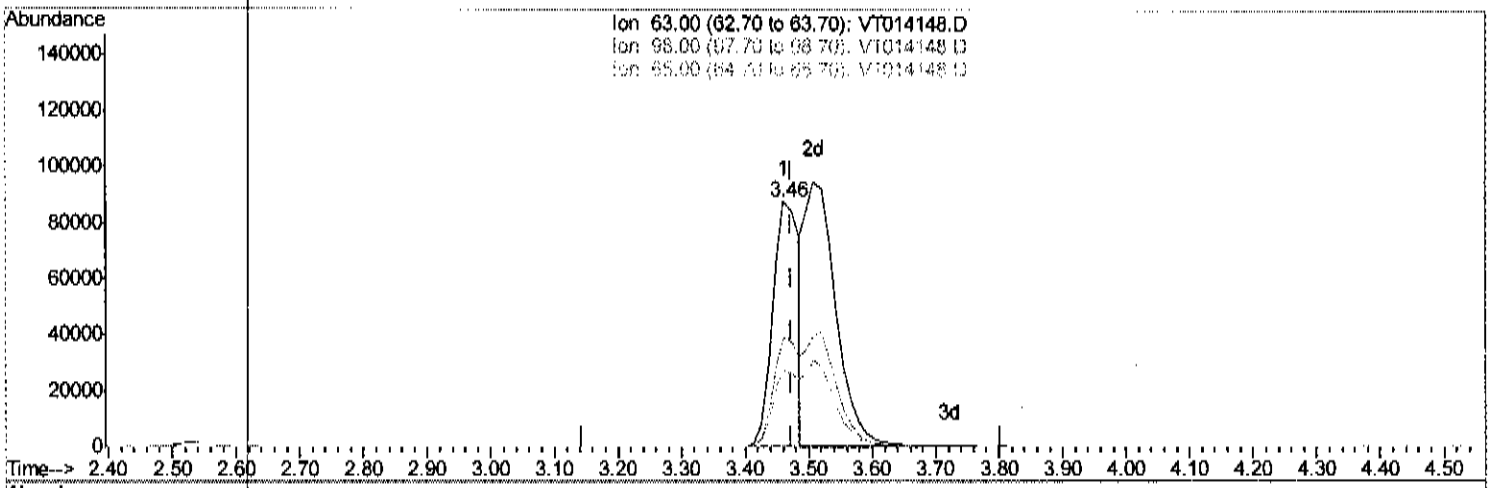

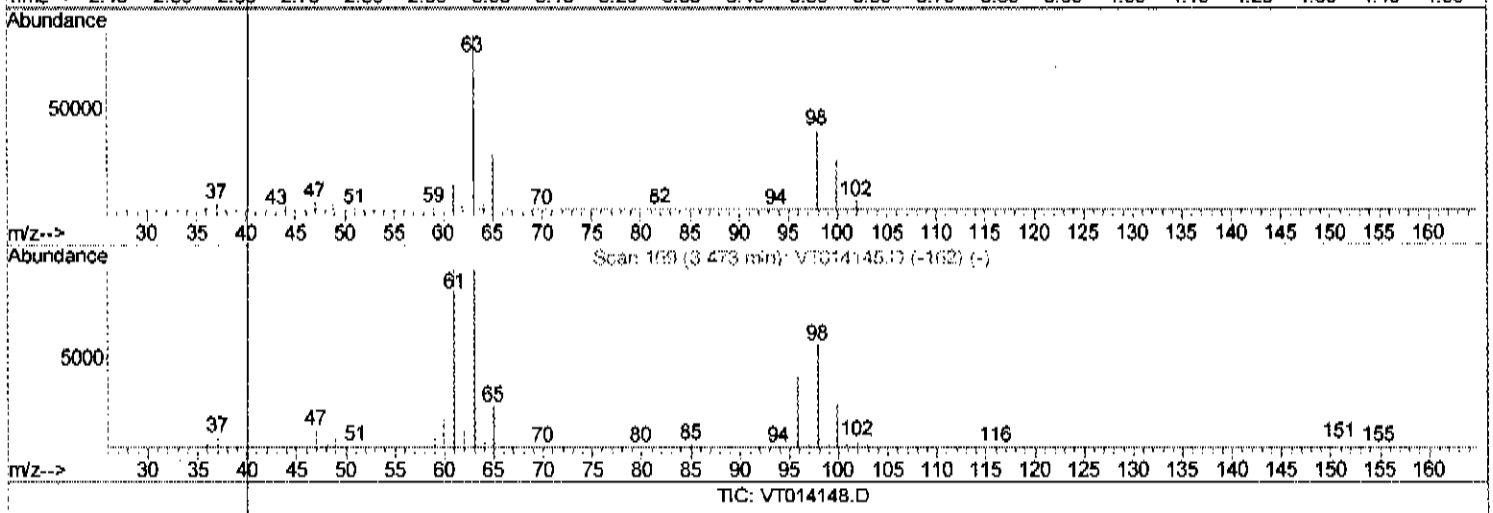

(10) 1,1-Dichloroethene-d2 (S)

3.461min (-0.012) 6.97ug/L

response 251524

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	43.40
65.00	11.10	31.51#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 14 00:00:51 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK86

Manual Integrations APPROVED
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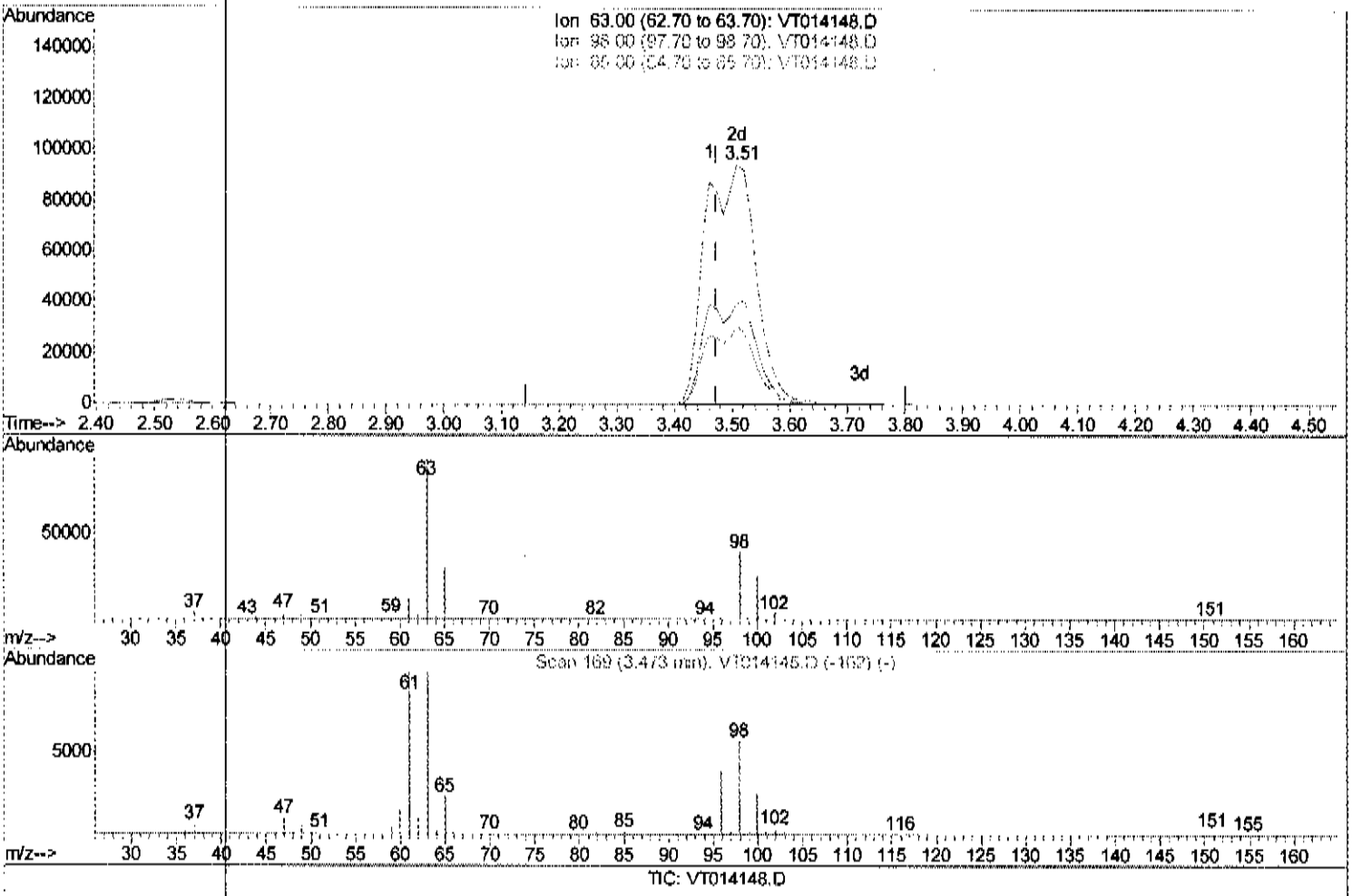
5/16/2016 6:45:13 PM



(10) 1,1-Dichloroethene-d2 (S)

3.509min (+0.035) 16.05ug/L m

response 579345

FY
5/16/2016

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	18.84#
65.00	11.10	13.68
0.00	0.00	0.00

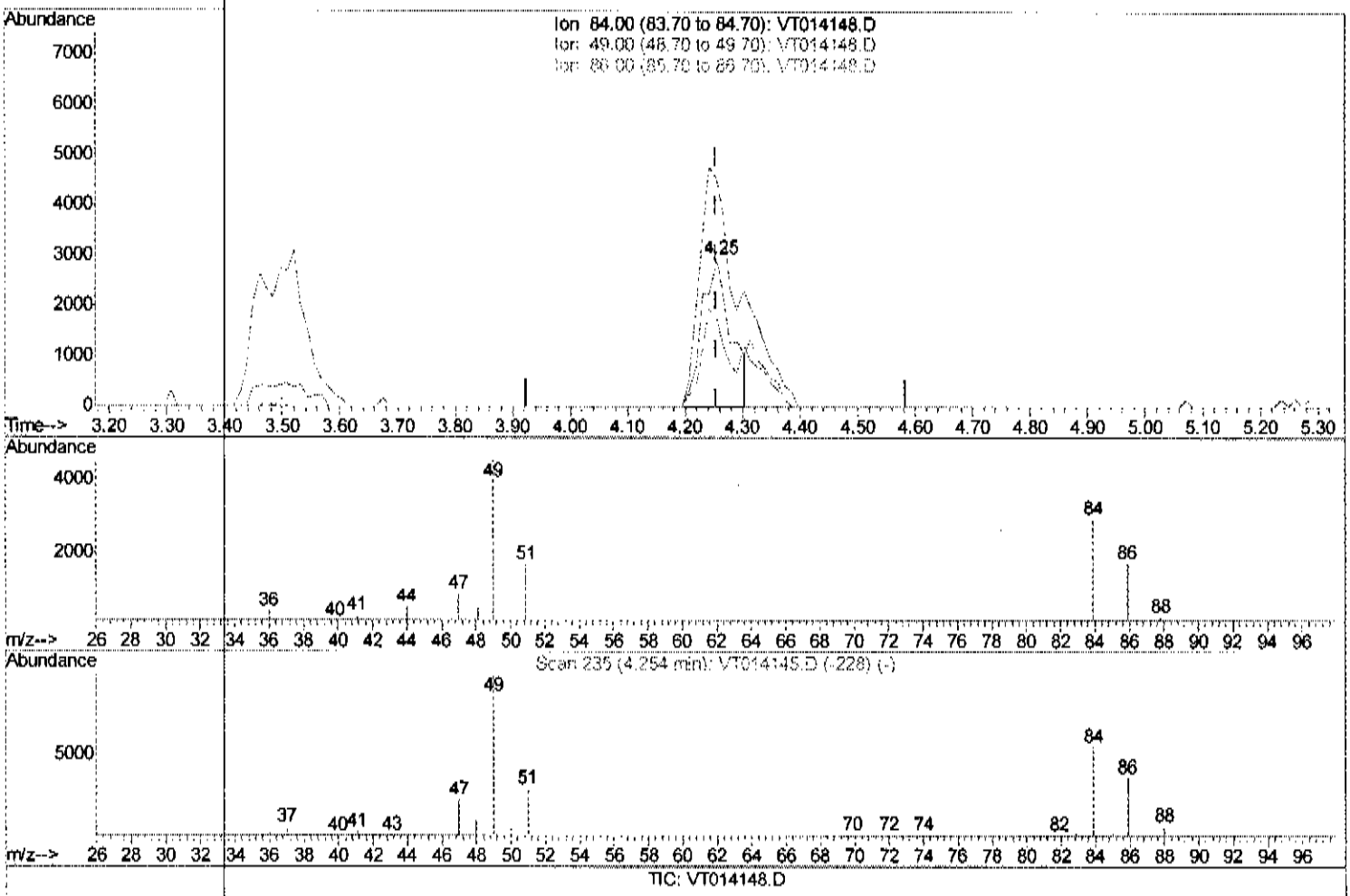
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 14 00:00:51 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK86

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:45:13 PM



TIC: VT014148.D

(16) Methylene chloride (T)

4.254min (-0.000) 0.54ug/L

response 10236

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	153.68
86.00	65.50	58.84
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 14 00:00:51 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VBLK86

Manual Integrations APPROVED
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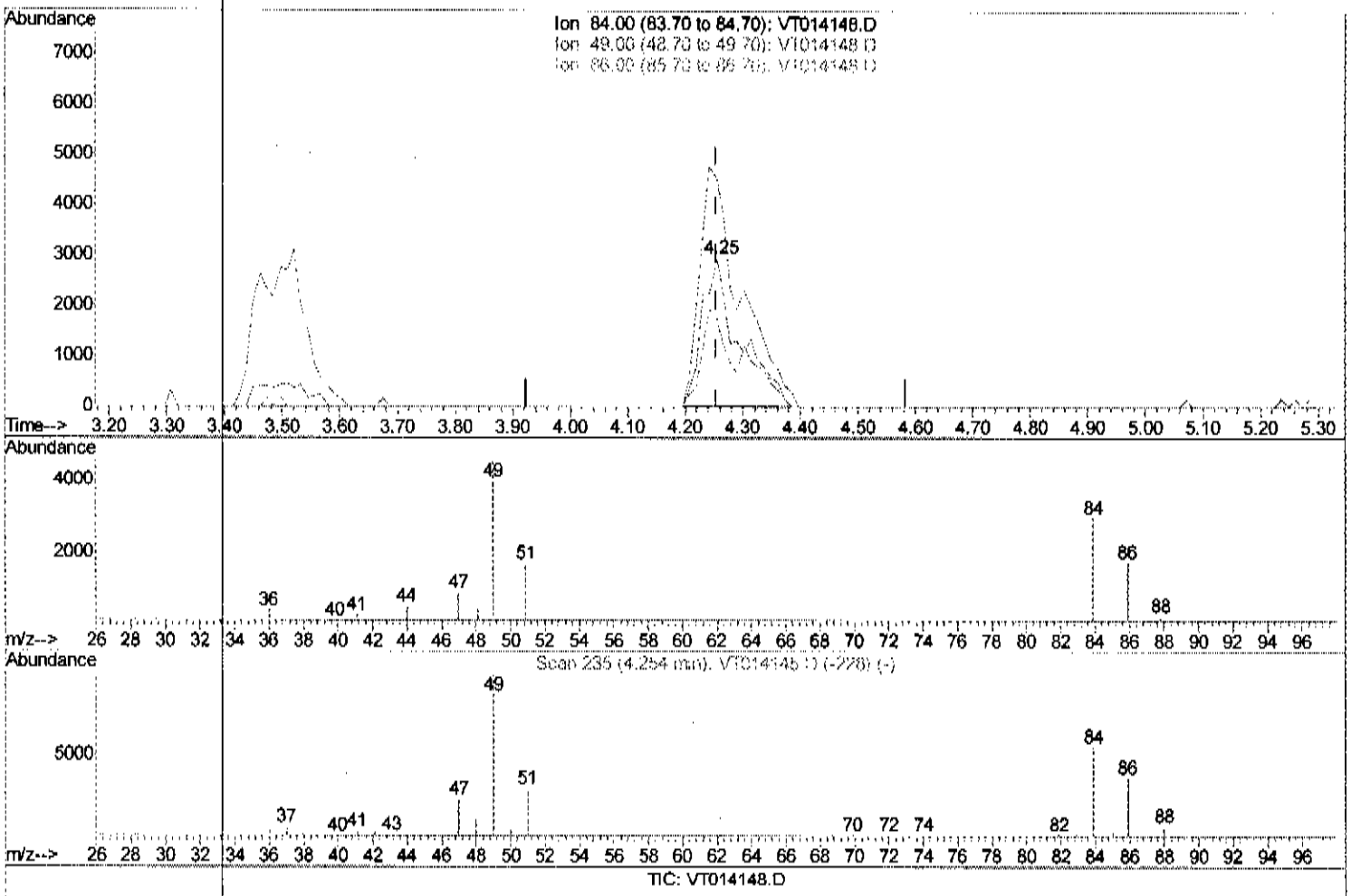
5/16/2016 6:45:13 PM



(16) Methylene chloride (T)

4.254min (-0.000) 0.70ug/L m

response 13330

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	153.68
86.00	65.50	58.84
0.00	0.00	0.00

FY
5/16/2016

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014148.D
Acq On : 13 May 2016 17:42
Operator : FY/SY
Sample : VT0513SBL01
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 14 00:03:49 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VBLK86

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:45:13 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	1030650	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	824945	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	379886	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	386041	23.85	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 95.40%			
7) Chloroethane-d5	2.53	69	297688	23.70	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 94.80%			
10) 1,1-Dichloroethene-d2	3.51	63	579345m	16.05	ug/L	0.04
Spiked Amount 25.000	Range 45 - 110		Recovery = 64.20%			
20) 2-Butanone-d5	6.43	46	177949	40.63	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 81.26%			
24) Chloroform-d	7.07	84	633163	21.05	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 84.20%			
26) 1,2-Dichloroethane-d4	7.78	65	401820	21.57	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 86.28%			
29) Benzene-d6	7.74	84	1162939	21.99	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 87.96%			
33) 1,2-Dichloropropane-d6	8.80	67	353170	22.04	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 88.16%			
37) Toluene-d8	9.87	98	1034760	22.05	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 88.20%			
38) trans-1,3-Dichloropropene-	10.13	79	123173	20.55	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 82.20%			
39) 2-Hexanone-d5	10.48	63	115751	44.48	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 88.96%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	223507	20.21	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 80.84%			
60) 1,2-Dichlorobenzene-d4	13.41	152	305303	21.80	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 87.20%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	13330m	0.70	ug/L	

FY 5/16/2016

FY 5/16/2016

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLK01

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-03
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014151.D
% Solids : 100
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5.0	U
79-20-9	Methyl Acetate	5.0	U
75-09-2	Methylene chloride	1.1	JB
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-butyl Ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
110-82-7	Cyclohexane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLK01

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-03
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014151.D
% Solids : 100
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
108-87-2	Methylcyclohexane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
95-47-6	o-xylene	5.0	U
179601-23-1	m,p-Xylene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropylbenzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U
120-82-1	1,2,4-trichlorobenzene	5.0	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
VHBLK01

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-03
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014151.D
% Solids : 100
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
GC Column : ID : (mm)
Date Analyzed : 05/13/2016
Extract Concentrated :(Y / N)
Extract Volume : (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : PT
Heated Purge : (Y / N) Y
Injection Volume : (µL)
Purge Volume : 10 (mL)
pH : Dilution Factor : 1.0
Cleanup Types :
Cleanup Factor :
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
87-61-6	1,2,3-Trichlorobenzene	5.0	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VHBLK01

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : VOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-03
Sample wt/vol : 5.0 (g/mL): g
Lab File ID : VT014151.D
% Solids : 100
Date Received : 05/05/2016
GC Column : RXI-624 ID : 0.25 (mm)
Date Extracted :
Extract Concentrated : (Y / N)
Date Analyzed : 05/13/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : (µL)
Heated Purge : (Y / N) Y
Extraction Type : PT
Purge Volume : 10 (mL)
Injection Volume : (µL)
Cleanup Types :
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor :

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

EPA-designated Registry Number.

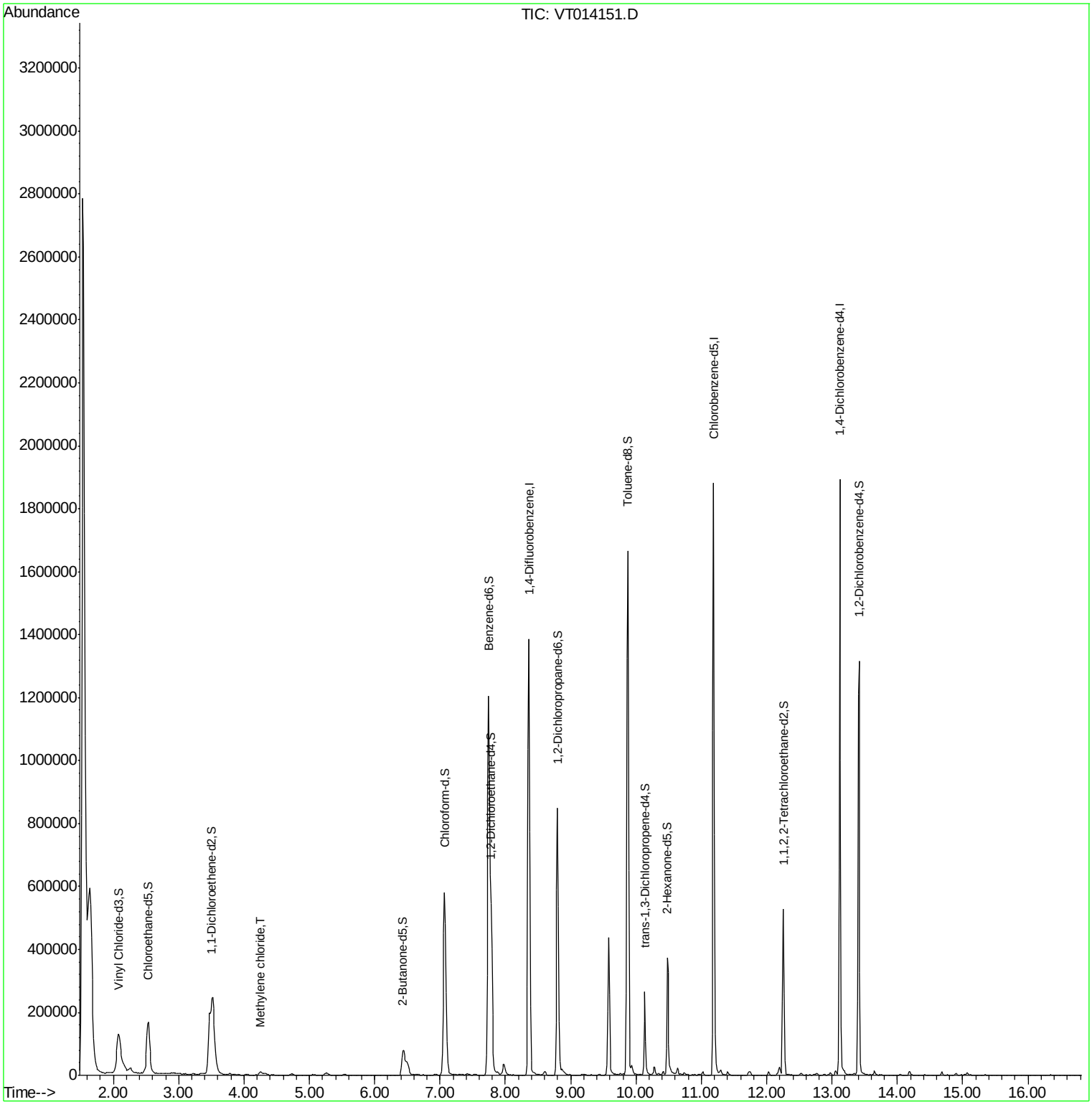
Quantitation Report (QT/LSC Reviewed)

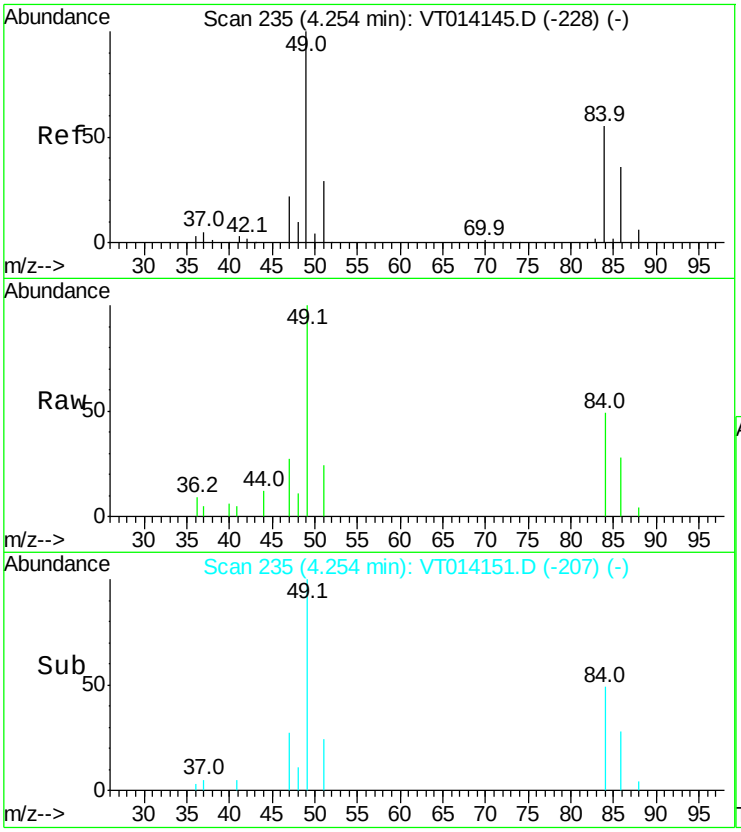
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 16 10:13:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VHBLK01

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:56 PM

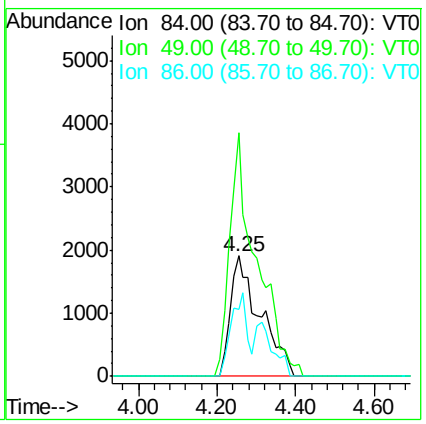




#16
Methylene chloride
Concen: 0.55 ug/L m
RT: 4.25 min Scan# 235
Delta R.T. 0.00 min
Lab File: VT014151.D
Acq: 13 May 2016 19:00

Tgt Ion: 84 Resp: 9923

Ion	Ratio	Lower	Upper
84	100		
49	202.2	126.8	235.6
86	56.0	45.8	85.2



Instrument :
MSVOA_T
ClientSampleId :
VHBLK01

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:56 PM

Quantitation Report (QT/LSC Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VHBLK01

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:56 PM

Quant Time: May 16 10:13:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	970651	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	779709	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	367210	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	383022	25.12	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 100.48%			
7) Chloroethane-d5	2.53	69	291914	24.67	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 98.68%			
10) 1,1-Dichloroethene-d2	3.51	63	554077m	16.29	ug/L	0.04
Spiked Amount 25.000	Range 45 - 110		Recovery = 65.16%			
20) 2-Butanone-d5	6.43	46	165475	40.12	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 80.24%			
24) Chloroform-d	7.07	84	624356	22.04	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 88.16%			
26) 1,2-Dichloroethane-d4	7.78	65	394595	22.49	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 89.96%			
29) Benzene-d6	7.74	84	1119625	22.40	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 89.60%			
33) 1,2-Dichloropropane-d6	8.80	67	341032	22.52	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 90.08%			
37) Toluene-d8	9.87	98	995815	22.45	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 89.80%			
38) trans-1,3-Dichloropropene-	10.14	79	118906	20.99	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 83.96%			
39) 2-Hexanone-d5	10.48	63	108217	44.00	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 88.00%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	216568	20.72	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 82.88%			
60) 1,2-Dichlorobenzene-d4	13.41	152	309099	22.83	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 91.32%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	9923m	0.55	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK01

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.533	3	5	11	rVB	2293396	5564616	100.00%	17.049%
2	1.911	35	37	38	rBV2	1309	1864	0.03%	0.006%
3	2.077	43	51	62	rBV	123356	621067	11.16%	1.903%
4	2.266	63	67	71	rVB3	13727	41808	0.75%	0.128%
5	2.538	82	90	99	rVB	161214	559998	10.06%	1.716%
6	2.799	110	112	115	rBV2	915	1325	0.02%	0.004%
7	2.846	115	116	118	rBV2	1357	2700	0.05%	0.008%
8	2.893	118	120	121	rVV2	1190	1259	0.02%	0.004%
9	3.023	129	131	133	rVB3	2143	3348	0.06%	0.010%
10	3.213	145	147	149	rVB3	1476	2112	0.04%	0.006%
11	3.378	155	161	163	rBV5	2187	8950	0.16%	0.027%
12	3.473	163	169	170	rVV	196343	496403	8.92%	1.521%
13	3.520	170	173	188	rVB	244181	944676	16.98%	2.894%
14	3.793	192	196	201	rVB2	4354	12530	0.23%	0.038%
15	4.029	212	216	217	rBV2	830	2055	0.04%	0.006%
16	4.254	230	235	239	rBV2	9920	37690	0.68%	0.115%
17	4.420	247	249	250	rBV2	751	1410	0.03%	0.004%
18	4.455	250	252	254	rVB	868	1367	0.02%	0.004%
19	4.727	272	275	281	rVB4	4624	14034	0.25%	0.043%
20	5.059	300	303	309	rVB4	1677	5450	0.10%	0.017%
21	5.260	315	320	326	rVB2	7439	24712	0.44%	0.076%
22	5.449	333	336	338	rBV	564	1374	0.02%	0.004%
23	5.544	341	344	350	rVB3	1943	5976	0.11%	0.018%
24	5.923	375	376	380	rBV	825	1226	0.02%	0.004%
25	6.431	414	419	432	rBV2	79495	389847	7.01%	1.194%
26	6.644	434	437	444	rVB3	1741	5487	0.10%	0.017%
27	6.917	455	460	461	rBV3	1855	3813	0.07%	0.012%
28	6.940	461	462	467	rVB2	2238	3544	0.06%	0.011%
29	7.070	467	473	484	rBV	580944	1604001	28.83%	4.914%
30	7.307	489	493	499	rVB4	2626	8321	0.15%	0.025%
31	7.413	499	502	507	rVB2	4300	12676	0.23%	0.039%
32	7.532	507	512	516	rVB4	3419	9214	0.17%	0.028%
33	7.745	525	530	540	rBV2	1205006	3798114	68.25%	11.637%
34	7.981	545	550	557	rVV	35367	107371	1.93%	0.329%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK01

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

35	8.076	557	558	560	rVV2	1542	1736	0.03%	0.005%
36	8.123	560	562	565	rVB2	1459	2384	0.04%	0.007%
37	8.360	578	582	594	rVV	1383839	2705148	48.61%	8.288%
38	8.609	599	603	607	rVB5	10494	25622	0.46%	0.079%
39	8.798	615	619	623	rBV	847063	1693941	30.44%	5.190%
40	8.869	623	625	633	rVB3	18257	55570	1.00%	0.170%
41	9.188	648	652	655	rBV4	2502	7801	0.14%	0.024%
42	9.319	660	663	666	rVB	1050	2221	0.04%	0.007%
43	9.437	670	673	677	rVB	3559	5965	0.11%	0.018%
44	9.579	681	685	692	rBV	434166	722851	12.99%	2.215%
45	9.756	698	700	702	rBV3	4263	6881	0.12%	0.021%
46	9.804	702	704	706	rVB2	2755	4349	0.08%	0.013%
47	9.875	706	710	714	rBV	1664114	2887546	51.89%	8.847%
48	9.934	714	715	722	rVB	27880	41712	0.75%	0.128%
49	10.135	728	732	739	rBV	262328	427217	7.68%	1.309%
50	10.277	741	744	748	rVV	23018	46093	0.83%	0.141%
51	10.336	748	749	753	rVB3	3764	5113	0.09%	0.016%
52	10.407	753	755	758	rVB3	9789	17442	0.31%	0.053%
53	10.478	758	761	771	rBV	371244	688032	12.36%	2.108%
54	10.632	771	774	777	rVV	22155	38317	0.69%	0.117%
55	10.739	781	783	786	rBV3	5095	8400	0.15%	0.026%
56	10.786	786	787	790	rVB	2106	2174	0.04%	0.007%
57	10.904	795	797	799	rVB2	1032	1869	0.03%	0.006%
58	10.975	799	803	805	rBV2	3429	7987	0.14%	0.024%
59	11.023	805	807	810	rVB	9517	15877	0.29%	0.049%
60	11.188	818	821	828	rVV	1880314	2889937	51.93%	8.854%
61	11.295	828	830	833	rVV	16241	23825	0.43%	0.073%
62	11.401	836	839	844	rVB2	10187	19774	0.36%	0.061%
63	11.472	844	845	851	rVB2	716	1595	0.03%	0.005%
64	11.567	851	853	855	rBV	755	1236	0.02%	0.004%
65	11.732	864	867	871	rBV2	11799	24247	0.44%	0.074%
66	12.028	889	892	894	rBV	11047	14129	0.25%	0.043%
67	12.194	901	906	908	rBV2	25192	51414	0.92%	0.158%
68	12.253	908	911	915	rVV	526336	780244	14.02%	2.391%
69	12.312	915	916	920	rVV2	2651	5801	0.10%	0.018%
70	12.383	920	922	924	rVV2	823	1613	0.03%	0.005%
71	12.537	930	935	938	rVV3	6044	16892	0.30%	0.052%

LSC Area Percent Report

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK01

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 0 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Title : VOC Analysis

72	12.608	938	941	943	rVV3	1059	2450	0.04%	0.008%
73	12.655	943	945	947	rVB	1326	1809	0.03%	0.006%
74	12.762	952	954	958	rVB2	6027	10475	0.19%	0.032%
75	12.868	961	963	966	rVB3	2649	4735	0.09%	0.015%
76	12.975	966	972	975	rBV4	8445	17614	0.32%	0.054%
77	13.058	975	979	981	rBV2	13139	23052	0.41%	0.071%
78	13.117	981	984	988	rBV	1890478	2679030	48.14%	8.208%
79	13.294	995	999	1000	rVB	770	2037	0.04%	0.006%
80	13.330	1000	1002	1005	rBV3	4664	8644	0.16%	0.026%
81	13.413	1005	1009	1012	rBV	1312333	2222776	39.94%	6.810%
82	13.578	1021	1023	1025	rBV	1228	1711	0.03%	0.005%
83	13.649	1026	1029	1035	rVB2	14069	25544	0.46%	0.078%
84	13.732	1035	1036	1039	rBV3	976	1714	0.03%	0.005%
85	14.040	1061	1062	1064	rVB	1041	1411	0.03%	0.004%
86	14.075	1064	1065	1068	rVB2	833	1252	0.02%	0.004%
87	14.194	1071	1075	1079	rBV	11663	21269	0.38%	0.065%
88	14.312	1082	1085	1086	rBV	642	1380	0.02%	0.004%
89	14.679	1113	1116	1119	rBV	10348	18659	0.34%	0.057%
90	14.809	1124	1127	1130	rVB3	718	1362	0.02%	0.004%
91	14.892	1130	1134	1138	rBV	5935	10982	0.20%	0.034%
92	14.975	1138	1141	1143	rBV2	822	1329	0.02%	0.004%
93	15.069	1146	1149	1152	rVV	9143	14716	0.26%	0.045%
94	15.342	1171	1172	1176	rVB3	1126	1856	0.03%	0.006%
95	15.424	1176	1179	1180	rBV	652	1327	0.02%	0.004%
96	15.862	1214	1216	1222	rVB3	799	2235	0.04%	0.007%
97	15.945	1222	1223	1225	rBV2	969	1656	0.03%	0.005%
98	16.158	1238	1241	1243	rVB2	708	1245	0.02%	0.004%
99	16.205	1243	1245	1248	rBV3	616	1514	0.03%	0.005%
100	16.300	1248	1253	1255	rBV2	740	1664	0.03%	0.005%

Sum of corrected areas: 32638741

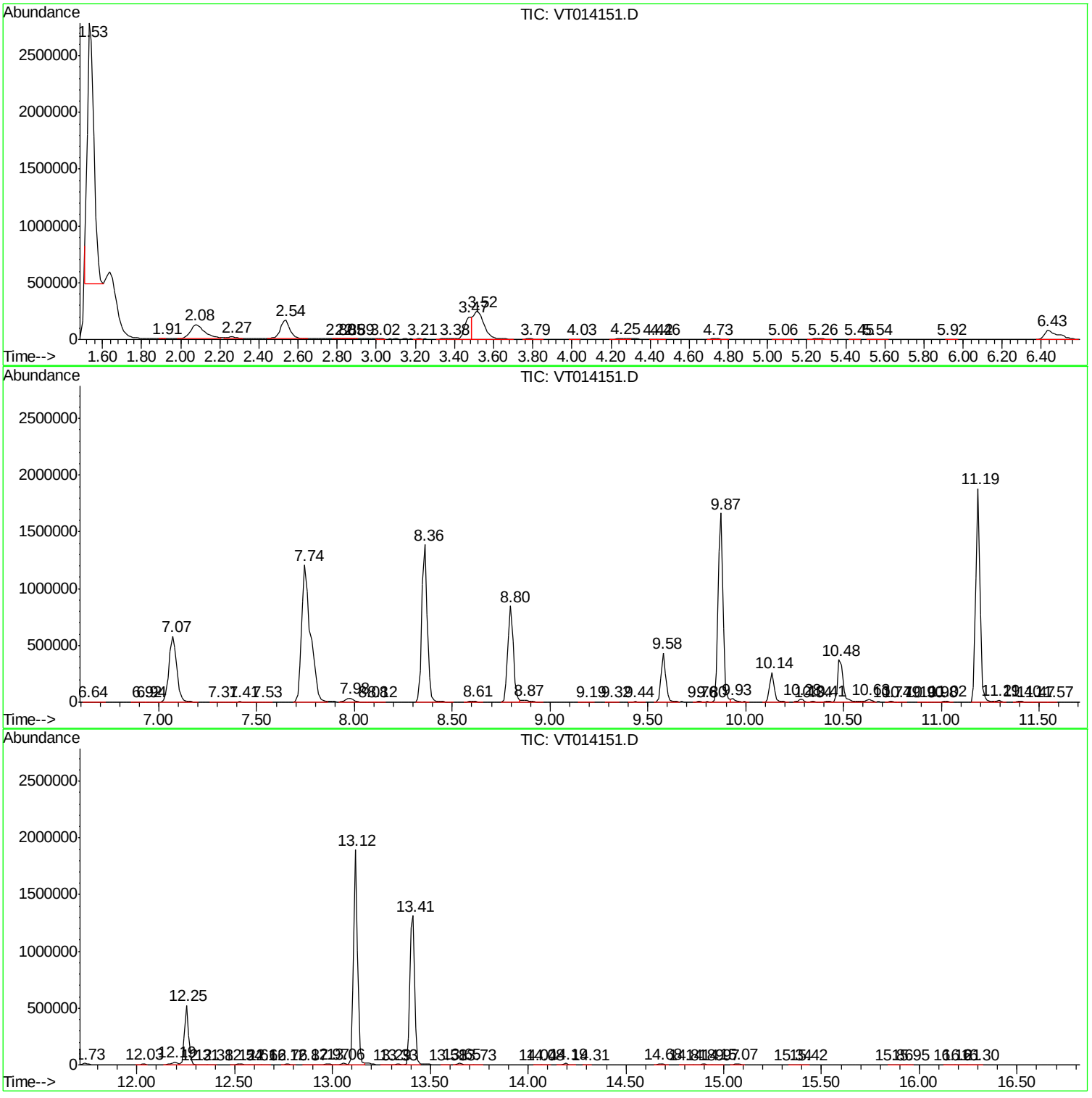
LSC Report - Integrated Chromatogram

Data Path : W:\HPCHEM1\MSVOA T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK01

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Instrument :
MSVOA_T
ClientSampleId :
VHBLK01

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Instrument : MSVOA_T
ClientSampleId : VHBLK01

Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

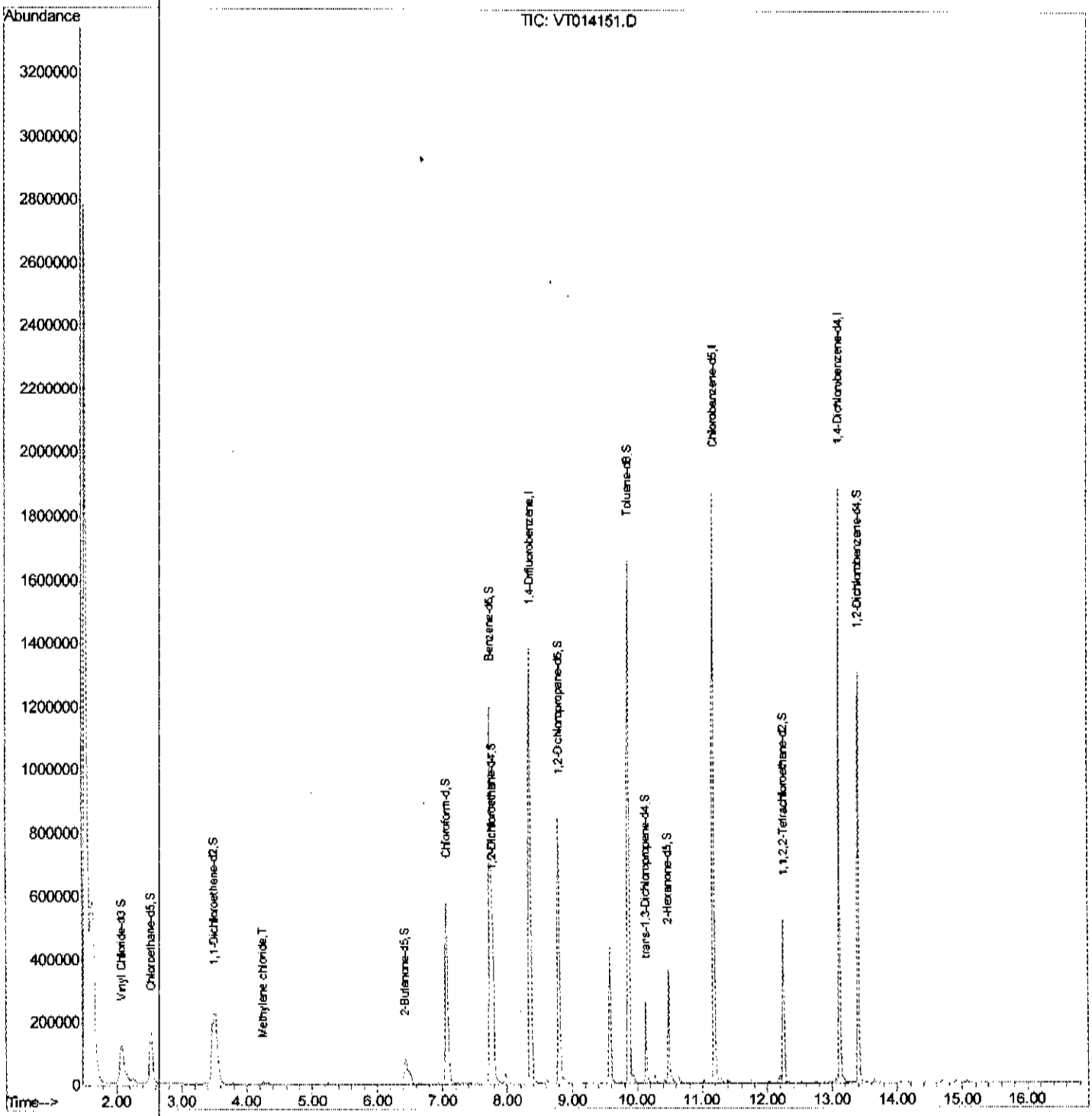
					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 16 10:13:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VHBLK01

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:56 PM



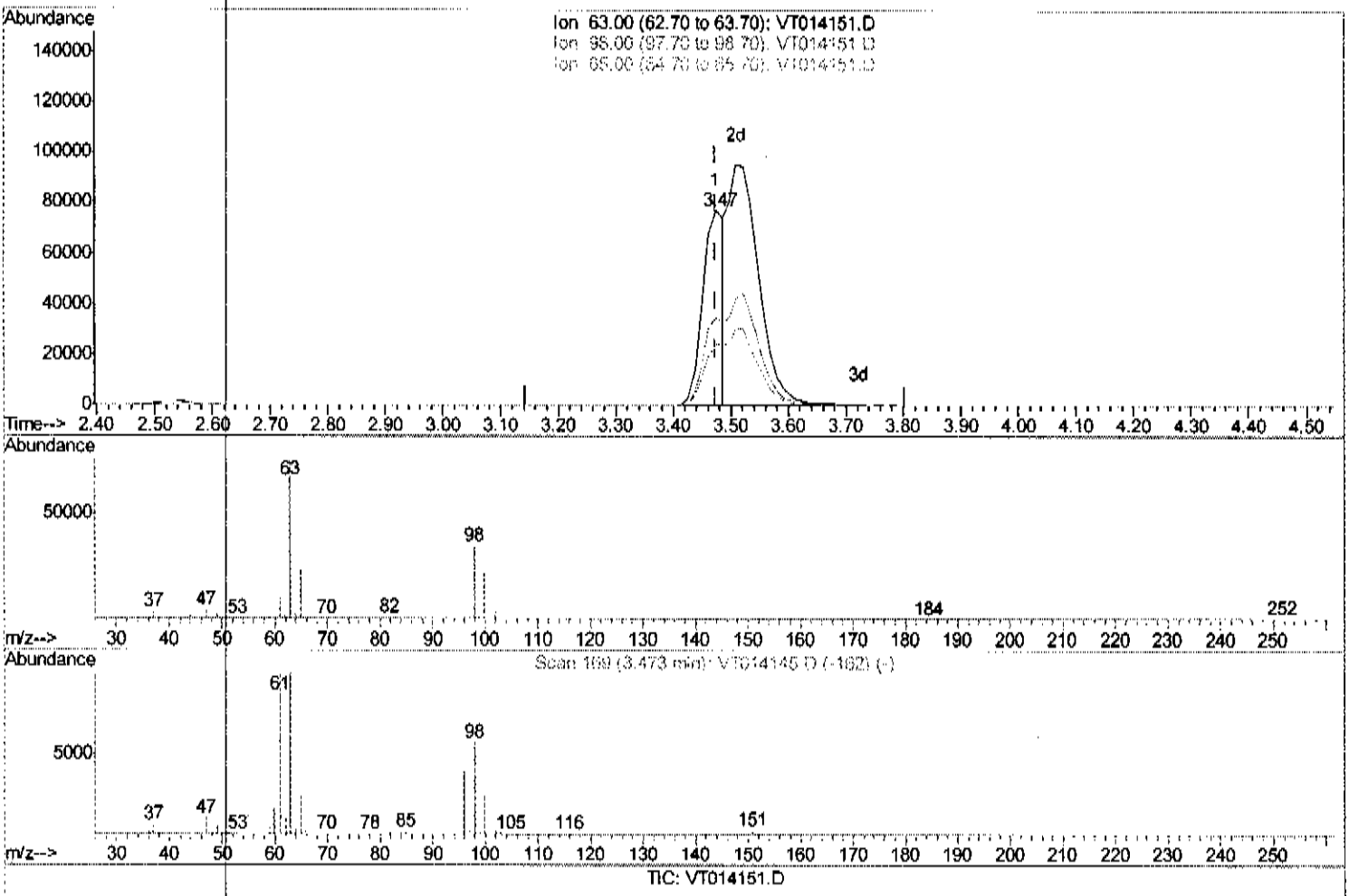
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 16 10:07:38 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VHBLK01

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:56 PM



(10) 1,1-Dichloroethene-d2 (S)

3.473min (0.000) 5.79ug/L

response 196874

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	43.69
65.00	11.10	39.29#
0.00	0.00	0.00

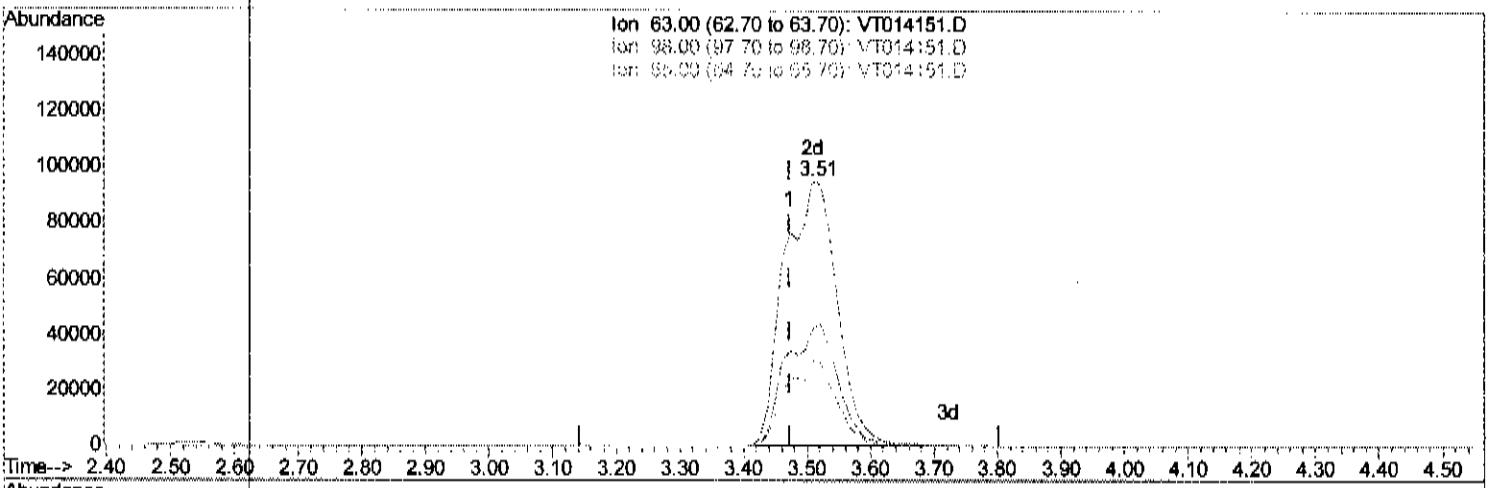
Quantitation Report (Qedit)

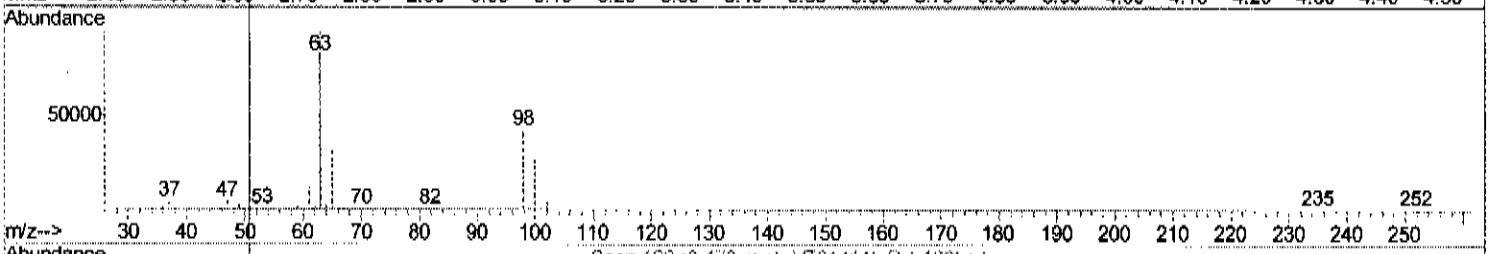
Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 16 10:07:38 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

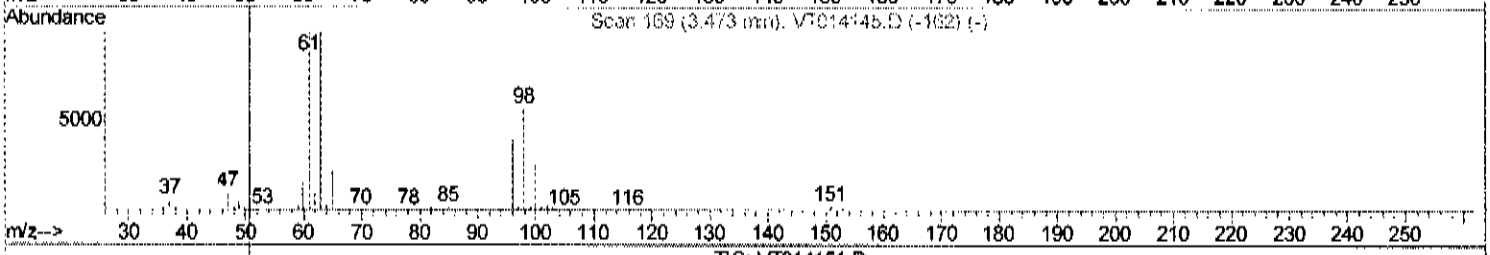
Instrument :
MSVOA_T
ClientSampleId :
VHBLK01

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:56 PM





Scan 169 (3.473 min): VT014145.D (-162) (-)



TIC: VT014151.D

(10) 1,1-Dichloroethene-d2 (S)

3.509min (+0.035) 16.29ug/L m

response 554077

Ion	Exp%	Act%
63.00	100	100
98.00	59.30	15.52#
65.00	11.10	13.96
0.00	0.00	0.00

FY
5/16/2016

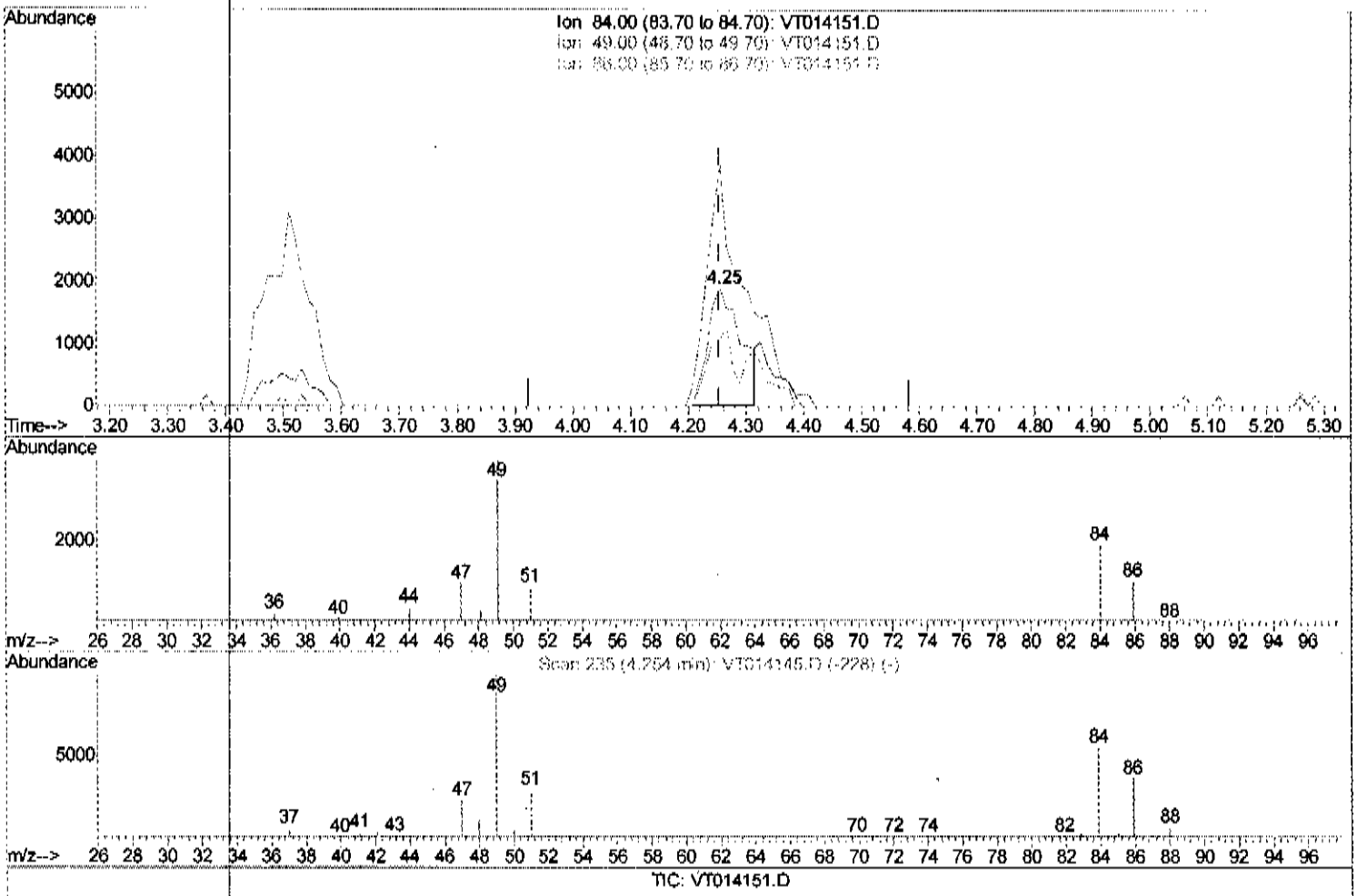
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 16 10:07:38 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VHBLK01

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:56 PM



TIC: VT014151.D

(16) Methylene chloride (T)

4.254min (0.000) 0.43ug/L

response 7638

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	202.20
86.00	65.50	55.95
0.00	0.00	0.00

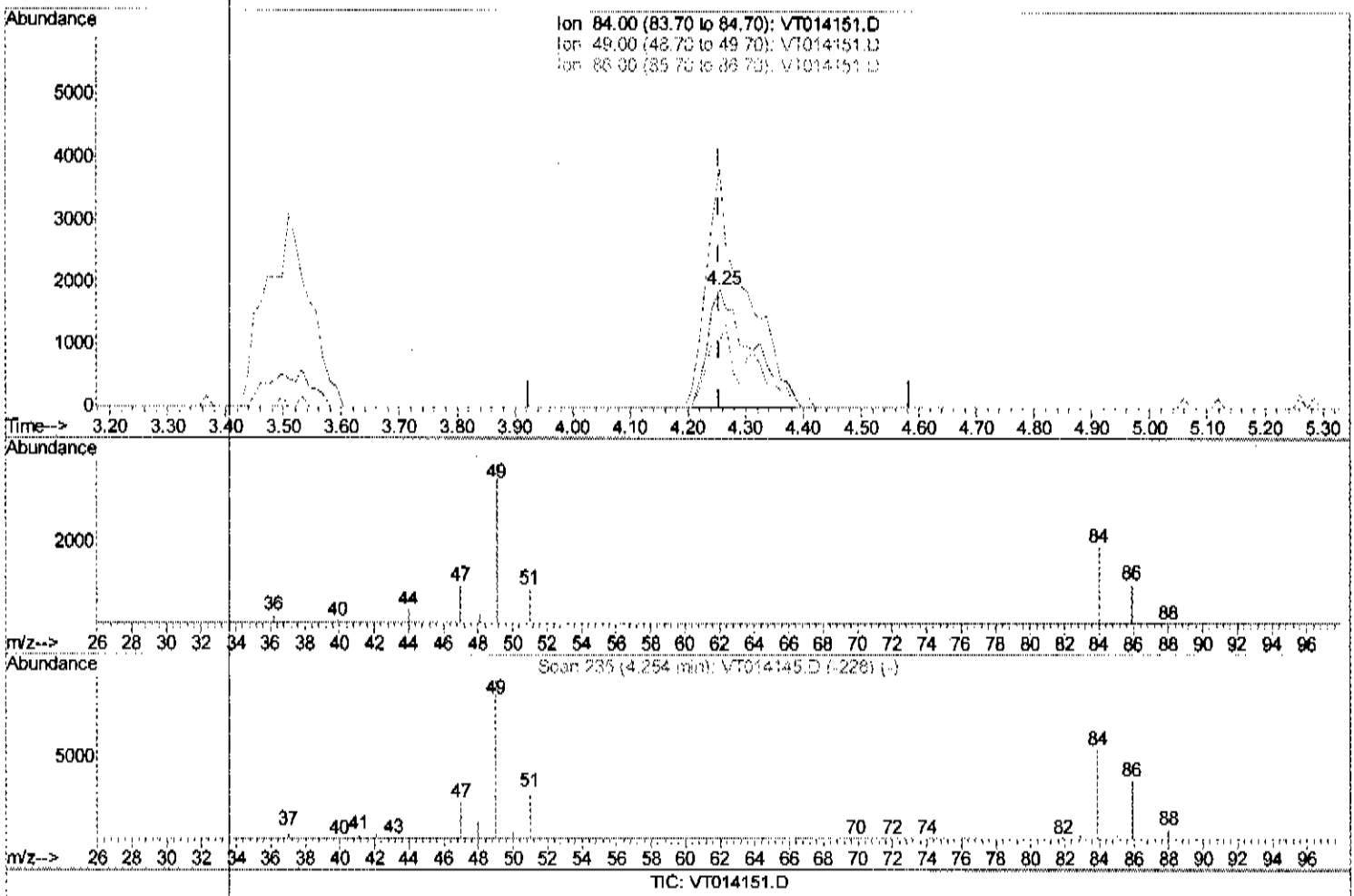
Quantitation Report (Qedit)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 16 10:07:38 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument :
MSVOA_T
ClientSampleId :
VHBLK01

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:56 PM



(16) Methylene chloride (T)

4.254min (0.000) 0.55ug/L m

response 9923

FY
5/16/2016

Ion	Exp%	Act%
84.00	100	100
49.00	181.20	202.20
86.00	65.50	55.95
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : W:\HPCHEM1\MSVOA_T\DATA\VT051316\
Data File : VT014151.D
Acq On : 13 May 2016 19:00
Operator : FY/SY
Sample : H2954-03
Misc : 5.00g/10mL/MSVOA_T/SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 16 10:13:09 2016
Quant Method : W:\HPCHEM1\MSVOA_T\METHODS\SOM2TLM051316S.M
Quant Title : VOC Analysis
QLast Update : Fri May 13 23:58:56 2016
Response via : Initial Calibration

Instrument : MSVOA_T
ClientSampleId : VHBLK01

Manual Integrations APPROVED
mmdadoda
5/16/2016 6:44:56 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Difluorobenzene	8.36	114	970651	25.00	ug/L	0.00
28) Chlorobenzene-d5	11.19	117	779709	25.00	ug/L	0.00
59) 1,4-Dichlorobenzene-d4	13.12	152	367210	25.00	ug/L	0.00
System Monitoring Compounds						
4) Vinyl Chloride-d3	2.08	65	383022	25.12	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 100.48%			
7) Chloroethane-d5	2.53	69	291914	24.67	ug/L	-0.01
Spiked Amount 25.000	Range 30 - 150		Recovery = 98.68%			
10) 1,1-Dichloroethene-d2	3.51	63	554077m	16.29	ug/L	0.04
Spiked Amount 25.000	Range 45 - 110		Recovery = 65.16%			
20) 2-Butanone-d5	6.43	46	165475	40.12	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 80.24%			
24) Chloroform-d	7.07	84	624356	22.04	ug/L	0.00
Spiked Amount 25.000	Range 40 - 150		Recovery = 88.16%			
26) 1,2-Dichloroethane-d4	7.78	65	394595	22.49	ug/L	0.00
Spiked Amount 25.000	Range 70 - 130		Recovery = 89.96%			
29) Benzene-d6	7.74	84	1119625	22.40	ug/L	0.00
Spiked Amount 25.000	Range 20 - 135		Recovery = 89.60%			
33) 1,2-Dichloropropane-d6	8.80	67	341032	22.52	ug/L	0.00
Spiked Amount 25.000	Range 70 - 120		Recovery = 90.08%			
37) Toluene-d8	9.87	98	995815	22.45	ug/L	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 89.80%			
38) trans-1,3-Dichloropropene-	10.14	79	118906	20.99	ug/L	0.00
Spiked Amount 25.000	Range 30 - 135		Recovery = 83.96%			
39) 2-Hexanone-d5	10.48	63	108217	44.00	ug/L	0.00
Spiked Amount 50.000	Range 20 - 135		Recovery = 88.00%			
48) 1,1,2,2-Tetrachloroethane-	12.25	84	216568	20.72	ug/L	0.00
Spiked Amount 25.000	Range 45 - 120		Recovery = 82.88%			
60) 1,2-Dichlorobenzene-d4	13.41	152	309099	22.83	ug/L	0.00
Spiked Amount 25.000	Range 75 - 120		Recovery = 91.32%			
Target Compounds						Qvalue
16) Methylene chloride	4.25	84	9923m	0.55	ug/L	

FY 5/16/2016

FY 5/16/2016

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 2A-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract: EPW14030

Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4082

Analytical Method : SVOA Level : Low

Matrix : Soil

EPA Sample No .	DMC1 (DXE)	DMC2 (PHL)	DMC3 (BCE)	DMC4 (2CP)	DMC5 (4MP)	DMC6 (NBZ)	DMC7 (2NP)	DMC8 (DCP)	DMC9 (4CA)
H4082	18 *	36	39	36	37	35	33	38	39
H4086	33 *	52	54	50	47	49	48	56	62
H4086MS	16 *	27	30	28	29	28	28	29	40
H4086MSD	9 *	23	25	23	25	22	23	24	36
SBLK81	56	77	85	78	81	78	79	79	145

	QC LIMITS
DMC1 (DXE) = 1,4-Dioxane-d8	40 - 110
DMC2 (PHL) = Phenol-d5	10 - 130
DMC3 (BCE) = Bis(2-Chloroethyl)ether-d8	10 - 150
DMC4 (2CP) = 2-Chlorophenol-d4	15 - 120
DMC5 (4MP) = 4-Methylphenol-d8	10 - 140
DMC6 (NBZ) = Nitrobenzene-d5	10 - 135
DMC7 (2NP) = 2-Nitrophenol-d4	10 - 120
DMC8 (DCP) = 2,4-Dichlorophenol-d3	10 - 140
DMC9 (4CA) = 4-Chloroaniline-d4	1 - 145

FORM 2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030
Lab Code : CHM Case No.: 46114 MA No.: _____ SDG No.: H4082
Analytical Method : SVOA Level : Low
Matrix : Soil

EPA Sample No .	DMC10 (DMP)	DMC11 ACY	DMC12 (4NP)	DMC13 (FLR)	DMC14 (NMP)	DMC15 (ANC)	DMC16 (PYR)	DMC17 (BAP)	Tot Out
H4082	39	38	29	42	23	41	37	41	1
H4086	60	58	46	63	38	60	59	63	1
H4086MS	32	31	24	33	20	33	31	34	1
H4086MSD	28	26	23	28	19	27	27	29	1
SBLK81	94	88	88	93	73	94	82	95	0

	QC LIMITS
DMC10 (DMP) = Dimethylphthalate-d6	10 - 145
DMC11 (ACY) = Acenaphthylene-d8	15 - 120
DMC12 (4NP) = 4-Nitrophenol-d4	10 - 150
DMC13 (FLR) = Fluorene-d10	20 - 140
DMC14 (NMP) = 4,6-Dinitro-2-methylphenol-d2	10 - 130
DMC15 (ANC) = Anthracene-d10	10 - 150
DMC16 (PYR) = Pyrene-d10	10 - 130
DMC17 (BAP) = Benzo(a)pyrene-d12	10 - 140

FORM 3A-OR
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code : CHM Case No. : 46114 MA No .: SDG No. : H4082

Analytical Method : SVOA Level : LOW

Matrix Soil

EPA Sample No.(Matrix Spike/Metrix Spike Duplicate): H4086

Instrument ID : BNA_M GC Column ZB-GR ID : 0.25 (mm)

Concentration Units (ug/L,mg/L ug/kg): ug/Kg

ANALYTE	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS %R #	QC Limits %R
Phenol	2800	0	800	29	26 - 90
2-Chlorophenol	2800	0	770	28	25 - 102
N-Nitroso-di-n-propylamine	2800	0	820	29 *	41 - 126
4-Chloro-3-methylphenol	2800	0	890	32	26 - 103
Acenaphthene	2800	0	880	31	31 - 137
4-Nitrophenol	2800	0	840	30	11 - 114
2,4-Dinitrotoluene	2800	0	860	31	28 - 89
Pentachlorophenol	2800	0	790	28	17 - 109
Pyrene	2800	0	880	31 *	35 - 142

ANALYTE	SPIKE AADDED	MSD CONCENTRATION	MSD %R #	RPD	QC Limits	
					RPD	%R
Phenol	2800	640	23 *	23	35	26 - 90
2-Chlorophenol	2800	600	21 *	29	50	25 - 102
N-Nitroso-di-n-propylamine	2800	670	24 *	19	38	41 - 126
4-Chloro-3-methylphenol	2800	700	25 *	25	33	26 - 103
Acenaphthene	2800	720	26 *	18	19	31 - 137
4-Nitrophenol	2800	730	26	14	50	11 - 114
2,4-Dinitrotoluene	2800	680	24 *	25	47	28 - 89
Pentachlorophenol	2800	640	23	20	47	17 - 109
Pyrene	2800	710	25 *	21	36	35 - 142

EPA SAMPLE NO.

SBLK81

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : _____ sdg no.: H4082
Analytical Method: SVOA
Level : Low
Matrix : Soil
Lab Sample ID: PB90581BL
Instrument ID: BNA_M
Lab File ID : BM005492.D
Extraction Type : SOXH
Date Extracted : 05/12/2016
GC Column ( ) : ZB-GR ID : 0.25 (mm)
Date Analyzed : 05/19/2016
GC Column ( ) : _____ ID : _____ (mm)
Time Analyzed : 04:48
Heated Purge: (Y/N) _____ Cleanup(Y/N): Y
Cleanup Types : GPC

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
H4082	H2954-01	BM005493.D	05/19/2016 05:24
H4086	H2954-02	BM005494.D	05/19/2016 06:00
H4086MS	H2954-04MS	BM005495.D	05/19/2016 06:37
H4086MSD	H2954-05MSD	BM005496.D	05/19/2016 07:13

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.
DFTPP39

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Lab File ID : BM005462.D
Instrument ID: BNA_M
BFB / DFTPP : DFTPP
GC Column : ZB-GR ID : 0.25 (mm)
Injection Date : 05/18/2016
Injection Time : 09:31

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	33.8	
68	Less than 2.0% of mass 69	0.7(1.8)	1
69	Present	35.3	
70	Less than 2.0% of mass 69	0.1(0.3)	1
127	10.0 - 80.0% of mass 198	45.9	
197	Less than 2.0% of mass 198	0.5	
198	Base Peak, 100% relative abundance	100	
199	5.0 to 9.0% of mass 198	6.8	
275	10.0 - 60.0% of mass 198	27	
365	Greater than 1% of mass 198	3.7	
441	Present, but less than mass 443	14.2	
442	Greater than 50.0% of mass 198	91.8	
443	15.0 - 24.0% of mass 442	17.6(19.1)	2

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTD00538	SSTD00538	BM005463.D	05/18/2016	10:07
SSTD01039	SSTD01039	BM005464.D	05/18/2016	10:43
SSTD02040	SSTD02040	BM005465.D	05/18/2016	11:19
SSTD04041	SSTD04041	BM005466.D	05/18/2016	11:55
SSTD08042	SSTD08042	BM005467.D	05/18/2016	12:31
SSTD16043	SSTD16043	BM005468.D	05/18/2016	13:53
SSTD02044	SSTDCCC020	BM005469.D	05/18/2016	14:29
SSTD02045	SSTDCCC020	BM005483.D	05/18/2016	23:21
SBLK81	PB90581BL	BM005492.D	05/19/2016	04:48
H4082	H2954-01	BM005493.D	05/19/2016	05:24
H4086	H2954-02	BM005494.D	05/19/2016	06:00
H4086MS	H2954-04MS	BM005495.D	05/19/2016	06:37
H4086MSD	H2954-05MSD	BM005496.D	05/19/2016	07:13
SSTD02046	SSTDCCC020EC	BM005498.D	05/19/2016	08:25

FORM 8A-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group Contract: EPW14030
Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082
Analytical Method: SVOA Level : LOW
EPA Sample No. : SSTD02045 Lab File ID (Standard) : BM005483.D
Instrument ID : BNA_M Init.Calib.Date(s): 05/18/2016
GC Column : ZB-GR ID: 0.25 (mm) Date Analyzed : 05/18/2016
Heated Purge: Time Analyzed : 23:21

	IS1 (DCB) AREA	RT	IS2 (NPT) AREA	RT	IS3 (ANT) AREA	RT
12 HOUR STD	30288	7.84	156945	10.63	109856	14.46
UPPER LIMIT	60576	8.34	313890	11.13	219712	14.96
LOWER LIMIT	15144	7.34	78472.5	10.13	54928	13.96
EPA SAMPLE NO.						
SBLK81	17971	7.84	94206	10.63	68228	14.46
H4082	19293	7.84	97967	10.63	71738	14.46
H4086	22873	7.83	117497	10.63	84145	14.46
H4086MS	37452	7.83	194685	10.63	138602	14.46
H4086MSD	24674	7.83	127242	10.62	90125	14.46

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

FORM 8B-OR
INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Chemtech Consulting Group | Contract: EPW14030
Lab Code: CHM | Case No.: 46114 | MA No.: | SDG No.: H4082
Analytical Method: SVOA | Level : LOW
EPA Sample No. : SSTD02045 | Lab File ID (Standard) : BM005483.D
Instrument ID : BNA_M | Init.Calib.Date(s): 05/18/2016
GC Column : ZB-GR | ID: 0.25 (mm) | Date Analyzed : 05/18/2016
Heated Purge: | Time Analyzed : 23:21

	IS4 (PHN) AREA	RT	IS5 (CRY) AREA	RT	IS6 (PRY) AREA	RT
12 HOUR STD	294839	17.2	443340	21.38	514428	23.66
UPPER LIMIT	589678	17.7	886680	21.88	1028860	24.16
LOWER LIMIT	147420	16.7	221670	20.88	257214	23.16
EPA SAMPLE NO.						
SBLK81	195604	17.20	353209	21.37	405542	23.66
H4082	206884	17.20	380368	21.37	474725	23.66
H4086	237731	17.20	408217	21.37	477896	23.66
H4086MS	399740	17.20	677843	21.37	823320	23.66
H4086MSD	256975	17.20	444006	21.37	525159	23.66

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005493.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	200	U
100-52-7	Benzaldehyde	990	U
108-95-2	Phenol	990	U
111-44-4	Bis(2-Chloroethyl)ether	990	U
95-57-8	2-Chlorophenol	510	U
95-48-7	2-Methylphenol	990	U
108-60-1	2,2-oxybis(1-Chloropropane)	990	U
98-86-2	Acetophenone	990	U
106-44-5	4-Methylphenol	990	U
621-64-7	N-Nitroso-di-n-propylamine	510	U
67-72-1	Hexachloroethane	510	U
98-95-3	Nitrobenzene	510	U
78-59-1	Isophorone	510	U
88-75-5	2-Nitrophenol	510	U
105-67-9	2,4-Dimethylphenol	510	U
111-91-1	Bis(2-Chloroethoxy)methane	510	U
120-83-2	2,4-Dichlorophenol	510	U
91-20-3	Naphthalene	510	U
106-47-8	4-Chloroaniline	990	U
87-68-3	Hexachlorobutadiene	510	U
105-60-2	Caprolactam	990	U
59-50-7	4-Chloro-3-methylphenol	510	U
91-57-6	2-Methylnaphthalene	510	U
77-47-4	Hexachlorocyclopentadiene	990	U
88-06-2	2,4,6-Trichlorophenol	510	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005493.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	510	U
92-52-4	1,1-Biphenyl	510	U
91-58-7	2-Chloronaphthalene	510	U
88-74-4	2-Nitroaniline	510	U
131-11-3	Dimethylphthalate	280	J
606-20-2	2,6-Dinitrotoluene	510	U
208-96-8	Acenaphthylene	510	U
99-09-2	3-Nitroaniline	990	U
83-32-9	Acenaphthene	510	U
51-28-5	2,4-Dinitrophenol	990	U
100-02-7	4-Nitrophenol	990	U
132-64-9	Dibenzofuran	510	U
121-14-2	2,4-Dinitrotoluene	510	U
84-66-2	Diethylphthalate	510	U
86-73-7	Fluorene	510	U
7005-72-3	4-Chlorophenyl-phenylether	510	U
100-01-6	4-Nitroaniline	990	U
534-52-1	4,6-Dinitro-2-methylphenol	990	U
86-30-6	N-Nitrosodiphenylamine	510	U
95-94-3	1,2,4,5-Tetrachlorobenzene	510	U
101-55-3	4-Bromophenyl-phenylether	510	U
118-74-1	Hexachlorobenzene	510	U
1912-24-9	Atrazine	990	U
87-86-5	Pentachlorophenol	990	U
85-01-8	Phenanthrene	510	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005493.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	510	U
86-74-8	Carbazole	990	U
84-74-2	Di-n-butylphthalate	510	U
206-44-0	Fluoranthene	510	U
129-00-0	Pyrene	510	U
85-68-7	Butylbenzylphthalate	510	U
91-94-1	3,3-Dichlorobenzidine	990	U
56-55-3	Benzo(a)anthracene	510	U
218-01-9	Chrysene	510	U
117-81-7	Bis(2-ethylhexyl)phthalate	260	J
117-84-0	Di-n-octyl phthalate	990	U
205-99-2	Benzo(b)fluoranthene	510	U
207-08-9	Benzo(k)fluoranthene	510	U
50-32-8	Benzo(a)pyrene	510	U
193-39-5	Indeno(1,2,3-cd)pyrene	510	U
53-70-3	Dibenzo(a,h)anthracene	510	U
191-24-2	Benzo(g,h,i)perylene	510	U
58-90-2	2,3,4,6-Tetrachlorophenol	510	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4082

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-01
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005493.D
% Solids : 33.2
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
Extract Concentrated : (Y / N) Y
Date Analyzed : 05/19/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 500 (µL)
Heated Purge : (Y / N)
Extraction Type : SOXH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types : GPC
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	2600	

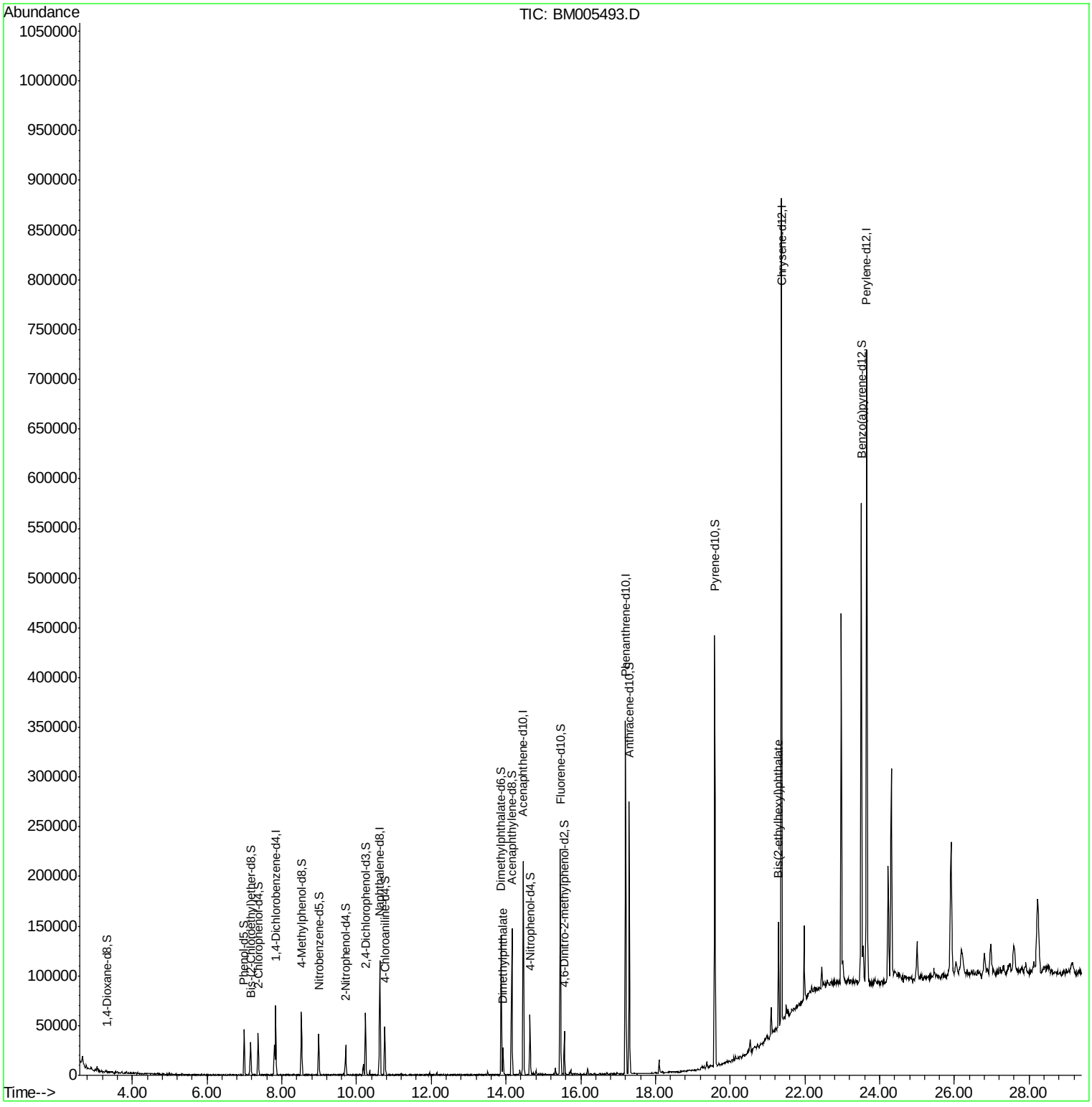
EPA-designated Registry Number.

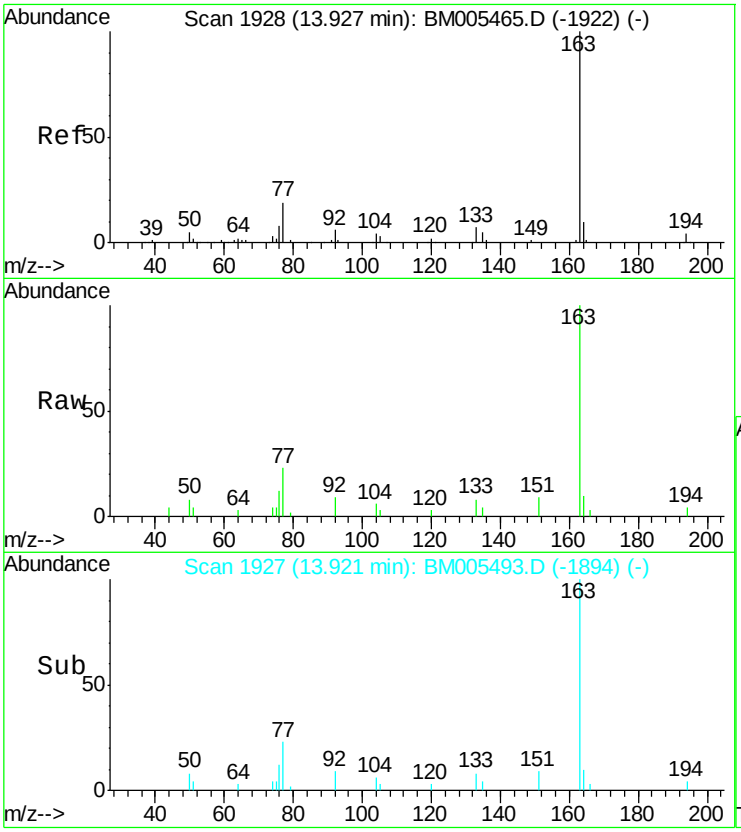
Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Quant Time: May 19 06:41:06 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration



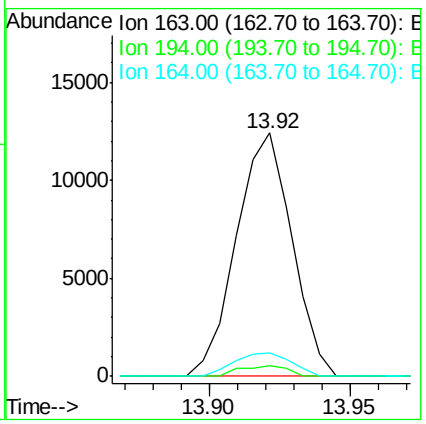


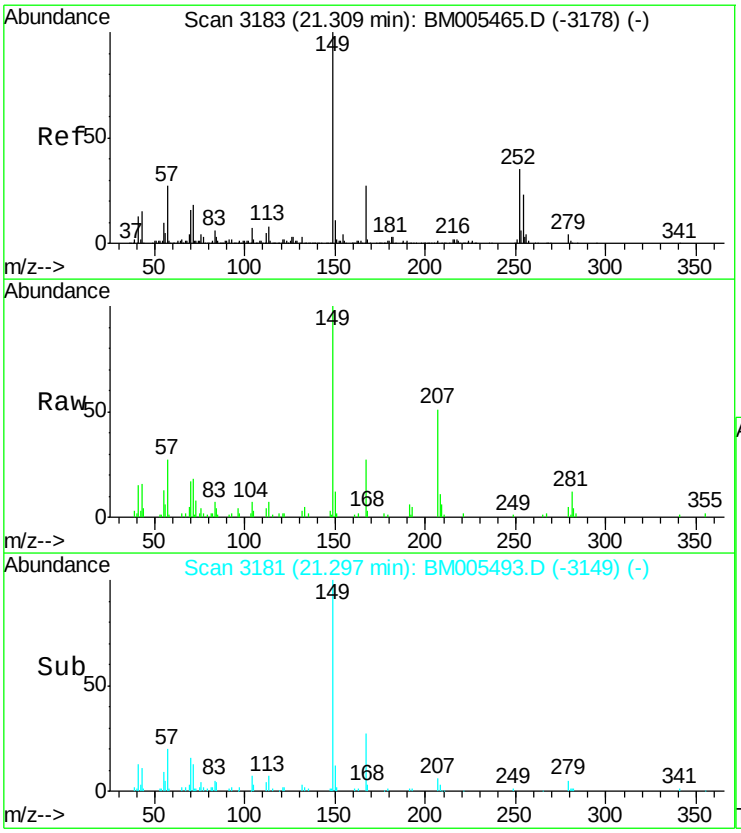
#44
Dimethylphthalate
Concen: 2.81 ng/ul
RT: 13.92 min Scan# 1927
Delta R.T. -0.01 min
Lab File: BM005493.D
Acq: 19 May 2016 05:24

Instrument : BNA_M
ClientSampleId : H4082

Tgt Ion:163 Resp: 16917

Ion	Ratio	Lower	Upper
163	100		
194	4.3	3.4	5.0
164	9.8	7.9	11.9

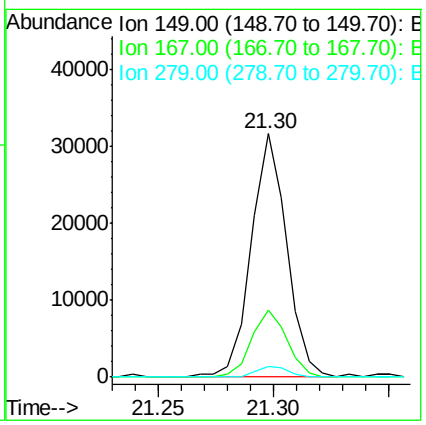




#81
Bis(2-ethylhexyl)phthalate
Concen: 2.62 ng/ul
RT: 21.30 min Scan# 3181
Delta R.T. -0.01 min
Lab File: BM005493.D
Acq: 19 May 2016 05:24

Tgt Ion:149 Resp: 33867

Ion	Ratio	Lower	Upper
149	100		
167	27.3	21.9	32.9
279	4.6	3.0	4.4#



Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Quant Time: May 19 06:41:06 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	19293	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	97967	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.46	164	71738	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.20	188	206884	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	380368	20.00	ng/ul	-0.01
83) Perylene-d12	23.66	264	474725	20.00	ng/ul	-0.01
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	734	1.46	ng/uL	0.00
5) Phenol-d5	6.99	99	26611	14.36	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	15647	15.42	ng/ul	0.00
9) 2-Chlorophenol-d4	7.36	132	20356	14.30	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	23309	14.77	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	9819	13.92	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	10239	13.31	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.24	165	22975	15.03	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	27215	15.47	ng/ul	0.00
43) Dimethylphthalate-d6	13.87	166	91154	15.46	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	106278	15.26	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	14187	11.73	ng/ul	0.00
57) Fluorene-d10	15.46	176	88262	16.96	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.56	200	10182	9.34	ng/ul	0.00
70) Anthracene-d10	17.30	188	157775	16.58	ng/ul	0.00
76) Pyrene-d10	19.59	212	228815	14.96	ng/ul	-0.01
87) Benzo(a)pyrene-d12	23.51	264	352133	16.59	ng/ul	-0.01
Target Compounds						Qvalue
44) Dimethylphthalate	13.92	163	16917	2.81	ng/ul	100
81) Bis(2-ethylhexyl)phthalate	21.30	149	33867	2.62	ng/ul#	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.663	10	13	22	rVB3	10927	20768	1.67%	0.240%
2	6.993	743	749	759	rVB	45799	73103	5.87%	0.846%
3	7.169	771	779	786	rVB2	33016	60351	4.85%	0.698%
4	7.363	805	812	818	rBV	42613	67445	5.42%	0.780%
5	7.798	879	886	889	rBV2	30347	48632	3.91%	0.563%
6	7.834	889	892	900	rVB	69960	107882	8.67%	1.248%
7	8.528	1005	1010	1017	rBV	63323	97542	7.84%	1.129%
8	8.986	1082	1088	1094	rBV	40948	67161	5.40%	0.777%
9	9.710	1204	1211	1216	rBV2	29953	47379	3.81%	0.548%
10	10.181	1284	1291	1296	rBV	10703	16023	1.29%	0.185%
11	10.239	1296	1301	1307	rVB	62500	98372	7.90%	1.138%
12	10.628	1358	1367	1375	rBV	114954	194593	15.64%	2.252%
13	10.757	1383	1389	1396	rBV	48572	80489	6.47%	0.931%
14	13.874	1913	1919	1923	rBV	140714	189912	15.26%	2.198%
15	13.921	1923	1927	1933	rVB2	26911	36743	2.95%	0.425%
16	14.157	1961	1967	1973	rVB	146861	211754	17.02%	2.450%
17	14.463	2013	2019	2028	rVB2	215116	325944	26.19%	3.772%
18	14.645	2044	2050	2059	rBV	60303	88071	7.08%	1.019%
19	15.457	2182	2188	2195	rVB	226653	318863	25.62%	3.690%
20	15.563	2202	2206	2211	rBV	43229	55248	4.44%	0.639%
21	17.204	2479	2485	2492	rVB	354899	499519	40.14%	5.780%
22	17.298	2496	2501	2513	rVB2	273563	391345	31.45%	4.529%
23	18.098	2632	2637	2642	rBV	13661	19245	1.55%	0.223%
24	19.586	2885	2890	2900	rBV	432254	606272	48.72%	7.016%
25	20.539	3049	3052	3056	rVB6	12136	14587	1.17%	0.169%
26	21.097	3143	3147	3152	rBV2	27681	39971	3.21%	0.463%
27	21.297	3177	3181	3186	rVB	103716	110823	8.91%	1.282%
28	21.374	3188	3194	3199	rBV	830364	1036407	83.28%	11.993%
29	21.980	3293	3297	3308	rBV	75797	109921	8.83%	1.272%
30	22.974	3461	3466	3471	rBV	368162	542256	43.57%	6.275%
31	23.509	3551	3557	3563	rBV2	475135	884034	71.04%	10.230%
32	23.656	3575	3582	3592	rVB	637923	1244484	100.00%	14.401%
33	24.233	3675	3680	3686	rVB2	110640	195193	15.68%	2.259%
34	24.309	3687	3693	3702	rVB	205383	411226	33.04%	4.759%

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Title : SVOA CALIBRATION

35	25.909	3959	3965	3974	rVB	129925	330231	26.54%	3.821%

Sum of corrected areas: 8641789

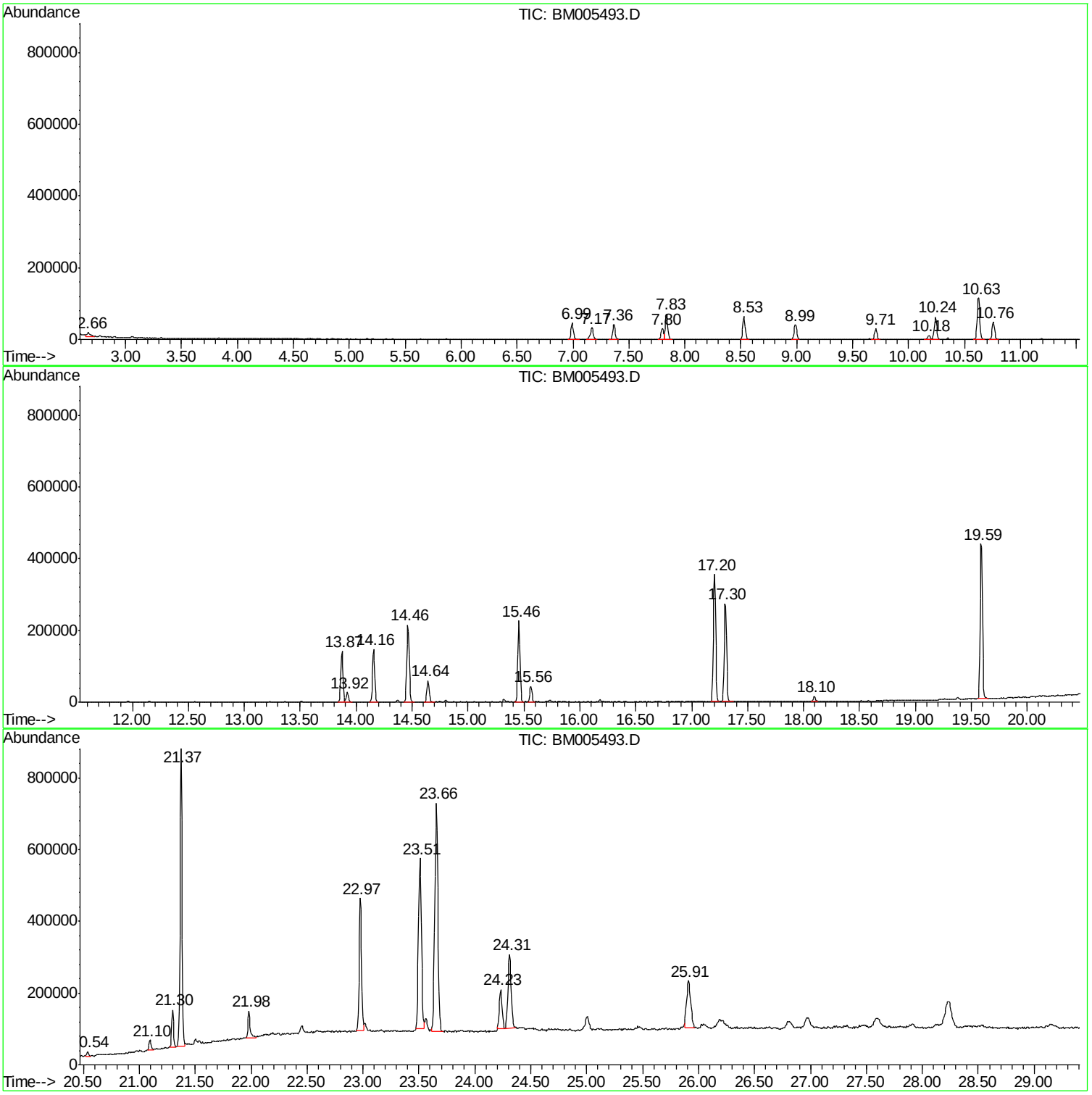
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

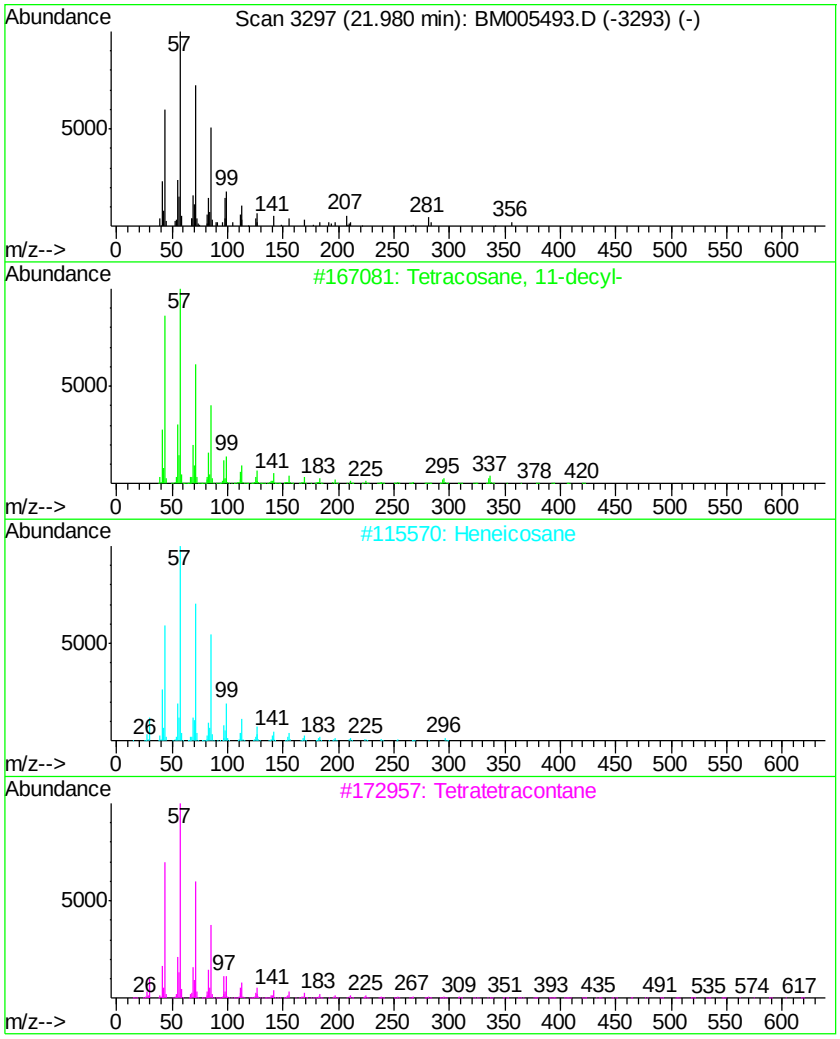
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

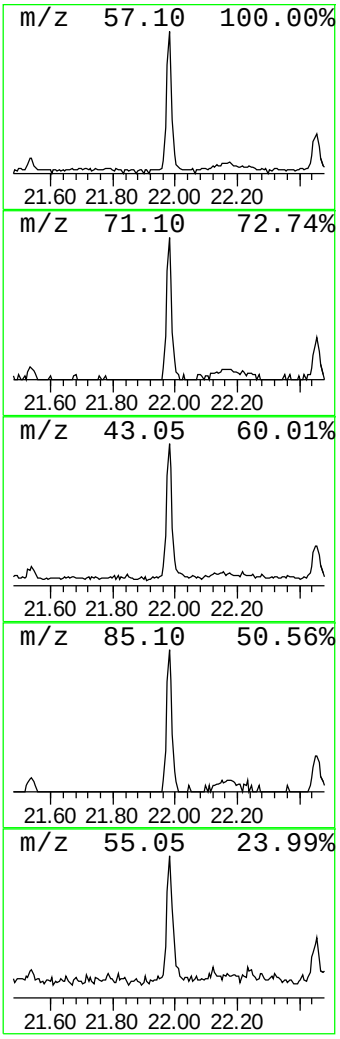
****

Peak Number 2 (DEL) Alkane: Straight-Chai... Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.98	2.12 ng/ul	109921	Chrysene-d12	21.37

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tetracosane, 11-decyl-	479	C34H70	055429-84-0	90
2	Heneicosane	296	C21H44	000629-94-7	90
3	Tetratetracontane	619	C44H90	007098-22-8	90
4	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	90
5	Tetratriacontane	479	C34H70	014167-59-0	90





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

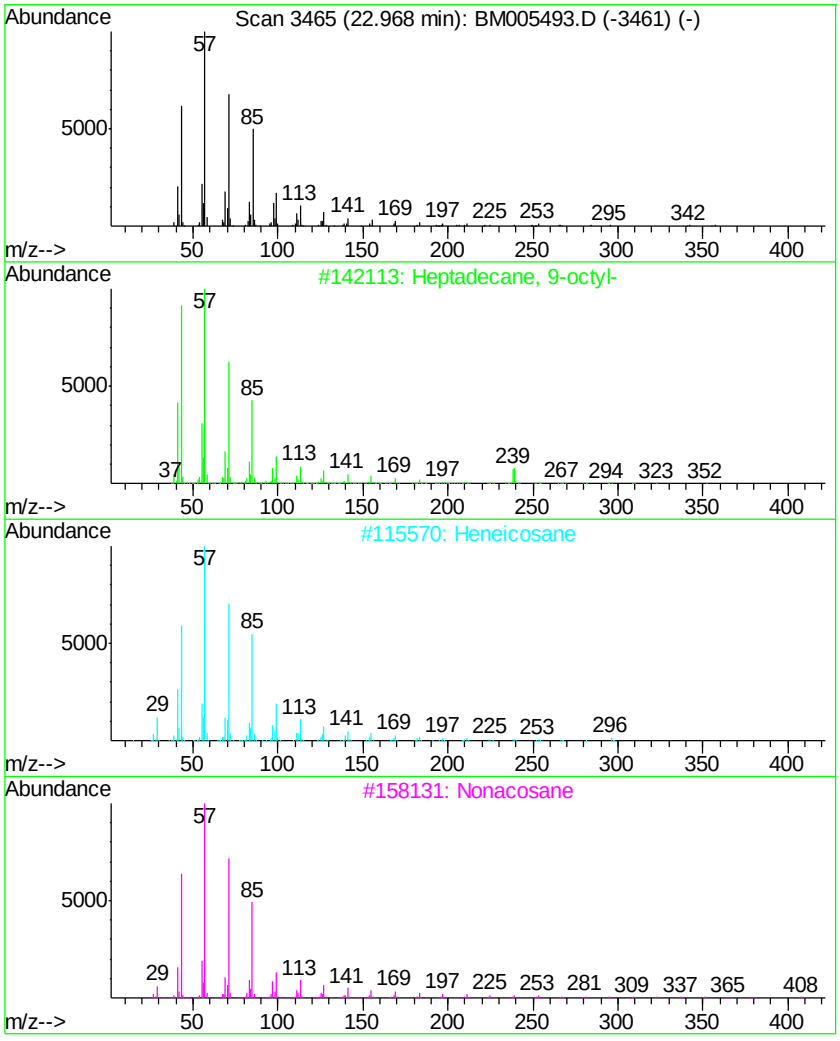
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

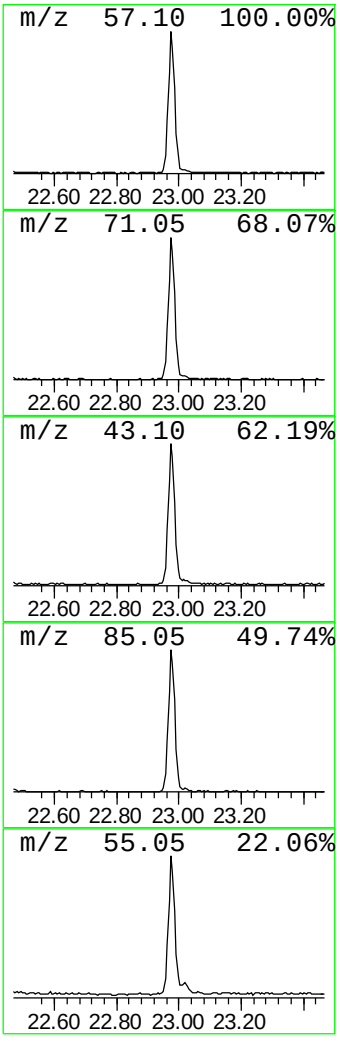
****

Peak Number 3 (DEL) Alkane: Straight-Chai... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.97	8.71 ng/ul	542256	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	91
2	Heneicosane	296	C21H44	000629-94-7	91
3	Nonacosane	408	C29H60	000630-03-5	91
4	Triacontane	422	C30H62	000638-68-6	91
5	Tetracosane	338	C24H50	000646-31-1	91





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

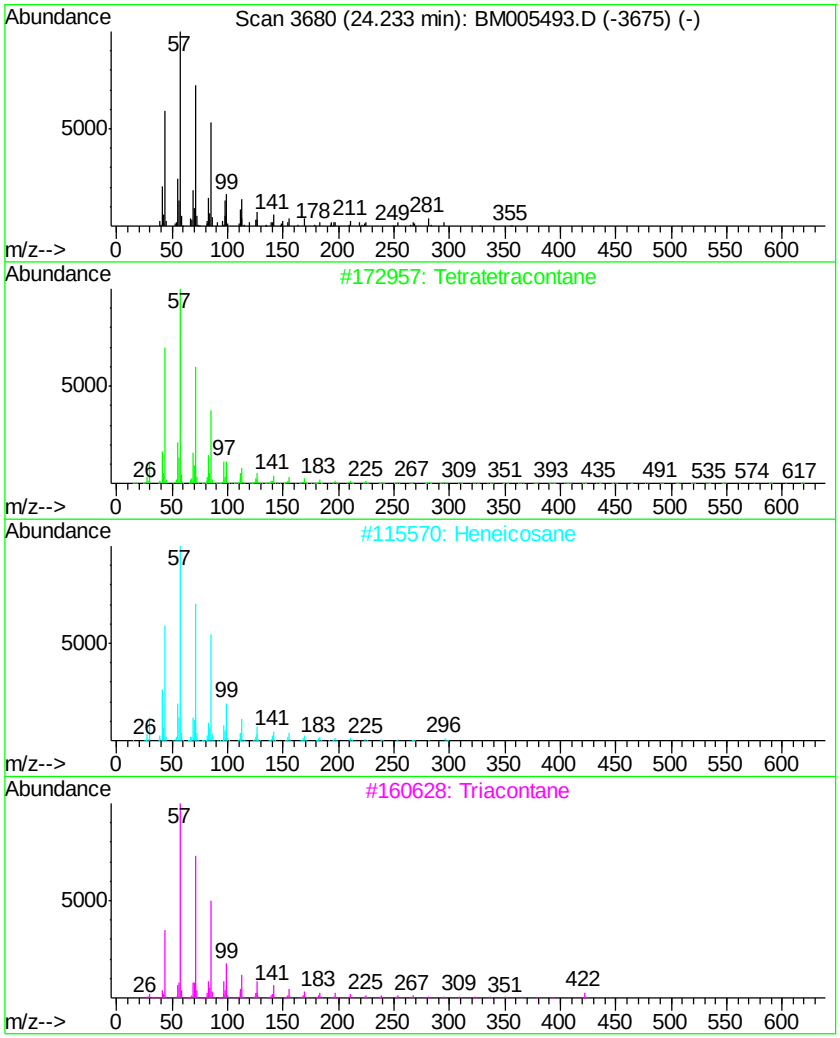
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

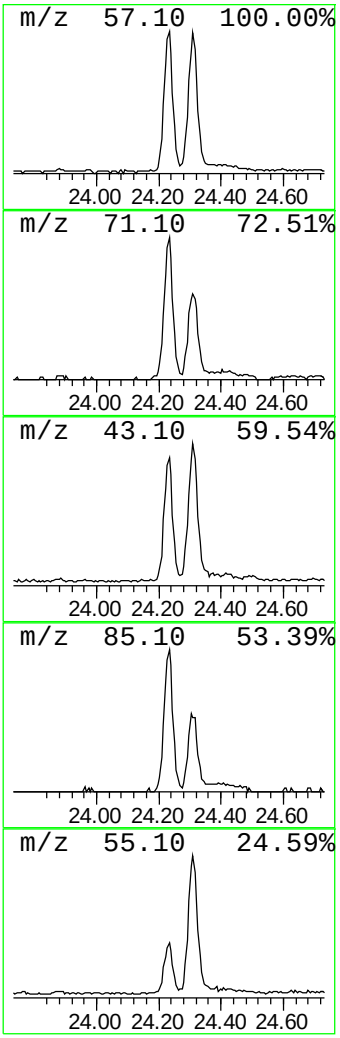
****

Peak Number 4 (DEL) Alkane: Straight-Chai... Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.23	3.14 ng/ul	195193	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tetratetracontane	619	C44H90	007098-22-8	93
2	Heneicosane	296	C21H44	000629-94-7	90
3	Triacontane	422	C30H62	000638-68-6	90
4	Octacosane	394	C28H58	000630-02-4	90
5	Tetratriacontane	479	C34H70	014167-59-0	90





Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

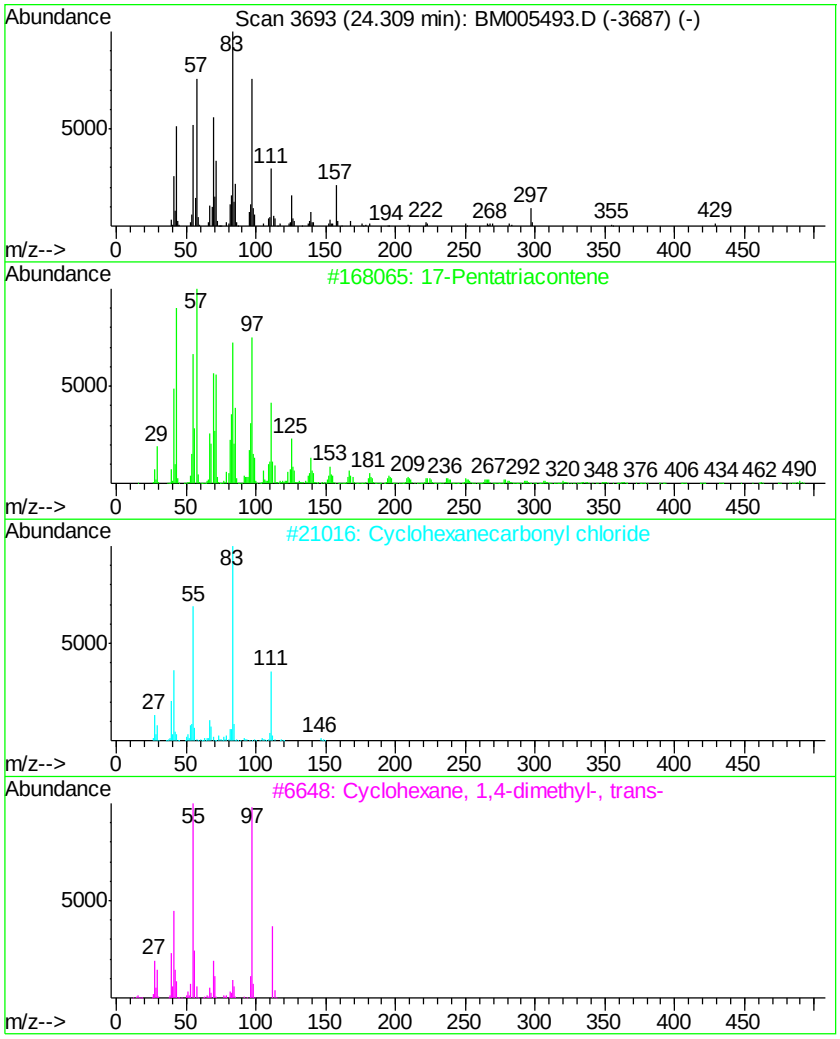
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

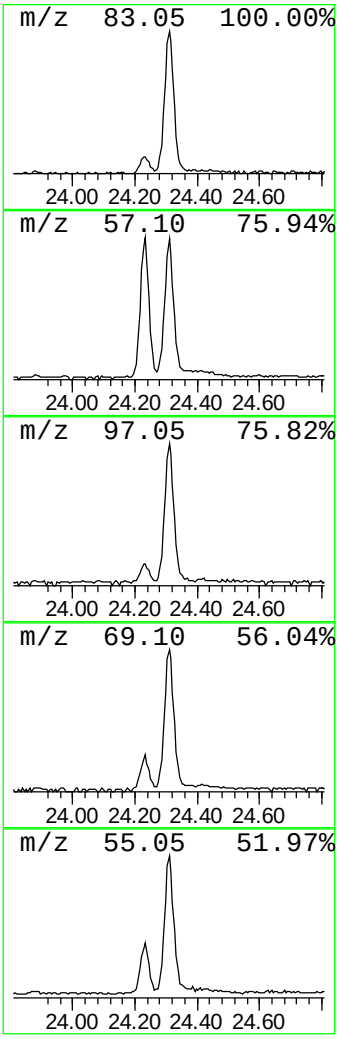
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 5 (DEL) Alkane: Straight-Chai... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.31	6.61 ng/ul	411226	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	17-Pentatriacontene	491	C35H70	006971-40-0	30
2	Cyclohexanecarbonyl chloride	146	C7H11ClO	002719-27-9	27
3	Cyclohexane, 1,4-dimethyl-, trans-	112	C8H16	002207-04-7	25
4	1-Hexadecanesulfonyl chloride	324	C16H33ClO2S	038775-38-1	22
5	1-Triacontanol	438	C30H62O	000593-50-0	22





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

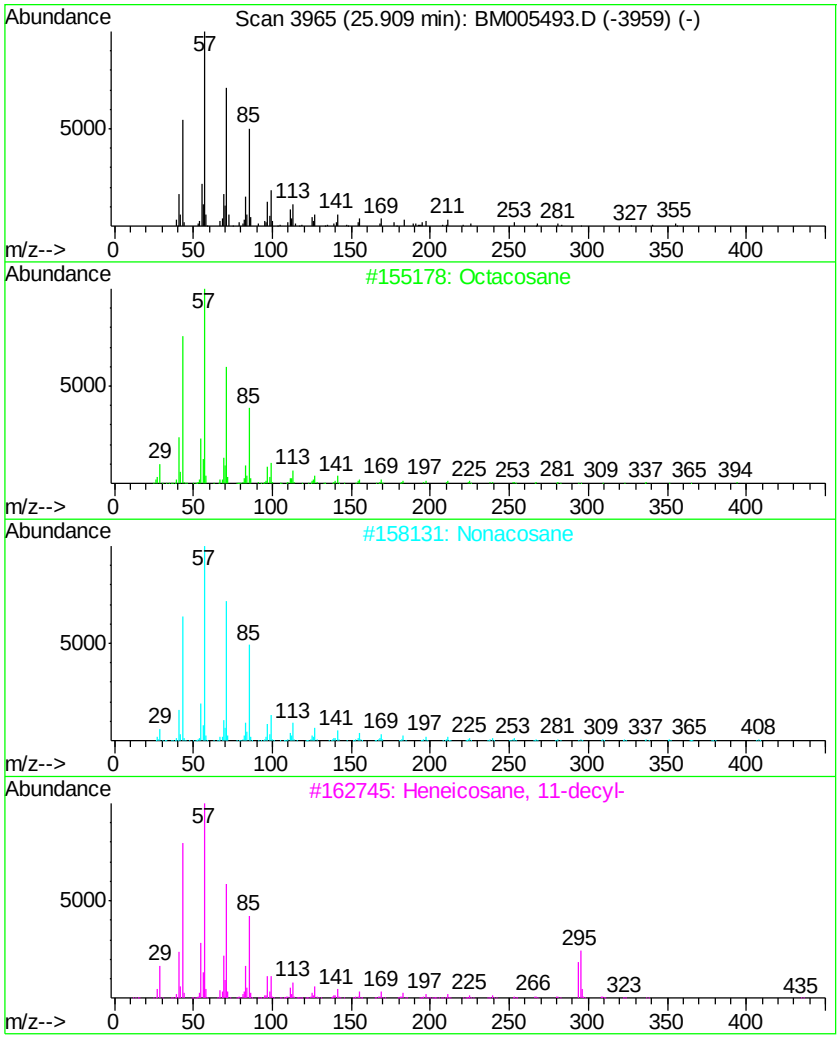
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

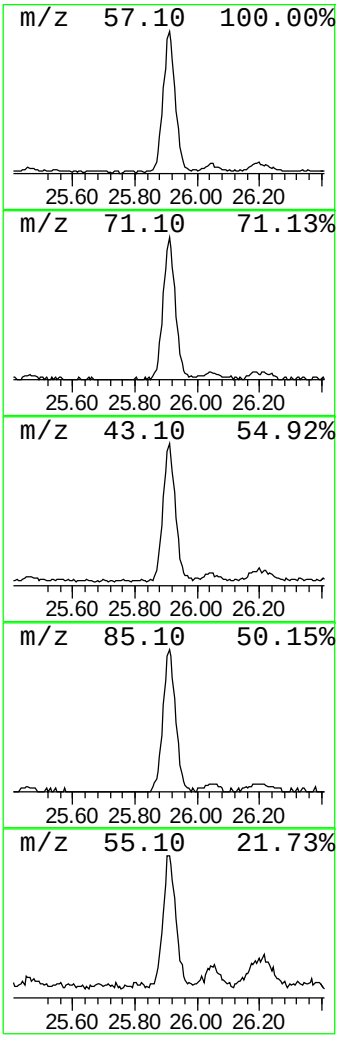
****

Peak Number 6 (DEL) Alkane: Straight-Chai... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.91	5.31 ng/ul	330231	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octacosane	394	C28H58	000630-02-4	91
2	Nonacosane	408	C29H60	000630-03-5	91
3	Heneicosane, 11-decyl-	437	C31H64	055320-06-4	91
4	Heneicosane, 11-(1-ethylpropyl)-	366	C26H54	055282-11-6	91
5	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	91





Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005493.D
Acq On : 19 May 2016 05:24
Operator : UM/SJ
Sample : H2954-01
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4082

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					|--Internal Standard---|		
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
(DEL) Alkane: Str...	21.98	2.1	ng/ul	109921	5	21.37	1036410	20.0
(DEL) Alkane: Str...	22.97	8.7	ng/ul	542256	6	23.66	1244480	20.0
(DEL) Alkane: Str...	24.23	3.1	ng/ul	195193	6	23.66	1244480	20.0
(DEL) Alkane: Str...	24.31	6.6	ng/ul	411226	6	23.66	1244480	20.0
(DEL) Alkane: Str...	25.91	5.3	ng/ul	330231	6	23.66	1244480	20.0

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005494.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	140	U
100-52-7	Benzaldehyde	690	U
108-95-2	Phenol	690	U
111-44-4	Bis(2-Chloroethyl)ether	690	U
95-57-8	2-Chlorophenol	350	U
95-48-7	2-Methylphenol	690	U
108-60-1	2,2-oxybis(1-Chloropropane)	690	U
98-86-2	Acetophenone	690	U
106-44-5	4-Methylphenol	690	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	Bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	690	U
87-68-3	Hexachlorobutadiene	350	U
105-60-2	Caprolactam	690	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	690	U
88-06-2	2,4,6-Trichlorophenol	350	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005494.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	350	U
92-52-4	1,1-Biphenyl	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	390	
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	690	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	690	U
100-02-7	4-Nitrophenol	690	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
86-73-7	Fluorene	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
100-01-6	4-Nitroaniline	690	U
534-52-1	4,6-Dinitro-2-methylphenol	690	U
86-30-6	N-Nitrosodiphenylamine	350	U
95-94-3	1,2,4,5-Tetrachlorobenzene	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
1912-24-9	Atrazine	690	U
87-86-5	Pentachlorophenol	690	U
85-01-8	Phenanthrene	350	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005494.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	350	U
86-74-8	Carbazole	690	U
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	Bis(2-ethylhexyl)phthalate	350	U
117-84-0	Di-n-octyl phthalate	690	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U
58-90-2	2,3,4,6-Tetrachlorophenol	350	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
H4086

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-02
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005494.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
Extract Concentrated : (Y / N) Y
Date Analyzed : 05/19/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 500 (µL)
Heated Purge : (Y / N)
Extraction Type : SOXH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types : GPC
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	039029-41-9	Naphthalene, 1,2,3,4,4a,5,6,8a-oct	14.74	370	JN
2	000475-03-6	Naphthalene, 1,2,3,4-tetrahydro-1,	14.79	160	JN
3	000057-10-3	n-Hexadecanoic acid	18.1	170	JN
4		unknown-01	20.49	250	J
5		unknown-02	20.53	490	J
6	018956-15-5	2-Propen-1-one, 1-(2,6-dihydroxy-4	20.9	220	JN
7	029244-55-1	1H-Pyrrole-2,5-dione, 3,4-dichloro	20.97	220	JN
8	000480-39-7	4H-1-Benzopyran-4-one, 2,3-dihydro	21.28	370	JN
9	036653-82-4	1-Hexadecanol	23.02	230	JN
10		unknown-03	24.31	1400	J
11	038775-38-1	1-Hexadecanesulfonyl chloride	26.04	200	JN
12	000083-47-6	.gamma.-Sitosterol	26.81	500	JN
13	1000194-62-4	4,4,6a,6b,8a,11,11,14b-Octamethyl-	27.6	380	JN
14	E966796	Total Alkanes	N/A	6500	

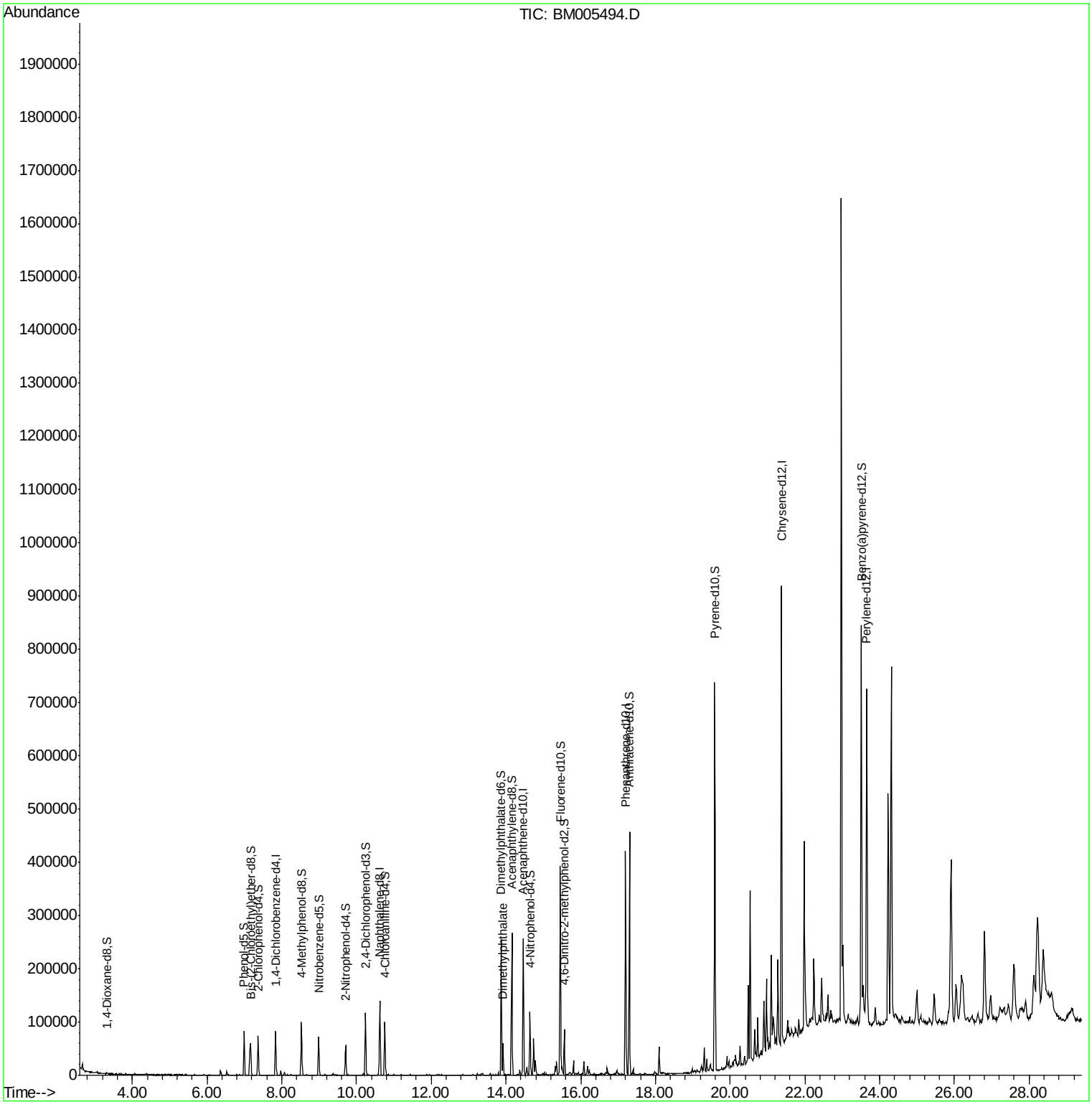
EPA-designated Registry Number.

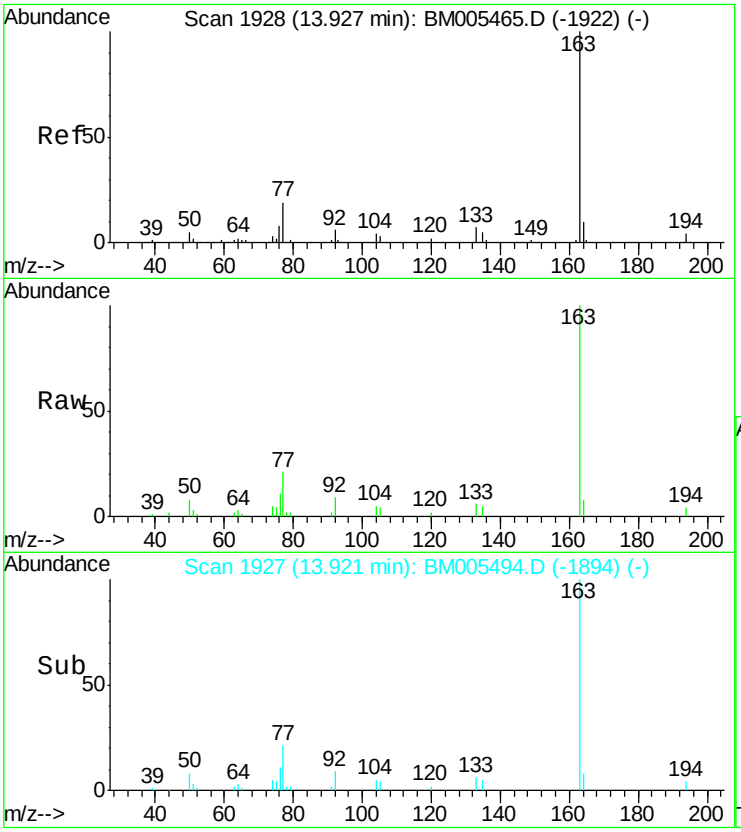
Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
H4086

Quant Time: May 19 06:46:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration



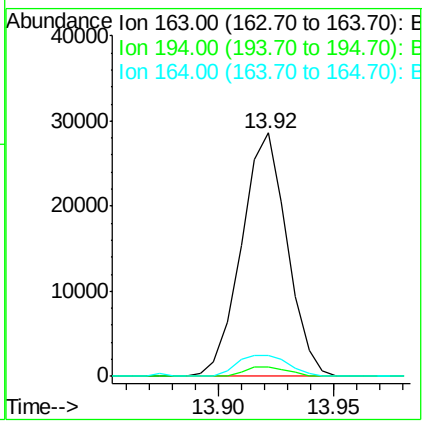


#44
Dimethylphthalate
Concen: 5.57 ng/ul
RT: 13.92 min Scan# 1927
Delta R.T. -0.01 min
Lab File: BM005494.D
Acq: 19 May 2016 06:00

Instrument :
BNA_M
ClientSampleId :
H4086

Tgt Ion:163 Resp: 39257

Ion	Ratio	Lower	Upper
163	100		
194	3.7	3.4	5.0
164	8.4	7.9	11.9



Quantitation Report (LSC Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Time: May 19 06:46:28 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.83	152	22873	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	117497	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.46	164	84145	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.20	188	237731	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	408217	20.00	ng/ul	-0.01
83) Perylene-d12	23.66	264	477896	20.00	ng/ul	-0.01
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	1549	2.61	ng/uL	0.00
5) Phenol-d5	6.99	99	45415	20.67	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	25783	21.43	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	33870	20.07	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	35485	18.96	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	16734	19.78	ng/ul	0.00
22) 2-Nitrophenol-d4	9.70	143	17735	19.22	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.24	165	40959	22.33	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	52510	24.90	ng/ul	0.00
43) Dimethylphthalate-d6	13.87	166	165989	24.00	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	188319	23.06	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	26137	18.42	ng/ul	0.00
57) Fluorene-d10	15.46	176	154311	25.28	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.56	200	19166	15.29	ng/ul	0.00
70) Anthracene-d10	17.30	188	263035	24.06	ng/ul	0.00
76) Pyrene-d10	19.59	212	385418	23.48	ng/ul	-0.01
87) Benzo(a)pyrene-d12	23.51	264	536772	25.12	ng/ul	-0.01
Target Compounds						Qvalue
44) Dimethylphthalate	13.92	163	39257	5.57	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.992	742	749	757	rBV	82478	129617	5.45%	0.643%
2	7.169	770	779	786	rVB2	59284	144642	6.09%	0.717%
3	7.369	805	813	820	rBV	74473	118450	4.98%	0.587%
4	7.834	887	892	902	rVB	83766	137929	5.80%	0.684%
5	8.528	1002	1010	1019	rBV	99926	162116	6.82%	0.804%
6	8.986	1081	1088	1094	rVB	72379	117413	4.94%	0.582%
7	9.710	1203	1211	1216	rVB	56804	92079	3.87%	0.457%
8	10.239	1295	1301	1309	rVB	116504	182117	7.66%	0.903%
9	10.628	1360	1367	1374	rVB	138561	237047	9.98%	1.175%
10	10.757	1382	1389	1401	rBV	99510	166685	7.01%	0.826%
11	13.874	1913	1919	1923	rBV	254834	350693	14.76%	1.739%
12	13.921	1923	1927	1932	rVB	60071	82211	3.46%	0.408%
13	14.157	1961	1967	1975	rBV	267233	390868	16.45%	1.938%
14	14.463	2010	2019	2027	rVB2	256330	390283	16.42%	1.935%
15	14.557	2027	2035	2041	rBV3	14356	24494	1.03%	0.121%
16	14.645	2044	2050	2056	rVV	118340	170877	7.19%	0.847%
17	14.745	2059	2067	2071	rVV3	67639	104319	4.39%	0.517%
18	14.786	2071	2074	2084	rVB2	26339	44254	1.86%	0.219%
19	15.351	2167	2170	2175	rVB	23802	31742	1.34%	0.157%
20	15.457	2182	2188	2193	rBV	392107	573321	24.13%	2.843%
21	15.563	2201	2206	2212	rVB	84641	115215	4.85%	0.571%
22	15.804	2242	2247	2252	rVB	25710	32670	1.37%	0.162%
23	16.086	2290	2295	2299	rBV2	24524	29875	1.26%	0.148%
24	17.204	2479	2485	2495	rVB	419155	585534	24.64%	2.903%
25	17.304	2495	2502	2508	rBV	456133	672505	28.30%	3.335%
26	18.098	2632	2637	2645	rBV	50759	70915	2.98%	0.352%
27	19.309	2839	2843	2849	rVB2	45013	55930	2.35%	0.277%
28	19.374	2850	2854	2860	rBV3	23391	28147	1.18%	0.140%
29	19.468	2866	2870	2878	rVB7	12919	25263	1.06%	0.125%
30	19.586	2884	2890	2898	rBV	729070	1034338	43.53%	5.129%
31	19.915	2942	2946	2950	rBV5	20463	25511	1.07%	0.126%
32	20.127	2975	2982	2983	rBV6	11254	23823	1.00%	0.118%
33	20.268	3002	3006	3011	rVB2	35227	40144	1.69%	0.199%
34	20.486	3037	3043	3047	rVV2	142222	197727	8.32%	0.980%

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Title : SVOA CALIBRATION

35	20.533	3047	3051	3057	rVV	316343	384527	16.18%	1.907%
36	20.656	3068	3072	3076	rBV4	52077	68601	2.89%	0.340%
37	20.739	3082	3086	3090	rBV3	72480	83554	3.52%	0.414%
38	20.903	3106	3114	3122	rBV2	100987	169501	7.13%	0.840%
39	20.974	3122	3126	3129	rVV3	135762	173664	7.31%	0.861%
40	21.003	3129	3131	3134	rVB3	23839	26120	1.10%	0.130%
41	21.097	3142	3147	3153	rBV2	173487	252576	10.63%	1.252%
42	21.150	3153	3156	3159	rBV4	34585	45863	1.93%	0.227%
43	21.280	3171	3178	3188	rBV3	161267	286383	12.05%	1.420%
44	21.374	3189	3194	3199	rBV	859265	1087587	45.77%	5.393%
45	21.533	3219	3221	3224	rVB3	24587	25135	1.06%	0.125%
46	21.833	3270	3272	3277	rVB4	26799	32970	1.39%	0.163%
47	21.980	3292	3297	3310	rBV3	352480	644321	27.11%	3.195%
48	22.239	3337	3341	3352	rVB	124290	206951	8.71%	1.026%
49	22.450	3372	3377	3382	rBV2	79455	147633	6.21%	0.732%
50	22.615	3402	3405	3411	rVB4	50017	74798	3.15%	0.371%
51	22.980	3460	3467	3471	rBV	1541427	2376407	100.00%	11.783%
52	23.015	3471	3473	3480	rVB	141991	206902	8.71%	1.026%
53	23.509	3550	3557	3563	rBV2	744413	1404427	59.10%	6.964%
54	23.656	3575	3582	3590	rVB	627174	1260127	53.03%	6.248%
55	24.233	3673	3680	3686	rBV	423868	853076	35.90%	4.230%
56	24.309	3686	3693	3704	rVB	656227	1279832	53.86%	6.346%
57	25.909	3958	3965	3978	rVB	305497	851427	35.83%	4.222%
58	26.044	3983	3988	3999	rVB5	64054	182349	7.67%	0.904%
59	26.809	4110	4118	4128	rBV3	162175	457295	19.24%	2.267%
60	27.597	4245	4252	4266	rVB4	97415	342593	14.42%	1.699%
61	28.232	4351	4360	4373	rVB4	157928	654366	27.54%	3.245%

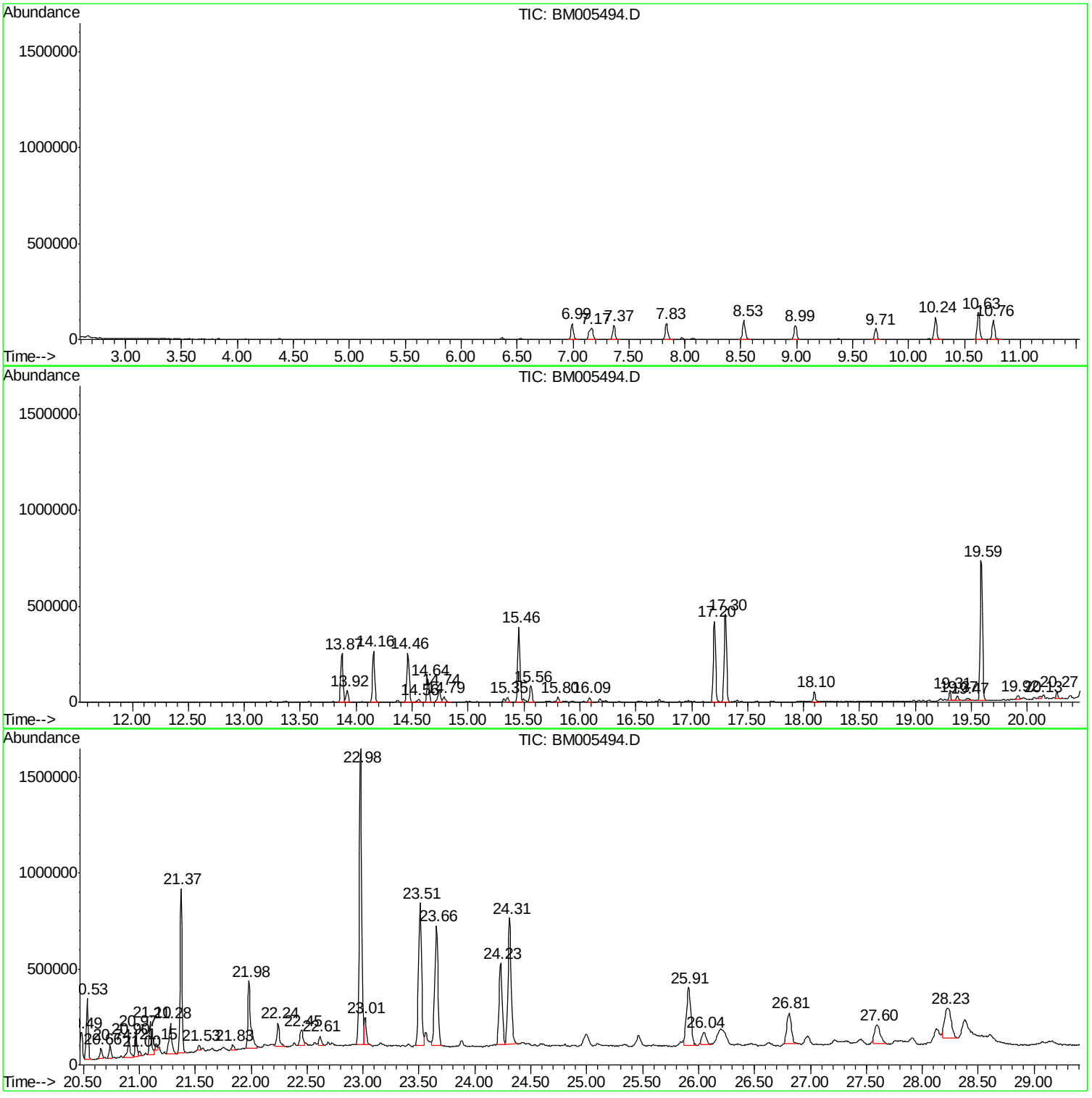
Sum of corrected areas: 20167739

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

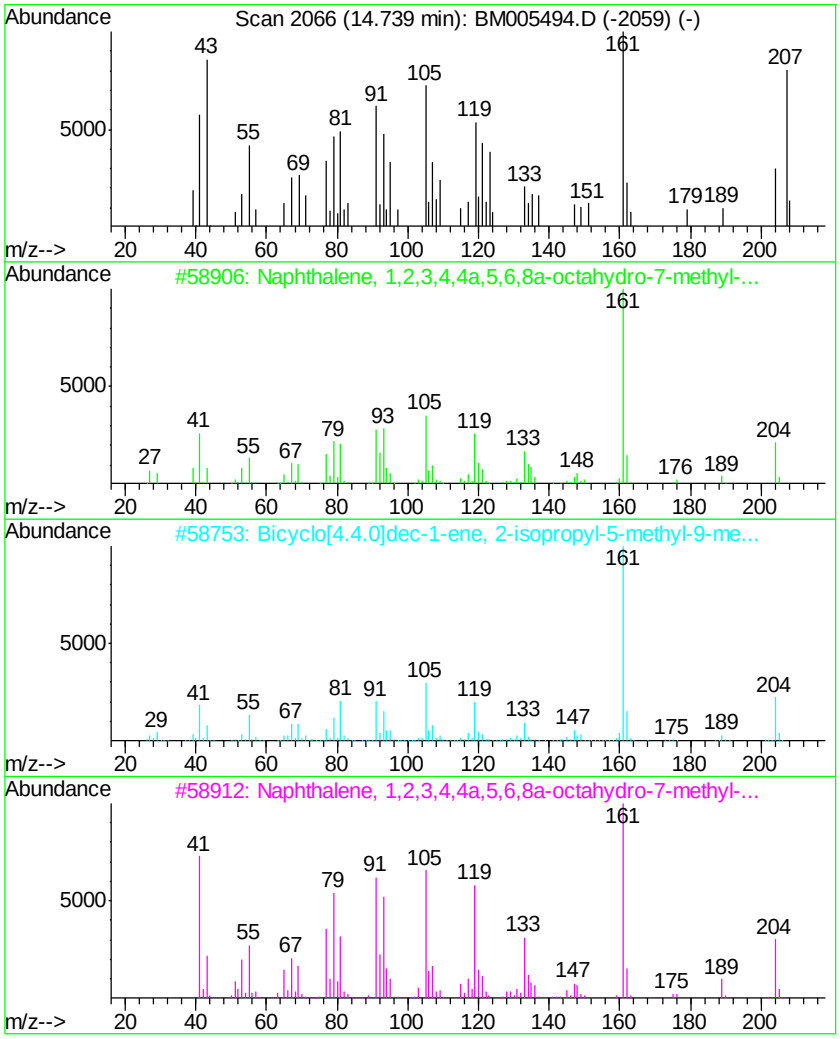
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

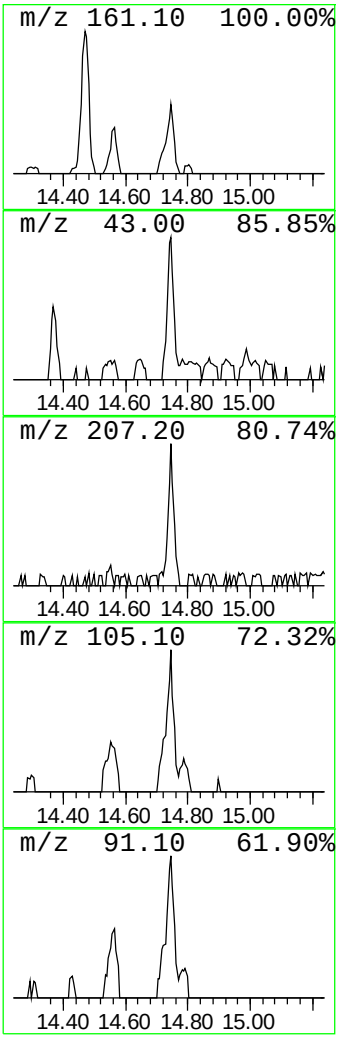
****

Peak Number 1 Naphthalene, 1,2,3,4,4a,5,6... Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.74	5.35 ng/ul	104319	Acenaphthene-d10	14.46

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,2,3,4,4a,5,6,8a-o...	204	C15H24	039029-41-9	70
2	Bicyclo[4.4.0]dec-1-ene, 2-isopr...	204	C15H24	150320-52-8	70
3	Naphthalene, 1,2,3,4,4a,5,6,8a-o...	204	C15H24	030021-74-0	64
4	Cyclohexene, 6-ethenyl-6-methyl-...	204	C15H24	005951-67-7	55
5	Naphthalene, 1,2,4a,5,6,8a-hexah...	204	C15H24	017627-24-6	53





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

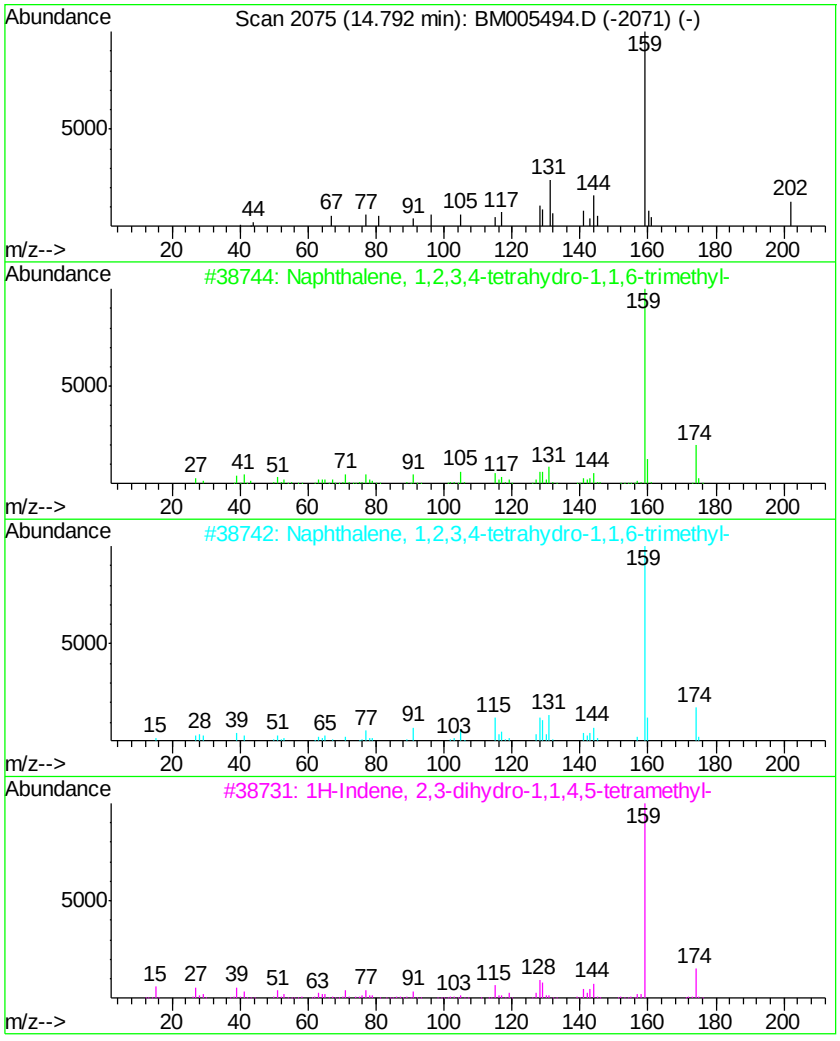
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

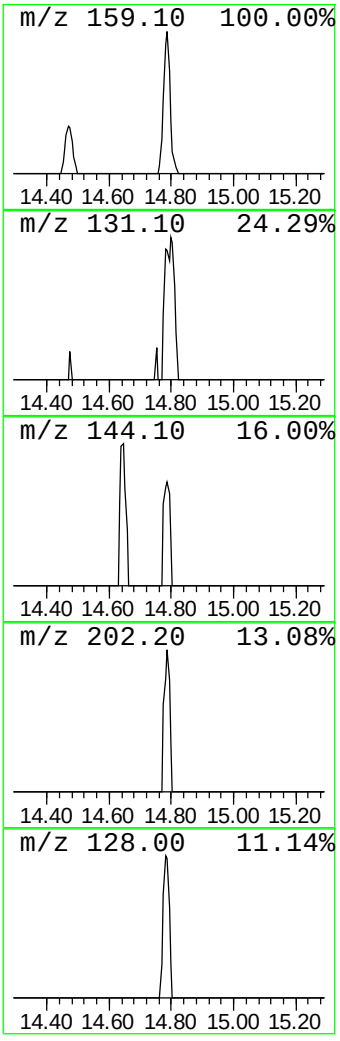
****

Peak Number 2 Naphthalene, 1,2,3,4-tetrah... Concentration Rank 21

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.79	2.27 ng/ul	44254	Acenaphthene-d10	14.46

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,2,3,4-tetrahydro-...	174	C13H18	000475-03-6	86
2	Naphthalene, 1,2,3,4-tetrahydro-...	174	C13H18	000475-03-6	80
3	1H-Indene, 2,3-dihydro-1,1,4,5-t...	174	C13H18	016204-57-2	59
4	1H-Indene, 2,3-dihydro-1,1,4,6-t...	174	C13H18	000941-60-6	59
5	Indan, 1,1,6,7-tetramethyl-	174	C13H18	016204-58-3	59





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

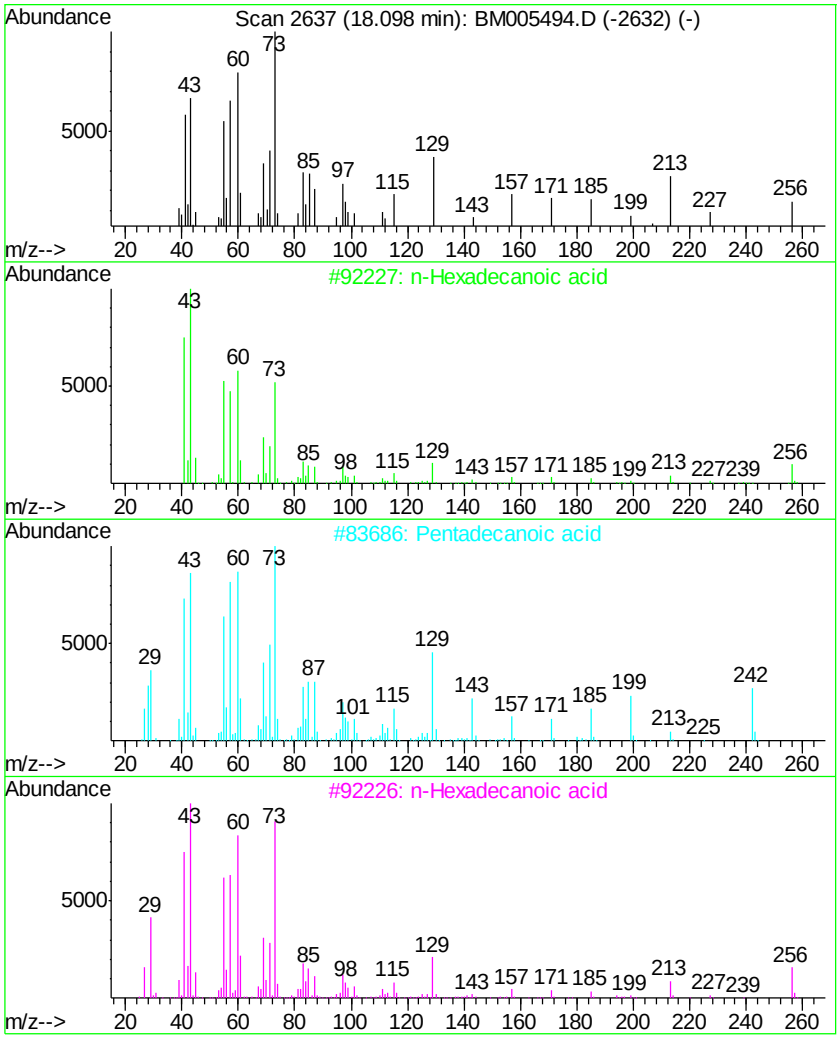
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

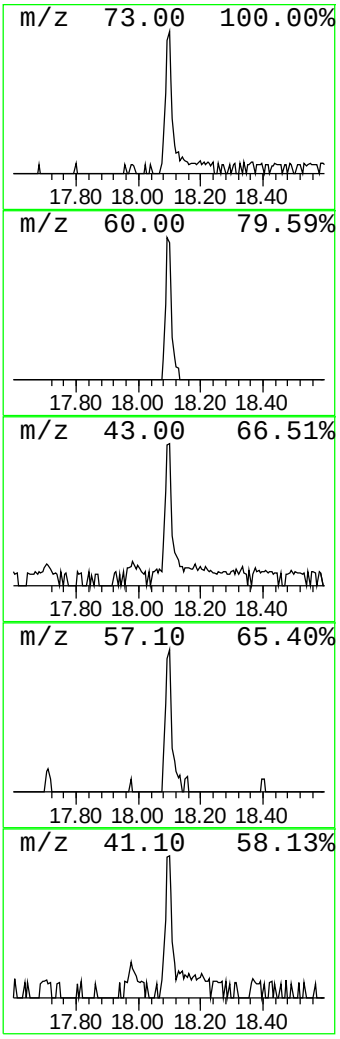
****

Peak Number 3 n-Hexadecanoic acid Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.10	2.42 ng/ul	70915	Phenanthrene-d10	17.20

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	96
2	Pentadecanoic acid	242	C15H30O2	001002-84-2	83
3	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	68
4	Tridecanoic acid	214	C13H26O2	000638-53-9	50
5	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	10





Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

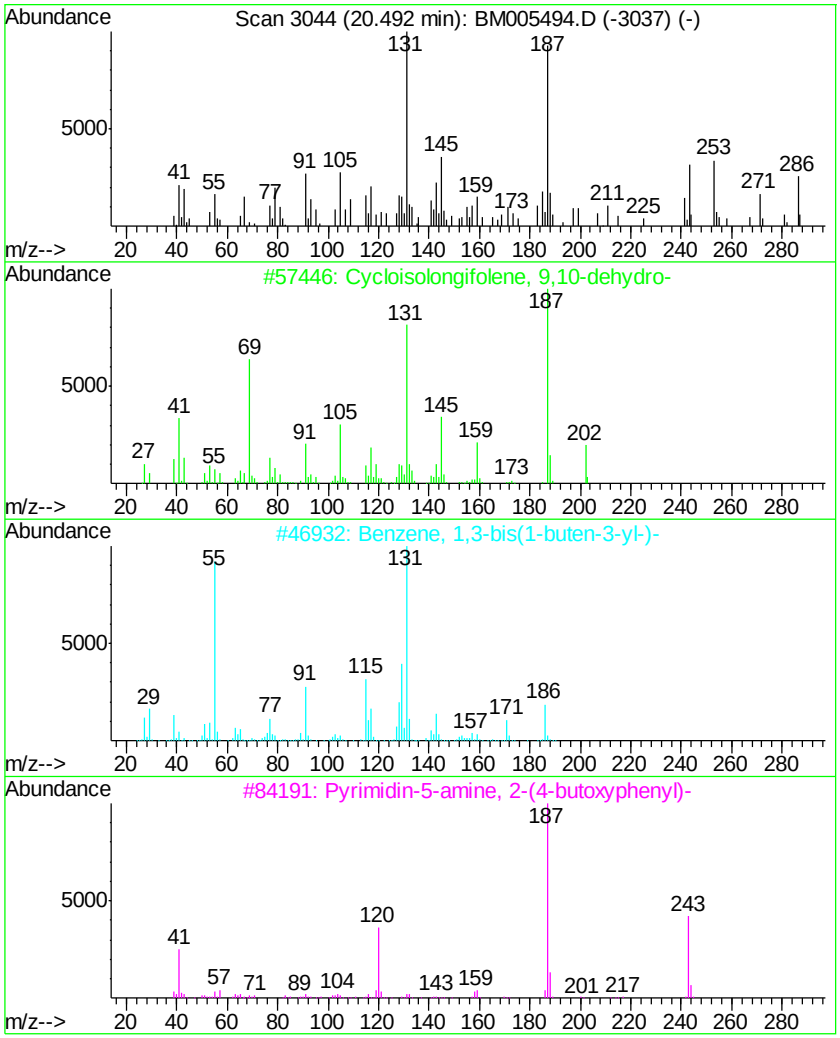
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

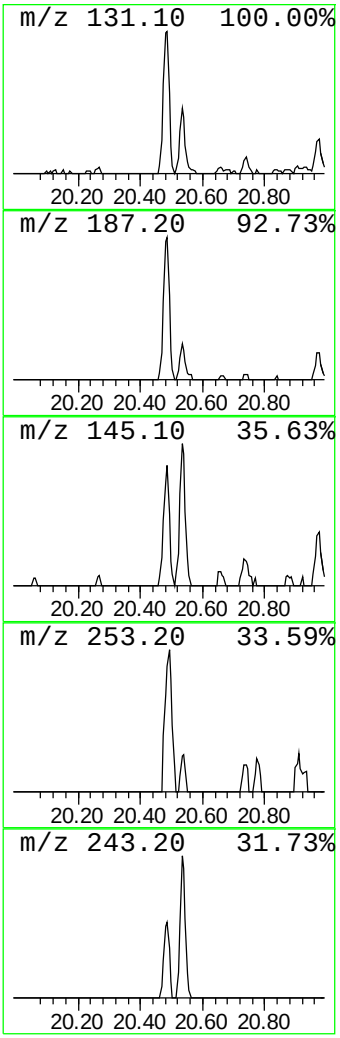
****

Peak Number 4 unknown-01 Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.49	3.64 ng/ul	197727	Chrysene-d12	21.37

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cycloisolongifolene, 9,10-dehydro-	202	C15H22	1000156-81-6	43
2	Benzene, 1,3-bis(1-buten-3-yl-)-	186	C14H18	158117-62-5	35
3	Pyrimidin-5-amine, 2-(4-butoxyph...	243	C14H17N3O	084609-99-4	30
4	2(1H)-Quinolinone, 4-acetyl-	187	C11H9NO2	016511-39-0	27
5	[1,1'-Biphenyl]-4-amine, 4'-fluoro-	187	C12H10FN	000324-93-6	25





Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

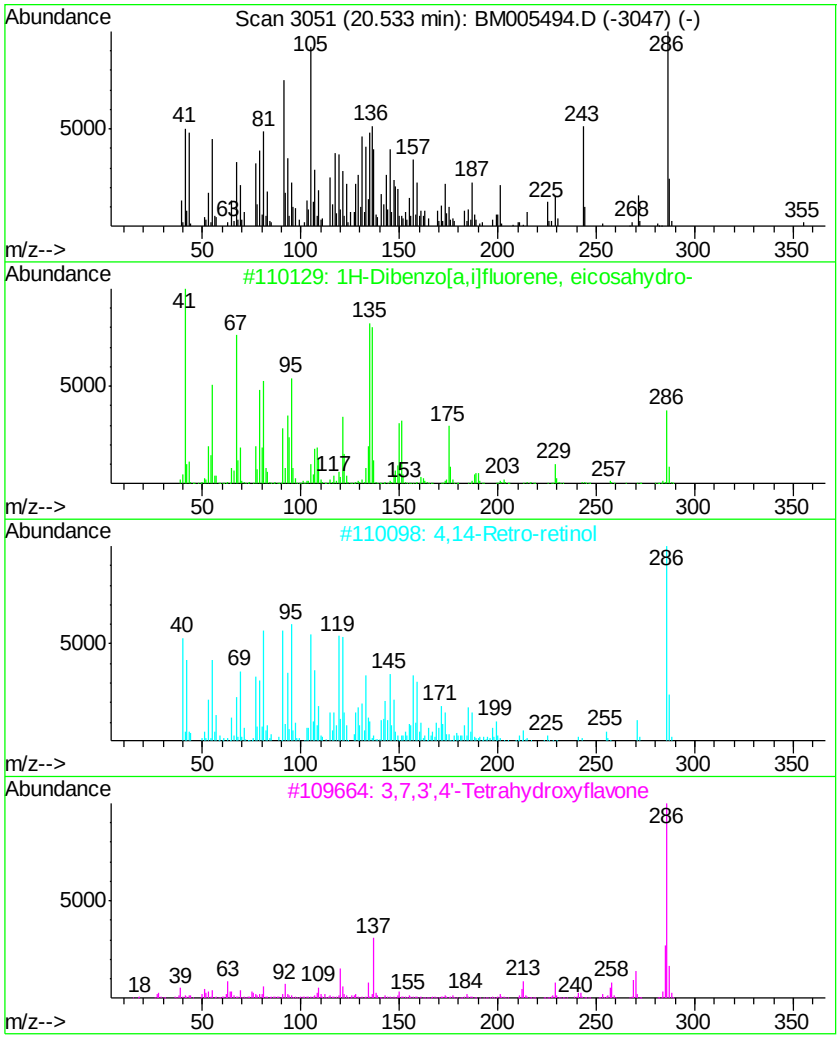
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

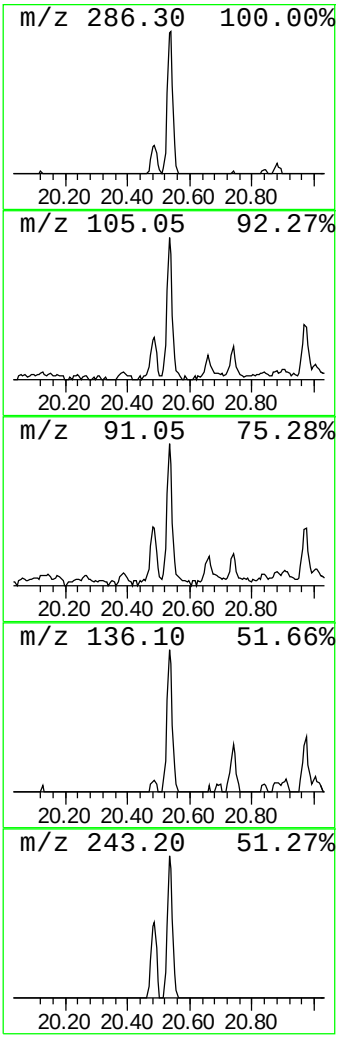
****

Peak Number 5 unknown-02 Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.53	7.07 ng/ul	384527	Chrysene-d12	21.37

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Dibenzo[a,i]fluorene, eicosah...	286	C21H34	055256-24-1	46
2	4,14-Retro-retinol	286	C20H30O	016729-22-9	41
3	3,7,3',4'-Tetrahydroxyflavone	286	C15H10O6	000528-48-3	25
4	4,9(11)-Androstadien-17.beta.-ol...	286	C19H26O2	1000126-88-0	25
5	p-(Adamantyl-1)-n-propylthiobenzene	286	C19H26S	073861-77-5	25





Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

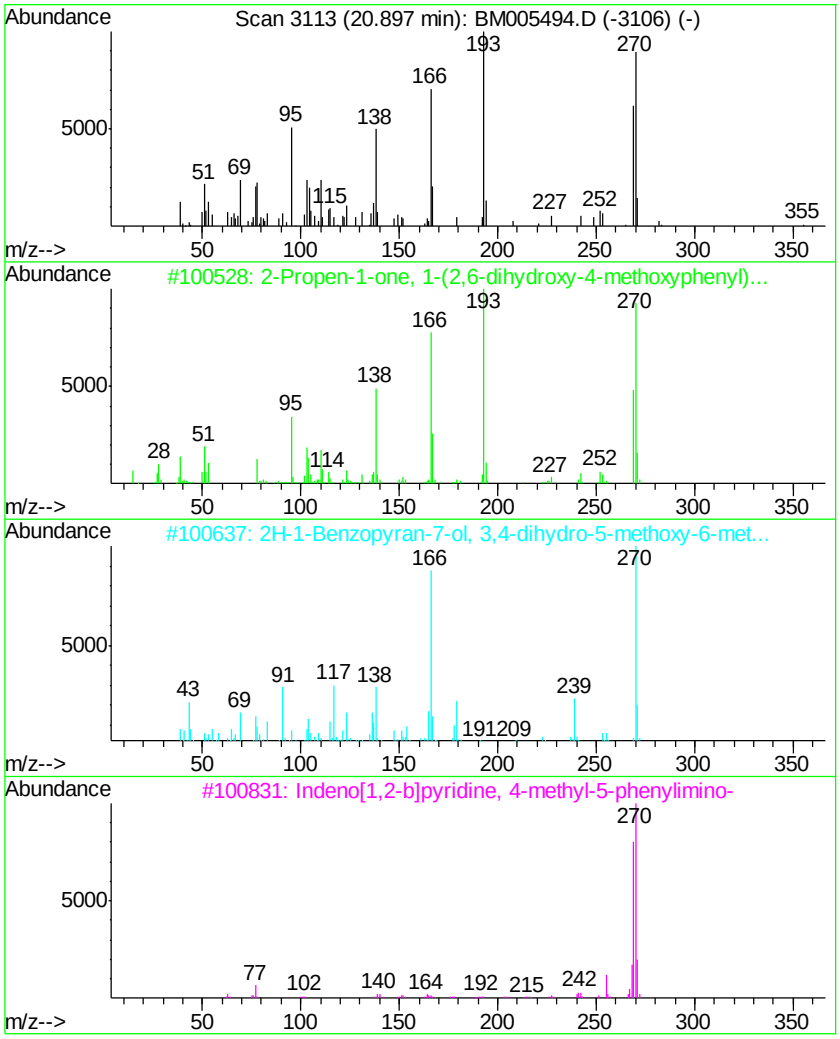
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

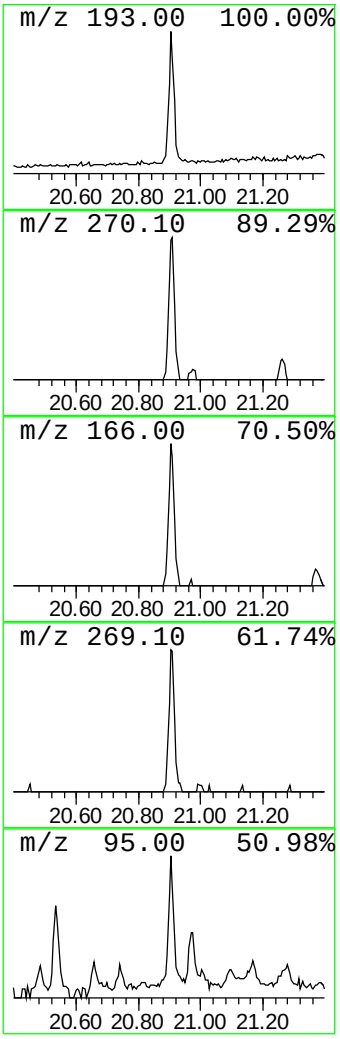
****

Peak Number 6 2-Propen-1-one, 1-(2,6-dihy... Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.90	3.12 ng/ul	169501	Chrysene-d12	21.37

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Propen-1-one, 1-(2,6-dihydroxy...	270	C16H14O4	018956-15-5	98
2	2H-1-Benzopyran-7-ol, 3,4-dihydr...	270	C17H18O3	055670-26-3	25
3	Indeno[1,2-b]pyridine, 4-methyl-...	270	C19H14N2	070740-31-7	18
4	Acridine, 9-anilino-	270	C19H14N2	003340-22-5	18
5	8-Methyl-4-azafluorene, phenylimine	270	C19H14N2	1000216-54-2	14





Library Search Compound Report

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Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

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Quant Title : SVOA CALIBRATION

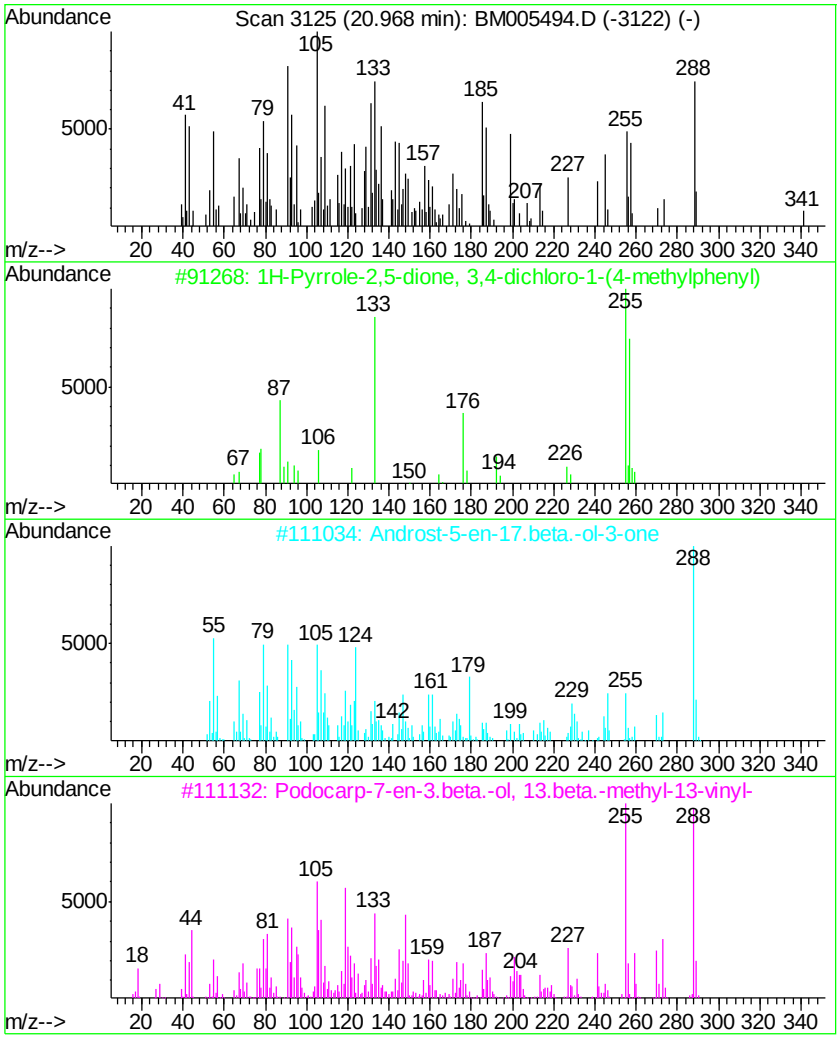
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

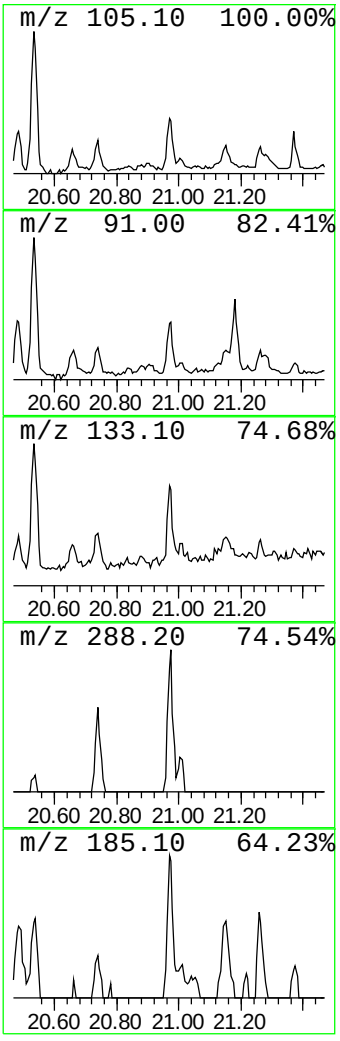
****

Peak Number 7 1H-Pyrrole-2,5-dione, 3,4-d... Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.97	3.19 ng/ul	173664	Chrysene-d12	21.37

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Pyrrole-2,5-dione, 3,4-dichlo...	255	C11H7Cl2NO2	029244-55-1	70
2	Androst-5-en-17.beta.-ol-3-one	288	C19H28O2	000571-25-5	46
3	Podocarp-7-en-3.beta.-ol, 13.bet...	288	C20H32O	004752-56-1	38
4	2-Bromo-4,5-dimethoxyphenylaceto...	255	C10H10BrNO2	051655-39-1	25
5	4a,trans-4b,cis-8a,trans-10a-Per...	288	C20H32O	1000243-63-0	25





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Quant Title : SVOA CALIBRATION

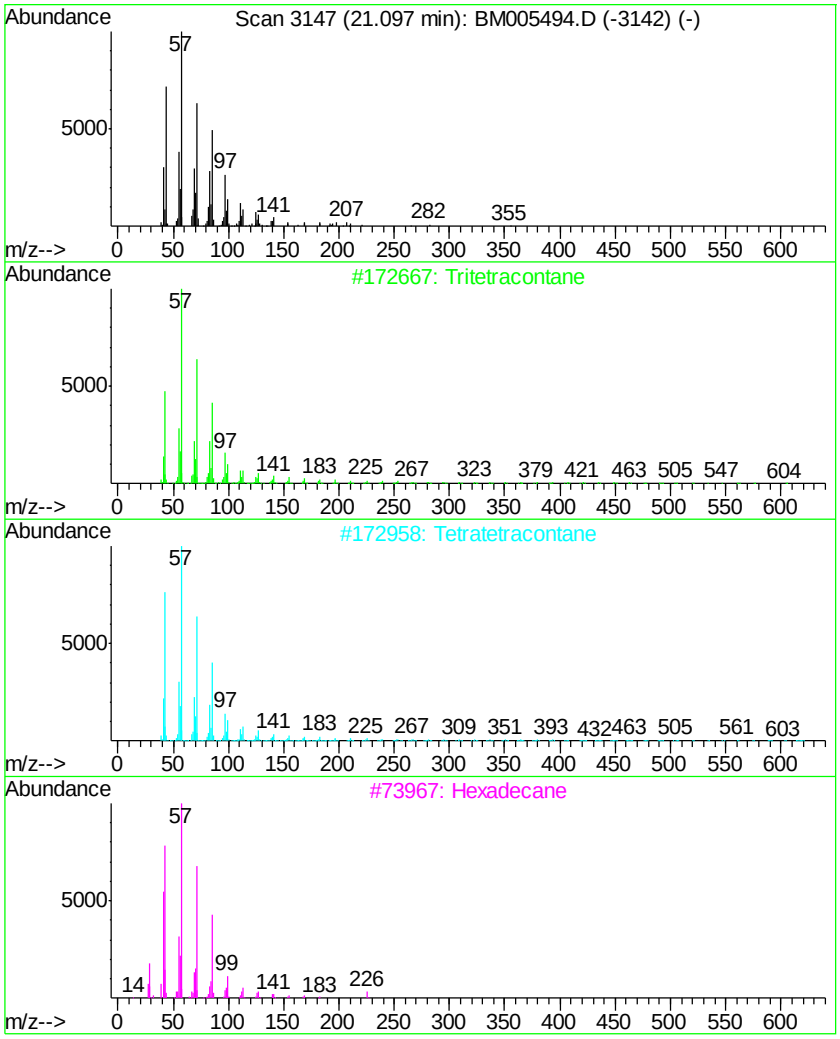
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

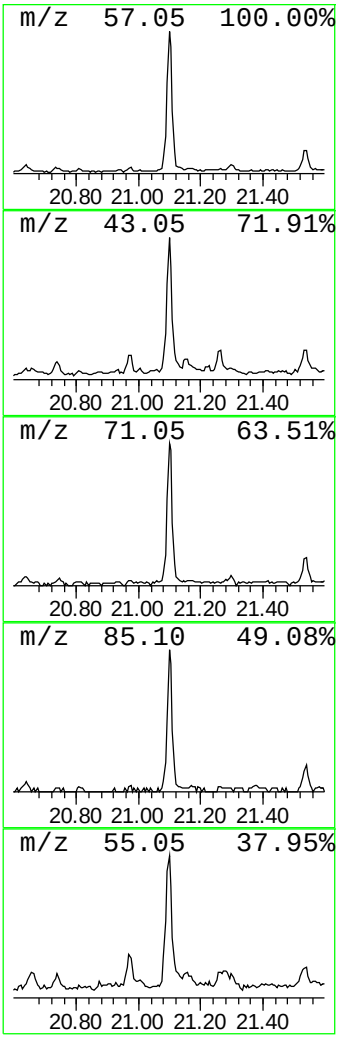
****

Peak Number 8 (DEL) Alkane: Straight-Chai... Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.10	4.64 ng/ul	252576	Chrysene-d12	21.37

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tritetracontane	605	C43H88	007098-21-7	87
2	Tetratetracontane	619	C44H90	007098-22-8	83
3	Hexadecane	226	C16H34	000544-76-3	68
4	Nonadecane	268	C19H40	000629-92-5	68
5	Pentadecane	212	C15H32	000629-62-9	68





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Quant Title : SVOA CALIBRATION

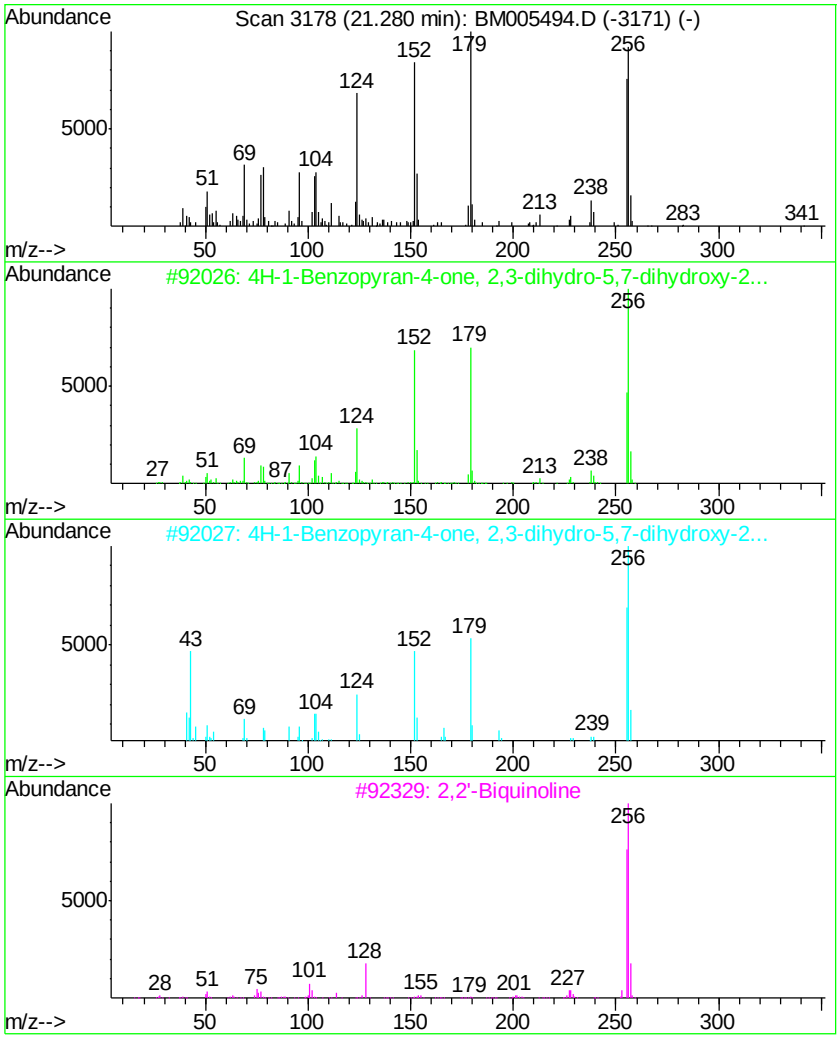
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

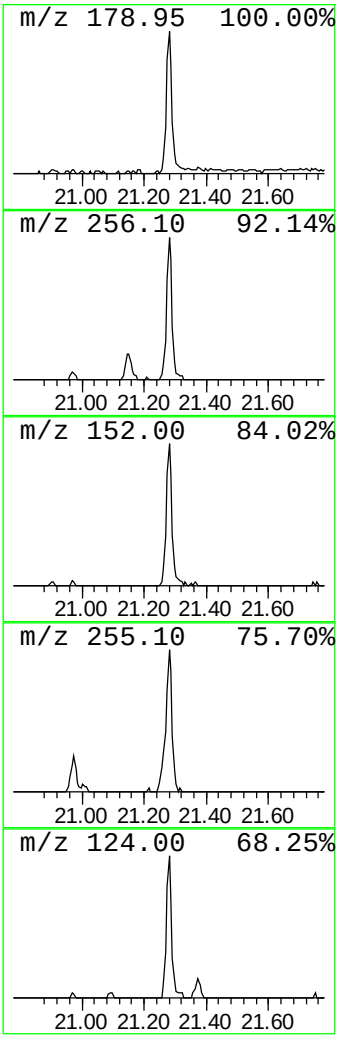
****

Peak Number 9 4H-1-Benzopyran-4-one, 2,3-... Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.28	5.27 ng/ul	286383	Chrysene-d12	21.37

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	4H-1-Benzopyran-4-one, 2,3-dihyd...	256	C15H12O4	000480-39-7	97
2	4H-1-Benzopyran-4-one, 2,3-dihyd...	256	C15H12O4	000480-39-7	52
3	2,2'-Biquinoline	256	C18H12N2	000119-91-5	25
4	2,2'-Biquinoline	256	C18H12N2	000119-91-5	25
5	3-(4-(4-Fluorophenyl)-1,3-thiazo...	256	C14H9FN2S	1000298-16-6	25





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Operator : UM/SJ
Sample : H2954-02
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Instrument : BNA_M
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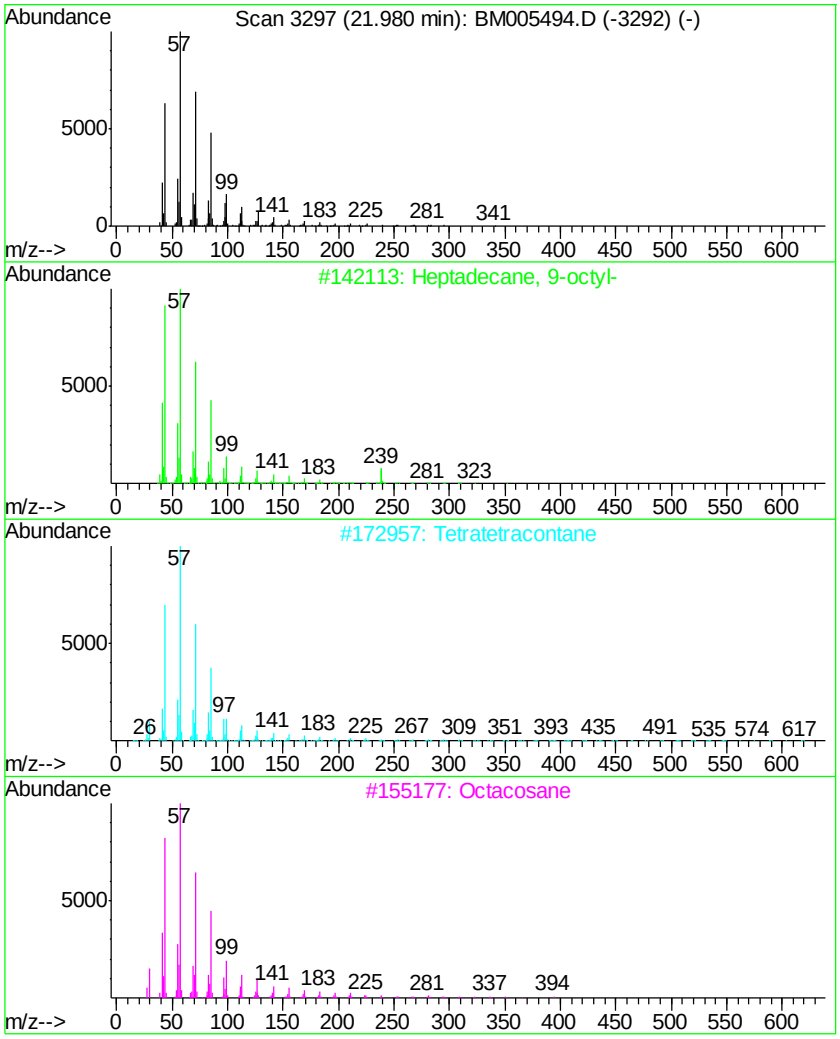
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

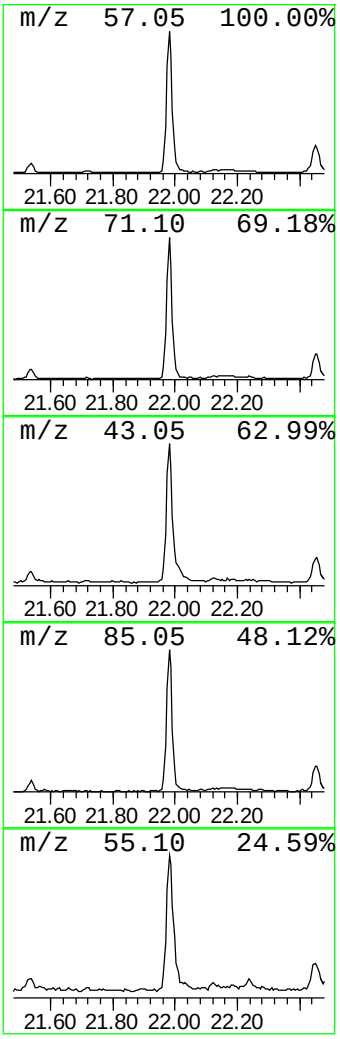
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 10 (DEL) Alkane: Straight-Chai... Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.98	11.85 ng/ul	644321	Chrysene-d12	21.37

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	91
2	Tetratetracontane	619	C44H90	007098-22-8	91
3	Octacosane	394	C28H58	000630-02-4	91
4	Octacosane	394	C28H58	000630-02-4	91
5	Heneicosane	296	C21H44	000629-94-7	91





Library Search Compound Report

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Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
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Quant Title : SVOA CALIBRATION

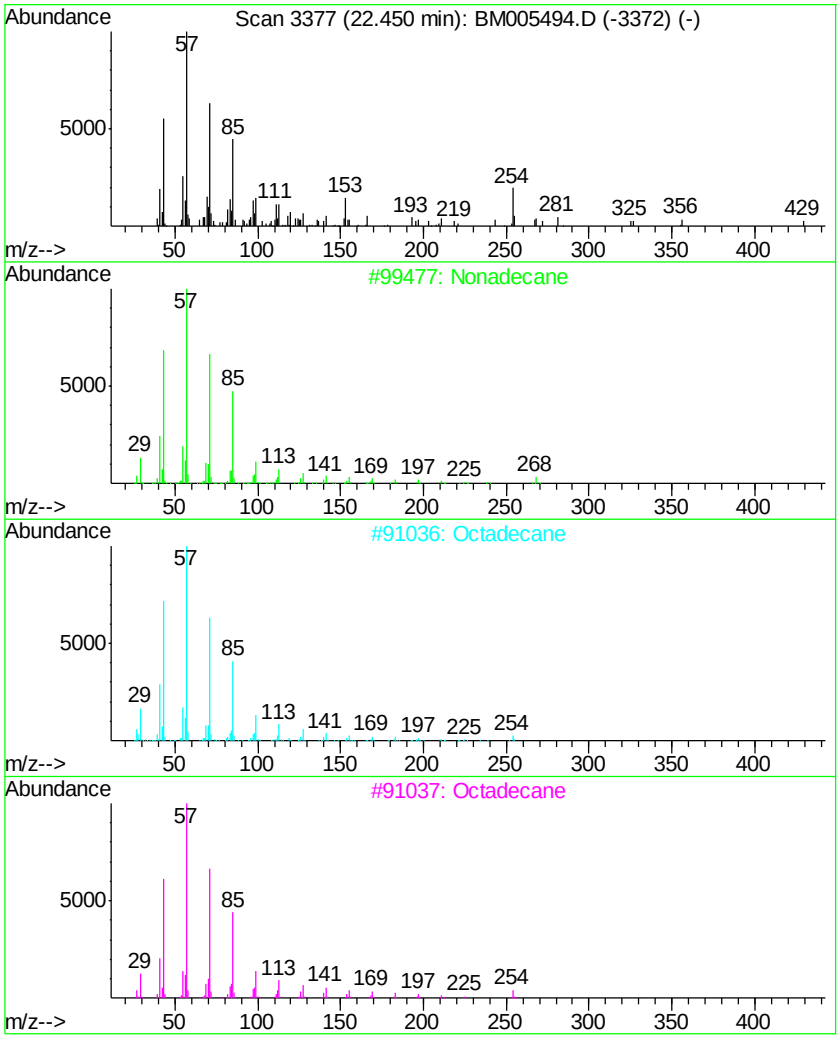
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

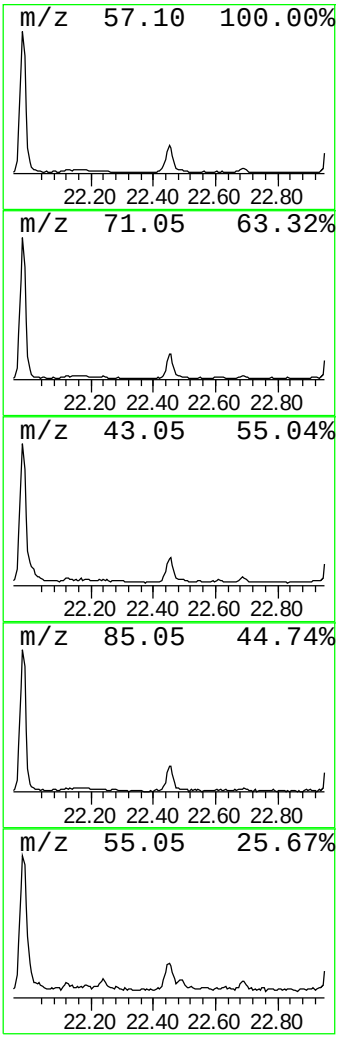
****

Peak Number 12 (DEL) Alkane: Straight-Chai... Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.45	2.71 ng/ul	147633	Chrysene-d12	21.37

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Nonadecane	268	C19H40	000629-92-5	96
2	Octadecane	254	C18H38	000593-45-3	76
3	Octadecane	254	C18H38	000593-45-3	76
4	Tetratetracontane	619	C44H90	007098-22-8	70
5	Tetratriacontane	479	C34H70	014167-59-0	64





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Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

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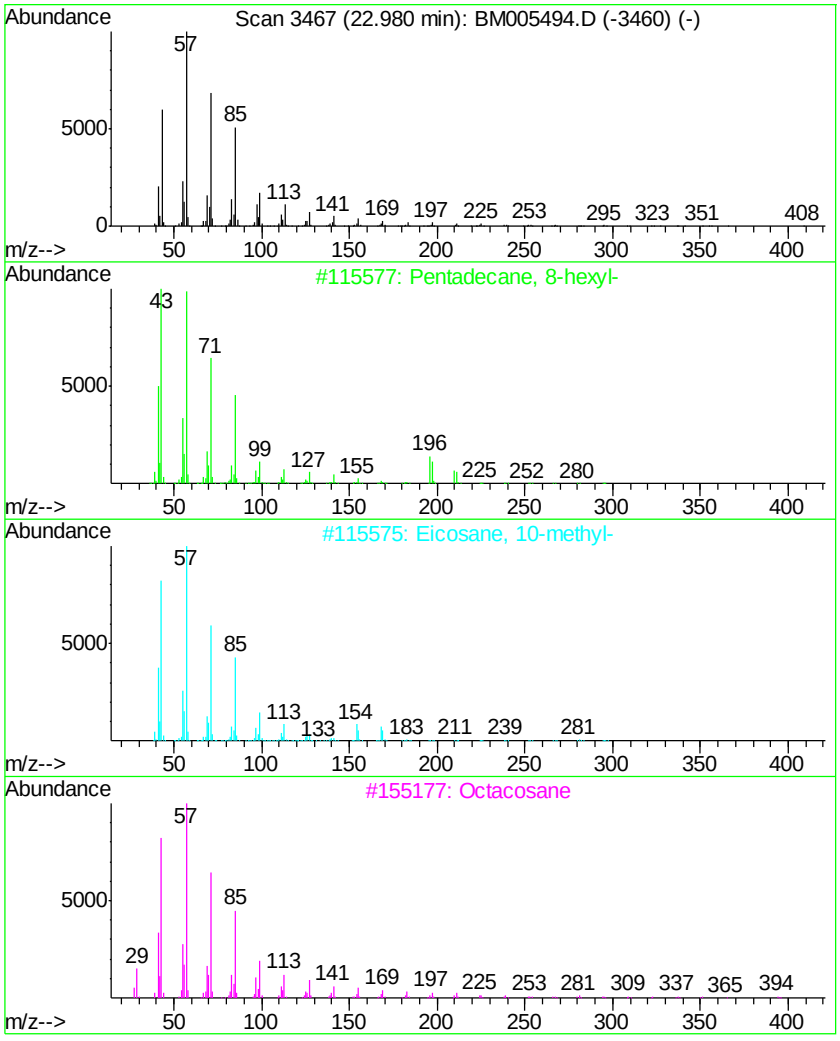
Quant Title : SVOA CALIBRATION

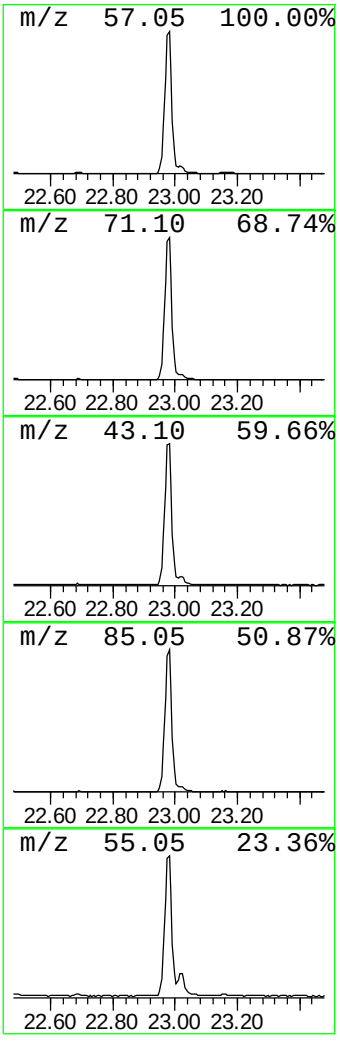
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 13 (DEL) Alkane: Straight-Chai... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.98	37.72 ng/ul	2376410	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentadecane, 8-hexyl-	296	C21H44	013475-75-7	94
2	Eicosane, 10-methyl-	296	C21H44	054833-23-7	93
3	Octacosane	394	C28H58	000630-02-4	91
4	Tetracosane, 11-decyl-	479	C34H70	055429-84-0	91
5	Octacosane	394	C28H58	000630-02-4	91





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Quant Title : SVOA CALIBRATION

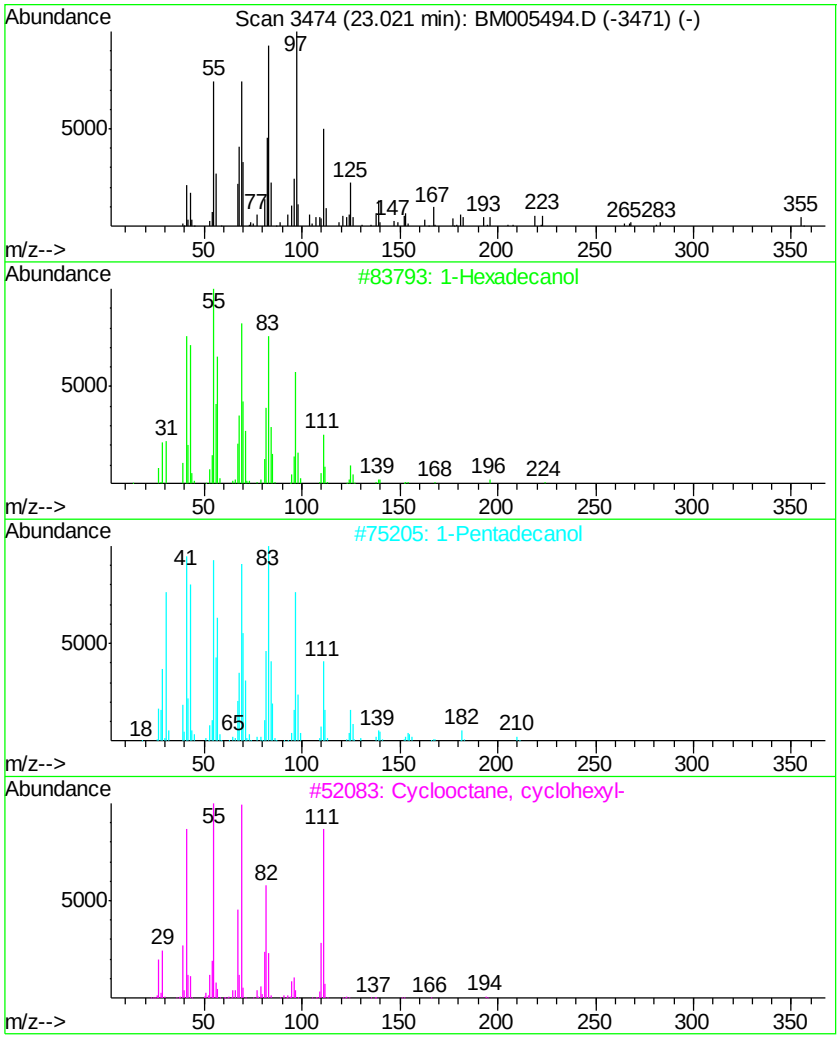
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

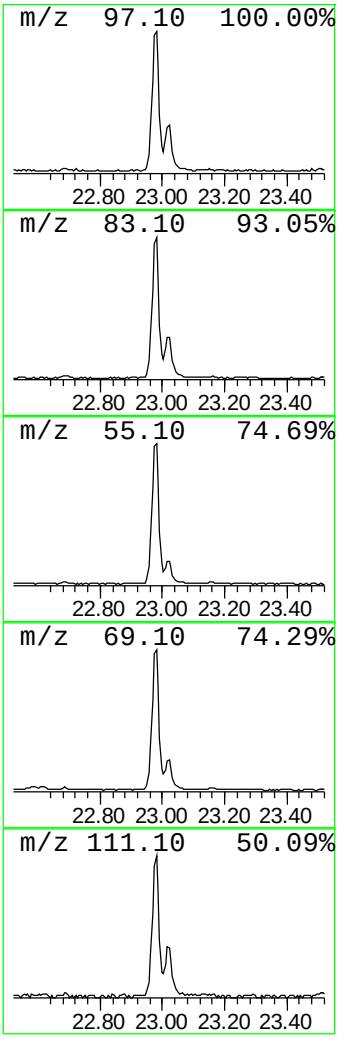
****

Peak Number 14 1-Hexadecanol Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
23.02	3.28 ng/ul	206902	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Hexadecanol	242	C16H34O	036653-82-4	50
2	1-Pentadecanol	228	C15H32O	000629-76-5	47
3	Cyclooctane, cyclohexyl-	194	C14H26	092369-78-3	38
4	Cyclopentane, (2-methylbutyl)-	140	C10H20	053366-38-4	30
5	Cyclopentane, propyl-	112	C8H16	002040-96-2	30





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Instrument : BNA_M
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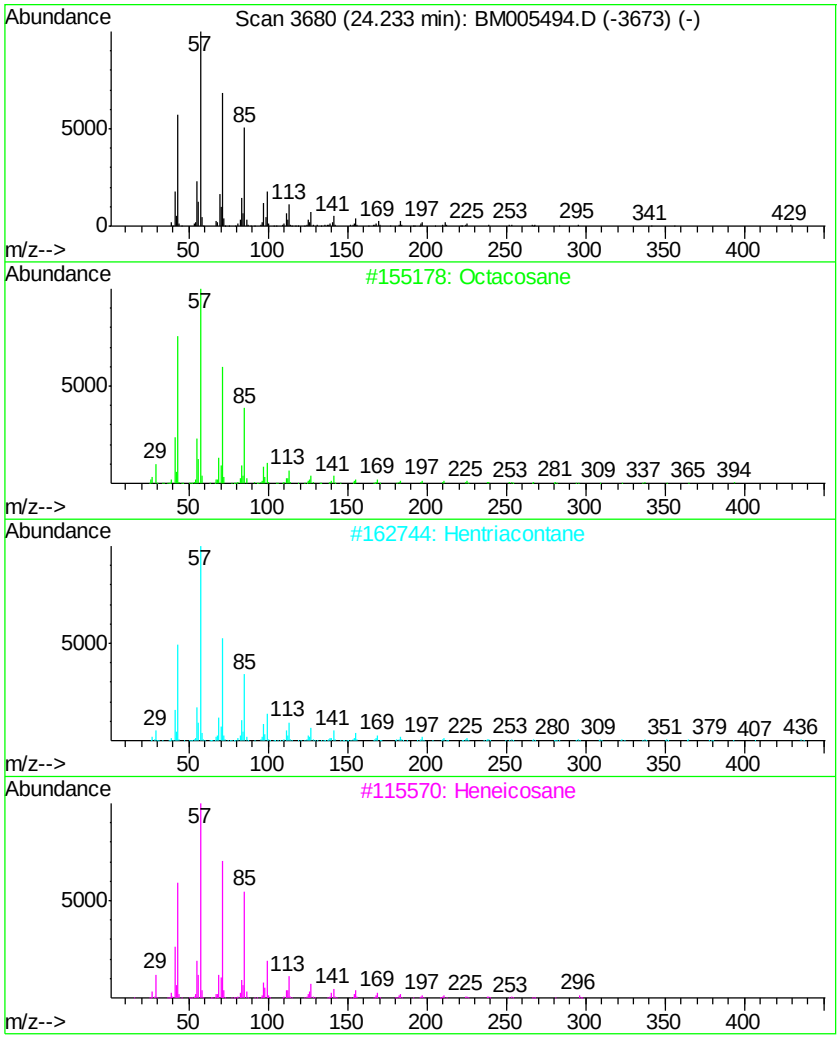
Quant Title : SVOA CALIBRATION

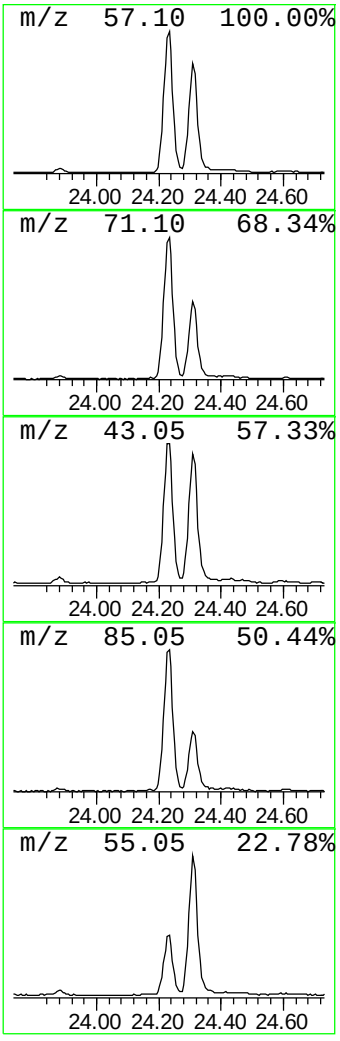
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 15 (DEL) Alkane: Straight-Chai... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.23	13.54 ng/ul	853076	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octacosane	394	C28H58	000630-02-4	91
2	Hentriacontane	437	C31H64	000630-04-6	91
3	Heneicosane	296	C21H44	000629-94-7	91
4	Tetratetracontane	619	C44H90	007098-22-8	91
5	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	91





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Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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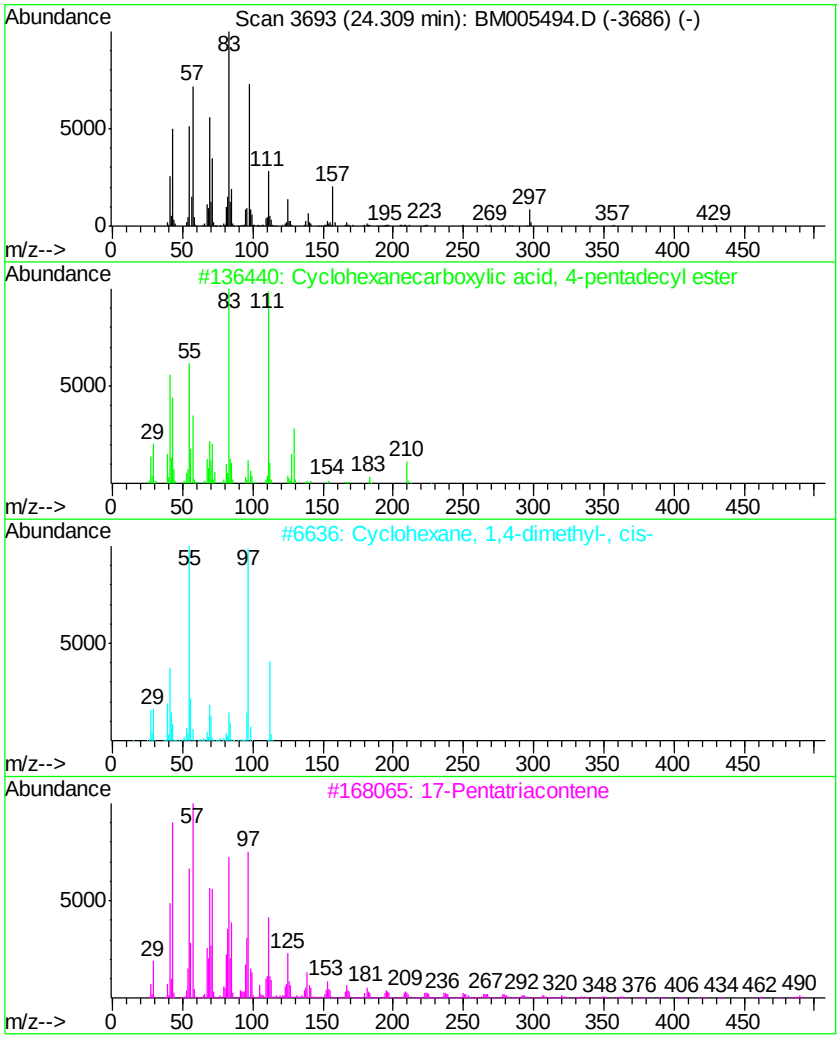
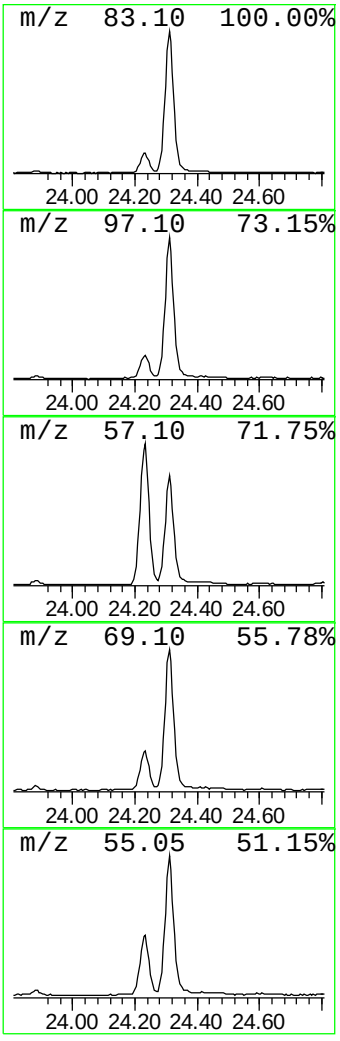
Peak Number 16 unknown-03 Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.31	20.31 ng/ul	1279830	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexanecarboxylic acid, 4-pe...	338	C22H42O2	1000280-60-1	35
2	Cyclohexane, 1,4-dimethyl-, cis-	112	C8H16	000624-29-3	30
3	17-Pentatriacontene	491	C35H70	006971-40-0	30
4	1-Hentetracontanol	593	C41H84O	040710-42-7	30
5	Tridecane, 3-cyclohexyl-	266	C19H38	013151-88-7	27





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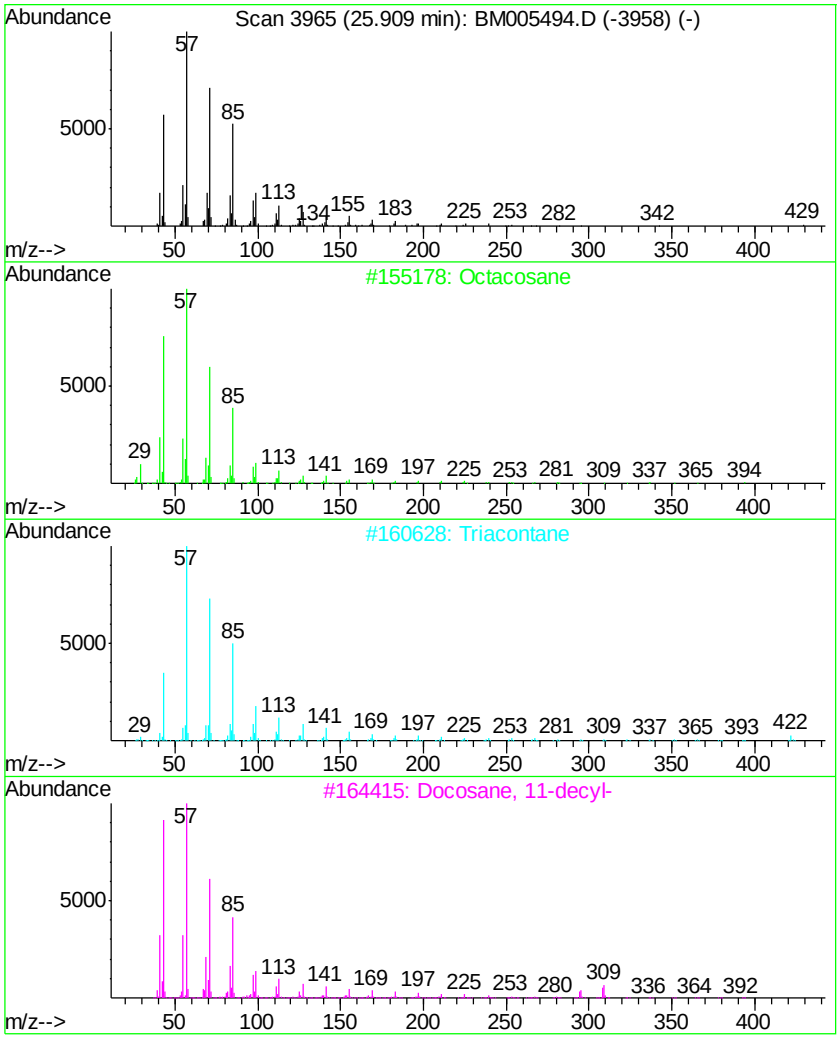
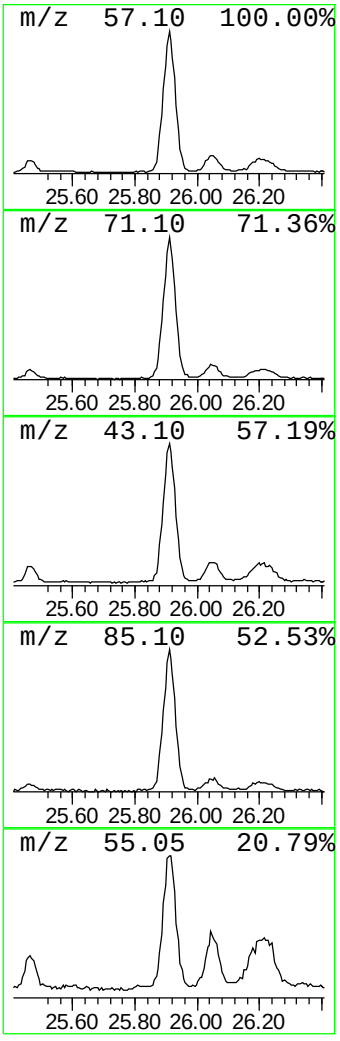
****

Peak Number 17 (DEL) Alkane: Straight-Chai... Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.91	13.51 ng/ul	851427	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octacosane	394	C28H58	000630-02-4	91
2	Triacontane	422	C30H62	000638-68-6	91
3	Docosane, 11-decyl-	451	C32H66	055401-55-3	91
4	Heptadecane, 9-octyl-	352	C25H52	007225-64-1	91
5	Nonacosane	408	C29H60	000630-03-5	91





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TIC Library : C:\DATABASE\NIST02.L
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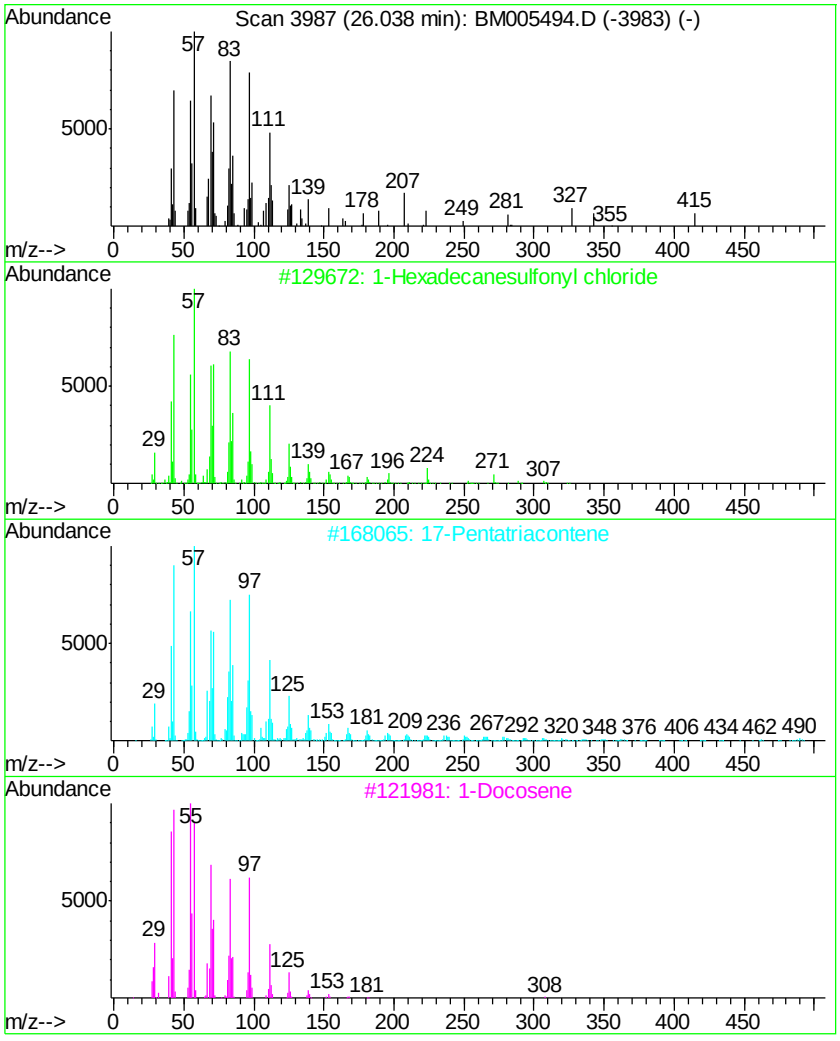
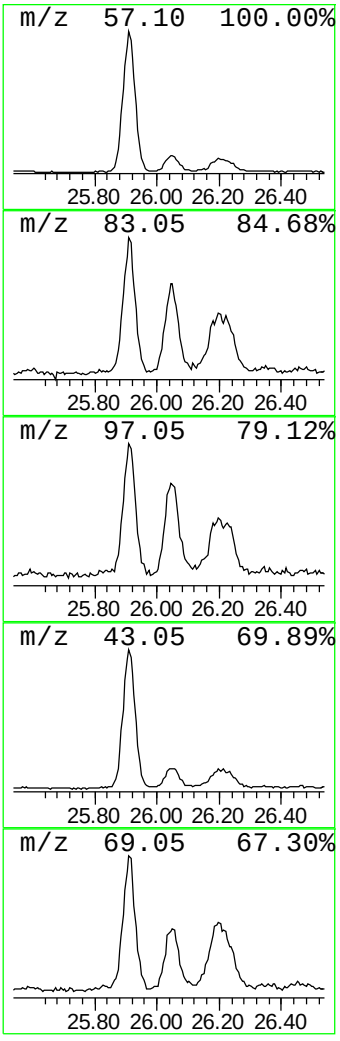
Peak Number 18 1-Hexadecanesulfonyl chloride Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.04	2.89 ng/ul	182349	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Hexadecanesulfonyl chloride	324	C16H33ClO2S	038775-38-1	90
2	17-Pentatriacontene	491	C35H70	006971-40-0	90
3	1-Docosene	308	C22H44	001599-67-3	87
4	13-Tetradecen-1-ol acetate	254	C16H30O2	056221-91-1	86
5	1-Docosanol	326	C22H46O	000661-19-8	80





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Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

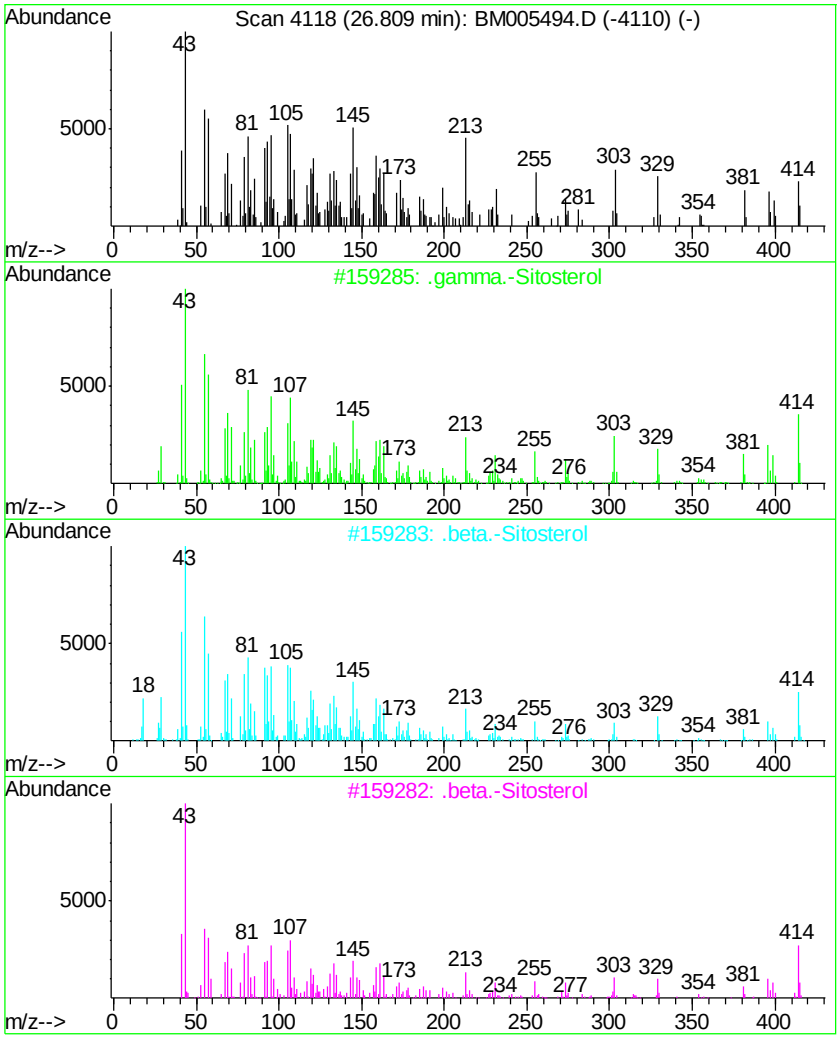
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

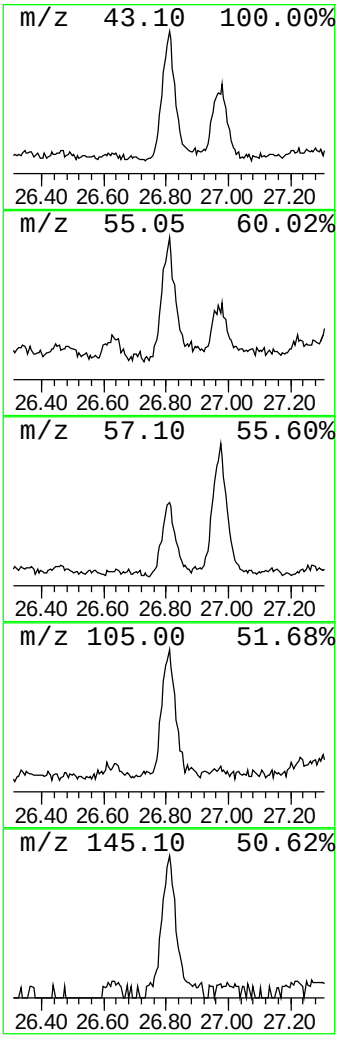
****

Peak Number 19 .gamma.-Sitosterol Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.81	7.26 ng/ul	457295	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	.gamma.-Sitosterol	414	C29H50O	000083-47-6	99
2	.beta.-Sitosterol	414	C29H50O	000083-46-5	98
3	.beta.-Sitosterol	414	C29H50O	000083-46-5	95
4	Stigmasterol, 22,23-dihydro-	414	C29H50O	1000214-20-7	92
5	Ergost-5-en-3-ol, (3.beta.)-	400	C28H48O	004651-51-8	49





Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

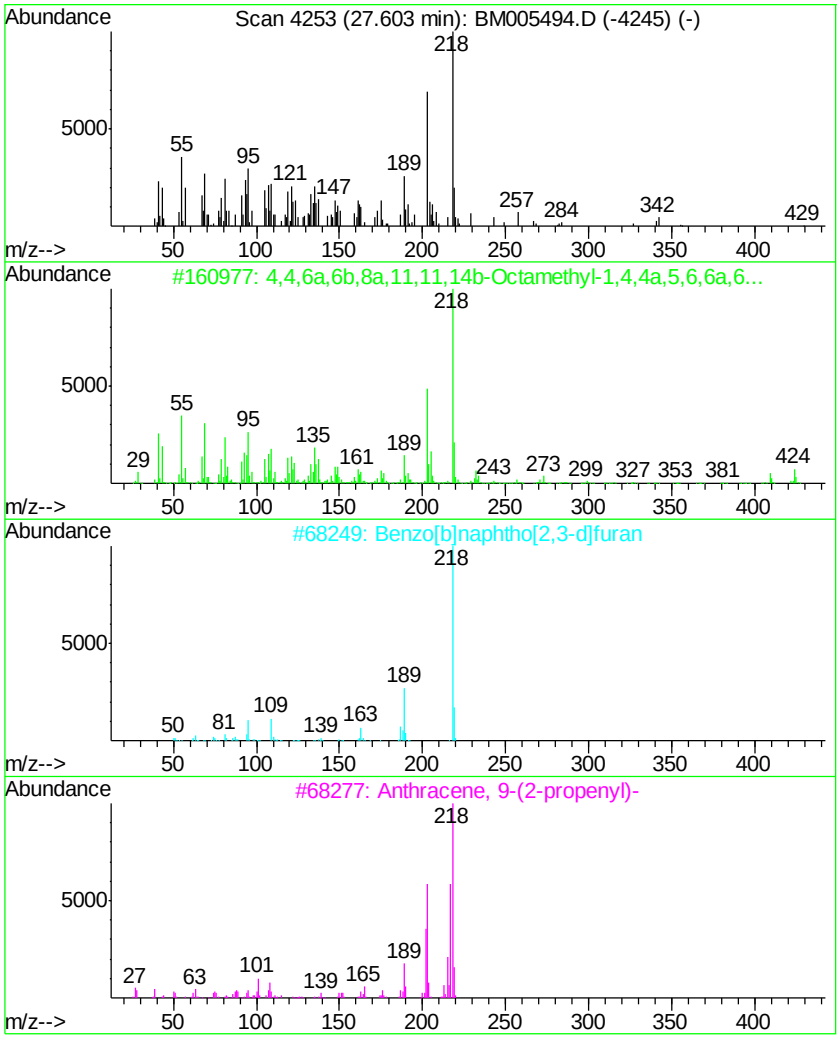
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

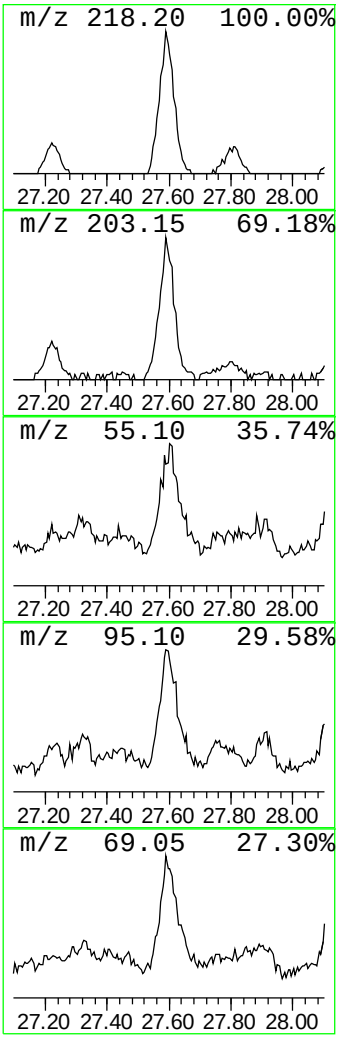
****

Peak Number 20 4,4,6a,6b,8a,11,11,14b-Octa... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
27.60	5.44 ng/ul	342593	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	4,4,6a,6b,8a,11,11,14b-Octamethy...	424	C30H48O	1000194-62-4	72
2	Benzo[b]naphtho[2,3-d]furan	218	C16H10O	000243-42-5	60
3	Anthracene, 9-(2-propenyl)-	218	C17H14	023707-65-5	53
4	Pyrene, hexadecahydro-	218	C16H26	002435-85-0	49
5	Indeno[2,1-b]chromene,	218	C16H10O	000243-24-3	46





Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

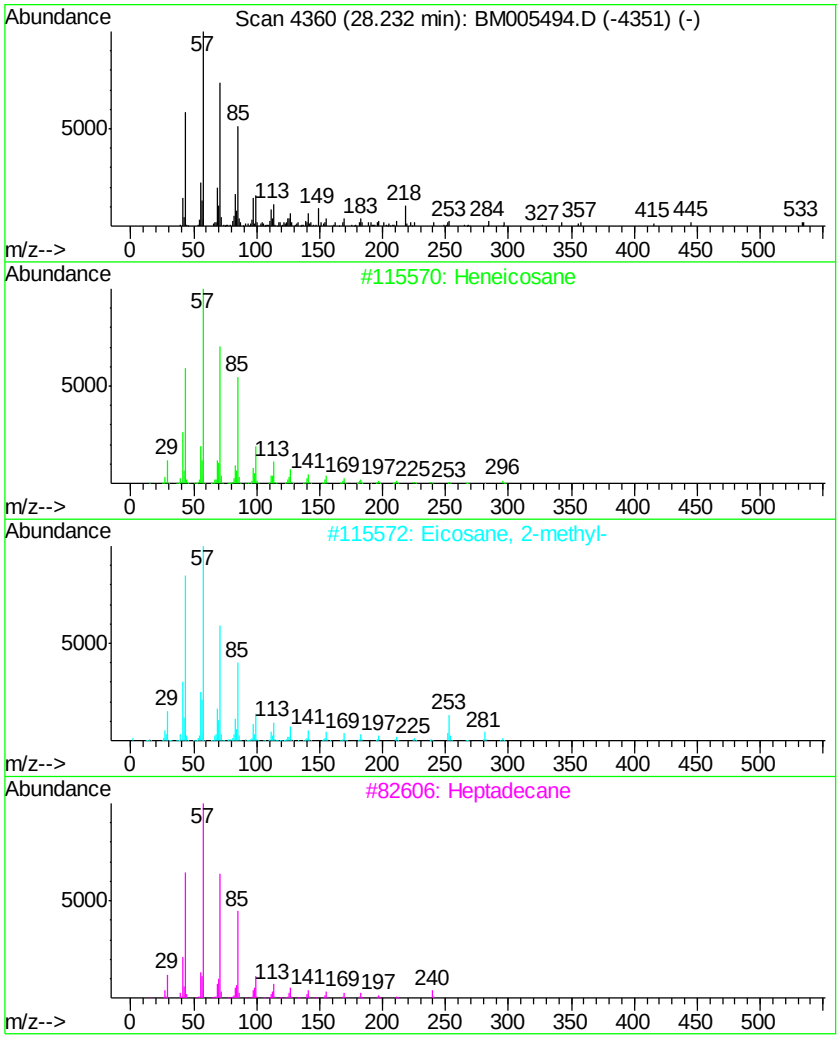
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

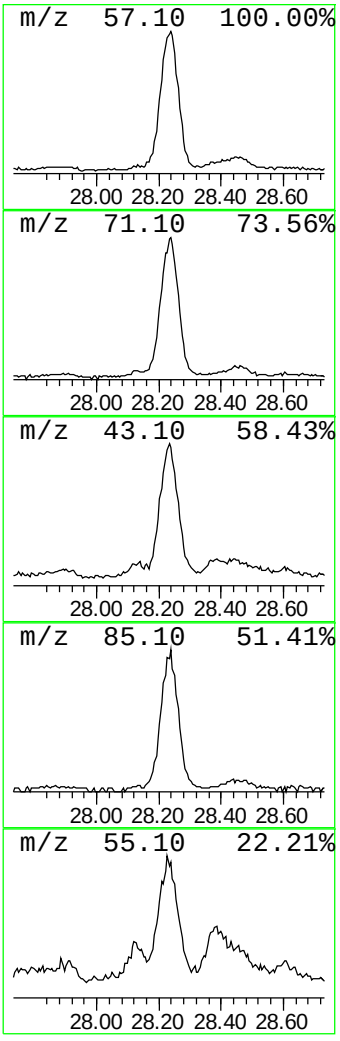
****

Peak Number 21 (DEL) Alkane: Straight-Chai... Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
28.23	10.39 ng/ul	654366	Perylene-d12	23.66

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heneicosane	296	C21H44	000629-94-7	94
2	Eicosane, 2-methyl-	296	C21H44	001560-84-5	91
3	Heptadecane	240	C17H36	000629-78-7	91
4	Heneicosane	296	C21H44	000629-94-7	91
5	Tetratetracontane	619	C44H90	007098-22-8	87





Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005494.D
Acq On : 19 May 2016 06:00
Operator : UM/SJ
Sample : H2954-02
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Naphthalene, 1,2,...	14.74	5.3	ng/ul	104319	3	14.46	390283	20.0
Naphthalene, 1,2,...	14.79	2.3	ng/ul	44254	3	14.46	390283	20.0
n-Hexadecanoic acid	18.10	2.4	ng/ul	70915	4	17.20	585534	20.0
unknown-01	20.49	3.6	ng/ul	197727	5	21.37	1087590	20.0
unknown-02	20.53	7.1	ng/ul	384527	5	21.37	1087590	20.0
2-Propen-1-one, 1...	20.90	3.1	ng/ul	169501	5	21.37	1087590	20.0
1H-Pyrrole-2,5-di...	20.97	3.2	ng/ul	173664	5	21.37	1087590	20.0
(DEL) Alkane: Str...	21.10	4.6	ng/ul	252576	5	21.37	1087590	20.0
4H-1-Benzopyran-4...	21.28	5.3	ng/ul	286383	5	21.37	1087590	20.0
(DEL) Alkane: Str...	21.98	11.9	ng/ul	644321	5	21.37	1087590	20.0
(DEL) Alkane: Str...	22.45	2.7	ng/ul	147633	5	21.37	1087590	20.0
(DEL) Alkane: Str...	22.98	37.7	ng/ul	2376410	6	23.66	1260130	20.0
1-Hexadecanol	23.02	3.3	ng/ul	206902	6	23.66	1260130	20.0
(DEL) Alkane: Str...	24.23	13.5	ng/ul	853076	6	23.66	1260130	20.0
unknown-03	24.31	20.3	ng/ul	1279830	6	23.66	1260130	20.0
(DEL) Alkane: Str...	25.91	13.5	ng/ul	851427	6	23.66	1260130	20.0
1-Hexadecanesulfo...	26.04	2.9	ng/ul	182349	6	23.66	1260130	20.0
.gamma.-Sitosterol	26.81	7.3	ng/ul	457295	6	23.66	1260130	20.0
4,4,6a,6b,8a,11,1...	27.60	5.4	ng/ul	342593	6	23.66	1260130	20.0
(DEL) Alkane: Str...	28.23	10.4	ng/ul	654366	6	23.66	1260130	20.0

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group
Contract: EPW14030
Lab Code: CHM Case No.: 46114
MA No.: SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Instrument ID: BNA_M
Calibration Date(s): 05/18/2016 05/18/2016
GC Column: ZB-GR ID: 0.25 (mm)
Calibration Time(s): 10:07 13:53
Length : 30 (m)
Heated Purge: (Y/N)
Purge Volume : (mL)

LAB FILE ID:	RRF005 =BM005463.D RRF040 =BM005466.D			RRF010= BM005464.D RRF080= BM005467.D			RRF020 =BM005465.D RRF160 =BM005468.D	
ANALYTE	RRF005	RRF010	RRF020	RRF040	RRF080	RRF160	$\overline{\text{RRF}}$	% RSD
1,4-Dioxane	0.630	0.599	0.584	0.577	0.513		0.581	7.3
Benzaldehyde		1.150	1.178	1.178	0.695	0.475	0.935	35.2
Phenol		1.883	1.993	2.219	2.153	1.846	2.019	8.1
Bis(2-Chloroethyl)ether		1.434	1.507	1.580	1.505	1.274	1.460	7.9
2-Chlorophenol	1.431	1.434	1.484	1.632	1.606		1.518	6.3
2-Methylphenol		1.462	1.533	1.698	1.699	1.459	1.570	7.7
2,2-oxybis(1-Chloropropane)		2.138	2.094	2.209	2.092	1.755	2.058	8.5
Acetophenone		2.583	2.562	2.695	2.519	2.089	2.489	9.4
4-Methylphenol		1.689	1.759	1.931	1.856	1.582	1.763	7.8
N-Nitroso-di-n-propylamine	1.432	1.381	1.365	1.436	1.353		1.393	2.8
Hexachloroethane	0.559	0.529	0.547	0.578	0.558		0.554	3.2
Nitrobenzene	0.360	0.338	0.352	0.382	0.363		0.359	4.5
Isophorone	0.726	0.711	0.719	0.777	0.738		0.734	3.5
2-Nitrophenol	0.147	0.161	0.170	0.191	0.184		0.170	10.3
2,4-Dimethylphenol	0.376	0.366	0.371	0.399	0.378		0.378	3.3
Bis(2-Chloroethoxy)methane	0.439	0.424	0.433	0.452	0.426		0.435	2.6
2,4-Dichlorophenol	0.296	0.302	0.313	0.343	0.327		0.316	6.0
Naphthalene	1.042	0.988	0.998	1.060	0.989		1.015	3.3
4-Chloroaniline		0.476	0.454	0.470	0.348	0.163	0.382	34.8
Hexachlorobutadiene	0.176	0.178	0.178	0.189	0.178		0.180	2.9
Caprolactam		0.117	0.121	0.130	0.125	0.110	0.121	6.5
4-Chloro-3-methylphenol	0.383	0.375	0.387	0.413	0.390		0.390	3.7
2-Methylnaphthalene	0.816	0.785	0.788	0.827	0.776		0.799	2.7
Hexachlorocyclopentadiene		0.316	0.330	0.363	0.363	0.311	0.337	7.4
2,4,6-Trichlorophenol	0.408	0.395	0.420	0.448	0.433		0.421	4.9
2,4,5-Trichlorophenol	0.443	0.446	0.461	0.491	0.463		0.461	4.1
1,1-Biphenyl	1.626	1.572	1.582	1.667	1.570		1.603	2.6
2-Chloronaphthalene	1.238	1.196	1.213	1.295	1.218		1.232	3.1
2-Nitroaniline	0.367	0.358	0.380	0.423	0.415		0.389	7.5
Dimethylphthalate	1.711	1.653	1.674	1.730	1.613		1.676	2.8
2,6-Dinitrotoluene	0.286	0.299	0.315	0.359	0.355		0.323	10.2
Acenaphthylene	1.998	1.959	2.011	2.120	1.965		2.010	3.2

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group
Contract: EPW14030
Lab Code: CHM Case No.: 46114
MA No.: SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Instrument ID: BNA_M
Calibration Date(s): 05/18/2016 05/18/2016
GC Column: ZB-GR ID: 0.25 (mm)
Calibration Time(s): 10:07 13:53
Length : 30 (m)
Heated Purge: (Y/N)
Purge Volume : (mL)

LAB FILE ID:	RRF005 =BM005463.D RRF040 =BM005466.D			RRF010= BM005464.D RRF080= BM005467.D			RRF020 =BM005465.D RRF160 =BM005468.D	
ANALYTE	RRF005	RRF010	RRF020	RRF040	RRF080	RRF160	$\overline{\text{RRF}}$	% RSD
3-Nitroaniline		0.333	0.367	0.400	0.361	0.259	0.344	15.5
Acenaphthene	1.408	1.348	1.364	1.421	1.325		1.373	3.0
2,4-Dinitrophenol		0.145	0.165	0.204	0.219	0.208	0.188	16.9
4-Nitrophenol		0.290	0.305	0.327	0.314	0.274	0.302	6.8
Dibenzofuran	2.081	1.967	1.976	2.071	1.920		2.003	3.5
2,4-Dinitrotoluene	0.427	0.442	0.497	0.548	0.535		0.490	11.1
Diethylphthalate	1.802	1.721	1.765	1.853	1.728		1.774	3.1
Fluorene	1.743	1.687	1.669	1.695	1.489		1.657	5.9
4-Chlorophenyl-phenylether	0.847	0.814	0.800	0.808	0.715		0.797	6.2
4-Nitroaniline		0.386	0.409	0.438	0.417	0.367	0.403	6.8
4,6-Dinitro-2-methylphenol		0.096	0.113	0.129	0.128	0.108	0.115	12.2
N-Nitrosodiphenylamine	0.571	0.552	0.573	0.595	0.547		0.567	3.4
4-Bromophenyl-phenylether	0.204	0.195	0.202	0.210	0.200		0.202	2.6
1,2,4,5-Tetrachlorobenzene	0.615	0.586	0.599	0.632	0.605		0.607	2.9
Hexachlorobenzene	0.238	0.232	0.234	0.244	0.226		0.235	2.9
Atrazine		0.218	0.225	0.233	0.201	0.139	0.203	18.5
Pentachlorophenol		0.139	0.153	0.169	0.162	0.134	0.151	9.7
Phenanthrene	1.195	1.112	1.133	1.174	1.074		1.138	4.3
Anthracene	1.151	1.118	1.140	1.168	1.049		1.125	4.1
Carbazole		1.071	1.091	1.120	1.007	0.806	1.019	12.4
Di-n-butylphthalate	1.249	1.212	1.288	1.341	1.222		1.262	4.2
Fluoranthene		1.419	1.447	1.477	1.298	1.013	1.331	14.3
Pyrene	1.033	1.044	1.070	1.127	1.085		1.072	3.5
Butylbenzylphthalate	0.403	0.413	0.456	0.499	0.505		0.455	10.4
3,3-Dichlorobenzidine		0.406	0.415	0.426	0.384	0.284	0.383	15.1
Benzo(a)anthracene	1.200	1.159	1.166	1.214	1.136		1.175	2.7
Chrysene	1.131	1.101	1.115	1.138	1.071		1.112	2.4
Bis(2-ethylhexyl)phthalate	0.627	0.661	0.699	0.736	0.681		0.681	6.0
Di-n-octyl phthalate		1.024	1.107	1.197	1.127	0.853	1.062	12.4
Benzo(b)fluoranthene	1.144	1.122	1.185	1.187	1.084		1.145	3.8
Benzo(k)fluoranthene	1.121	1.123	1.103	1.173	1.040		1.112	4.3
Benzo(a)pyrene	1.137	1.134	1.152	1.188	1.075		1.137	3.6

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group
Contract: EPW14030
Lab Code: CHM Case No.: 46114
MA No.: SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Instrument ID: BNA_M
Calibration Date(s): 05/18/2016 05/18/2016
GC Column: ZB-GR ID: 0.25 (mm)
Calibration Time(s): 10:07 13:53
Length : 30 (m)
Heated Purge: (Y/N)
Purge Volume : (mL)

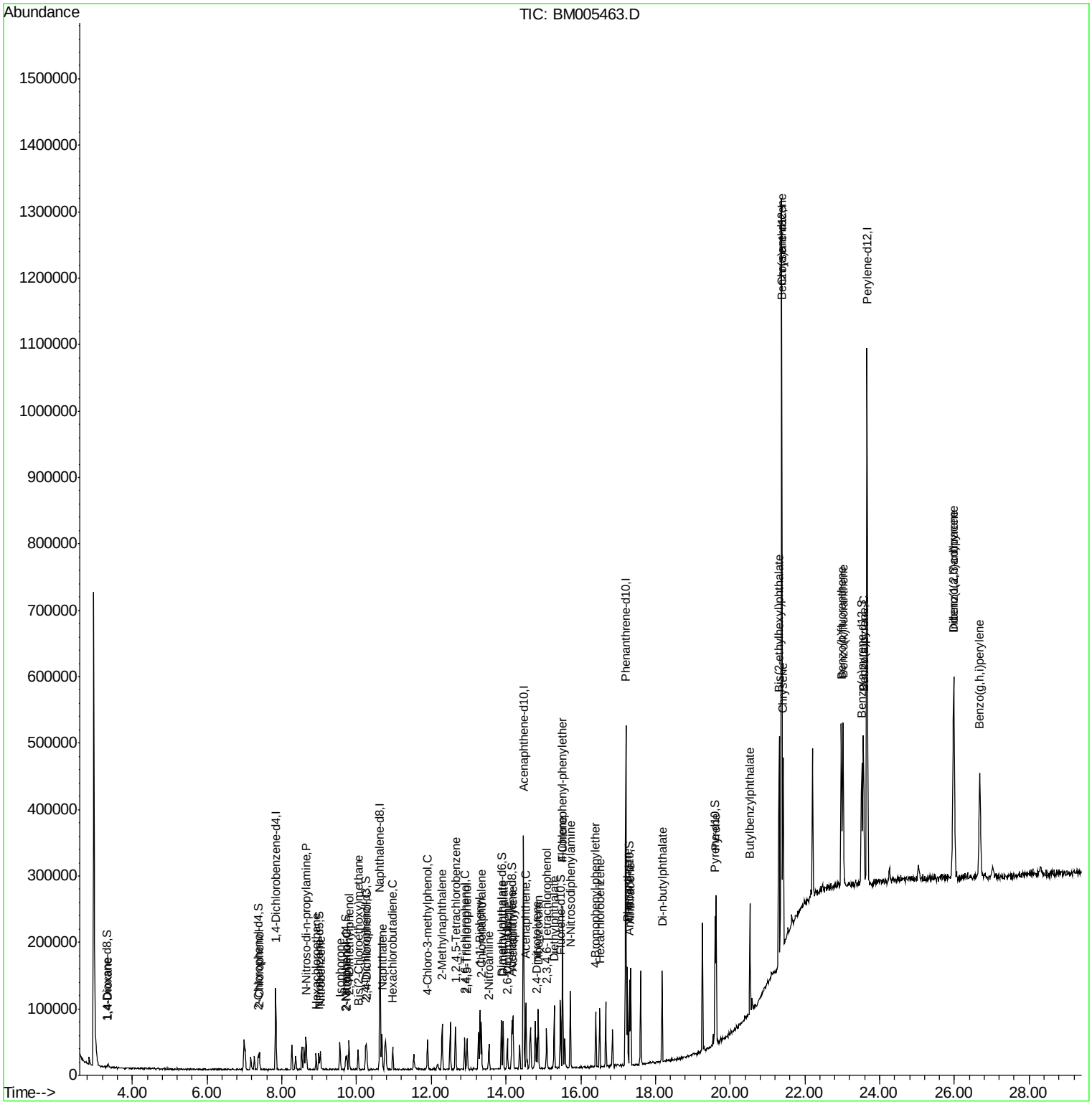
LAB FILE ID:	RRF005 =BM005463.D RRF040 =BM005466.D			RRF010= BM005464.D RRF080= BM005467.D			RRF020 =BM005465.D RRF160 =BM005468.D	
ANALYTE	RRF005	RRF010	RRF020	RRF040	RRF080	RRF160	$\overline{\text{RRF}}$	% RSD
Indeno(1,2,3-cd)pyrene	1.559	1.487	1.492	1.556	1.394		1.498	4.5
Dibenzo(a,h)anthracene	1.323	1.252	1.255	1.274	1.116		1.244	6.2
Benzo(g,h,i)perylene	1.333	1.261	1.282	1.365	1.249		1.298	3.8
2,3,4,6-Tetrachlorophenol	0.413	0.413	0.432	0.469	0.452		0.436	5.6
1,4-Dioxane-d8	0.606	0.548	0.513	0.492	0.438		0.520	12.1
Phenol-d5		1.793	1.870	2.094	2.069	1.782	1.921	7.8
Bis-(2-Chloroethyl)ether-d8		1.073	1.073	1.126	1.077	0.912	1.052	7.7
2-Chlorophenol-d4	1.417	1.370	1.446	1.581	1.566		1.476	6.3
4-Methylphenol-d8		1.542	1.615	1.782	1.749	1.493	1.636	7.7
Nitrobenzene-d5	0.144	0.135	0.138	0.153	0.149		0.144	5.0
2-Nitrophenol-d4	0.148	0.145	0.156	0.170	0.167		0.157	7.0
2,4-Dichlorophenol-d3	0.298	0.292	0.304	0.339	0.328		0.312	6.5
4-Chloroaniline-d4		0.448	0.437	0.442	0.321	0.147	0.359	36.2
Dimethylphthalate-d6	1.692	1.597	1.625	1.702	1.605		1.644	3.0
Acenaphthylene-d8	1.925	1.848	1.937	2.050	1.947		1.941	3.7
4-Nitrophenol-d4		0.323	0.337	0.370	0.352	0.305	0.337	7.5
Fluorene-d10	1.523	1.439	1.439	1.488	1.365		1.451	4.1
4,6-Dinitro-2-methylphenol-d2		0.089	0.103	0.117	0.117	0.101	0.105	11.3
Anthracene-d10	0.940	0.908	0.923	0.958	0.871		0.920	3.6
Pyrene-d10	0.753	0.769	0.801	0.852	0.846		0.804	5.5
Benzo(a)pyrene-d12	0.878	0.864	0.897	0.948	0.885		0.894	3.6

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005463.D
Acq On : 18 May 2016 10:07
Operator : UM/SJ
Sample : SSTD00538
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SSTD00538

Quant Time: May 18 12:54:46 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005463.D
Acq On : 18 May 2016 10:07
Operator : UM/SJ
Sample : SSTD00538
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD00538

Quant Time: May 18 12:54:46 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	33081	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	165327	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	112896	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.21	188	304918	20.00	ng/ul	0.00
75) Chrysene-d12	21.38	240	501895	20.00	ng/ul	0.00
83) Perylene-d12	23.66	264	603948	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	2006	2.85	ng/uL	0.00
5) Phenol-d5	0.00	99	0d	0.00	ng/ul	
7) Bis-(2-Chloroethyl)ether-d	0.00	67	0d	0.00	ng/ul	
9) 2-Chlorophenol-d4	7.37	132	11718	5.17	ng/ul	0.00
13) 4-Methylphenol-d8	0.00	113	0d	0.00	ng/ul	
19) Nitrobenzene-d5	9.00	128	5972	5.06	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	6120	4.58	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.25	165	12310	4.96	ng/ul	0.00
29) 4-Chloroaniline-d4	0.00	131	0d	0.00	ng/ul	
43) Dimethylphthalate-d6	13.88	166	47746	5.28	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	54318	5.12	ng/ul	0.00
51) 4-Nitrophenol-d4	0.00	143	0d	0.00	ng/ul	
57) Fluorene-d10	15.46	176	42992	5.50	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	0.00	200	0d	0.00	ng/ul	
70) Anthracene-d10	17.30	188	71642	5.32	ng/ul	0.00
76) Pyrene-d10	19.59	212	94512	4.08	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.52	264	132511	4.96	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.36	88	2083	1.62	ng/uL#	76
10) 2-Chlorophenol	7.40	128	11837	5.11	ng/ul	96
15) N-Nitroso-di-n-propylamine	8.64	70	11845	6.17	ng/ul	96
17) Hexachloroethane	8.92	117	4623	5.30	ng/ul	98
20) Nitrobenzene	9.03	77	14889	5.04	ng/ul	97
21) Isophorone	9.56	82	29994	5.23	ng/ul	99
23) 2-Nitrophenol	9.75	139	6077	4.22	ng/ul#	85
24) 2,4-Dimethylphenol	9.80	107	15535	5.09	ng/ul	98
25) Bis(2-Chloroethoxy)methane	10.05	93	18147	5.08	ng/ul	96
27) 2,4-Dichlorophenol	10.27	162	12235	4.81	ng/ul	95
28) Naphthalene	10.68	128	43053	5.18	ng/ul	98
31) Hexachlorobutadiene	10.96	225	7263	4.80	ng/ul	97
33) 4-Chloro-3-methylphenol	11.90	107	15816	5.19	ng/ul	93
34) 2-Methylnaphthalene	12.29	142	33719	5.42	ng/ul	100
36) 1,2,4,5-Tetrachlorobenzene	12.66	216	17366	5.06	ng/ul	97
38) 2,4,6-Trichlorophenol	12.89	196	11508	5.03	ng/ul	88
39) 2,4,5-Trichlorophenol	12.96	196	12498	4.92	ng/ul	96
40) 1,1'-Biphenyl	13.30	154	45880	5.13	ng/ul	98
41) 2-Chloronaphthalene	13.34	162	34952	5.17	ng/ul	97
42) 2-Nitroaniline	13.55	65	10362	4.98	ng/ul	98
44) Dimethylphthalate	13.93	163	48290	5.34	ng/ul	99
45) 2,6-Dinitrotoluene	14.04	165	8068	4.52	ng/ul	96
47) Acenaphthylene	14.19	152	56384	5.02	ng/ul	98

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005463.D
Acq On : 18 May 2016 10:07
Operator : UM/SJ
Sample : SSTD00538
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD00538

Quant Time: May 18 12:54:46 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Acenaphthene	14.53	153	39743	5.37	ng/ul	98
53) Dibenzofuran	14.87	168	58746	5.47	ng/ul	100
54) 2,4-Dinitrotoluene	14.82	165	12040	4.53	ng/ul#	95
55) 2,3,4,6-Tetrachlorophenol	15.09	232	11663	5.41	ng/ul#	88
56) Diethylphthalate	15.29	149	50860	5.57	ng/ul	100
58) Fluorene	15.52	166	49191	5.86	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.52	204	23910	5.75	ng/ul	97
64) N-Nitrosodiphenylamine	15.72	169	43494	5.21	ng/ul	100
65) 4-Bromophenyl-phenylether	16.40	248	15518	5.31	ng/ul	93
66) Hexachlorobenzene	16.51	284	18160	5.54	ng/ul	98
69) Phenanthrene	17.25	178	91122	5.68	ng/ul	99
71) Anthracene	17.34	178	87710	5.49	ng/ul	99
73) Di-n-butylphthalate	18.18	149	95191	5.55	ng/ul	100
77) Pyrene	19.62	202	129559	4.45	ng/ul	99
78) Butylbenzylphthalate	20.53	149	50571	4.18	ng/ul	99
80) Benzo(a)anthracene	21.37	228	150549	5.21	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.31	149	78700	4.69	ng/ul	100
82) Chrysene	21.42	228	141962	5.18	ng/ul	99
85) Benzo(b)fluoranthene	22.97	252	172778	4.89	ng/ul	98
86) Benzo(k)fluoranthene	23.02	252	169255	5.09	ng/ul	99
88) Benzo(a)pyrene	23.57	252	171605	5.14	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.97	276	235410	6.46	ng/ul	96
90) Dibenzo(a,h)anthracene	25.99	278	199714	6.55	ng/ul	98
91) Benzo(g,h,i)perylene	26.68	276	201211	6.52	ng/ul	99

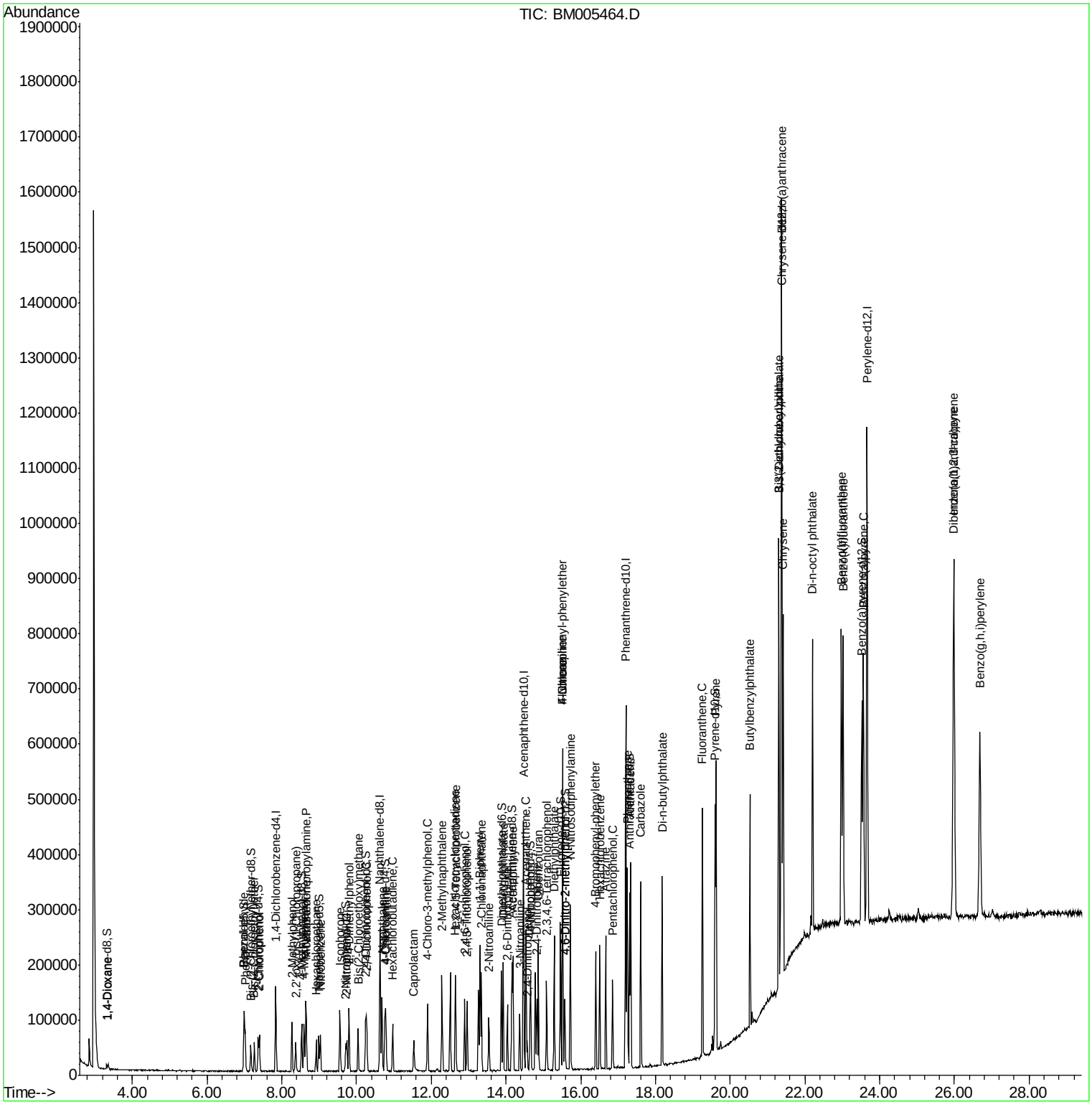
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005464.D
Acq On : 18 May 2016 10:43
Operator : UM/SJ
Sample : SSTD01039
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD01039

Quant Time: May 18 11:55:16 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005464.D
Acq On : 18 May 2016 10:43
Operator : UM/SJ
Sample : SSTD01039
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD01039

Quant Time: May 18 11:55:16 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	41185	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	217408	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	149520	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.21	188	396207	20.00	ng/ul	0.00
75) Chrysene-d12	21.38	240	585024	20.00	ng/ul	0.00
83) Perylene-d12	23.67	264	667209	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	4512	5.15	ng/uL	0.00
5) Phenol-d5	6.99	99	36922	9.88	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	22090	10.37	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	28207	10.00	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	31763	10.29	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	14699	9.47	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	15755	8.96	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.25	165	31739	9.72	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	48664	12.38	ng/ul	0.00
43) Dimethylphthalate-d6	13.88	166	119371	9.96	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	138133	9.83	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	24131	11.03	ng/ul	0.00
57) Fluorene-d10	15.46	176	107584	10.40	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.57	200	17653	7.92	ng/ul	0.00
70) Anthracene-d10	17.30	188	179797	10.27	ng/ul	0.00
76) Pyrene-d10	19.59	212	224886	8.33	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.52	264	288177	9.76	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.35	88	4934	3.09	ng/uL	87
4) Benzaldehyde	6.98	77	23678	13.08	ng/ul	99
6) Phenol	7.02	94	38780	10.05	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.26	93	29535	10.16	ng/ul	96
10) 2-Chlorophenol	7.40	128	29531	10.23	ng/ul	95
11) 2-Methylphenol	8.27	108	30096	10.09	ng/ul	97
12) 2,2'-oxybis(1-Chloropropan	8.37	45	44017	11.16	ng/ul	98
14) Acetophenone	8.66	105	53184	11.63	ng/ul	98
15) N-Nitroso-di-n-propylamine	8.64	70	28431	11.90	ng/ul	97
16) 4-Methylphenol	8.60	108	34782	10.50	ng/ul	97
17) Hexachloroethane	8.92	117	10895	10.03	ng/ul	95
20) Nitrobenzene	9.03	77	36697	9.44	ng/ul	97
21) Isophorone	9.56	82	77264	10.24	ng/ul	98
23) 2-Nitrophenol	9.74	139	17478	9.23	ng/ul	99
24) 2,4-Dimethylphenol	9.80	107	39795	9.91	ng/ul	99
25) Bis(2-Chloroethoxy)methane	10.05	93	46106	9.81	ng/ul	97
27) 2,4-Dichlorophenol	10.27	162	32825	9.81	ng/ul	96
28) Naphthalene	10.68	128	107358	9.81	ng/ul	98
30) 4-Chloroaniline	10.79	127	51740	12.91	ng/ul	98
31) Hexachlorobutadiene	10.96	225	19297	9.71	ng/ul	97
32) Caprolactam	11.53	113	12664	10.16	ng/ul	91
33) 4-Chloro-3-methylphenol	11.90	107	40807	10.17	ng/ul	92
34) 2-Methylnaphthalene	12.29	142	85362	10.43	ng/ul	98

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005464.D
Acq On : 18 May 2016 10:43
Operator : UM/SJ
Sample : SSTD01039
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD01039

Quant Time: May 18 11:55:16 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.66	216	43840	9.64	ng/ul	99
37) Hexachlorocyclopentadiene	12.64	237	23635	10.17	ng/ul	96
38) 2,4,6-Trichlorophenol	12.89	196	29512	9.74	ng/ul	91
39) 2,4,5-Trichlorophenol	12.96	196	33378	9.93	ng/ul	99
40) 1,1'-Biphenyl	13.30	154	117487	9.92	ng/ul	99
41) 2-Chloronaphthalene	13.35	162	89436	9.99	ng/ul	97
42) 2-Nitroaniline	13.54	65	26766	9.71	ng/ul	96
44) Dimethylphthalate	13.93	163	123583	10.32	ng/ul	99
45) 2,6-Dinitrotoluene	14.04	165	22340	9.46	ng/ul	94
47) Acenaphthylene	14.19	152	146436	9.85	ng/ul	98
48) 3-Nitroaniline	14.37	138	24913	9.90	ng/ul	99
49) Acenaphthene	14.53	153	100752	10.28	ng/ul	98
50) 2,4-Dinitrophenol	14.57	184	10816	7.96	ng/ul	88
52) 4-Nitrophenol	14.66	109	21668	11.91	ng/ul	93
53) Dibenzofuran	14.87	168	147064	10.34	ng/ul	99
54) 2,4-Dinitrotoluene	14.82	165	33059	9.39	ng/ul#	97
55) 2,3,4,6-Tetrachlorophenol	15.09	232	30888	10.81	ng/ul#	96
56) Diethylphthalate	15.29	149	128656	10.64	ng/ul	99
58) Fluorene	15.52	166	126147	11.35	ng/ul	97
59) 4-Chlorophenyl-phenylether	15.51	204	60874	11.05	ng/ul	98
60) 4-Nitroaniline	15.52	138	28845	10.81	ng/ul	97
63) 4,6-Dinitro-2-methylphenol	15.58	198	19087	8.15	ng/ul#	93
64) N-Nitrosodiphenylamine	15.72	169	109377	10.08	ng/ul	99
65) 4-Bromophenyl-phenylether	16.40	248	38666	10.18	ng/ul	96
66) Hexachlorobenzene	16.51	284	46011	10.80	ng/ul	96
67) Atrazine	16.67	200	43222	10.92	ng/ul	99
68) Pentachlorophenol	16.85	266	27598	11.66	ng/ul	98
69) Phenanthrene	17.25	178	220273	10.57	ng/ul	100
71) Anthracene	17.34	178	221515	10.66	ng/ul	98
72) Carbazole	17.60	167	212195	11.61	ng/ul	99
73) Di-n-butylphthalate	18.18	149	240071	10.77	ng/ul	100
74) Fluoranthene	19.26	202	281171	12.18	ng/ul	98
77) Pyrene	19.62	202	305315	9.00	ng/ul	99
78) Butylbenzylphthalate	20.53	149	120743	8.57	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.30	252	118663	11.28	ng/ul	99
80) Benzo(a)anthracene	21.37	228	339131	10.08	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.31	149	193265	9.87	ng/ul	98
82) Chrysene	21.42	228	322147	10.09	ng/ul	99
84) Di-n-octyl phthalate	22.20	149	341570	8.76	ng/ul	99
85) Benzo(b)fluoranthene	22.98	252	374405	9.60	ng/ul	99
86) Benzo(k)fluoranthene	23.02	252	374586	10.20	ng/ul	99
88) Benzo(a)pyrene	23.57	252	378411	10.26	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.98	276	496224	12.33	ng/ul	97
90) Dibenzo(a,h)anthracene	26.00	278	417602	12.40	ng/ul	98
91) Benzo(g,h,i)perylene	26.69	276	420787	12.34	ng/ul	97

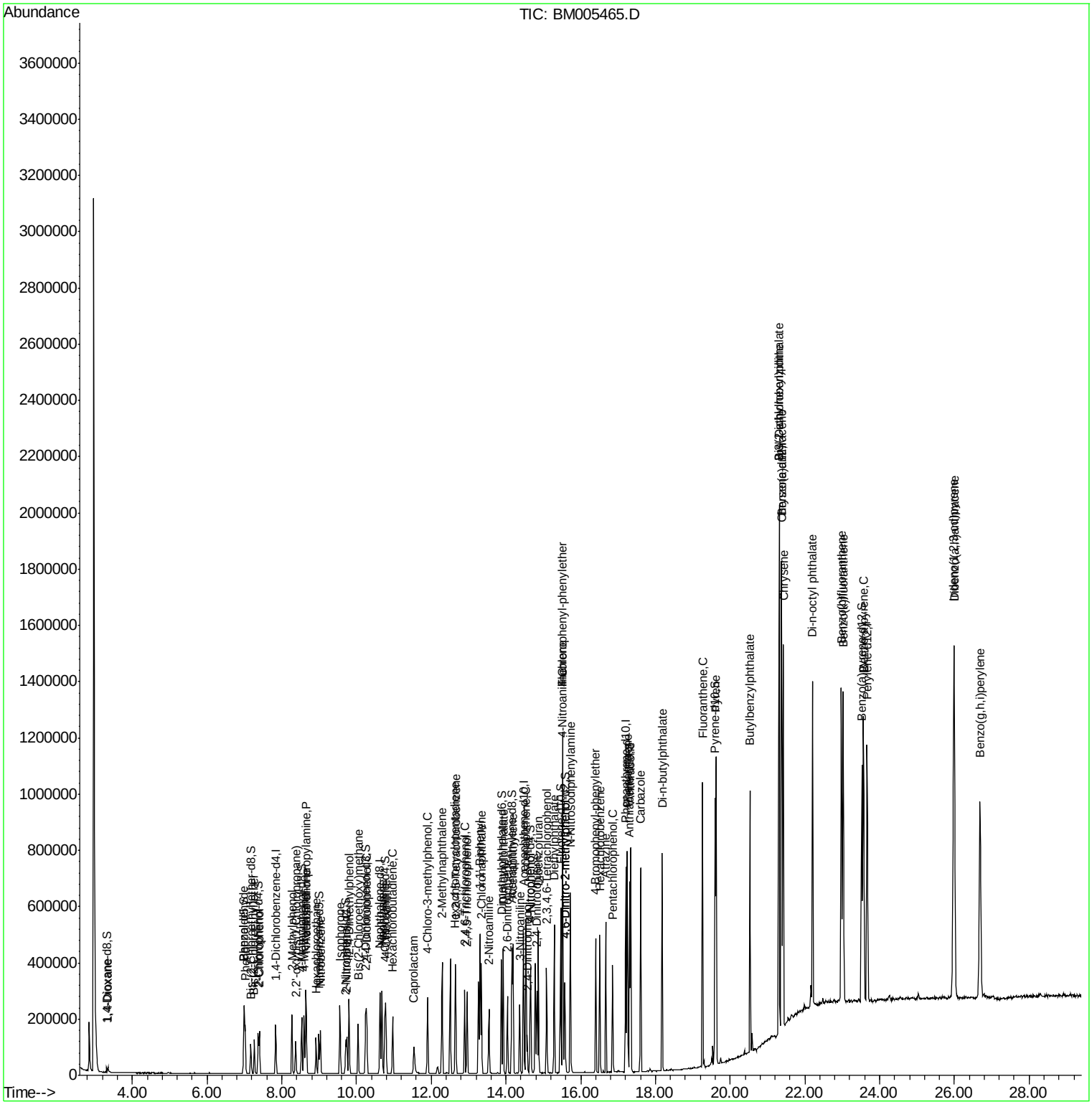
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005465.D
Acq On : 18 May 2016 11:19
Operator : UM/SJ
Sample : SSTD02040
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SSTD02040

Quant Time: May 18 11:55:22 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005465.D
Acq On : 18 May 2016 11:19
Operator : UM/SJ
Sample : SSTD02040
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02040

Quant Time: May 18 11:55:22 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	45520	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	241626	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	163609	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.21	188	421488	20.00	ng/ul	0.00
75) Chrysene-d12	21.39	240	606334	20.00	ng/ul	0.00
83) Perylene-d12	23.67	264	686024	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	9349	9.66	ng/uL	0.00
5) Phenol-d5	7.00	99	85136	20.62	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	48838	20.74	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	65802	21.10	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	73506	21.54	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	33439	19.38	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	37637	19.27	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.25	165	73505	20.25	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	105614	24.17	ng/ul	0.00
43) Dimethylphthalate-d6	13.88	166	265911	20.28	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	316892	20.60	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	55125	23.03	ng/ul	0.00
57) Fluorene-d10	15.46	176	235363	20.78	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.57	200	43332	18.28	ng/ul	0.00
70) Anthracene-d10	17.30	188	388936	20.88	ng/ul	0.00
76) Pyrene-d10	19.60	212	485456	17.34	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.52	264	615105	20.26	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.35	88	10637	6.03	ng/uL#	89
4) Benzaldehyde	6.98	77	53638	26.82	ng/ul	98
6) Phenol	7.02	94	90728	21.26	ng/ul	100
8) Bis(2-Chloroethyl)ether	7.26	93	68594	21.35	ng/ul	98
10) 2-Chlorophenol	7.40	128	67541	21.18	ng/ul	99
11) 2-Methylphenol	8.27	108	69771	21.15	ng/ul	99
12) 2,2'-oxybis(1-Chloropropan	8.37	45	95328	21.88	ng/ul	99
14) Acetophenone	8.66	105	116627	23.07	ng/ul	98
15) N-Nitroso-di-n-propylamine	8.64	70	62121	23.52	ng/ul	98
16) 4-Methylphenol	8.60	108	80070	21.88	ng/ul	96
17) Hexachloroethane	8.92	117	24914	20.76	ng/ul	96
20) Nitrobenzene	9.03	77	85126	19.71	ng/ul	98
21) Isophorone	9.56	82	173775	20.72	ng/ul	98
23) 2-Nitrophenol	9.75	139	41003	19.48	ng/ul	94
24) 2,4-Dimethylphenol	9.80	107	89762	20.11	ng/ul	98
25) Bis(2-Chloroethoxy)methane	10.05	93	104528	20.01	ng/ul	99
27) 2,4-Dichlorophenol	10.27	162	75715	20.37	ng/ul	98
28) Naphthalene	10.68	128	241235	19.84	ng/ul	99
30) 4-Chloroaniline	10.79	127	109721	24.62	ng/ul	98
31) Hexachlorobutadiene	10.97	225	43020	19.47	ng/ul	96
32) Caprolactam	11.54	113	29189	21.07	ng/ul	96
33) 4-Chloro-3-methylphenol	11.90	107	93403	20.95	ng/ul	96
34) 2-Methylnaphthalene	12.29	142	190503	20.95	ng/ul	99

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005465.D
Acq On : 18 May 2016 11:19
Operator : UM/SJ
Sample : SSTD02040
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02040

Quant Time: May 18 11:55:22 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.66	216	97920	19.67	ng/ul	98
37) Hexachlorocyclopentadiene	12.64	237	54017	21.24	ng/ul	96
38) 2,4,6-Trichlorophenol	12.89	196	68721	20.73	ng/ul	97
39) 2,4,5-Trichlorophenol	12.96	196	75434	20.51	ng/ul	99
40) 1,1'-Biphenyl	13.30	154	258769	19.97	ng/ul	98
41) 2-Chloronaphthalene	13.34	162	198447	20.25	ng/ul	97
42) 2-Nitroaniline	13.54	65	62237	20.63	ng/ul	94
44) Dimethylphthalate	13.93	163	273949	20.91	ng/ul	99
45) 2,6-Dinitrotoluene	14.04	165	51567	19.96	ng/ul	96
47) Acenaphthylene	14.19	152	329005	20.22	ng/ul	100
48) 3-Nitroaniline	14.37	138	60029	21.79	ng/ul	97
49) Acenaphthene	14.53	153	223134	20.81	ng/ul	99
50) 2,4-Dinitrophenol	14.57	184	26940	18.12	ng/ul	96
52) 4-Nitrophenol	14.66	109	49893	25.07	ng/ul	96
53) Dibenzofuran	14.87	168	323211	20.77	ng/ul	100
54) 2,4-Dinitrotoluene	14.83	165	81232	21.08	ng/ul	96
55) 2,3,4,6-Tetrachlorophenol	15.09	232	70671	22.60	ng/ul#	98
56) Diethylphthalate	15.29	149	288792	21.82	ng/ul	100
58) Fluorene	15.52	166	273062	22.45	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.52	204	130938	21.72	ng/ul	99
60) 4-Nitroaniline	15.53	138	66893	22.91	ng/ul	98
63) 4,6-Dinitro-2-methylphenol	15.58	198	47491	19.06	ng/ul#	96
64) N-Nitrosodiphenylamine	15.72	169	241357	20.91	ng/ul	99
65) 4-Bromophenyl-phenylether	16.40	248	85347	21.12	ng/ul	96
66) Hexachlorobenzene	16.51	284	98649	21.77	ng/ul	96
67) Atrazine	16.67	200	94667	22.48	ng/ul	98
68) Pentachlorophenol	16.85	266	64299	25.53	ng/ul	96
69) Phenanthrene	17.25	178	477447	21.54	ng/ul	99
71) Anthracene	17.34	178	480395	21.74	ng/ul	99
72) Carbazole	17.60	167	459824	23.65	ng/ul	99
73) Di-n-butylphthalate	18.18	149	543082	22.90	ng/ul	100
74) Fluoranthene	19.26	202	609738	24.83	ng/ul	99
77) Pyrene	19.62	202	648973	18.45	ng/ul	100
78) Butylbenzylphthalate	20.53	149	276195	18.91	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.30	252	251818	23.10	ng/ul	99
80) Benzo(a)anthracene	21.37	228	707199	20.28	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.31	149	423602	20.88	ng/ul	100
82) Chrysene	21.42	228	676126	20.43	ng/ul	100
84) Di-n-octyl phthalate	22.20	149	759673	18.96	ng/ul	100
85) Benzo(b)fluoranthene	22.98	252	812891	20.27	ng/ul	98
86) Benzo(k)fluoranthene	23.03	252	756424	20.04	ng/ul	99
88) Benzo(a)pyrene	23.57	252	790349	20.84	ng/ul	100
89) Indeno(1,2,3-cd)pyrene	25.99	276	1023792	24.74	ng/ul	97
90) Dibenzo(a,h)anthracene	26.00	278	861064	24.86	ng/ul	98
91) Benzo(g,h,i)perylene	26.69	276	879191	25.08	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005466.D
Acq On : 18 May 2016 11:55
Operator : UM/SJ
Sample : SSTD04041
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 12:44:56 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04041

Manual Integrations APPROVED
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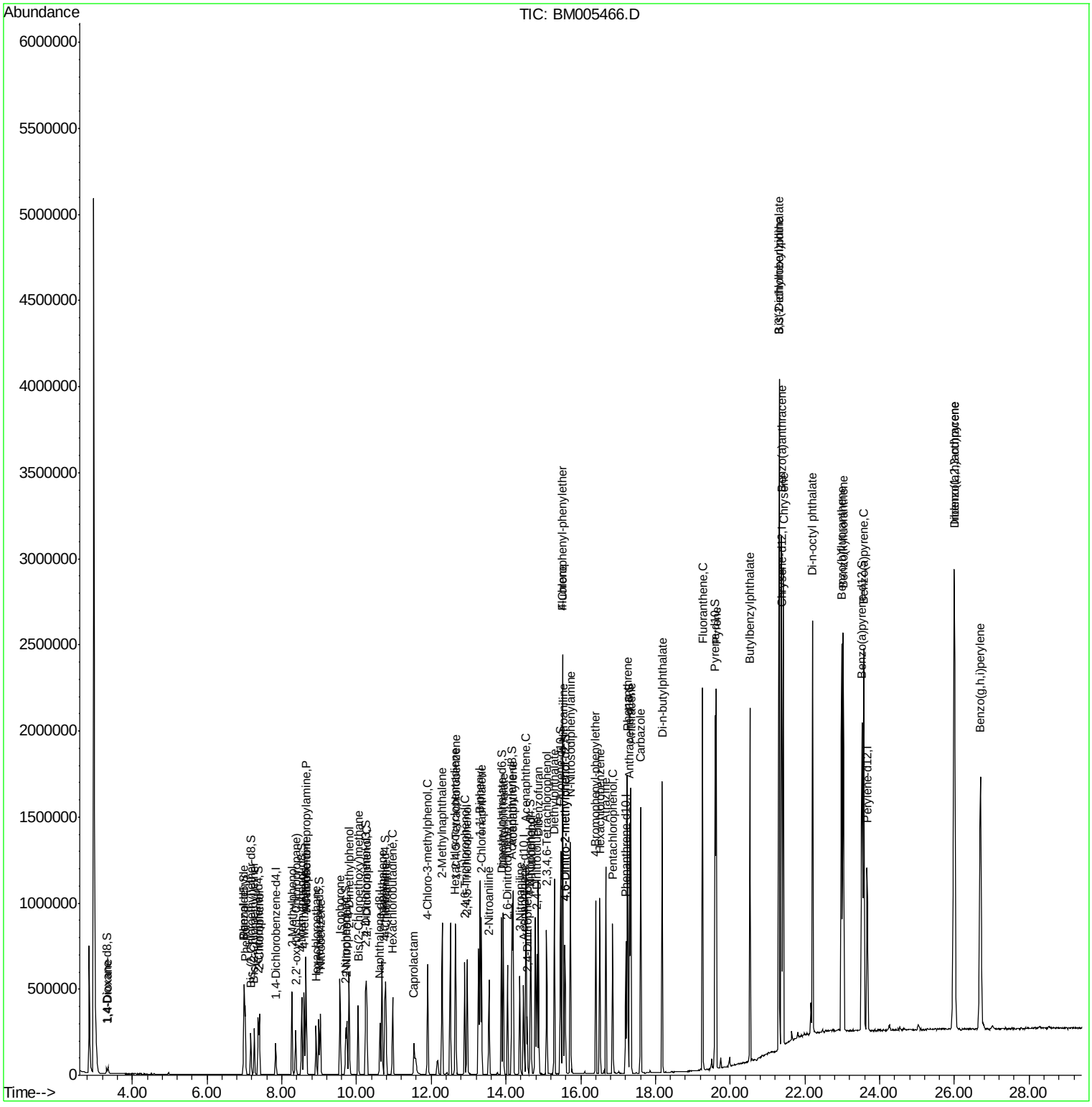

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005466.D
Acq On : 18 May 2016 11:55
Operator : UM/SJ
Sample : SSTD04041
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 12:44:56 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04041

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	47689	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	255325	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	172631	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.21	188	445042	20.00	ng/ul	0.00
75) Chrysene-d12	21.39	240	611477	20.00	ng/ul	0.00
83) Perylene-d12	23.67	264	702565	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	18782	18.52	ng/uL	0.00
5) Phenol-d5	7.00	99	199691	46.17	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	107409	43.53	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	150790	46.16	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	169989	47.55	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	77894	42.73	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	86783	42.05	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.25	165	172958	45.09	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	225928	48.93	ng/ul	0.00
43) Dimethylphthalate-d6	13.88	166	587782	42.48	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	707648	43.60	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	127858	50.62	ng/ul	0.00
57) Fluorene-d10	15.46	176	513907	43.01	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.57	200	104114	41.59	ng/ul	0.00
70) Anthracene-d10	17.31	188	853040	43.36	ng/ul	0.00
76) Pyrene-d10	19.60	212	1041670	36.90	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.53	264	1332137	42.84	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.35	88	22030	11.91	ng/uL	95
4) Benzaldehyde	6.98	77	112360	53.62	ng/ul	94
6) Phenol	7.02	94	211619	47.34	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.26	93	150717	44.78	ng/ul	96
10) 2-Chlorophenol	7.40	128	155670	46.59	ng/ul	99
11) 2-Methylphenol	8.27	108	161949	46.87	ng/ul	98
12) 2,2'-oxybis(1-Chloropropan	8.37	45	210703	46.15	ng/ul	99
14) Acetophenone	8.66	105	257082	48.54	ng/ul	98
15) N-Nitroso-di-n-propylamine	8.65	70	136974	49.49	ng/ul	97
16) 4-Methylphenol	8.60	108	184155	48.03	ng/ul	98
17) Hexachloroethane	8.92	117	55136	43.85	ng/ul	99
20) Nitrobenzene	9.03	77	194825	42.69	ng/ul	96
21) Isophorone	9.56	82	396784	44.78	ng/ul	97
23) 2-Nitrophenol	9.75	139	97403	43.80	ng/ul	98
24) 2,4-Dimethylphenol	9.80	107	203636	43.17	ng/ul	99
25) Bis(2-Chloroethoxy)methane	10.05	93	231042	41.86	ng/ul	99
27) 2,4-Dichlorophenol	10.27	162	174995	44.54	ng/ul	98
28) Naphthalene	10.68	128	541435	42.15	ng/ul	99
30) 4-Chloroaniline	10.79	127	239760	50.92	ng/ul	98
31) Hexachlorobutadiene	10.97	225	96391	41.29	ng/ul	96
32) Caprolactam	11.54	113	66637m	45.53	ng/ul	
33) 4-Chloro-3-methylphenol	11.90	107	211122	44.82	ng/ul	95
34) 2-Methylnaphthalene	12.29	142	422193	43.94	ng/ul	100

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005466.D
Acq On : 18 May 2016 11:55
Operator : UM/SJ
Sample : SSTD04041
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 12:44:56 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04041

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.66	216	218324	41.57	ng/ul	99
37) Hexachlorocyclopentadiene	12.64	237	125289	46.70	ng/ul	94
38) 2,4,6-Trichlorophenol	12.89	196	154550	44.19	ng/ul	97
39) 2,4,5-Trichlorophenol	12.96	196	169610	43.71	ng/ul	98
40) 1,1'-Biphenyl	13.30	154	575592	42.09	ng/ul	100
41) 2-Chloronaphthalene	13.35	162	447091	43.24	ng/ul	97
42) 2-Nitroaniline	13.55	65	146070	45.89	ng/ul	96
44) Dimethylphthalate	13.93	163	597466	43.21	ng/ul	100
45) 2,6-Dinitrotoluene	14.04	165	123836	45.42	ng/ul	91
47) Acenaphthylene	14.19	152	731795	42.62	ng/ul	99
48) 3-Nitroaniline	14.37	138	138265	47.57	ng/ul	98
49) Acenaphthene	14.53	153	490713	43.37	ng/ul	98
50) 2,4-Dinitrophenol	14.57	184	70547	44.97	ng/ul	90
52) 4-Nitrophenol	14.67	109	112814	53.72	ng/ul	96
53) Dibenzofuran	14.87	168	714946	43.55	ng/ul	100
54) 2,4-Dinitrotoluene	14.83	165	189374	46.58	ng/ul	99
55) 2,3,4,6-Tetrachlorophenol	15.09	232	161969	49.09	ng/ul#	97
56) Diethylphthalate	15.30	149	639696	45.80	ng/ul	100
58) Fluorene	15.52	166	585323	45.60	ng/ul	100
59) 4-Chlorophenyl-phenylether	15.52	204	278917	43.85	ng/ul	98
60) 4-Nitroaniline	15.53	138	151088	49.04	ng/ul	96
63) 4,6-Dinitro-2-methylphenol	15.59	198	115265	43.82	ng/ul#	92
64) N-Nitrosodiphenylamine	15.73	169	529883	43.48	ng/ul	99
65) 4-Bromophenyl-phenylether	16.41	248	186487	43.71	ng/ul	93
66) Hexachlorobenzene	16.52	284	217565	45.46	ng/ul	94
67) Atrazine	16.67	200	207179	46.58	ng/ul	98
68) Pentachlorophenol	16.86	266	150392	56.56	ng/ul	96
69) Phenanthrene	17.25	178	1045067	44.66	ng/ul	100
71) Anthracene	17.34	178	1039787	44.57	ng/ul	99
72) Carbazole	17.61	167	996877	48.57	ng/ul	99
73) Di-n-butylphthalate	18.18	149	1193725	47.68	ng/ul	100
74) Fluoranthene	19.26	202	1314206	50.69	ng/ul	99
77) Pyrene	19.63	202	1377705	38.84	ng/ul	99
78) Butylbenzylphthalate	20.53	149	610083	41.43	ng/ul	97
79) 3,3'-Dichlorobenzidine	21.30	252	521344	47.43	ng/ul	99
80) Benzo(a)anthracene	21.37	228	1484580	42.21	ng/ul	100
81) Bis(2-ethylhexyl)phthalate	21.31	149	900086	44.00	ng/ul	99
82) Chrysene	21.42	228	1392059	41.72	ng/ul	99
84) Di-n-octyl phthalate	22.21	149	1682356	41.00	ng/ul	99
85) Benzo(b)fluoranthene	22.99	252	1668459	40.63	ng/ul	99
86) Benzo(k)fluoranthene	23.03	252	1648706	42.64	ng/ul	99
88) Benzo(a)pyrene	23.57	252	1669475	42.98	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	26.00	276	2186036	51.58	ng/ul	97
90) Dibenzo(a,h)anthracene	26.01	278	1790703	50.49	ng/ul	98
91) Benzo(g,h,i)perylene	26.70	276	1917805	53.43	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005466.D
Acq On : 18 May 2016 11:55
Operator : UM/SJ
Sample : SSTD04041
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 12:44:56 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04041

Manual Integrations APPROVED
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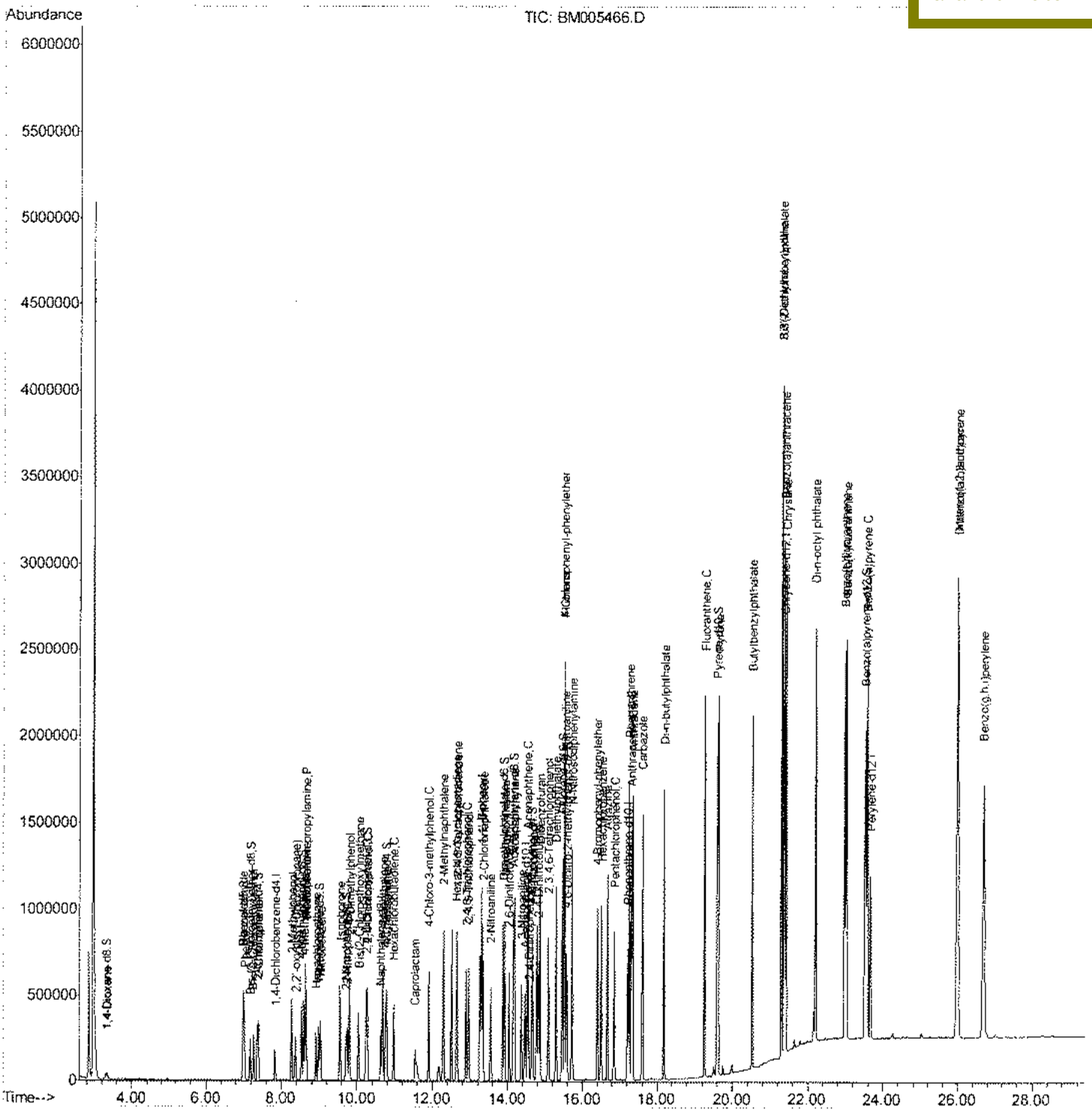

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005466.D
Acq On : 18 May 2016 11:55
Operator : UM/SJ
Sample : SSTD04041
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 12:42:39 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04041

Manual Integrations APPROVED
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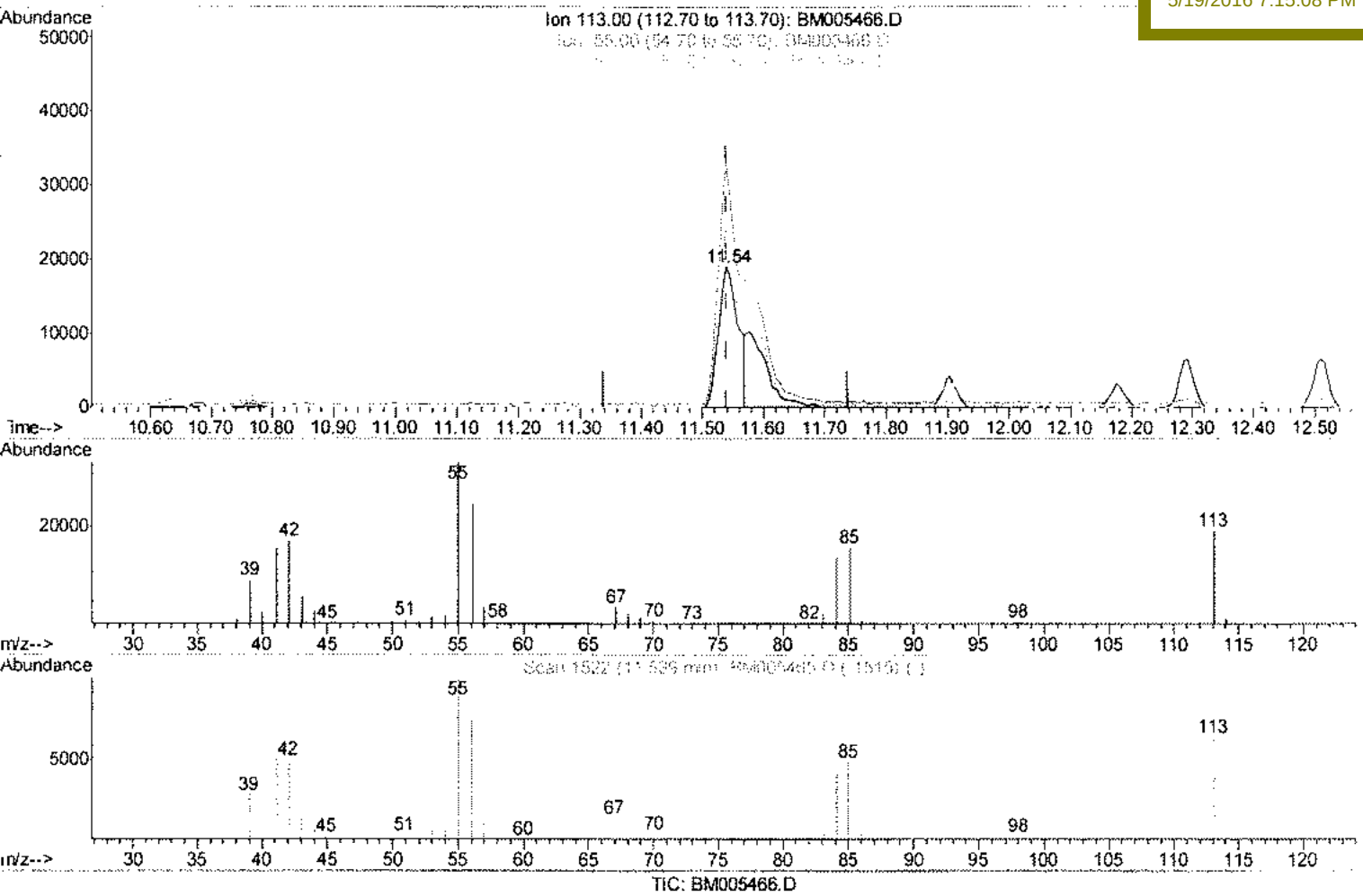

(32) Caprolactam

11.539min (+0.000) 29.05ng/ul

response 42518

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	173.44
56.00	120.80	128.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005466.D
Acq On : 18 May 2016 11:55
Operator : UM/SJ
Sample : SSTD04041
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 12:42:39 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD04041

Manual Integrations APPROVED
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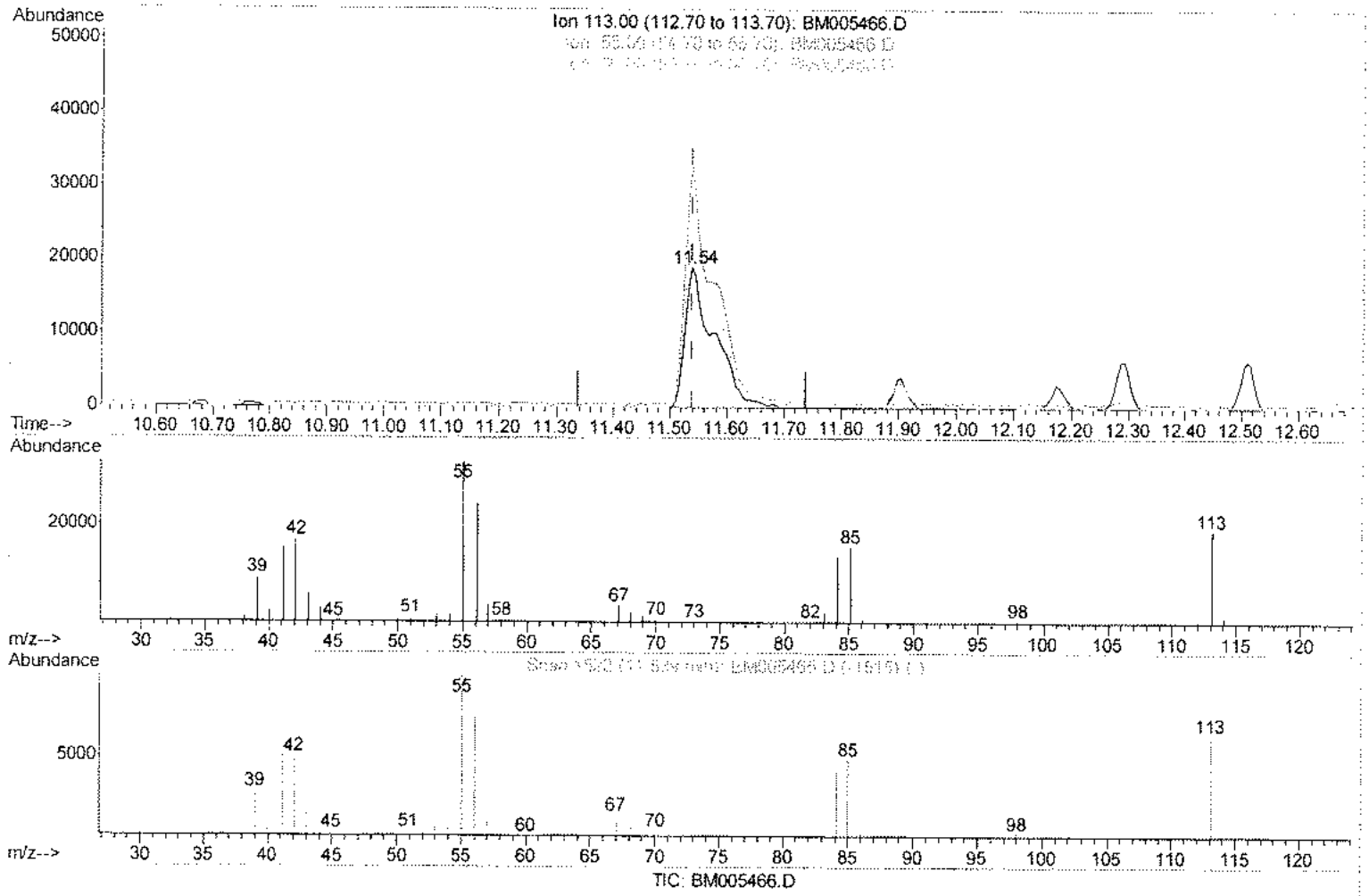
5/19/2016 7:15:08 PM



(32) Caprolactam

11.539min (+0.000) 45.53ng/ul m

response 66637

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	173.44
56.00	120.80	128.80
0.00	0.00	0.00

U.M 05/20/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005466.D
Acq On : 18 May 2016 11:55
Operator : UM/SJ
Sample : SSTD04041
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 12:44:56 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD04041

Manual Integrations APPROVED
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5/19/2016 7:15:08 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	47689	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	255325	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	172631	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.21	188	445042	20.00	ng/ul	0.00
75) Chrysene-d12	21.39	240	611477	20.00	ng/ul	0.00
83) Perylene-d12	23.67	264	702565	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	18782	18.52	ng/uL	0.00
5) Phenol-d5	7.00	99	199691	46.17	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	107409	43.53	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	150790	46.16	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	169989	47.55	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	77894	42.73	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	86783	42.05	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.25	165	172958	45.09	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	225928	48.93	ng/ul	0.00
43) Dimethylphthalate-d6	13.88	166	587782	42.48	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	707648	43.60	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	127858	50.62	ng/ul	0.00
57) Fluorene-d10	15.46	176	513907	43.01	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.57	200	104114	41.59	ng/ul	0.00
70) Anthracene-d10	17.31	188	853040	43.36	ng/ul	0.00
76) Pyrene-d10	19.60	212	1041670	36.90	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.53	264	1332137	42.84	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.35	88	22030	11.91	ng/uL	95
4) Benzaldehyde	6.98	77	112360	53.62	ng/ul	94
6) Phenol	7.02	94	211619	47.34	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.26	93	150717	44.78	ng/ul	96
10) 2-Chlorophenol	7.40	128	155670	46.59	ng/ul	99
11) 2-Methylphenol	8.27	108	161949	46.87	ng/ul	98
12) 2,2'-oxybis(1-Chloropropan	8.37	45	210703	46.15	ng/ul	99
14) Acetophenone	8.66	105	257082	48.54	ng/ul	98
15) N-Nitroso-di-n-propylamine	8.65	70	136974	49.49	ng/ul	97
16) 4-Methylphenol	8.60	108	184155	48.03	ng/ul	98
17) Hexachloroethane	8.92	117	55136	43.85	ng/ul	99
20) Nitrobenzene	9.03	77	194825	42.69	ng/ul	96
21) Isophorone	9.56	82	396784	44.78	ng/ul	97
23) 2-Nitrophenol	9.75	139	97403	43.80	ng/ul	98
24) 2,4-Dimethylphenol	9.80	107	203636	43.17	ng/ul	99
25) Bis(2-Chloroethoxy)methane	10.05	93	231042	41.86	ng/ul	99
27) 2,4-Dichlorophenol	10.27	162	174995	44.54	ng/ul	98
28) Naphthalene	10.68	128	541435	42.15	ng/ul	99
30) 4-Chloroaniline	10.79	127	239760	50.92	ng/ul	98
31) Hexachlorobutadiene	10.97	225	96391	41.29	ng/ul	96
32) Caprolactam	11.54	113	66637m	45.53	ng/ul	
33) 4-Chloro-3-methylphenol	11.90	107	211122	44.82	ng/ul	95
34) 2-Methylnaphthalene	12.29	142	422193	43.94	ng/ul	100

U.M 05/20/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005466.D
Acq On : 18 May 2016 11:55
Operator : UM/SJ
Sample : SSTD04041
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 12:44:56 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD04041

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.66	216	218324	41.57 ng/ul	99
37) Hexachlorocyclopentadiene	12.64	237	125289	46.70 ng/ul	94
38) 2,4,6-Trichlorophenol	12.89	196	154550	44.19 ng/ul	97
39) 2,4,5-Trichlorophenol	12.96	196	169610	43.71 ng/ul	98
40) 1,1'-Biphenyl	13.30	154	575592	42.09 ng/ul	100
41) 2-Chloronaphthalene	13.35	162	447091	43.24 ng/ul	97
42) 2-Nitroaniline	13.55	65	146070	45.89 ng/ul	96
44) Dimethylphthalate	13.93	163	597466	43.21 ng/ul	100
45) 2,6-Dinitrotoluene	14.04	165	123836	45.42 ng/ul	91
47) Acenaphthylene	14.19	152	731795	42.62 ng/ul	99
48) 3-Nitroaniline	14.37	138	138265	47.57 ng/ul	98
49) Acenaphthene	14.53	153	490713	43.37 ng/ul	98
50) 2,4-Dinitrophenol	14.57	184	70547	44.97 ng/ul	90
52) 4-Nitrophenol	14.67	109	112814	53.72 ng/ul	96
53) Dibenzofuran	14.87	168	714946	43.55 ng/ul	100
54) 2,4-Dinitrotoluene	14.83	165	189374	46.58 ng/ul	99
55) 2,3,4,6-Tetrachlorophenol	15.09	232	161969	49.09 ng/ul#	97
56) Diethylphthalate	15.30	149	639696	45.80 ng/ul	100
58) Fluorene	15.52	166	585323	45.60 ng/ul	100
59) 4-Chlorophenyl-phenylether	15.52	204	278917	43.85 ng/ul	98
60) 4-Nitroaniline	15.53	138	151088	49.04 ng/ul	96
63) 4,6-Dinitro-2-methylphenol	15.59	198	115265	43.82 ng/ul#	92
64) N-Nitrosodiphenylamine	15.73	169	529883	43.48 ng/ul	99
65) 4-Bromophenyl-phenylether	16.41	248	186487	43.71 ng/ul	93
66) Hexachlorobenzene	16.52	284	217565	45.46 ng/ul	94
67) Atrazine	16.67	200	207179	46.58 ng/ul	98
68) Pentachlorophenol	16.86	266	150392	56.56 ng/ul	96
69) Phenanthrene	17.25	178	1045067	44.66 ng/ul	100
71) Anthracene	17.34	178	1039787	44.57 ng/ul	99
72) Carbazole	17.61	167	996877	48.57 ng/ul	99
73) Di-n-butylphthalate	18.18	149	1193725	47.68 ng/ul	100
74) Fluoranthene	19.26	202	1314206	50.69 ng/ul	99
77) Pyrene	19.63	202	1377705	38.84 ng/ul	99
78) Butylbenzylphthalate	20.53	149	610083	41.43 ng/ul	97
79) 3,3'-Dichlorobenzidine	21.30	252	521344	47.43 ng/ul	99
80) Benzo(a)anthracene	21.37	228	1484580	42.21 ng/ul	100
81) Bis(2-ethylhexyl)phthalate	21.31	149	900086	44.00 ng/ul	99
82) Chrysene	21.42	228	1392059	41.72 ng/ul	99
84) Di-n-octyl phthalate	22.21	149	1682356	41.00 ng/ul	99
85) Benzo(b)fluoranthene	22.99	252	1668459	40.63 ng/ul	99
86) Benzo(k)fluoranthene	23.03	252	1648706	42.64 ng/ul	99
88) Benzo(a)pyrene	23.57	252	1669475	42.98 ng/ul	99
89) Indeno(1,2,3-cd)pyrene	26.00	276	2186036	51.58 ng/ul	97
90) Dibenzo(a,h)anthracene	26.01	278	1790703	50.49 ng/ul	98
91) Benzo(g,h,i)perylene	26.70	276	1917805	53.43 ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:11:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08042

Manual Integrations APPROVED
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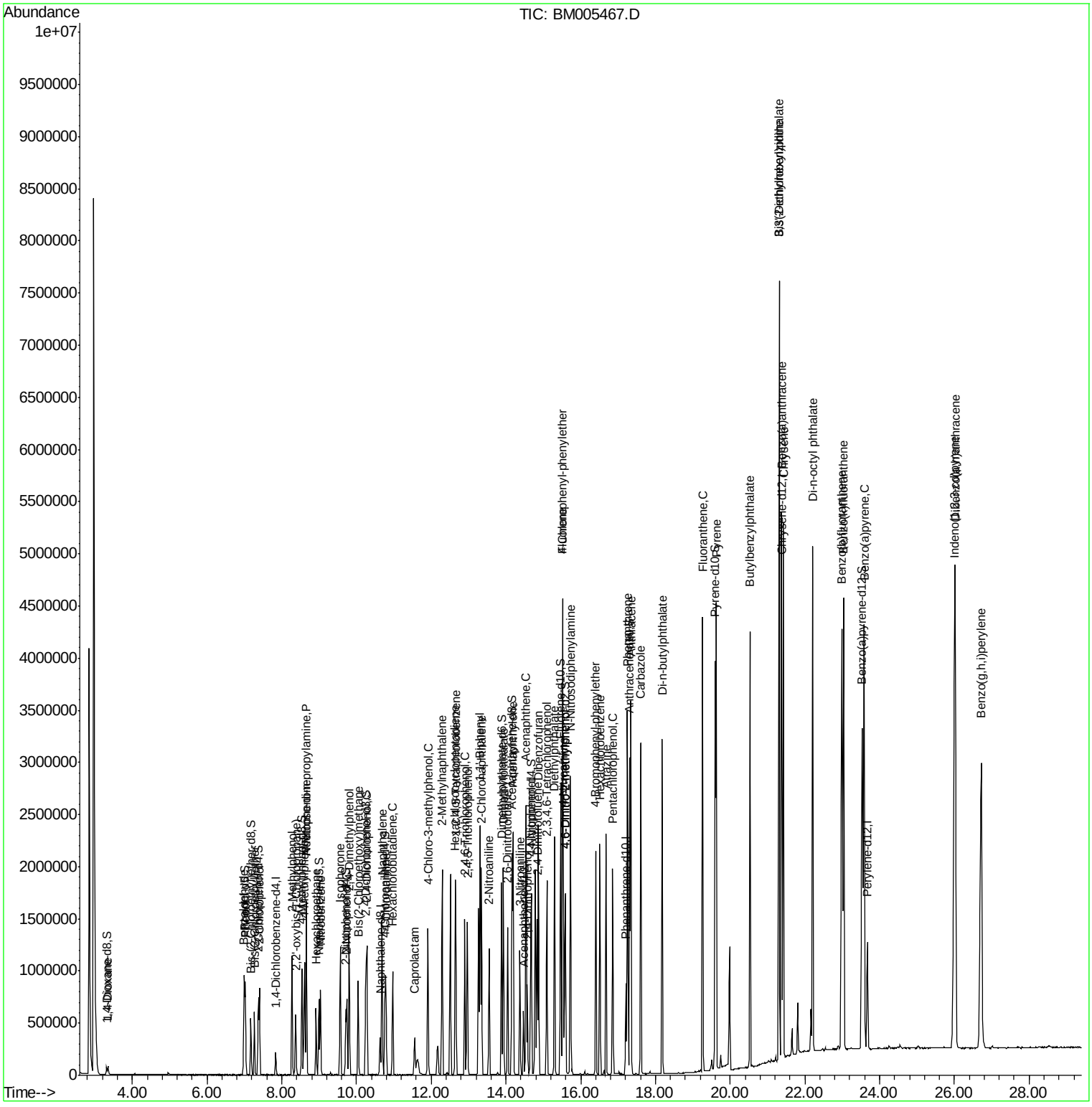

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:11:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08042

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	55950	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	305626	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	202037	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.21	188	515703	20.00	ng/ul	0.00
75) Chrysene-d12	21.39	240	630021	20.00	ng/ul	0.00
83) Perylene-d12	23.67	264	754832	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	39199	32.94	ng/uL	0.00
5) Phenol-d5	7.00	99	462963	91.23	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	241050	83.27	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	350461	91.44	ng/ul	0.00
13) 4-Methylphenol-d8	8.54	113	391523	93.35	ng/ul	0.00
19) Nitrobenzene-d5	9.00	128	182516	83.65	ng/ul	0.00
22) 2-Nitrophenol-d4	9.72	143	203664	82.43	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.25	165	401045	87.34	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	392659	71.05	ng/ul	0.00
43) Dimethylphthalate-d6	13.89	166	1296732	80.07	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	1573235	82.83	ng/ul	0.00
51) 4-Nitrophenol-d4	14.66	143	284507	96.24	ng/ul	0.01
57) Fluorene-d10	15.46	176	1102845	78.87	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.58	200	242005	83.42	ng/ul	0.01
70) Anthracene-d10	17.31	188	1796595	78.81	ng/ul	0.00
76) Pyrene-d10	19.60	212	2133013	73.34	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.53	264	2670847	79.94	ng/ul	0.01
Target Compounds						Qvalue
2) 1,4-Dioxane	3.35	88	45963	21.19	ng/uL	98
4) Benzaldehyde	6.98	77	155523m	63.26	ng/ul	
6) Phenol	7.03	94	481893	91.88	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.27	93	336752	85.29	ng/ul	98
10) 2-Chlorophenol	7.40	128	359484	91.70	ng/ul	99
11) 2-Methylphenol	8.27	108	380239	93.80	ng/ul	98
12) 2,2'-oxybis(1-Chloropropan	8.37	45	468245	87.42	ng/ul	99
14) Acetophenone	8.66	105	563644	90.70	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.65	70	302857	93.28	ng/ul	96
16) 4-Methylphenol	8.60	108	415365	92.33	ng/ul	98
17) Hexachloroethane	8.92	117	124967	84.71	ng/ul	99
20) Nitrobenzene	9.04	77	443464	81.18	ng/ul	96
21) Isophorone	9.56	82	902806	85.11	ng/ul	98
23) 2-Nitrophenol	9.75	139	224462	84.32	ng/ul	99
24) 2,4-Dimethylphenol	9.80	107	461941	81.80	ng/ul	99
25) Bis(2-Chloroethoxy)methane	10.05	93	520925	78.85	ng/ul	100
27) 2,4-Dichlorophenol	10.27	162	400335	85.13	ng/ul	98
28) Naphthalene	10.68	128	1209225	78.64	ng/ul	98
30) 4-Chloroaniline	10.79	127	425388	75.48	ng/ul	98
31) Hexachlorobutadiene	10.97	225	217631	77.87	ng/ul	99
32) Caprolactam	11.56	113	152369m	86.97	ng/ul	
33) 4-Chloro-3-methylphenol	11.91	107	476284	84.47	ng/ul	97
34) 2-Methylnaphthalene	12.29	142	949236	82.53	ng/ul	99

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:11:21 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08042

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.66	216	488801	79.53	ng/ul	99
37) Hexachlorocyclopentadiene	12.64	237	293268	93.40	ng/ul	96
38) 2,4,6-Trichlorophenol	12.90	196	350269	85.57	ng/ul	95
39) 2,4,5-Trichlorophenol	12.97	196	373810	82.30	ng/ul	99
40) 1,1'-Biphenyl	13.30	154	1268779	79.27	ng/ul	100
41) 2-Chloronaphthalene	13.34	162	984081	81.32	ng/ul	98
42) 2-Nitroaniline	13.55	65	335567	90.07	ng/ul	94
44) Dimethylphthalate	13.93	163	1303236	80.54	ng/ul	100
45) 2,6-Dinitrotoluene	14.05	165	287017	89.94	ng/ul#	90
47) Acenaphthylene	14.19	152	1588197	79.03	ng/ul	100
48) 3-Nitroaniline	14.37	138	291378	85.66	ng/ul	99
49) Acenaphthene	14.53	153	1070838	80.86	ng/ul	98
50) 2,4-Dinitrophenol	14.57	184	176596	96.19	ng/ul	95
52) 4-Nitrophenol	14.68	109	253577	103.17	ng/ul	92
53) Dibenzofuran	14.87	168	1551805	80.76	ng/ul	99
54) 2,4-Dinitrotoluene	14.83	165	432093	90.80	ng/ul	97
55) 2,3,4,6-Tetrachlorophenol	15.09	232	365581	94.68	ng/ul#	99
56) Diethylphthalate	15.30	149	1396500	85.43	ng/ul	100
58) Fluorene	15.52	166	1203030	80.08	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.52	204	577470	77.58	ng/ul	99
60) 4-Nitroaniline	15.54	138	336701	93.38	ng/ul	94
63) 4,6-Dinitro-2-methylphenol	15.59	198	264174	86.66	ng/ul#	93
64) N-Nitrosodiphenylamine	15.73	169	1127913	79.87	ng/ul	100
65) 4-Bromophenyl-phenylether	16.41	248	411685	83.27	ng/ul	96
66) Hexachlorobenzene	16.52	284	467177	84.24	ng/ul	96
67) Atrazine	16.68	200	414930	80.51	ng/ul	98
68) Pentachlorophenol	16.86	266	334647	108.60	ng/ul	97
69) Phenanthrene	17.26	178	2216225	81.73	ng/ul	99
71) Anthracene	17.34	178	2163497	80.03	ng/ul	100
72) Carbazole	17.61	167	2078260	87.38	ng/ul	100
73) Di-n-butylphthalate	18.19	149	2520425	86.88	ng/ul	100
74) Fluoranthene	19.26	202	2677423	89.12	ng/ul	99
77) Pyrene	19.63	202	2733557	74.81	ng/ul	99
78) Butylbenzylphthalate	20.53	149	1272841	83.89	ng/ul	98
79) 3,3'-Dichlorobenzidine	21.30	252	967127	85.39	ng/ul	98
80) Benzo(a)anthracene	21.37	228	2862289	78.98	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.32	149	1715112	81.37	ng/ul#	98
82) Chrysene	21.43	228	2700090	78.54	ng/ul	98
84) Di-n-octyl phthalate	22.21	149	3401467	77.15	ng/ul	99
85) Benzo(b)fluoranthene	22.99	252	3272930	74.18	ng/ul	98
86) Benzo(k)fluoranthene	23.04	252	3140773	75.61	ng/ul	99
88) Benzo(a)pyrene	23.59	252	3246294	77.79	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	26.00	276	4207632	92.41	ng/ul	96
90) Dibenzo(a,h)anthracene	26.03	278	3369962	88.44	ng/ul	98
91) Benzo(g,h,i)perylene	26.72	276	3771725	97.80	ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:11:21 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08042

Manual Integrations APPROVED
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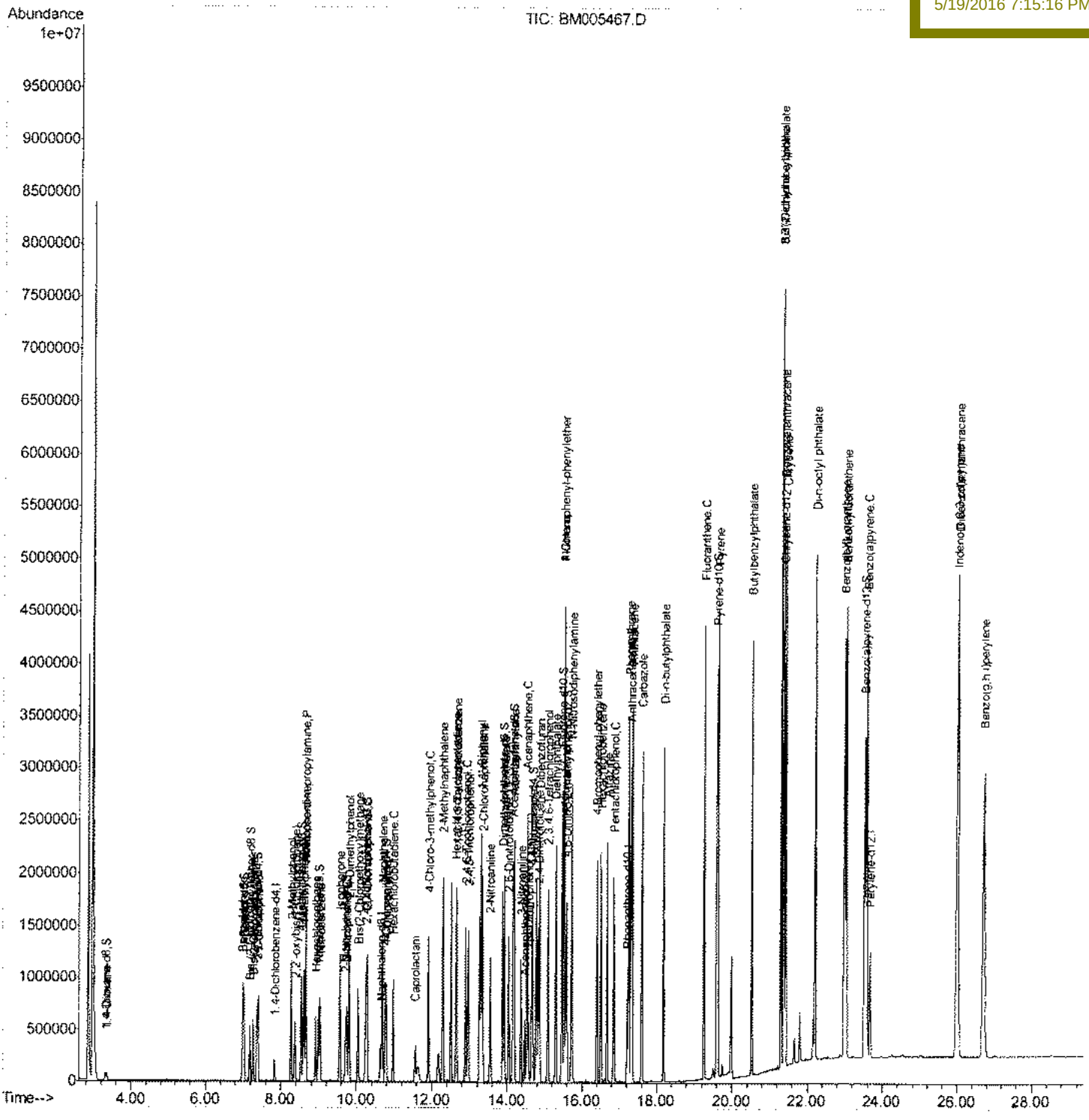

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:05:39 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08042

Manual Integrations APPROVED
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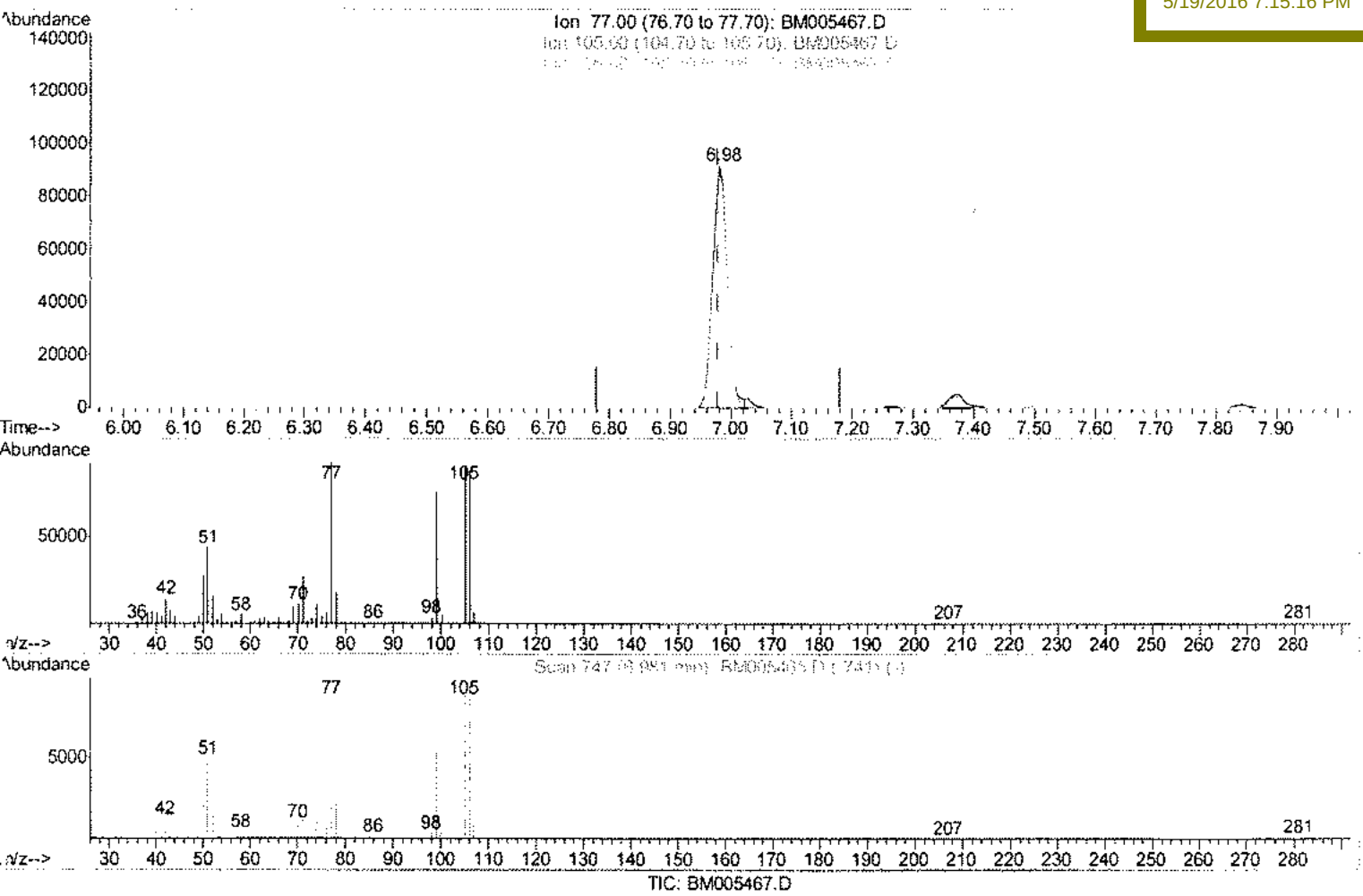

TIC: BM005467.D

(4) Benzaldehyde

6.981min (-0.000) 61.97ng/ul

response 152362

Ion	Exp%	Act%
77.00	100	100
105.00	97.00	96.87
106.00	97.40	95.54
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:05:39 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08042

Manual Integrations APPROVED
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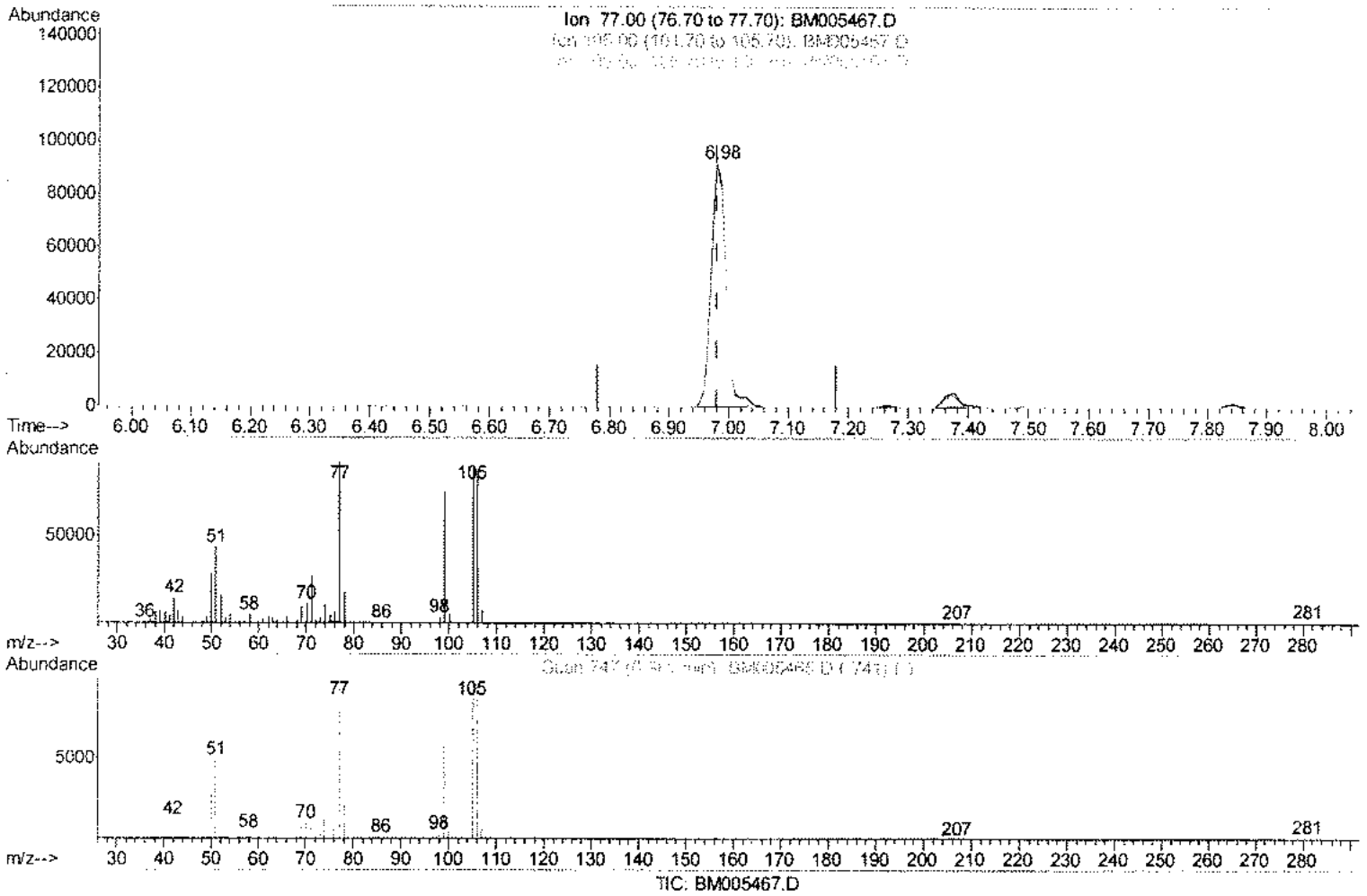

(4) Benzaldehyde

6.981min (-0.000) 63.26ng/ul m

response 155523

U.M 05/20/16

Ion	Exp%	Act%
77.00	100	100
105.00	97.00	96.87
106.00	97.40	95.54
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:05:39 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08042

Manual Integrations APPROVED
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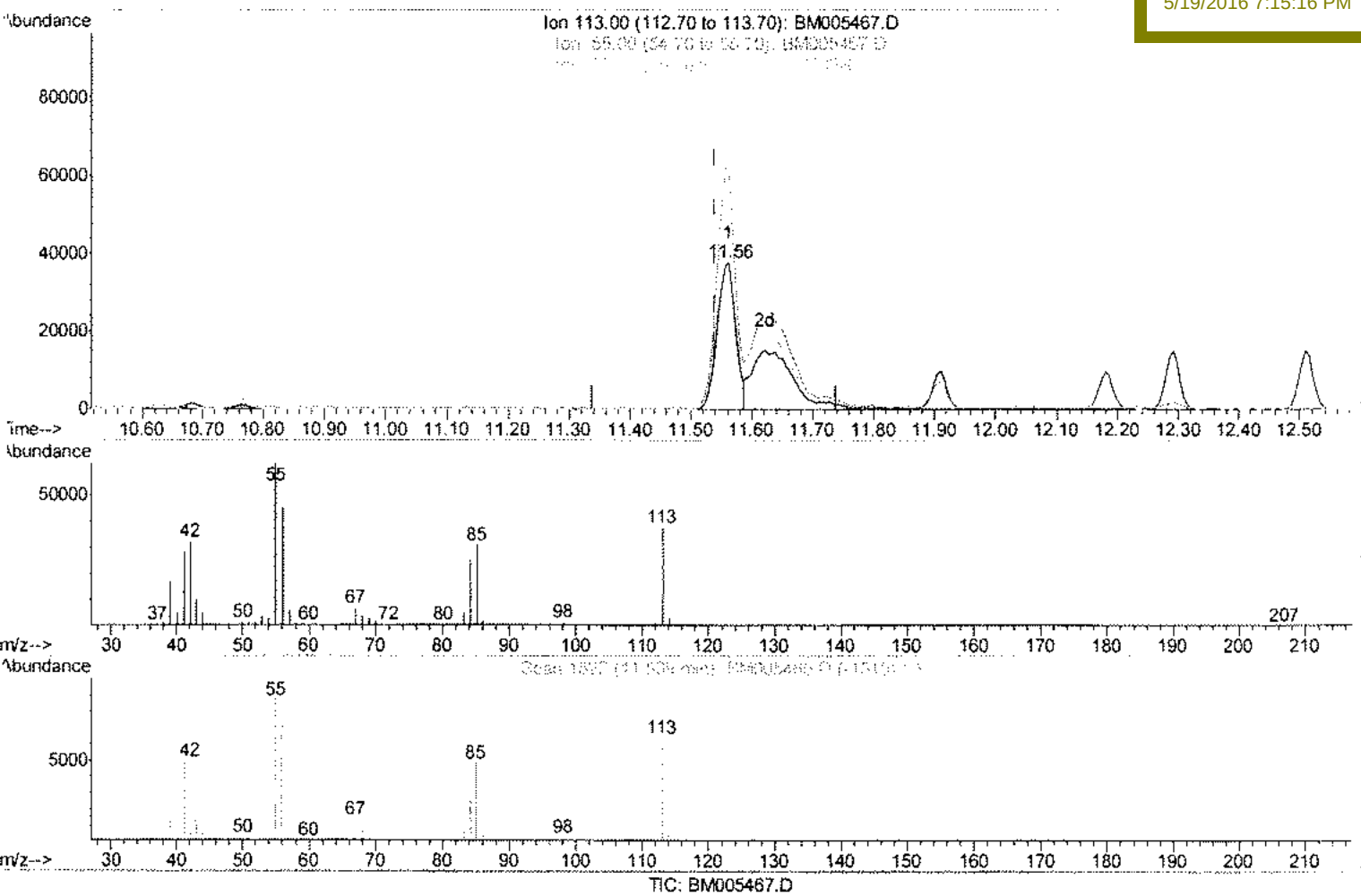
5/19/2016 7:15:16 PM



(32) Caprolactam

11.563min (+0.023) 44.85ng/ul

response 78572

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	164.37
56.00	120.80	119.23
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:05:39 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD08042

Manual Integrations APPROVED
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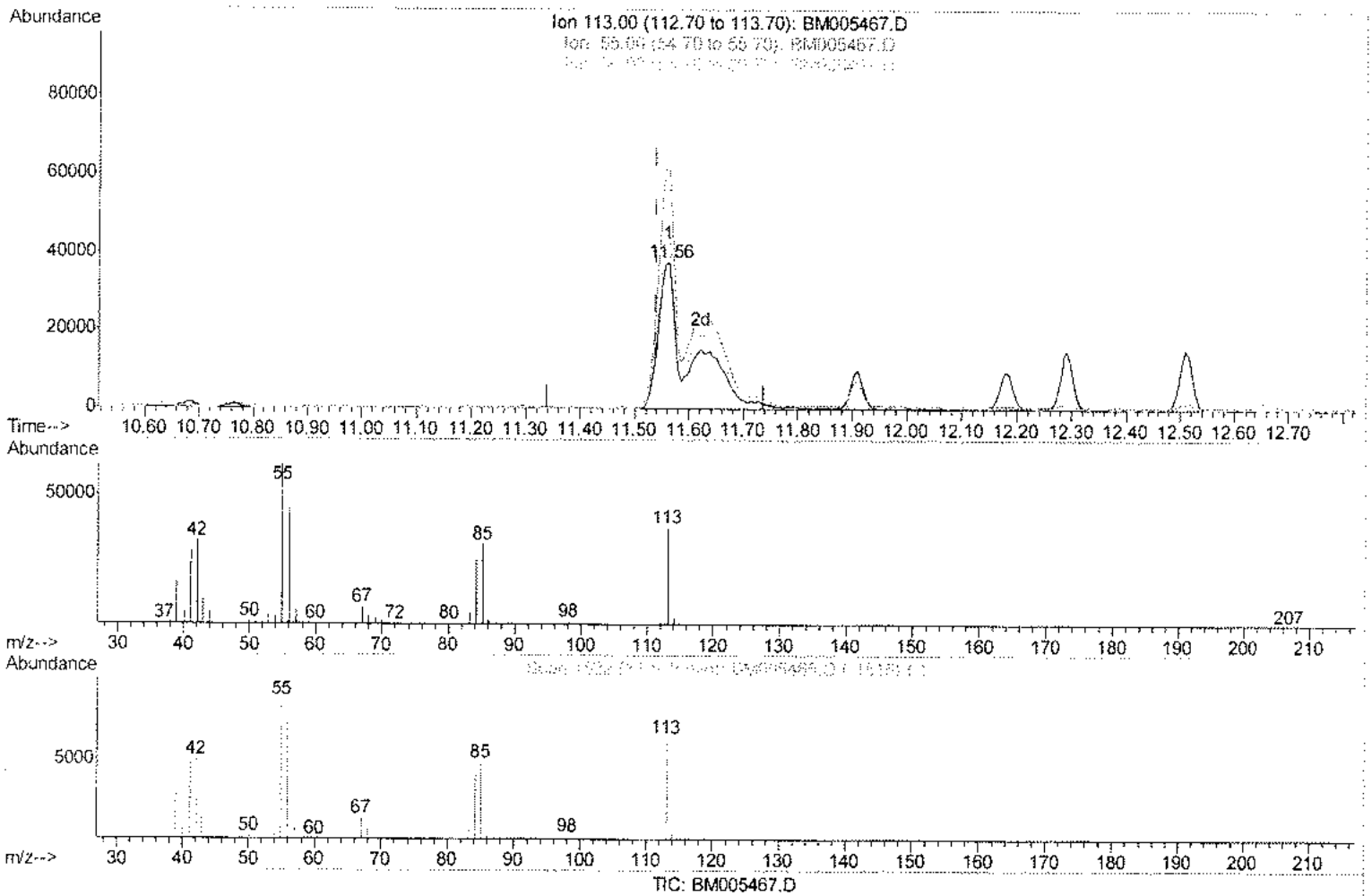
5/19/2016 7:15:16 PM



(32) Caprolactam

11.563min (+0.023) 86.97ng/ul m > L' M 05/20/16

response 152369

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	164.37
56.00	120.80	119.23
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:11:21 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD08042

Manual Integrations APPROVED
umangi
5/19/2016 7:15:16 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	55950	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	305626	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	202037	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.21	188	515703	20.00	ng/ul	0.00
75) Chrysene-d12	21.39	240	630021	20.00	ng/ul	0.00
83) Perylene-d12	23.67	264	754832	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	39199	32.94	ng/uL	0.00
5) Phenol-d5	7.00	99	462963	91.23	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	241050	83.27	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	350461	91.44	ng/ul	0.00
13) 4-Methylphenol-d8	8.54	113	391523	93.35	ng/ul	0.00
19) Nitrobenzene-d5	9.00	128	182516	83.65	ng/ul	0.00
22) 2-Nitrophenol-d4	9.72	143	203664	82.43	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.25	165	401045	87.34	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	392659	71.05	ng/ul	0.00
43) Dimethylphthalate-d6	13.89	166	1296732	80.07	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	1573235	82.83	ng/ul	0.00
51) 4-Nitrophenol-d4	14.66	143	284507	96.24	ng/ul	0.01
57) Fluorene-d10	15.46	176	1102845	78.87	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.58	200	242005	83.42	ng/ul	0.01
70) Anthracene-d10	17.31	188	1796595	78.81	ng/ul	0.00
76) Pyrene-d10	19.60	212	2133013	73.34	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.53	264	2670847	79.94	ng/ul	0.01
Target Compounds						Qvalue
2) 1,4-Dioxane	3.35	88	45963	21.19	ng/uL	98
4) Benzaldehyde	6.98	77	155523m	63.26	ng/ul	
6) Phenol	7.03	94	481893	91.88	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.27	93	336752	85.29	ng/ul	98
10) 2-Chlorophenol	7.40	128	359484	91.70	ng/ul	99
11) 2-Methylphenol	8.27	108	380239	93.80	ng/ul	98
12) 2,2'-oxybis(1-Chloropropan	8.37	45	468245	87.42	ng/ul	99
14) Acetophenone	8.66	105	563644	90.70	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.65	70	302857	93.28	ng/ul	96
16) 4-Methylphenol	8.60	108	415365	92.33	ng/ul	98
17) Hexachloroethane	8.92	117	124967	84.71	ng/ul	99
20) Nitrobenzene	9.04	77	443464	81.18	ng/ul	96
21) Isophorone	9.56	82	902806	85.11	ng/ul	98
23) 2-Nitrophenol	9.75	139	224462	84.32	ng/ul	99
24) 2,4-Dimethylphenol	9.80	107	461941	81.80	ng/ul	99
25) Bis(2-Chloroethoxy)methane	10.05	93	520925	78.85	ng/ul	100
27) 2,4-Dichlorophenol	10.27	162	400335	85.13	ng/ul	98
28) Naphthalene	10.68	128	1209225	78.64	ng/ul	98
30) 4-Chloroaniline	10.79	127	425388	75.48	ng/ul	98
31) Hexachlorobutadiene	10.97	225	217631	77.87	ng/ul	99
32) Caprolactam	11.56	113	152369m	86.97	ng/ul	
33) 4-Chloro-3-methylphenol	11.91	107	476284	84.47	ng/ul	97
34) 2-Methylnaphthalene	12.29	142	949236	82.53	ng/ul	99

U.M 05/20/16

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Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM051816\
Data File : BM005467.D
Acq On : 18 May 2016 12:31
Operator : UM/SJ
Sample : SSTD08042
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 13:11:21 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD08042

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.66	216	488801	79.53 ng/ul	99
37) Hexachlorocyclopentadiene	12.64	237	293268	93.40 ng/ul	96
38) 2,4,6-Trichlorophenol	12.90	196	350269	85.57 ng/ul	95
39) 2,4,5-Trichlorophenol	12.97	196	373810	82.30 ng/ul	99
40) 1,1'-Biphenyl	13.30	154	1268779	79.27 ng/ul	100
41) 2-Chloronaphthalene	13.34	162	984081	81.32 ng/ul	98
42) 2-Nitroaniline	13.55	65	335567	90.07 ng/ul	94
44) Dimethylphthalate	13.93	163	1303236	80.54 ng/ul	100
45) 2,6-Dinitrotoluene	14.05	165	287017	89.94 ng/ul#	90
47) Acenaphthylene	14.19	152	1588197	79.03 ng/ul	100
48) 3-Nitroaniline	14.37	138	291378	85.66 ng/ul	99
49) Acenaphthene	14.53	153	1070838	80.86 ng/ul	98
50) 2,4-Dinitrophenol	14.57	184	176596	96.19 ng/ul	95
52) 4-Nitrophenol	14.68	109	253577	103.17 ng/ul	92
53) Dibenzofuran	14.87	168	1551805	80.76 ng/ul	99
54) 2,4-Dinitrotoluene	14.83	165	432093	90.80 ng/ul	97
55) 2,3,4,6-Tetrachlorophenol	15.09	232	365581	94.68 ng/ul#	99
56) Diethylphthalate	15.30	149	1396500	85.43 ng/ul	100
58) Fluorene	15.52	166	1203030	80.08 ng/ul	99
59) 4-Chlorophenyl-phenylether	15.52	204	577470	77.58 ng/ul	99
60) 4-Nitroaniline	15.54	138	336701	93.38 ng/ul	94
63) 4,6-Dinitro-2-methylphenol	15.59	198	264174	86.66 ng/ul#	93
64) N-Nitrosodiphenylamine	15.73	169	1127913	79.87 ng/ul	100
65) 4-Bromophenyl-phenylether	16.41	248	411685	83.27 ng/ul	96
66) Hexachlorobenzene	16.52	284	467177	84.24 ng/ul	96
67) Atrazine	16.68	200	414930	80.51 ng/ul	98
68) Pentachlorophenol	16.86	266	334647	108.60 ng/ul	97
69) Phenanthrene	17.26	178	2216225	81.73 ng/ul	99
71) Anthracene	17.34	178	2163497	80.03 ng/ul	100
72) Carbazole	17.61	167	2078260	87.38 ng/ul	100
73) Di-n-butylphthalate	18.19	149	2520425	86.88 ng/ul	100
74) Fluoranthene	19.26	202	2677423	89.12 ng/ul	99
77) Pyrene	19.63	202	2733557	74.81 ng/ul	99
78) Butylbenzylphthalate	20.53	149	1272841	83.89 ng/ul	98
79) 3,3'-Dichlorobenzidine	21.30	252	967127	85.39 ng/ul	98
80) Benzo(a)anthracene	21.37	228	2862289	78.98 ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.32	149	1715112	81.37 ng/ul#	98
82) Chrysene	21.43	228	2700090	78.54 ng/ul	98
84) Di-n-octyl phthalate	22.21	149	3401467	77.15 ng/ul	99
85) Benzo(b)fluoranthene	22.99	252	3272930	74.18 ng/ul	98
86) Benzo(k)fluoranthene	23.04	252	3140773	75.61 ng/ul	99
88) Benzo(a)pyrene	23.59	252	3246294	77.79 ng/ul	99
89) Indeno(1,2,3-cd)pyrene	26.00	276	4207632	92.41 ng/ul	96
90) Dibenzo(a,h)anthracene	26.03	278	3369962	88.44 ng/ul	98
91) Benzo(g,h,i)perylene	26.72	276	3771725	97.80 ng/ul	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005468.D
Acq On : 18 May 2016 13:53
Operator : UM/SJ
Sample : SSTD16043
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:41:25 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16043

Manual Integrations APPROVED
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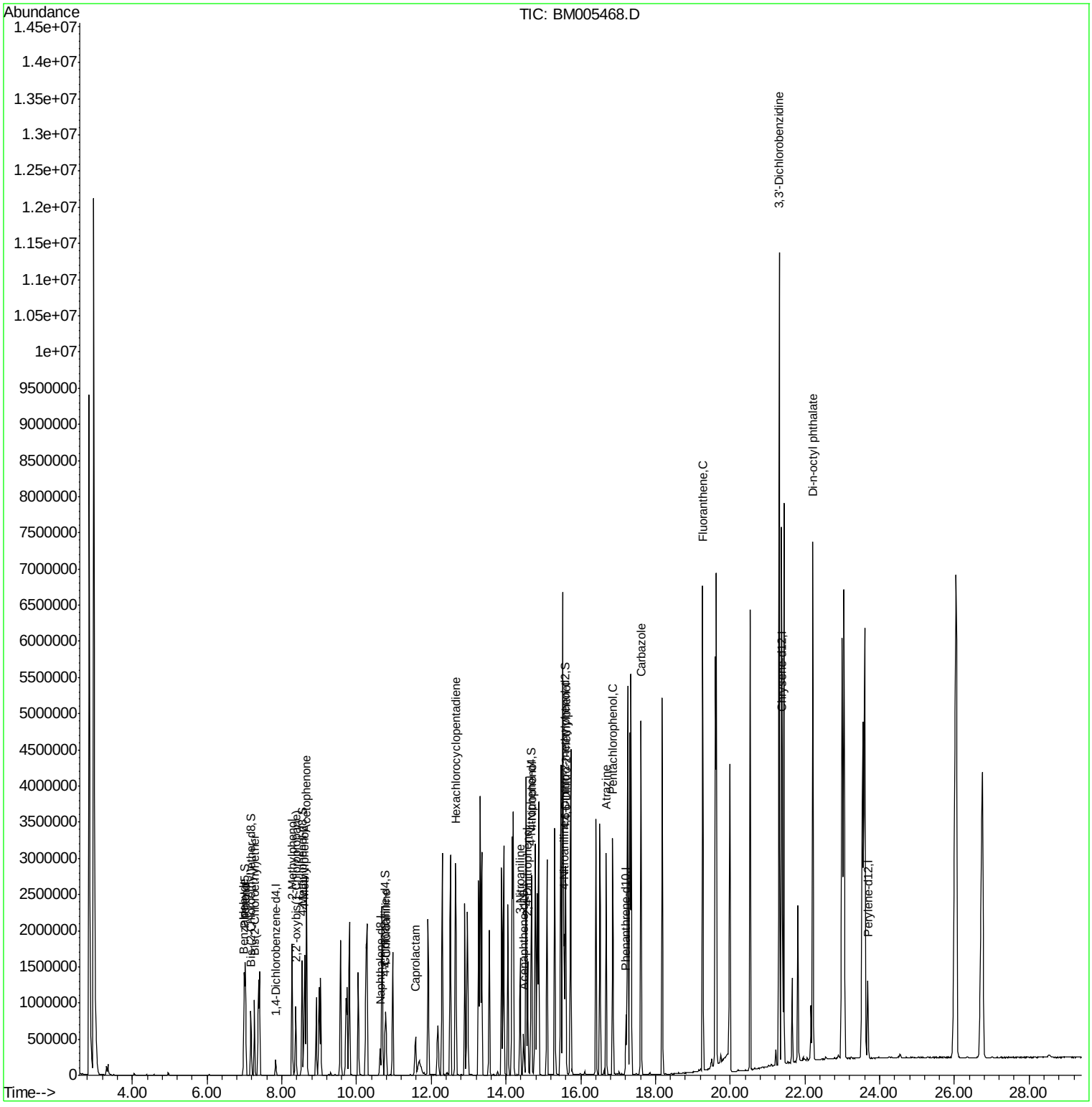

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005468.D
Acq On : 18 May 2016 13:53
Operator : UM/SJ
Sample : SSTD16043
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:41:25 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16043

Manual Integrations APPROVED
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5/19/2016 7:15:21 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	54777	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	296832	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	196777	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.22	188	521391	20.00	ng/ul	0.00
75) Chrysene-d12	21.40	240	616339	20.00	ng/ul	0.01
83) Perylene-d12	23.69	264	781263	20.00	ng/ul	0.02
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0d	0.00	ng/uL	
5) Phenol-d5	7.00	99	780753	157.15	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	399775	141.05	ng/ul	0.00
9) 2-Chlorophenol-d4	0.00	132	0d	0.00	ng/ul	
13) 4-Methylphenol-d8	8.55	113	654244	159.33	ng/ul	0.01
19) Nitrobenzene-d5	0.00	128	0d	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0d	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0d	0.00	ng/ul	
29) 4-Chloroaniline-d4	10.76	131	348513	64.93	ng/ul	0.00
43) Dimethylphthalate-d6	0.00	166	0d	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0d	0.00	ng/ul	
51) 4-Nitrophenol-d4	14.67	143	479471	166.53	ng/ul	0.02
57) Fluorene-d10	0.00	176	0d	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	15.59	200	420938	143.52	ng/ul	0.02
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0d	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	
Target Compounds						Qvalue
4) Benzaldehyde	6.98	77	207962	86.40	ng/ul	98
6) Phenol	7.03	94	808791	157.51	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.27	93	558452	144.46	ng/ul	98
11) 2-Methylphenol	8.27	108	639273	161.07	ng/ul	96
12) 2,2'-oxybis(1-Chloropropan	8.37	45	769114	146.67	ng/ul	99
14) Acetophenone	8.66	105	915224	150.43	ng/ul	98
16) 4-Methylphenol	8.62	108	693163	157.38	ng/ul	94
30) 4-Chloroaniline	10.79	127	387535	70.80	ng/ul	100
32) Caprolactam	11.58	113	261394m	153.62	ng/ul	
37) Hexachlorocyclopentadiene	12.65	237	489487	160.06	ng/ul	96
48) 3-Nitroaniline	14.38	138	407606	123.03	ng/ul	99
50) 2,4-Dinitrophenol	14.58	184	327570	183.19	ng/ul	97
52) 4-Nitrophenol	14.69	109	431881	180.42	ng/ul	90
60) 4-Nitroaniline	15.56	138	578382	164.70	ng/ul	92
63) 4,6-Dinitro-2-methylphenol	15.60	198	451055	146.35	ng/ul#	91
67) Atrazine	16.69	200	581614	111.63	ng/ul	98
68) Pentachlorophenol	16.86	266	559987	179.75	ng/ul	97
72) Carbazole	17.62	167	3362795	139.84	ng/ul	99
74) Fluoranthene	19.27	202	4226299	139.14	ng/ul	97
79) 3,3'-Dichlorobenzidine	21.32	252	1397942	126.17	ng/ul#	99
84) Di-n-octyl phthalate	22.22	149	5330543	116.81	ng/ul	99

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005468.D
Acq On : 18 May 2016 13:53
Operator : UM/SJ
Sample : SSTD16043
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:41:25 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16043

Manual Integrations APPROVED
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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\Data\BM051816\
Data File : BM005468.D
Acq On : 18 May 2016 13:53
Operator : UM/SJ
Sample : SSTD16043
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:41:25 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16043

Manual Integrations APPROVED
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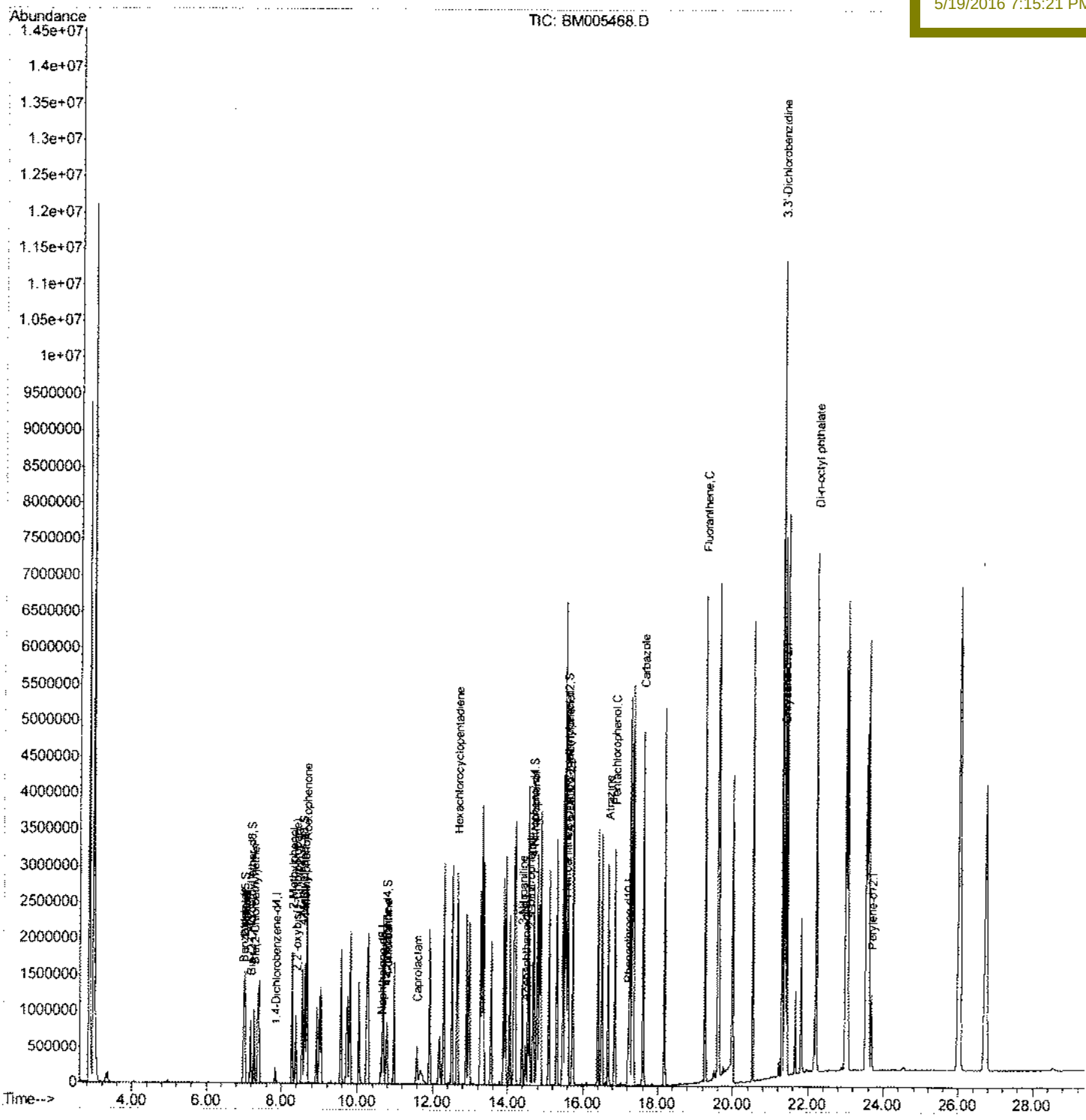
5/19/2016 7:15:21 PM



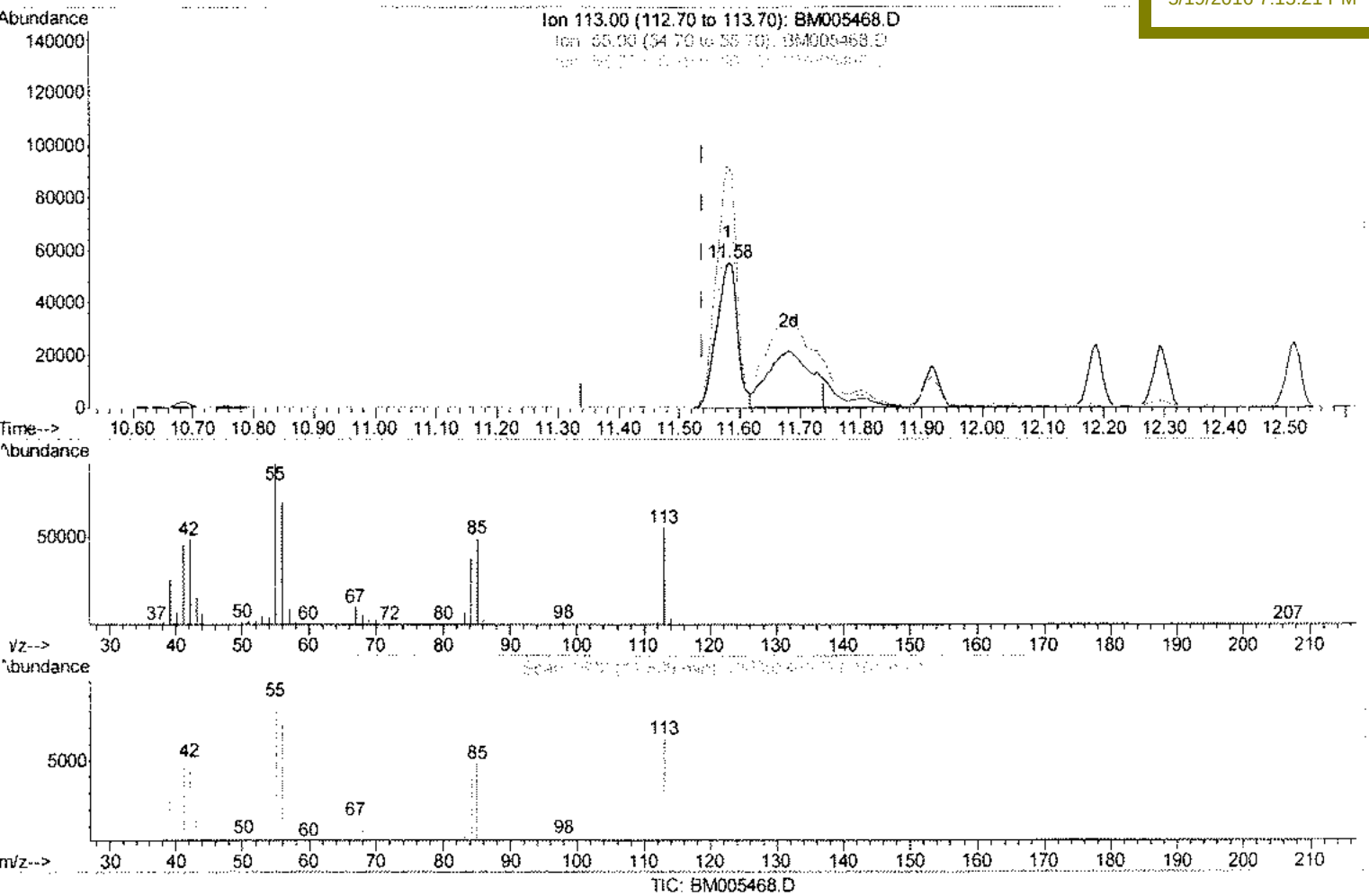
Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA M\Data\BM051816\
Data File : BM005468.D
Acq On : 18 May 2016 13:53
Operator : UM/SJ
Sample : SSTD16043
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:39:06 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16043

Manual Integrations APPROVED
umangi
5/19/2016 7:15:21 PM



(32) Caprolactam

11.581min (+0.041) 76.86ng/ul

response 130778

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	167.34
56.00	120.80	126.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\HPCHEM1\BNA M\Data\BM051816\
Data File : BM005468.D
Acq On : 18 May 2016 13:53
Operator : UM/SJ
Sample : SSTD16043
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:39:06 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SSTD16043

Manual Integrations APPROVED
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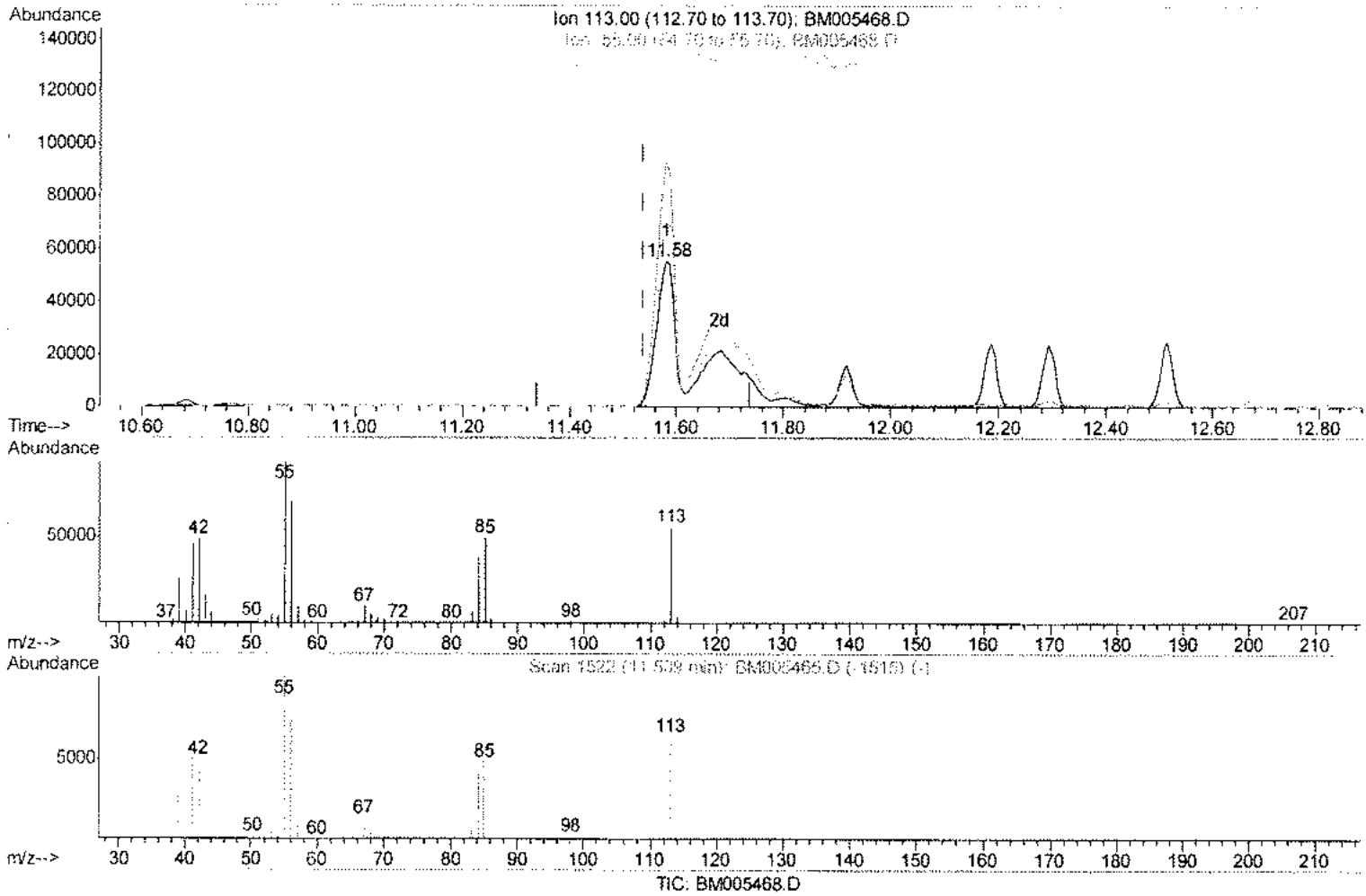
5/19/2016 7:15:21 PM



(32) Caprolactam

11.581min (+0.041) 153.62ng/ul m > U.M 05/20/16

response 261394

Ion	Exp%	Act%
113.00	100	100
55.00	168.20	167.34
56.00	120.80	126.42
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\Data\BM051816\
Data File : BM005468.D
Acq On : 18 May 2016 13:53
Operator : UM/SJ
Sample : SSTD16043
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:41:25 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Instrument : BNA_M
ClientSampleId : SSTD16043

Manual Integrations APPROVED
umangi
5/19/2016 7:15:21 PM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	54777	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	296832	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	196777	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.22	188	521391	20.00	ng/ul	0.00
75) Chrysene-d12	21.40	240	616339	20.00	ng/ul	0.01
83) Perylene-d12	23.69	264	781263	20.00	ng/ul	0.02
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0d	0.00	ng/uL	
5) Phenol-d5	7.00	99	780753	157.15	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	399775	141.05	ng/ul	0.00
9) 2-Chlorophenol-d4	0.00	132	0d	0.00	ng/ul	
13) 4-Methylphenol-d8	8.55	113	654244	159.33	ng/ul	0.01
19) Nitrobenzene-d5	0.00	128	0d	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0d	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0d	0.00	ng/ul	
29) 4-Chloroaniline-d4	10.76	131	348513	64.93	ng/ul	0.00
43) Dimethylphthalate-d6	0.00	166	0d	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0d	0.00	ng/ul	
51) 4-Nitrophenol-d4	14.67	143	479471	166.53	ng/ul	0.02
57) Fluorene-d10	0.00	176	0d	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	15.59	200	420938	143.52	ng/ul	0.02
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0d	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	
Target Compounds						Qvalue
4) Benzaldehyde	6.98	77	207962	86.40	ng/ul	98
6) Phenol	7.03	94	808791	157.51	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.27	93	558452	144.46	ng/ul	98
11) 2-Methylphenol	8.27	108	639273	161.07	ng/ul	96
12) 2,2'-oxybis(1-Chloropropan	8.37	45	769114	146.67	ng/ul	99
14) Acetophenone	8.66	105	915224	150.43	ng/ul	98
16) 4-Methylphenol	8.62	108	693163	157.38	ng/ul	94
30) 4-Chloroaniline	10.79	127	387535	70.80	ng/ul	100
32) Caprolactam	11.58	113	261394m	153.62	ng/ul	
37) Hexachlorocyclopentadiene	12.65	237	489487	160.06	ng/ul	96
48) 3-Nitroaniline	14.38	138	407606	123.03	ng/ul	99
50) 2,4-Dinitrophenol	14.58	184	327570	183.19	ng/ul	97
52) 4-Nitrophenol	14.69	109	431881	180.42	ng/ul	90
60) 4-Nitroaniline	15.56	138	578382	164.70	ng/ul	92
63) 4,6-Dinitro-2-methylphenol	15.60	198	451055	146.35	ng/ul#	91
67) Atrazine	16.69	200	581614	111.63	ng/ul	98
68) Pentachlorophenol	16.86	266	559987	179.75	ng/ul	97
72) Carbazole	17.62	167	3362795	139.84	ng/ul	99
74) Fluoranthene	19.27	202	4226299	139.14	ng/ul	97
79) 3,3'-Dichlorobenzidine	21.32	252	1397942	126.17	ng/ul#	99
84) Di-n-octyl phthalate	22.22	149	5330543	116.81	ng/ul	99

U.M 05/20/16

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\Data\BM051816\
Data File : BM005468.D
Acq On : 18 May 2016 13:53
Operator : UM/SJ
Sample : SSTD16043
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 14:41:25 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 11:54:13 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Instrument :
BNA_M
ClientSampleId :
SSTD16043

Manual Integrations APPROVED
umangi
5/19/2016 7:15:21 PM

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/18/2016 Time: 14:29

Lab File ID: BM005469.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02044 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
1,4-Dioxane	0.581	0.583	0.01	0.3	± 40.0
Benzaldehyde	0.935	1.161	0.10	24.2	± 40.0
Phenol	2.019	1.997	0.08	-1.1	± 20.0
Bis(2-Chloroethyl)ether	1.460	1.487	0.10	1.8	± 20.0
2-Chlorophenol	1.518	1.477	0.20	-2.7	± 20.0
2-Methylphenol	1.570	1.558	0.01	-0.8	± 20.0
2,2-oxybis(1-Chloropropane)	2.058	2.048	0.01	-0.5	± 25.0
Acetophenone	2.489	2.549	0.06	2.4	± 20.0
4-Methylphenol	1.763	1.751	0.01	-0.7	± 20.0
N-Nitroso-di-n-propylamine	1.393	1.346	0.08	-3.4	± 25.0
Hexachloroethane	0.554	0.534	0.10	-3.6	± 20.0
Nitrobenzene	0.359	0.349	0.09	-2.8	± 20.0
Isophorone	0.734	0.718	0.10	-2.2	± 20.0
2-Nitrophenol	0.170	0.169	0.06	-0.6	± 20.0
2,4-Dimethylphenol	0.378	0.379	0.05	0.3	± 25.0
Bis(2-Chloroethoxy)methane	0.435	0.433	0.08	-0.5	± 20.0
2,4-Dichlorophenol	0.316	0.318	0.06	0.6	± 20.0
Naphthalene	1.015	1.002	0.20	-1.3	± 20.0
4-Chloroaniline	0.382	0.461	0.01	20.7	± 40.0
Hexachlorobutadiene	0.180	0.180	0.04	0.0	± 20.0
Caprolactam	0.121	0.121	0.01	0.0	± 30.0
4-Chloro-3-methylphenol	0.390	0.387	0.04	-0.8	± 20.0
2-Methylnaphthalene	0.799	0.794	0.10	-0.6	± 20.0
Hexachlorocyclopentadiene	0.337	0.325	0.01	-3.6	± 40.0
2,4,6-Trichlorophenol	0.421	0.417	0.09	-0.9	± 20.0
2,4,5-Trichlorophenol	0.461	0.466	0.10	1.1	± 20.0
1,1-Biphenyl	1.603	1.587	0.20	-1.0	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/18/2016 Time: 14:29

Lab File ID: BM005469.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02044 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
2-Chloronaphthalene	1.232	1.211	0.30	-1.7	± 20.0
2-Nitroaniline	0.389	0.373	0.06	-4.1	± 25.0
Dimethylphthalate	1.676	1.670	0.30	-0.4	± 20.0
2,6-Dinitrotoluene	0.323	0.317	0.08	-1.9	± 20.0
Acenaphthylene	2.010	2.026	0.40	0.8	± 20.0
3-Nitroaniline	0.344	0.370	0.01	7.6	± 25.0
Acenaphthene	1.373	1.366	0.20	-0.5	± 20.0
2,4-Dinitrophenol	0.188	0.162	0.01	-13.8	± 50.0
4-Nitrophenol	0.302	0.308	0.01	2.0	± 40.0
Dibenzofuran	2.003	1.992	0.30	-0.5	± 20.0
2,4-Dinitrotoluene	0.490	0.495	0.07	1.0	± 20.0
Diethylphthalate	1.774	1.760	0.30	-0.8	± 20.0
Fluorene	1.657	1.666	0.20	0.5	± 20.0
4-Chlorophenyl-phenylether	0.797	0.811	0.10	1.8	± 20.0
4-Nitroaniline	0.403	0.416	0.01	3.2	± 40.0
4,6-Dinitro-2-methylphenol	0.115	0.107	0.01	-7.0	± 30.0
N-Nitrosodiphenylamine	0.567	0.561	0.10	-1.1	± 20.0
4-Bromophenyl-phenylether	0.202	0.200	0.07	-1.0	± 20.0
1,2,4,5-Tetrachlorobenzene	0.607	0.598	0.10	-1.5	± 20.0
Hexachlorobenzene	0.235	0.233	0.05	-0.9	± 20.0
Atrazine	0.203	0.222	0.01	9.4	± 25.0
Pentachlorophenol	0.151	0.147	0.01	-2.6	± 40.0
Phenanthrene	1.138	1.115	0.20	-2.0	± 20.0
Anthracene	1.125	1.130	0.20	0.4	± 20.0
Carbazole	1.019	1.081	0.05	6.1	± 20.0
Di-n-butylphthalate	1.262	1.233	0.50	-2.3	± 20.0
Fluoranthene	1.331	1.427	0.10	7.2	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/18/2016 Time: 14:29

Lab File ID: BM005469.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02044 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
Pyrene	1.072	1.049	0.40	-2.1	± 25.0
Butylbenzylphthalate	0.455	0.437	0.10	-4.0	± 25.0
3,3-Dichlorobenzidine	0.383	0.415	0.01	8.4	± 40.0
Benzo(a)anthracene	1.175	1.172	0.30	-0.3	± 20.0
Chrysene	1.112	1.103	0.20	-0.8	± 20.0
Bis(2-ethylhexyl)phthalate	0.681	0.682	0.20	0.1	± 25.0
Di-n-octyl phthalate	1.062	1.076	0.01	1.3	± 40.0
Benzo(b)fluoranthene	1.145	1.206	0.01	5.3	± 25.0
Benzo(k)fluoranthene	1.112	1.071	0.01	-3.7	± 25.0
Benzo(a)pyrene	1.137	1.157	0.01	1.8	± 20.0
Indeno(1,2,3-cd)pyrene	1.498	1.522	0.01	1.6	± 25.0
Dibenzo(a,h)anthracene	1.244	1.269	0.01	2.0	± 25.0
Benzo(g,h,i)perylene	1.298	1.312	0.01	1.1	± 30.0
2,3,4,6-Tetrachlorophenol	0.436	0.438	0.04	0.5	± 20.0
1,4-Dioxane-d8	0.520	0.470	0.01	-9.6	± 25.0
Phenol-d5	1.921	1.890	0.01	-1.6	± 25.0
Bis-(2-Chloroethyl)ether-d8	1.052	1.072	0.10	1.9	± 20.0
2-Chlorophenol-d4	1.476	1.431	0.20	-3.0	± 20.0
4-Methylphenol-d8	1.636	1.599	0.01	-2.3	± 20.0
Nitrobenzene-d5	0.144	0.140	0.05	-2.8	± 20.0
2-Nitrophenol-d4	0.157	0.153	0.05	-2.5	± 20.0
2,4-Dichlorophenol-d3	0.312	0.309	0.06	-1.0	± 20.0
4-Chloroaniline-d4	0.359	0.435	0.01	21.2	± 40.0
Dimethylphthalate-d6	1.644	1.628	0.30	-1.0	± 20.0
Acenaphthylene-d8	1.941	1.938	0.40	-0.2	± 20.0
4-Nitrophenol-d4	0.337	0.342	0.01	1.5	± 40.0
Fluorene-d10	1.451	1.452	0.10	0.1	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/18/2016 Time: 14:29

Lab File ID: BM005469.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02044 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
4,6-Dinitro-2-methylphenol-d2	0.105	0.095	0.01	-9.5	± 30.0
Anthracene-d10	0.920	0.906	0.30	-1.5	± 20.0
Pyrene-d10	0.804	0.797	0.30	-0.9	± 25.0
Benzo(a)pyrene-d12	0.894	0.892	0.01	-0.2	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/18/2016 Time: 23:21

Lab File ID: BM005483.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02045 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
1,4-Dioxane	0.581	0.560	0.01	-3.6	± 40.0
Benzaldehyde	0.935	1.135	0.10	21.4	± 40.0
Phenol	2.019	1.954	0.08	-3.2	± 20.0
Bis(2-Chloroethyl)ether	1.460	1.413	0.10	-3.2	± 20.0
2-Chlorophenol	1.518	1.432	0.20	-5.7	± 20.0
2-Methylphenol	1.570	1.475	0.01	-6.1	± 20.0
2,2-oxybis(1-Chloropropane)	2.058	2.022	0.01	-1.7	± 25.0
Acetophenone	2.489	2.538	0.06	2.0	± 20.0
4-Methylphenol	1.763	1.688	0.01	-4.3	± 20.0
N-Nitroso-di-n-propylamine	1.393	1.263	0.08	-9.3	± 25.0
Hexachloroethane	0.554	0.550	0.10	-0.7	± 20.0
Nitrobenzene	0.359	0.353	0.09	-1.7	± 20.0
Isophorone	0.734	0.694	0.10	-5.4	± 20.0
2-Nitrophenol	0.170	0.160	0.06	-5.9	± 20.0
2,4-Dimethylphenol	0.378	0.381	0.05	0.8	± 25.0
Bis(2-Chloroethoxy)methane	0.435	0.418	0.08	-3.9	± 20.0
2,4-Dichlorophenol	0.316	0.316	0.06	0.0	± 20.0
Naphthalene	1.015	0.996	0.20	-1.9	± 20.0
4-Chloroaniline	0.382	0.460	0.01	20.4	± 40.0
Hexachlorobutadiene	0.180	0.188	0.04	4.4	± 20.0
Caprolactam	0.121	0.118	0.01	-2.5	± 30.0
4-Chloro-3-methylphenol	0.390	0.387	0.04	-0.8	± 20.0
2-Methylnaphthalene	0.799	0.793	0.10	-0.8	± 20.0
Hexachlorocyclopentadiene	0.337	0.313	0.01	-7.1	± 40.0
2,4,6-Trichlorophenol	0.421	0.407	0.09	-3.3	± 20.0
2,4,5-Trichlorophenol	0.461	0.448	0.10	-2.8	± 20.0
1,1-Biphenyl	1.603	1.573	0.20	-1.9	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/18/2016 Time: 23:21

Lab File ID: BM005483.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02045 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
2-Chloronaphthalene	1.232	1.215	0.30	-1.4	± 20.0
2-Nitroaniline	0.389	0.346	0.06	-11.1	± 25.0
Dimethylphthalate	1.676	1.667	0.30	-0.5	± 20.0
2,6-Dinitrotoluene	0.323	0.301	0.08	-6.8	± 20.0
Acenaphthylene	2.010	1.989	0.40	-1.0	± 20.0
3-Nitroaniline	0.344	0.348	0.01	1.2	± 25.0
Acenaphthene	1.373	1.346	0.20	-2.0	± 20.0
2,4-Dinitrophenol	0.188	0.159	0.01	-15.4	± 50.0
4-Nitrophenol	0.302	0.318	0.01	5.3	± 40.0
Dibenzofuran	2.003	1.992	0.30	-0.5	± 20.0
2,4-Dinitrotoluene	0.490	0.486	0.07	-0.8	± 20.0
Diethylphthalate	1.774	1.742	0.30	-1.8	± 20.0
Fluorene	1.657	1.680	0.20	1.4	± 20.0
4-Chlorophenyl-phenylether	0.797	0.824	0.10	3.4	± 20.0
4-Nitroaniline	0.403	0.404	0.01	0.2	± 40.0
4,6-Dinitro-2-methylphenol	0.115	0.101	0.01	-12.2	± 30.0
N-Nitrosodiphenylamine	0.567	0.552	0.10	-2.6	± 20.0
4-Bromophenyl-phenylether	0.202	0.196	0.07	-3.0	± 20.0
1,2,4,5-Tetrachlorobenzene	0.607	0.601	0.10	-1.0	± 20.0
Hexachlorobenzene	0.235	0.234	0.05	-0.4	± 20.0
Atrazine	0.203	0.220	0.01	8.4	± 25.0
Pentachlorophenol	0.151	0.139	0.01	-7.9	± 40.0
Phenanthrene	1.138	1.117	0.20	-1.8	± 20.0
Anthracene	1.125	1.123	0.20	-0.2	± 20.0
Carbazole	1.019	1.073	0.05	5.3	± 20.0
Di-n-butylphthalate	1.262	1.181	0.50	-6.4	± 20.0
Fluoranthene	1.331	1.456	0.10	9.4	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/18/2016 Time: 23:21

Lab File ID: BM005483.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02045 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
Pyrene	1.072	1.040	0.40	-3.0	± 25.0
Butylbenzylphthalate	0.455	0.414	0.10	-9.0	± 25.0
3,3-Dichlorobenzidine	0.383	0.402	0.01	5.0	± 40.0
Benzo(a)anthracene	1.175	1.166	0.30	-0.8	± 20.0
Chrysene	1.112	1.100	0.20	-1.1	± 20.0
Bis(2-ethylhexyl)phthalate	0.681	0.651	0.20	-4.4	± 25.0
Di-n-octyl phthalate	1.062	1.034	0.01	-2.6	± 40.0
Benzo(b)fluoranthene	1.145	1.151	0.01	0.5	± 25.0
Benzo(k)fluoranthene	1.112	1.133	0.01	1.9	± 25.0
Benzo(a)pyrene	1.137	1.146	0.01	0.8	± 20.0
Indeno(1,2,3-cd)pyrene	1.498	1.540	0.01	2.8	± 25.0
Dibenzo(a,h)anthracene	1.244	1.272	0.01	2.3	± 25.0
Benzo(g,h,i)perylene	1.298	1.328	0.01	2.3	± 30.0
2,3,4,6-Tetrachlorophenol	0.436	0.425	0.04	-2.5	± 20.0
1,4-Dioxane-d8	0.520	0.447	0.01	-14.0	± 25.0
Phenol-d5	1.921	1.825	0.01	-5.0	± 25.0
Bis-(2-Chloroethyl)ether-d8	1.052	1.048	0.10	-0.4	± 20.0
2-Chlorophenol-d4	1.476	1.371	0.20	-7.1	± 20.0
4-Methylphenol-d8	1.636	1.536	0.01	-6.1	± 20.0
Nitrobenzene-d5	0.144	0.132	0.05	-8.3	± 20.0
2-Nitrophenol-d4	0.157	0.140	0.05	-10.8	± 20.0
2,4-Dichlorophenol-d3	0.312	0.310	0.06	-0.6	± 20.0
4-Chloroaniline-d4	0.359	0.429	0.01	19.5	± 40.0
Dimethylphthalate-d6	1.644	1.614	0.30	-1.8	± 20.0
Acenaphthylene-d8	1.941	1.909	0.40	-1.6	± 20.0
4-Nitrophenol-d4	0.337	0.322	0.01	-4.5	± 40.0
Fluorene-d10	1.451	1.455	0.10	0.3	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/18/2016 Time: 23:21

Lab File ID: BM005483.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02045 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
4,6-Dinitro-2-methylphenol-d2	0.105	0.089	0.01	-15.2	± 30.0
Anthracene-d10	0.920	0.907	0.30	-1.4	± 20.0
Pyrene-d10	0.804	0.785	0.30	-2.4	± 25.0
Benzo(a)pyrene-d12	0.894	0.904	0.01	1.1	± 20.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/19/2016 Time: 08:25

Lab File ID: BM005498.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02046 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
1,4-Dioxane	0.581	0.527	0.01	-9.3	± 50.0
Benzaldehyde	0.935	1.161	0.10	24.2	± 50.0
Phenol	2.019	2.051	0.08	1.6	± 25.0
Bis(2-Chloroethyl)ether	1.460	1.408	0.10	-3.6	± 25.0
2-Chlorophenol	1.518	1.474	0.20	-2.9	± 25.0
2-Methylphenol	1.570	1.590	0.01	1.3	± 25.0
2,2-oxybis(1-Chloropropane)	2.058	2.010	0.01	-2.3	± 50.0
Acetophenone	2.489	2.585	0.06	3.9	± 25.0
4-Methylphenol	1.763	1.753	0.01	-0.6	± 25.0
N-Nitroso-di-n-propylamine	1.393	1.325	0.08	-4.9	± 25.0
Hexachloroethane	0.554	0.533	0.10	-3.8	± 25.0
Nitrobenzene	0.359	0.362	0.09	0.8	± 25.0
Isophorone	0.734	0.699	0.10	-4.8	± 25.0
2-Nitrophenol	0.170	0.169	0.06	-0.6	± 25.0
2,4-Dimethylphenol	0.378	0.388	0.05	2.6	± 50.0
Bis(2-Chloroethoxy)methane	0.435	0.409	0.08	-6.0	± 25.0
2,4-Dichlorophenol	0.316	0.324	0.06	2.5	± 25.0
Naphthalene	1.015	1.007	0.20	-0.8	± 25.0
4-Chloroaniline	0.382	0.468	0.01	22.5	± 50.0
Hexachlorobutadiene	0.180	0.200	0.04	11.1	± 25.0
Caprolactam	0.121	0.124	0.01	2.5	± 50.0
4-Chloro-3-methylphenol	0.390	0.401	0.04	2.8	± 25.0
2-Methylnaphthalene	0.799	0.814	0.10	1.9	± 25.0
Hexachlorocyclopentadiene	0.337	0.284	0.01	-15.7	± 50.0
2,4,6-Trichlorophenol	0.421	0.421	0.09	0.0	± 25.0
2,4,5-Trichlorophenol	0.461	0.483	0.10	4.8	± 25.0
1,1-Biphenyl	1.603	1.549	0.20	-3.4	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/19/2016 Time: 08:25

Lab File ID: BM005498.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02046 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
2-Chloronaphthalene	1.232	1.201	0.30	-2.5	± 25.0
2-Nitroaniline	0.389	0.368	0.06	-5.4	± 25.0
Dimethylphthalate	1.676	1.679	0.30	0.2	± 25.0
2,6-Dinitrotoluene	0.323	0.315	0.08	-2.5	± 25.0
Acenaphthylene	2.010	1.993	0.40	-0.8	± 25.0
3-Nitroaniline	0.344	0.362	0.01	5.2	± 50.0
Acenaphthene	1.373	1.360	0.20	-0.9	± 25.0
2,4-Dinitrophenol	0.188	0.181	0.01	-3.7	± 50.0
4-Nitrophenol	0.302	0.362	0.01	19.9	± 50.0
Dibenzofuran	2.003	2.005	0.30	0.1	± 25.0
2,4-Dinitrotoluene	0.490	0.500	0.07	2.0	± 25.0
Diethylphthalate	1.774	1.772	0.30	-0.1	± 25.0
Fluorene	1.657	1.706	0.20	3.0	± 25.0
4-Chlorophenyl-phenylether	0.797	0.830	0.10	4.1	± 25.0
4-Nitroaniline	0.403	0.437	0.01	8.4	± 50.0
4,6-Dinitro-2-methylphenol	0.115	0.107	0.01	-7.0	± 50.0
N-Nitrosodiphenylamine	0.567	0.548	0.10	-3.4	± 25.0
4-Bromophenyl-phenylether	0.202	0.198	0.07	-2.0	± 25.0
1,2,4,5-Tetrachlorobenzene	0.607	0.626	0.10	3.1	± 25.0
Hexachlorobenzene	0.235	0.236	0.05	0.4	± 25.0
Atrazine	0.203	0.226	0.01	11.3	± 50.0
Pentachlorophenol	0.151	0.147	0.01	-2.6	± 50.0
Phenanthrene	1.138	1.127	0.20	-1.0	± 25.0
Anthracene	1.125	1.143	0.20	1.6	± 25.0
Carbazole	1.019	1.093	0.05	7.3	± 25.0
Di-n-butylphthalate	1.262	1.186	0.50	-6.0	± 25.0
Fluoranthene	1.331	1.505	0.10	13.1	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/19/2016 Time: 08:25

Lab File ID: BM005498.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02046 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

ANALYTE	$\overline{RRF}$	RRF020	MIN RRF	%D	MAX %D
Pyrene	1.072	1.002	0.40	-6.5	± 50.0
Butylbenzylphthalate	0.455	0.404	0.10	-11.2	± 50.0
3,3-Dichlorobenzidine	0.383	0.411	0.01	7.3	± 50.0
Benzo(a)anthracene	1.175	1.168	0.30	-0.6	± 25.0
Chrysene	1.112	1.111	0.20	-0.1	± 50.0
Bis(2-ethylhexyl)phthalate	0.681	0.650	0.20	-4.6	± 50.0
Di-n-octyl phthalate	1.062	0.998	0.01	-6.0	± 50.0
Benzo(b)fluoranthene	1.145	1.144	0.01	-0.1	± 50.0
Benzo(k)fluoranthene	1.112	1.108	0.01	-0.4	± 50.0
Benzo(a)pyrene	1.137	1.143	0.01	0.5	± 50.0
Indeno(1,2,3-cd)pyrene	1.498	1.591	0.01	6.2	± 50.0
Dibenzo(a,h)anthracene	1.244	1.318	0.01	5.9	± 50.0
Benzo(g,h,i)perylene	1.298	1.392	0.01	7.2	± 50.0
2,3,4,6-Tetrachlorophenol	0.436	0.456	0.04	4.6	± 50.0
1,4-Dioxane-d8	0.520	0.422	0.01	-18.8	± 50.0
Phenol-d5	1.921	1.889	0.01	-1.7	± 25.0
Bis-(2-Chloroethyl)ether-d8	1.052	1.043	0.10	-0.9	± 25.0
2-Chlorophenol-d4	1.476	1.405	0.20	-4.8	± 25.0
4-Methylphenol-d8	1.636	1.592	0.01	-2.7	± 25.0
Nitrobenzene-d5	0.144	0.136	0.05	-5.6	± 25.0
2-Nitrophenol-d4	0.157	0.151	0.05	-3.8	± 25.0
2,4-Dichlorophenol-d3	0.312	0.314	0.06	0.6	± 25.0
4-Chloroaniline-d4	0.359	0.441	0.01	22.8	± 50.0
Dimethylphthalate-d6	1.644	1.627	0.30	-1.0	± 25.0
Acenaphthylene-d8	1.941	1.938	0.40	-0.2	± 25.0
4-Nitrophenol-d4	0.337	0.352	0.01	4.5	± 50.0
Fluorene-d10	1.451	1.484	0.10	2.3	± 25.0

FORM 7A-OR

CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: 46114 MA No.: SDG No.: H4082

Analytical Method: SVOA Level: LOW

Instrument ID: BNA_M Date Analyzed: 05/19/2016 Time: 08:25

Lab File ID: BM005498.D Init. Calib Date(s): 05/18/2016 05/18/2016

EPA Sample No.: SSTD02046 Init. Calib Time(s): 10:07 13:53

GC Column: ZB-GR ID: 0.25 (mm) Length: 30 (m)

Heated Purge: (Y/N) Purge Volume: (mL)

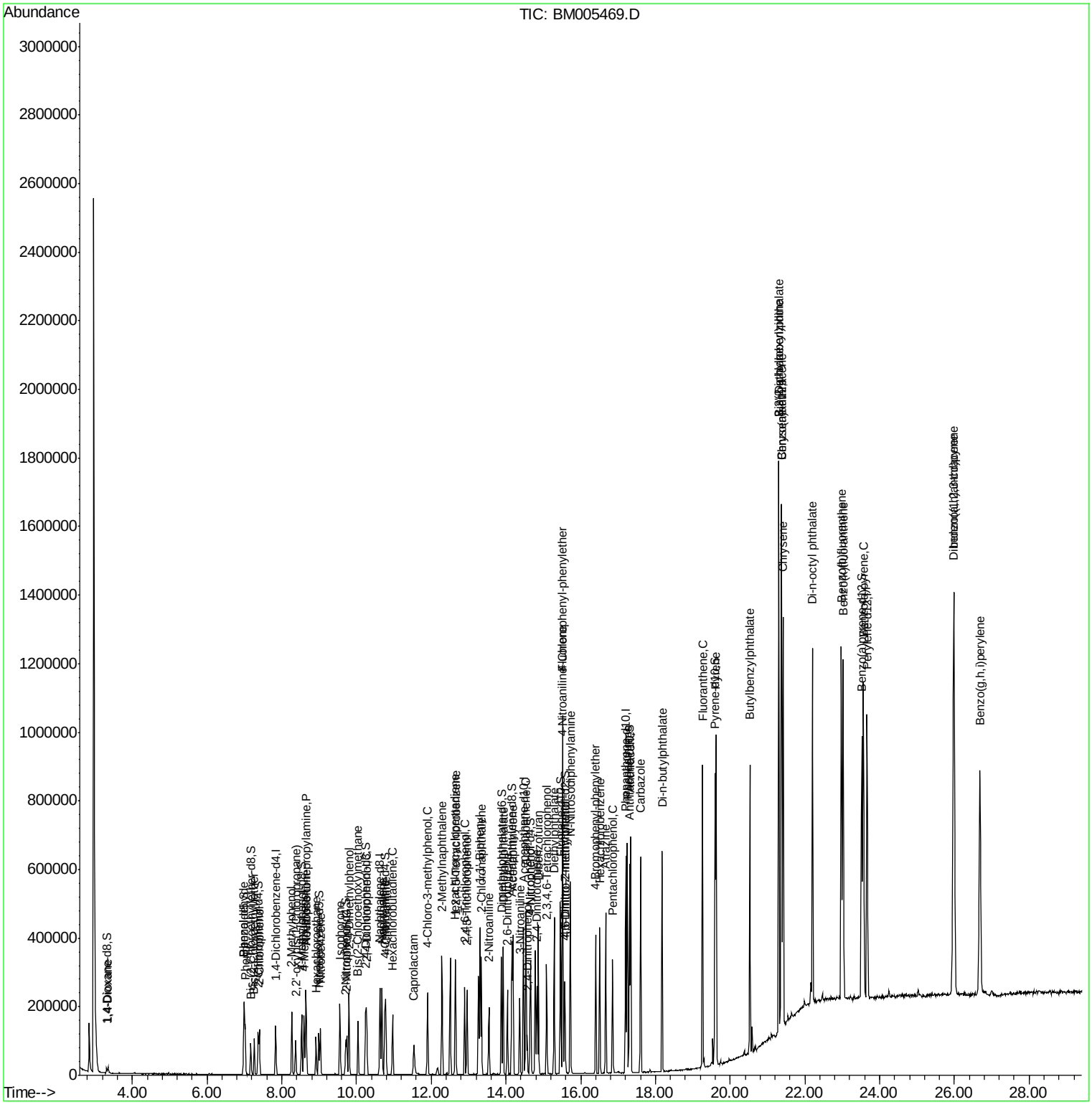
ANALYTE	$\overline{\text{RRF}}$	RRF020	MIN RRF	%D	MAX %D
4,6-Dinitro-2-methylphenol-d2	0.105	0.097	0.01	-7.6	± 50.0
Anthracene-d10	0.920	0.919	0.30	-0.1	± 25.0
Pyrene-d10	0.804	0.757	0.30	-5.8	± 50.0
Benzo(a)pyrene-d12	0.894	0.905	0.01	1.2	± 50.0

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005469.D
Acq On : 18 May 2016 14:29
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SSTD02044

Quant Time: May 18 15:29:44 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005469.D
Acq On : 18 May 2016 14:29
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02044

Quant Time: May 18 15:29:44 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	39080	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	207087	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.47	164	142063	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.21	188	375064	20.00	ng/ul	0.00
75) Chrysene-d12	21.38	240	543818	20.00	ng/ul	0.00
83) Perylene-d12	23.67	264	625096	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	7354	7.24	ng/uL	0.00
5) Phenol-d5	6.99	99	73853	19.67	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	41882	20.37	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	55922	19.39	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	62498	19.55	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	28925	19.40	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	31727	19.51	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.25	165	63966	19.79	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	90089	24.23	ng/ul	0.00
43) Dimethylphthalate-d6	13.88	166	231334	19.81	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	275370	19.97	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	48590	20.28	ng/ul	0.00
57) Fluorene-d10	15.46	176	206269	20.02	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.57	200	35559	17.99	ng/ul	0.00
70) Anthracene-d10	17.30	188	339643	19.69	ng/ul	0.00
76) Pyrene-d10	19.59	212	433645	19.83	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.52	264	557853	19.96	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.35	88	9114	8.03	ng/uL	92
4) Benzaldehyde	6.98	77	45373	24.83	ng/ul	98
6) Phenol	7.02	94	78051	19.79	ng/ul	98
8) Bis(2-Chloroethyl)ether	7.26	93	58103	20.37	ng/ul	98
10) 2-Chlorophenol	7.40	128	57712	19.46	ng/ul	98
11) 2-Methylphenol	8.27	108	60871	19.84	ng/ul	98
12) 2,2'-oxybis(1-Chloropropan	8.37	45	80018	19.90	ng/ul	99
14) Acetophenone	8.66	105	99622	20.48	ng/ul	98
15) N-Nitroso-di-n-propylamine	8.64	70	52606	19.32	ng/ul	97
16) 4-Methylphenol	8.59	108	68439	19.86	ng/ul	99
17) Hexachloroethane	8.92	117	20857	19.25	ng/ul	98
20) Nitrobenzene	9.03	77	72358	19.47	ng/ul	95
21) Isophorone	9.56	82	148786	19.57	ng/ul	96
23) 2-Nitrophenol	9.74	139	35045	19.87	ng/ul	97
24) 2,4-Dimethylphenol	9.80	107	78418	20.03	ng/ul	98
25) Bis(2-Chloroethoxy)methane	10.04	93	89603	19.90	ng/ul	100
27) 2,4-Dichlorophenol	10.27	162	65811	20.09	ng/ul	97
28) Naphthalene	10.68	128	207537	19.74	ng/ul	98
30) 4-Chloroaniline	10.79	127	95454	24.12	ng/ul	96
31) Hexachlorobutadiene	10.96	225	37328	20.07	ng/ul	97
32) Caprolactam	11.53	113	25080	20.10	ng/ul	97
33) 4-Chloro-3-methylphenol	11.90	107	80220	19.89	ng/ul	94
34) 2-Methylnaphthalene	12.29	142	164332	19.87	ng/ul	98

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005469.D
Acq On : 18 May 2016 14:29
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02044

Quant Time: May 18 15:29:44 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.66	216	85024	19.70	ng/ul	97
37) Hexachlorocyclopentadiene	12.64	237	46100	19.28	ng/ul	94
38) 2,4,6-Trichlorophenol	12.89	196	59201	19.81	ng/ul	98
39) 2,4,5-Trichlorophenol	12.96	196	66146	20.21	ng/ul	96
40) 1,1'-Biphenyl	13.30	154	225476	19.80	ng/ul	99
41) 2-Chloronaphthalene	13.34	162	172009	19.65	ng/ul	99
42) 2-Nitroaniline	13.54	65	53025	19.20	ng/ul	96
44) Dimethylphthalate	13.93	163	237242	19.92	ng/ul	99
45) 2,6-Dinitrotoluene	14.04	165	44980	19.62	ng/ul	96
47) Acenaphthylene	14.19	152	287873	20.16	ng/ul	99
48) 3-Nitroaniline	14.37	138	52541	21.50	ng/ul	99
49) Acenaphthene	14.53	153	194121	19.90	ng/ul	100
50) 2,4-Dinitrophenol	14.57	184	23030	17.24	ng/ul	93
52) 4-Nitrophenol	14.66	109	43756	20.40	ng/ul	93
53) Dibenzofuran	14.86	168	283004	19.89	ng/ul	100
54) 2,4-Dinitrotoluene	14.82	165	70291	20.21	ng/ul#	99
55) 2,3,4,6-Tetrachlorophenol	15.09	232	62267	20.11	ng/ul#	98
56) Diethylphthalate	15.29	149	250031	19.84	ng/ul	99
58) Fluorene	15.52	166	236713	20.12	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.51	204	115144	20.34	ng/ul	97
60) 4-Nitroaniline	15.53	138	59108	20.63	ng/ul	97
63) 4,6-Dinitro-2-methylphenol	15.59	198	40067	18.59	ng/ul#	89
64) N-Nitrosodiphenylamine	15.72	169	210325	19.76	ng/ul	99
65) 4-Bromophenyl-phenylether	16.40	248	74920	19.77	ng/ul	95
66) Hexachlorobenzene	16.51	284	87431	19.83	ng/ul	95
67) Atrazine	16.67	200	83112	21.81	ng/ul	98
68) Pentachlorophenol	16.85	266	55019	19.37	ng/ul	99
69) Phenanthrene	17.25	178	418227	19.60	ng/ul	100
71) Anthracene	17.34	178	423966	20.09	ng/ul	99
72) Carbazole	17.60	167	405418	21.21	ng/ul	99
73) Di-n-butylphthalate	18.18	149	462355	19.53	ng/ul	99
74) Fluoranthene	19.26	202	535378	21.45	ng/ul	98
77) Pyrene	19.62	202	570220	19.57	ng/ul	99
78) Butylbenzylphthalate	20.53	149	237783	19.22	ng/ul	97
79) 3,3'-Dichlorobenzidine	21.30	252	225618	21.67	ng/ul#	99
80) Benzo(a)anthracene	21.37	228	637546	19.95	ng/ul	100
81) Bis(2-ethylhexyl)phthalate	21.31	149	371093	20.05	ng/ul	99
82) Chrysene	21.42	228	599847	19.85	ng/ul	99
84) Di-n-octyl phthalate	22.20	149	672463	20.27	ng/ul	99
85) Benzo(b)fluoranthene	22.98	252	753603	21.07	ng/ul	99
86) Benzo(k)fluoranthene	23.02	252	669394	19.26	ng/ul	99
88) Benzo(a)pyrene	23.57	252	723236	20.35	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.98	276	951675	20.33	ng/ul	96
90) Dibenzo(a,h)anthracene	26.00	278	793205	20.40	ng/ul	98
91) Benzo(g,h,i)perylene	26.69	276	819991	20.21	ng/ul	97

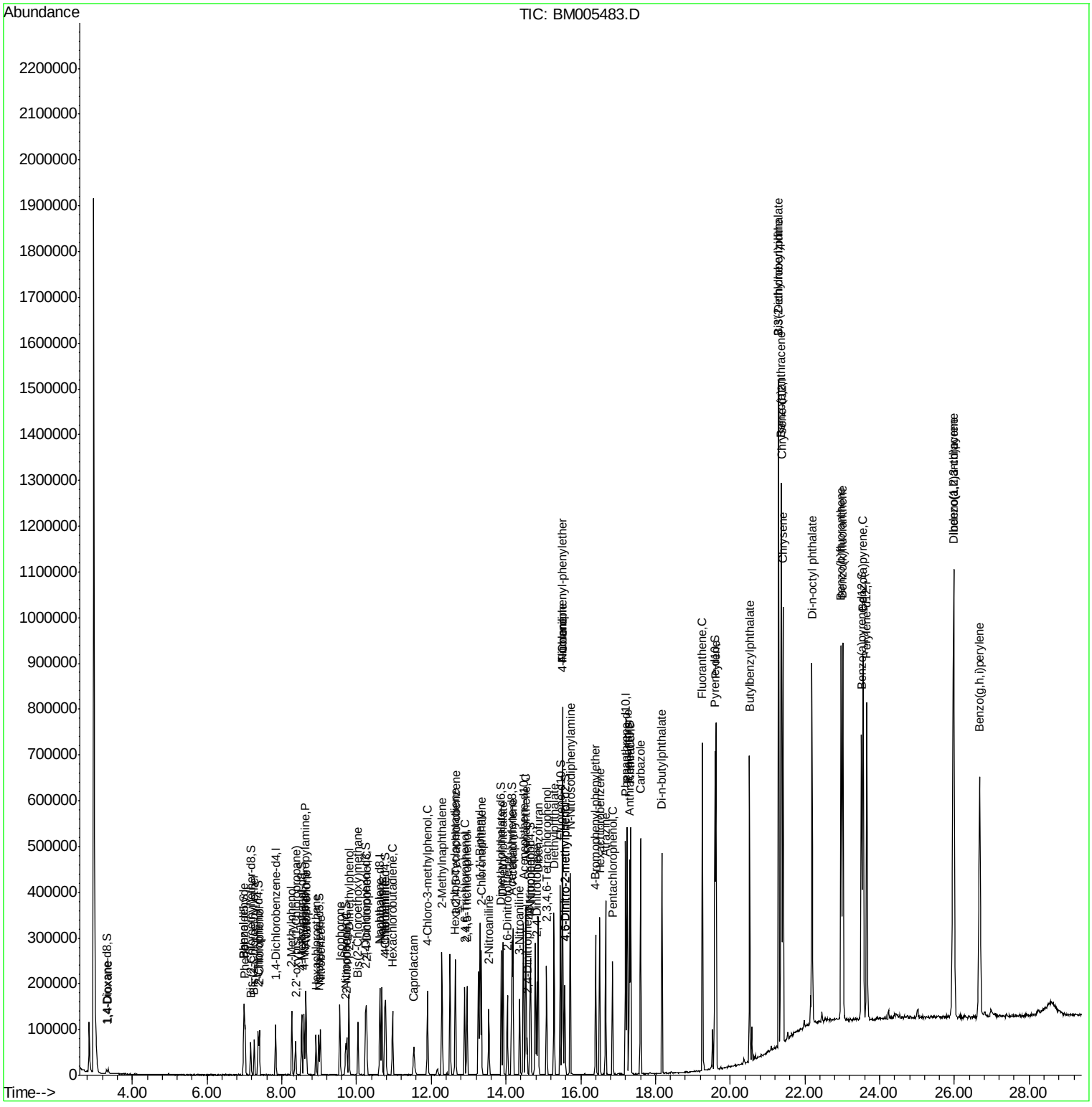
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005483.D
Acq On : 18 May 2016 23:21
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SSTD02045

Quant Time: May 19 01:46:25 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005483.D
Acq On : 18 May 2016 23:21
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02045

Quant Time: May 19 01:46:25 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	30288	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	156945	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.46	164	109856	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.20	188	294839	20.00	ng/ul	0.00
75) Chrysene-d12	21.38	240	443340	20.00	ng/ul	0.00
83) Perylene-d12	23.66	264	514428	20.00	ng/ul	-0.01
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	5410	6.88	ng/uL	0.00
5) Phenol-d5	6.99	99	55278	19.00	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	31736	19.92	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	41521	18.58	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	46536	18.78	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	20776	18.39	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	21910	17.78	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.24	165	48601	19.84	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	67280	23.88	ng/ul	0.00
43) Dimethylphthalate-d6	13.87	166	177342	19.64	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	209722	19.67	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	35367	19.09	ng/ul	0.00
57) Fluorene-d10	15.46	176	159799	20.05	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.57	200	26305	16.93	ng/ul	0.00
70) Anthracene-d10	17.30	188	267299	19.71	ng/ul	0.00
76) Pyrene-d10	19.59	212	348130	19.53	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.51	264	464902	20.21	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.35	88	6784	7.71	ng/uL	93
4) Benzaldehyde	6.98	77	34392	24.29	ng/ul	97
6) Phenol	7.02	94	59177	19.36	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.26	93	42782	19.35	ng/ul	99
10) 2-Chlorophenol	7.40	128	43384	18.88	ng/ul	97
11) 2-Methylphenol	8.27	108	44687	18.79	ng/ul	91
12) 2,2'-oxybis(1-Chloropropan	8.37	45	61241	19.65	ng/ul	99
14) Acetophenone	8.65	105	76857	20.39	ng/ul	97
15) N-Nitroso-di-n-propylamine	8.63	70	38257	18.13	ng/ul	96
16) 4-Methylphenol	8.59	108	51124	19.14	ng/ul	97
17) Hexachloroethane	8.92	117	16656	19.84	ng/ul	90
20) Nitrobenzene	9.03	77	55425	19.68	ng/ul	99
21) Isophorone	9.55	82	108878	18.90	ng/ul	98
23) 2-Nitrophenol	9.74	139	25095	18.77	ng/ul#	91
24) 2,4-Dimethylphenol	9.80	107	59860	20.18	ng/ul	99
25) Bis(2-Chloroethoxy)methane	10.04	93	65553	19.21	ng/ul	99
27) 2,4-Dichlorophenol	10.27	162	49531	19.96	ng/ul	98
28) Naphthalene	10.67	128	156358	19.62	ng/ul	98
30) 4-Chloroaniline	10.78	127	72181	24.07	ng/ul	98
31) Hexachlorobutadiene	10.96	225	29441	20.89	ng/ul	96
32) Caprolactam	11.54	113	18486	19.55	ng/ul	92
33) 4-Chloro-3-methylphenol	11.90	107	60685	19.85	ng/ul	94
34) 2-Methylnaphthalene	12.29	142	124417	19.85	ng/ul	98

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005483.D
Acq On : 18 May 2016 23:21
Operator : UM/SJ
Sample : SSTDCCC020
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02045

Quant Time: May 19 01:46:25 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.65	216	65995	19.78	ng/ul	99
37) Hexachlorocyclopentadiene	12.63	237	34345	18.58	ng/ul	92
38) 2,4,6-Trichlorophenol	12.89	196	44746	19.36	ng/ul	98
39) 2,4,5-Trichlorophenol	12.96	196	49237	19.45	ng/ul	98
40) 1,1'-Biphenyl	13.30	154	172773	19.62	ng/ul	99
41) 2-Chloronaphthalene	13.34	162	133497	19.73	ng/ul	99
42) 2-Nitroaniline	13.54	65	38064	17.82	ng/ul	94
44) Dimethylphthalate	13.92	163	183107	19.89	ng/ul	99
45) 2,6-Dinitrotoluene	14.04	165	33099	18.67	ng/ul	97
47) Acenaphthylene	14.19	152	218481	19.78	ng/ul	99
48) 3-Nitroaniline	14.36	138	38188	20.21	ng/ul	95
49) Acenaphthene	14.53	153	147899	19.61	ng/ul	99
50) 2,4-Dinitrophenol	14.57	184	17484	16.93	ng/ul	89
52) 4-Nitrophenol	14.66	109	34953	21.08	ng/ul	90
53) Dibenzofuran	14.86	168	218867	19.89	ng/ul	97
54) 2,4-Dinitrotoluene	14.82	165	53368	19.84	ng/ul	98
55) 2,3,4,6-Tetrachlorophenol	15.09	232	46729	19.51	ng/ul#	99
56) Diethylphthalate	15.29	149	191412	19.65	ng/ul	99
58) Fluorene	15.52	166	184524	20.28	ng/ul	99
59) 4-Chlorophenyl-phenylether	15.51	204	90562	20.69	ng/ul	99
60) 4-Nitroaniline	15.52	138	44342	20.02	ng/ul	95
63) 4,6-Dinitro-2-methylphenol	15.58	198	29807	17.59	ng/ul#	94
64) N-Nitrosodiphenylamine	15.72	169	162895	19.47	ng/ul	99
65) 4-Bromophenyl-phenylether	16.40	248	57865	19.43	ng/ul	94
66) Hexachlorobenzene	16.51	284	68912	19.88	ng/ul	97
67) Atrazine	16.67	200	64970	21.69	ng/ul	98
68) Pentachlorophenol	16.85	266	41102	18.41	ng/ul	98
69) Phenanthrene	17.24	178	329195	19.63	ng/ul	99
71) Anthracene	17.34	178	331098	19.96	ng/ul	98
72) Carbazole	17.60	167	316410	21.06	ng/ul	100
73) Di-n-butylphthalate	18.17	149	348112	18.71	ng/ul	100
74) Fluoranthene	19.26	202	429152	21.88	ng/ul	98
77) Pyrene	19.62	202	461229	19.42	ng/ul	97
78) Butylbenzylphthalate	20.52	149	183604	18.20	ng/ul	99
79) 3,3'-Dichlorobenzidine	21.30	252	178427	21.02	ng/ul	97
80) Benzo(a)anthracene	21.36	228	517069	19.85	ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.30	149	288834	19.14	ng/ul#	98
82) Chrysene	21.42	228	487524	19.79	ng/ul	99
84) Di-n-octyl phthalate	22.19	149	531997	19.48	ng/ul	99
85) Benzo(b)fluoranthene	22.97	252	592346	20.12	ng/ul	98
86) Benzo(k)fluoranthene	23.02	252	582889	20.38	ng/ul	99
88) Benzo(a)pyrene	23.56	252	589606	20.16	ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.97	276	792126	20.56	ng/ul	95
90) Dibenzo(a,h)anthracene	25.99	278	654407	20.45	ng/ul	97
91) Benzo(g,h,i)perylene	26.67	276	683139	20.46	ng/ul	97

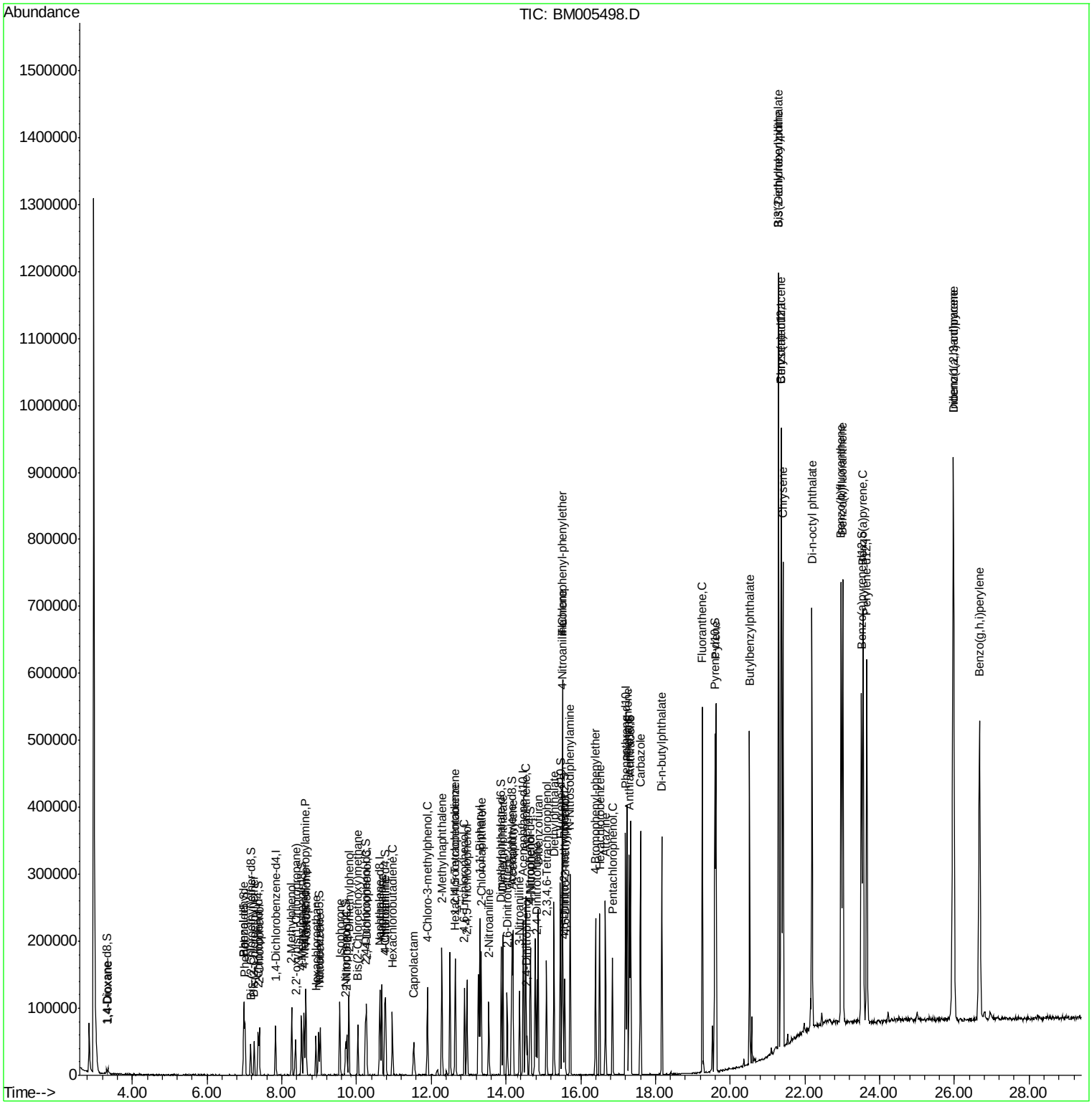
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005498.D
Acq On : 19 May 2016 08:25
Operator : UM/SJ
Sample : SSTDCCC020EC
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SSTD02046

Quant Time: May 19 08:57:15 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005498.D
Acq On : 19 May 2016 08:25
Operator : UM/SJ
Sample : SSTDCCC020EC
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02046

Quant Time: May 19 08:57:15 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	20416	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	107502	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.46	164	76368	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.20	188	210452	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	340901	20.00	ng/ul	-0.01
83) Perylene-d12	23.66	264	412895	20.00	ng/ul	-0.01
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.31	96	3450	6.50	ng/uL	0.00
5) Phenol-d5	6.99	99	38574	19.67	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	21296	19.83	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	28675	19.03	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	32494	19.45	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	14604	18.87	ng/ul	0.00
22) 2-Nitrophenol-d4	9.70	143	16252	19.25	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.24	165	33802	20.15	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	47379	24.55	ng/ul	0.00
43) Dimethylphthalate-d6	13.87	166	124235	19.79	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	147997	19.97	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	26908	20.89	ng/ul	0.00
57) Fluorene-d10	15.46	176	113319	20.46	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.56	200	20469	18.45	ng/ul	0.00
70) Anthracene-d10	17.30	188	193367	19.98	ng/ul	0.00
76) Pyrene-d10	19.59	212	258105	18.83	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.51	264	373583	20.24	ng/ul	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.35	88	4301	7.26	ng/uL#	76
4) Benzaldehyde	6.98	77	23703	24.83	ng/ul	98
6) Phenol	7.02	94	41875	20.32	ng/ul	99
8) Bis(2-Chloroethyl)ether	7.26	93	28743	19.28	ng/ul	99
10) 2-Chlorophenol	7.40	128	30094	19.43	ng/ul	97
11) 2-Methylphenol	8.27	108	32471	20.26	ng/ul	91
12) 2,2'-oxybis(1-Chloropropan	8.37	45	41043	19.54	ng/ul	97
14) Acetophenone	8.65	105	52770	20.77	ng/ul	96
15) N-Nitroso-di-n-propylamine	8.63	70	27058	19.02	ng/ul	97
16) 4-Methylphenol	8.59	108	35781	19.88	ng/ul	97
17) Hexachloroethane	8.92	117	10877	19.22	ng/ul	96
20) Nitrobenzene	9.03	77	38944	20.19	ng/ul	97
21) Isophorone	9.55	82	75184	19.05	ng/ul#	96
23) 2-Nitrophenol	9.74	139	18150	19.82	ng/ul	95
24) 2,4-Dimethylphenol	9.80	107	41729	20.54	ng/ul	98
25) Bis(2-Chloroethoxy)methane	10.03	93	43949	18.80	ng/ul	99
27) 2,4-Dichlorophenol	10.26	162	34810	20.47	ng/ul	98
28) Naphthalene	10.67	128	108211	19.83	ng/ul	98
30) 4-Chloroaniline	10.78	127	50275	24.48	ng/ul	97
31) Hexachlorobutadiene	10.96	225	21471	22.24	ng/ul	93
32) Caprolactam	11.53	113	13333	20.58	ng/ul	96
33) 4-Chloro-3-methylphenol	11.90	107	43082	20.58	ng/ul	96
34) 2-Methylnaphthalene	12.29	142	87464	20.38	ng/ul	96

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005498.D
Acq On : 19 May 2016 08:25
Operator : UM/SJ
Sample : SSTDCCC020EC
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SSTD02046

Quant Time: May 19 08:57:15 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
36) 1,2,4,5-Tetrachlorobenzene	12.65	216	47797	20.61 ng/ul	99
37) Hexachlorocyclopentadiene	12.63	237	21682	16.87 ng/ul	96
38) 2,4,6-Trichlorophenol	12.89	196	32149	20.01 ng/ul	99
39) 2,4,5-Trichlorophenol	12.96	196	36892	20.97 ng/ul	96
40) 1,1'-Biphenyl	13.30	154	118302	19.33 ng/ul	99
41) 2-Chloronaphthalene	13.34	162	91739	19.50 ng/ul	98
42) 2-Nitroaniline	13.54	65	28109	18.94 ng/ul	94
44) Dimethylphthalate	13.92	163	128198	20.03 ng/ul	99
45) 2,6-Dinitrotoluene	14.04	165	24078	19.54 ng/ul	95
47) Acenaphthylene	14.19	152	152211	19.83 ng/ul	99
48) 3-Nitroaniline	14.36	138	27637	21.04 ng/ul	95
49) Acenaphthene	14.53	153	103875	19.81 ng/ul	98
50) 2,4-Dinitrophenol	14.56	184	13810	19.23 ng/ul	95
52) 4-Nitrophenol	14.66	109	27682	24.01 ng/ul#	79
53) Dibenzofuran	14.86	168	153087	20.02 ng/ul	98
54) 2,4-Dinitrotoluene	14.82	165	38200	20.43 ng/ul	99
55) 2,3,4,6-Tetrachlorophenol	15.09	232	34808	20.91 ng/ul#	98
56) Diethylphthalate	15.29	149	135292	19.98 ng/ul	99
58) Fluorene	15.51	166	130312	20.60 ng/ul	99
59) 4-Chlorophenyl-phenylether	15.51	204	63384	20.83 ng/ul	98
60) 4-Nitroaniline	15.52	138	33384	21.68 ng/ul	89
63) 4,6-Dinitro-2-methylphenol	15.58	198	22492	18.60 ng/ul#	93
64) N-Nitrosodiphenylamine	15.72	169	115371	19.32 ng/ul	99
65) 4-Bromophenyl-phenylether	16.40	248	41725	19.62 ng/ul	97
66) Hexachlorobenzene	16.51	284	49771	20.12 ng/ul	95
67) Atrazine	16.67	200	47523	22.22 ng/ul	98
68) Pentachlorophenol	16.85	266	31039	19.48 ng/ul	99
69) Phenanthrene	17.24	178	237227	19.82 ng/ul	100
71) Anthracene	17.33	178	240557	20.32 ng/ul	98
72) Carbazole	17.60	167	229976	21.44 ng/ul	100
73) Di-n-butylphthalate	18.17	149	249561	18.79 ng/ul	99
74) Fluoranthene	19.26	202	316753	22.62 ng/ul	95
77) Pyrene	19.62	202	341745	18.71 ng/ul#	94
78) Butylbenzylphthalate	20.52	149	137890	17.78 ng/ul	99
79) 3,3'-Dichlorobenzidine	21.30	252	140133	21.47 ng/ul	99
80) Benzo(a)anthracene	21.36	228	398116	19.88 ng/ul	99
81) Bis(2-ethylhexyl)phthalate	21.30	149	221462	19.09 ng/ul	99
82) Chrysene	21.41	228	378710	19.99 ng/ul	99
84) Di-n-octyl phthalate	22.19	149	412117	18.80 ng/ul	100
85) Benzo(b)fluoranthene	22.97	252	472552	20.00 ng/ul	98
86) Benzo(k)fluoranthene	23.01	252	457675	19.94 ng/ul	98
88) Benzo(a)pyrene	23.56	252	471998	20.10 ng/ul	99
89) Indeno(1,2,3-cd)pyrene	25.97	276	656760	21.24 ng/ul#	94
90) Dibenzo(a,h)anthracene	25.98	278	544352	21.20 ng/ul	97
91) Benzo(g,h,i)perylene	26.67	276	574655	21.45 ng/ul	95

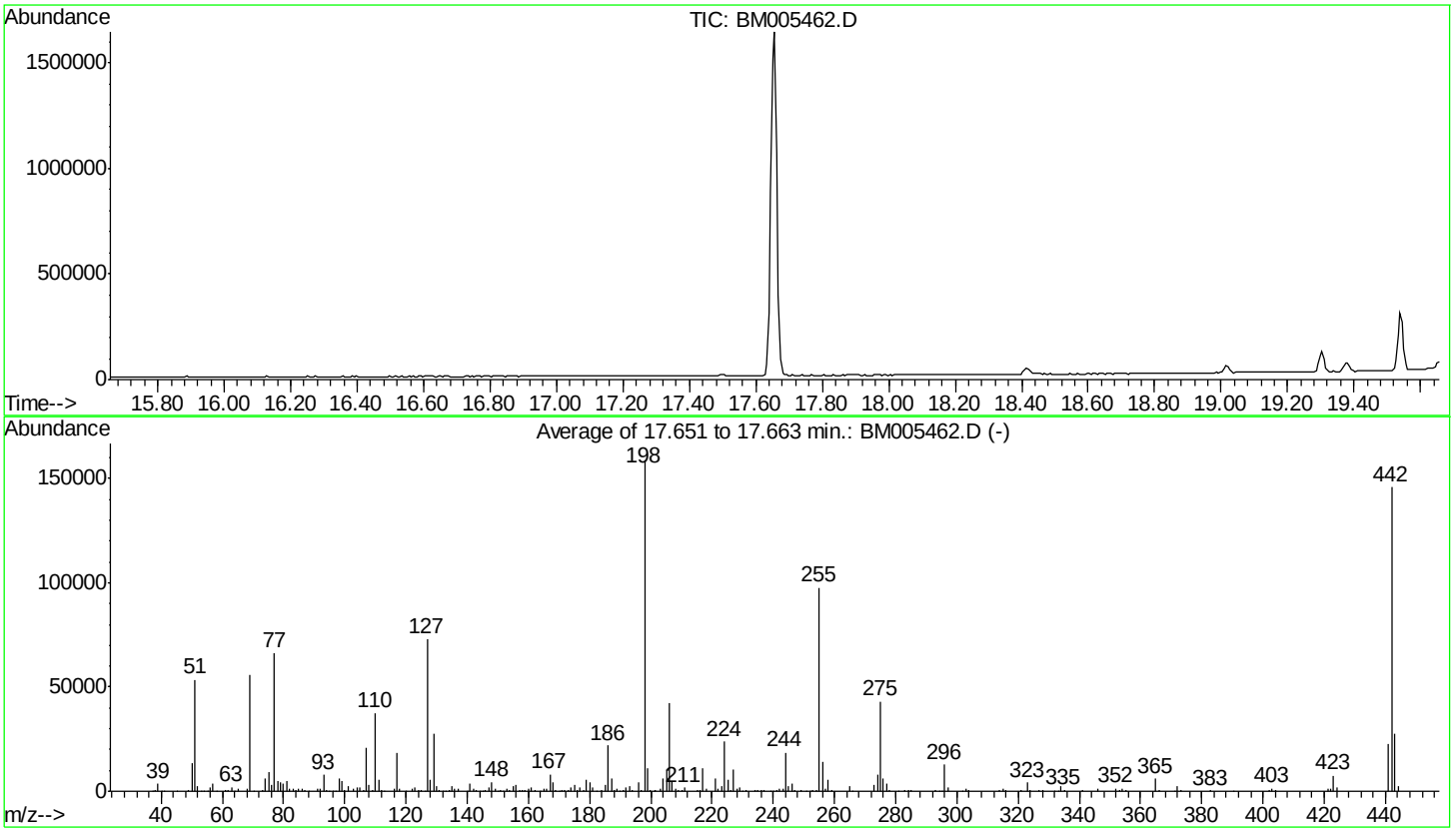
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005462.D
Acq On : 18 May 2016 09:31
Operator : UM/SJ
Sample : DFTPP39
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
DFTPP39

Integration File: LSCINT.P

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Title : SVOA CALIBRATION
Last Update : Wed May 18 14:47:27 2016



AutoFind: Scans 2561, 2562, 2563; Background Corrected with Scan 2555

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.8	53623	PASS
68	69	0.00	2	1.8	1033	PASS
69	198	0.00	100	35.3	56044	PASS
70	69	0.00	2	0.3	167	PASS
127	198	10	80	45.9	72952	PASS
197	198	0.00	2	0.5	837	PASS
198	198	100	100	100.0	158786	PASS
199	198	5	9	6.8	10828	PASS
275	198	10	60	27.0	42941	PASS
365	198	1	100	3.7	5943	PASS
441	443	0.01	100	80.9	22570	PASS
442	198	50	100	91.8	145744	PASS
443	442	15	24	19.1	27882	PASS

Scan 2555 (17.615 min): BM005462.D
DFTPP39

m/z	Abundance
39.00	688.0
40.00	736.0
41.00	654.0
42.00	803.0
43.00	1474.0
44.00	2066.0
44.90	338.0
51.00	318.0
53.00	326.0
55.00	907.0
57.00	718.0
60.00	963.0
69.00	676.0
70.00	433.0
71.00	307.0
73.10	902.0
95.90	487.0
96.90	399.0
98.00	410.0
126.10	316.0
133.00	313.0
146.90	343.0
190.90	422.0
207.00	4076.0
208.00	930.0
209.10	524.0
281.10	501.0

Instrument :
BNA_M
ClientSampleId :
DFTPP39

Scan 2561 (17.651 min): BM005462.D
DFTPP39

Instrument :
BNA_M
ClientSampleId :
DFTPP39

m/z	Abundance
38.00	800.0
39.10	5119.0
40.00	853.0
41.00	837.0
42.00	654.0
43.10	1113.0
44.00	1880.0
45.00	474.0
49.00	504.0
50.00	16295.0
51.00	65216.0
52.00	3384.0
52.90	467.0
55.00	933.0
56.00	2186.0
57.00	5323.0
58.00	346.0
60.00	829.0
61.00	949.0
62.00	949.0
63.00	2460.0
65.00	1622.0
68.00	1247.0
69.00	68488.0
70.00	733.0
73.00	1343.0
74.00	7101.0
75.00	10815.0
76.00	3682.0
77.10	77968.0
78.00	5586.0
79.00	5024.0
80.00	4016.0
81.00	5835.0
82.00	1590.0
83.00	1413.0
84.00	360.0
85.00	1147.0
86.00	1621.0
87.00	864.0
88.00	328.0
90.90	1410.0
92.00	1575.0
93.00	9251.0
94.00	653.0
94.90	310.0
96.00	946.0
96.90	420.0
98.00	7809.0
99.00	5922.0
100.00	480.0
101.00	2962.0
102.90	1207.0
104.00	1992.0
105.00	1922.0
106.00	649.0
107.00	24632.0
108.00	3998.0
109.10	759.0
110.00	43776.0
111.00	6253.0
111.90	752.0
113.00	392.0
116.00	1147.0
117.00	21576.0
118.00	1863.0
119.90	454.0
122.00	1358.0
123.00	2417.0
124.00	1085.0
125.00	1005.0
126.00	650.0
127.00	83408.0
128.00	6163.0
129.00	30824.0
130.00	2912.0
131.00	500.0
132.00	471.0
132.90	425.0
133.90	941.0
135.00	2958.0
136.00	1010.0
137.10	1719.0
139.90	431.0
141.00	4367.0
141.90	1306.0
143.00	754.0
144.00	366.0
146.00	754.0
147.00	2419.0
148.00	5155.0

Instrument :
BNA_M
ClientSampleId :
DFTPP39

149.00	1230.0
151.00	564.0
152.90	1290.0
154.00	963.0
155.00	2450.0
156.00	3807.0
157.00	491.0
158.00	929.0
159.00	443.0
159.90	1302.0
161.00	1986.0
162.00	576.0
164.00	338.0
165.00	1379.0
166.00	1407.0
167.00	9097.0
168.00	5138.0
169.00	911.0
170.90	410.0
172.00	771.0
173.00	918.0
174.00	1798.0
175.00	3369.0
176.00	819.0
176.90	1819.0
178.00	676.0
179.00	6539.0
180.00	4643.0
181.00	2258.0
182.00	359.0
184.00	507.0
185.00	2921.0
186.00	24680.0
187.00	6999.0
188.00	836.0
189.00	1662.0
191.00	1196.0
192.00	2192.0
193.00	2466.0
194.00	497.0
196.00	5137.0
197.00	998.0
198.00	171136.0
199.00	12179.0
199.90	837.0
201.50	757.0
202.90	1259.0
204.00	6382.0
205.00	11102.0
206.00	45152.0
207.10	9839.0
208.00	2102.0
209.00	1062.0
210.10	851.0
211.00	1906.0
215.00	474.0
215.90	773.0
217.00	12268.0
218.00	1543.0
221.00	6894.0
221.90	1538.0
223.00	2880.0
224.00	25064.0
225.10	6128.0
226.00	693.0
227.00	10967.0
228.00	1740.0
229.00	2217.0
230.00	311.0
231.00	1011.0
233.90	709.0
234.90	590.0
236.00	492.0
236.90	803.0
239.00	455.0
240.00	386.0
241.00	529.0
242.00	1384.0
243.00	1494.0
244.00	20136.0
245.00	2787.0
246.00	3869.0
247.00	797.0
249.00	632.0
252.00	315.0
253.00	497.0
254.10	748.0
255.00	101664.0
256.00	14616.0
257.00	1369.0
258.00	5608.0
259.00	996.0
265.00	2523.0
265.90	352.0
273.00	2816.0

274.00	7657.0
275.00	43368.0
276.00	6173.0
277.00	4037.0
277.90	688.0
281.00	591.0
283.00	622.0
284.00	427.0
285.00	657.0
292.90	911.0
295.10	325.0
296.00	12402.0
297.00	1538.0
303.00	1299.0
303.90	521.0
314.00	629.0
315.00	1292.0
316.00	730.0
321.00	345.0
323.00	3840.0
324.00	641.0
327.00	714.0
328.00	387.0
333.00	477.0
334.00	2451.0
335.00	743.0
341.00	564.0
345.90	965.0
352.00	1231.0
353.10	704.0
354.00	1053.0
355.00	341.0
365.00	5751.0
366.00	917.0
372.00	2058.0
373.10	462.0
383.00	584.0
402.00	755.0
403.10	1220.0
404.10	512.0
421.00	1000.0
422.00	1067.0
423.10	6636.0
424.10	1487.0
441.10	20184.0
442.10	128112.0
443.00	24896.0
444.00	2314.0

Instrument :
BNA_M
ClientSampleId :
DFTPP39

Scan 2562 (17.657 min): BM005462.D
DFTPP39

Instrument :
BNA_M
ClientSampleId :
DFTPP39

m/z	Abundance
37.00	392.0
38.00	920.0
39.00	4721.0
40.00	829.0
41.00	963.0
42.10	561.0
43.00	1414.0
44.00	1760.0
45.10	452.0
49.00	642.0
50.00	15556.0
51.00	62632.0
52.00	3048.0
53.00	504.0
54.00	304.0
55.00	973.0
56.00	2052.0
57.00	4669.0
58.00	369.0
60.00	1002.0
61.00	769.0
62.00	900.0
63.00	2422.0
64.10	311.0
65.00	1479.0
68.00	1148.0
69.00	65056.0
70.10	635.0
73.00	1406.0
74.00	6958.0
75.00	10920.0
76.00	3705.0
77.00	77584.0
78.10	5401.0
79.00	4945.0
80.00	4008.0
81.00	5671.0
82.00	1480.0
83.00	1285.0
84.00	431.0
85.00	1276.0
86.00	1607.0
87.00	852.0
88.00	302.0
91.00	1105.0
91.90	1273.0
93.00	9040.0
94.00	651.0
96.00	721.0
96.90	514.0
98.00	7205.0
99.00	5477.0
100.00	581.0
101.00	2809.0
103.00	937.0
104.00	1911.0
105.00	1612.0
106.00	470.0
107.00	24352.0
108.00	3848.0
109.00	875.0
110.00	43120.0
111.00	6503.0
112.00	721.0
113.00	328.0
116.00	1351.0
117.00	21376.0
118.00	1590.0
122.00	1858.0
123.00	2373.0
124.00	938.0
125.00	927.0
126.10	649.0
127.00	84200.0
128.00	6388.0
129.00	32464.0
130.00	2780.0
130.90	632.0
132.00	370.0
133.00	478.0
134.00	919.0
135.00	2727.0
136.00	1239.0
137.00	1462.0
140.00	413.0
141.00	4453.0
142.00	1519.0
143.00	820.0
145.00	340.0
145.90	840.0
147.00	2565.0

148.00	5032.0
149.00	1079.0
150.00	320.0
151.00	603.0
151.90	366.0
153.00	1122.0
153.90	1023.0
155.00	2577.0
156.00	3709.0
157.00	615.0
158.00	885.0
159.00	588.0
160.00	1342.0
160.90	2466.0
161.90	653.0
165.00	1726.0
166.00	1074.0
167.00	9079.0
168.00	4992.0
169.00	609.0
170.90	348.0
172.00	776.0
172.90	1159.0
174.00	1961.0
175.00	3784.0
176.00	1157.0
177.00	1919.0
177.90	682.0
179.00	6807.0
180.00	5230.0
181.00	2339.0
183.90	423.0
185.00	3233.0
186.00	24840.0
187.00	7051.0
188.00	1016.0
189.00	1744.0
189.90	370.0
191.00	1315.0
192.00	2310.0
193.00	2728.0
194.00	654.0
196.00	5348.0
197.00	884.0
198.00	185152.0
199.00	12458.0
200.00	1098.0
200.80	336.0
201.40	754.0
203.00	1147.0
204.00	7199.0
205.00	12046.0
206.00	50696.0
207.00	10336.0
208.00	2487.0
209.00	1066.0
210.10	983.0
210.90	1821.0
215.00	568.0
216.00	1206.0
217.00	13300.0
218.00	1728.0
221.00	7415.0
221.90	1683.0
223.00	2900.0
224.00	27608.0
225.00	6862.0
226.10	693.0
227.00	12257.0
228.00	1628.0
229.00	2491.0
229.90	330.0
231.00	1054.0
233.90	876.0
234.90	836.0
235.90	589.0
237.00	1063.0
238.90	422.0
240.10	434.0
241.00	621.0
242.00	1341.0
243.00	1427.0
244.10	21568.0
245.00	2969.0
246.00	4538.0
247.00	788.0
249.00	796.0
250.90	321.0
253.00	505.0
253.90	688.0
255.00	114576.0
256.00	16544.0
257.00	1209.0
258.00	6731.0
259.10	877.0

Instrument :
BNA_M
ClientSampleId :
DFTPP39

265.00	2726.0
265.90	391.0
273.00	3400.0
274.00	9304.0
275.00	50136.0
276.00	6922.0
277.00	4197.0
278.00	892.0
281.00	578.0
283.10	640.0
284.00	315.0
285.00	715.0
293.00	931.0
294.00	347.0
295.00	342.0
296.00	15069.0
297.00	2208.0
301.90	313.0
303.00	1541.0
304.00	545.0
314.00	651.0
315.00	1655.0
316.00	813.0
321.00	461.0
323.00	5238.0
324.00	692.0
326.90	914.0
328.00	390.0
331.90	334.0
333.10	472.0
334.10	3051.0
335.00	948.0
340.90	536.0
346.00	1090.0
352.00	1601.0
353.00	1092.0
354.10	1411.0
355.00	381.0
365.00	7083.0
366.00	990.0
371.00	380.0
372.10	2527.0
373.10	779.0
382.90	650.0
390.10	360.0
402.00	991.0
403.00	1489.0
404.00	514.0
421.00	1202.0
422.00	1300.0
423.10	8911.0
424.00	2234.0
441.00	26680.0
442.10	171840.0
443.10	32288.0
444.10	2975.0

Instrument :
BNA_M
ClientSampleId :
DFTPP39

Scan 2563 (17.663 min): BM005462.D
DFTPP39

m/z	Abundance
38.00	508.0
39.00	2986.0
40.00	728.0
41.00	793.0
42.00	646.0
43.00	1400.0
44.00	1962.0
45.00	490.0
48.90	423.0
50.00	8838.0
51.00	33976.0
52.00	1847.0
53.00	318.0
55.00	957.0
56.00	1204.0
57.00	2935.0
60.00	946.0
61.00	557.0
62.00	556.0
63.10	1558.0
65.00	956.0
67.90	706.0
69.00	36616.0
70.10	434.0
71.00	305.0
73.00	1322.0
74.00	4260.0
75.00	6083.0
76.00	1872.0
77.00	43440.0
78.00	3254.0
79.00	2746.0
80.00	2201.0
81.00	3689.0
82.10	790.0
83.00	910.0
83.90	406.0
85.00	923.0
85.90	862.0
87.00	552.0
91.00	707.0
91.90	834.0
93.00	4995.0
93.90	363.0
96.00	473.0
97.10	376.0
98.00	4360.0
99.00	3124.0
100.00	307.0
101.00	1797.0
103.00	828.0
104.00	1106.0
105.00	1178.0
105.90	323.0
107.00	13923.0
108.00	2132.0
109.00	407.0
110.00	25528.0
111.00	3973.0
112.00	536.0
116.00	828.0
117.00	12352.0
117.90	854.0
122.00	809.0
123.00	1201.0
124.00	740.0
125.00	689.0
126.00	507.0
127.00	51248.0
128.00	3519.0
129.00	19152.0
130.00	1578.0
132.90	330.0
134.00	524.0
135.00	1534.0
136.00	787.0
136.90	737.0
141.00	2451.0
142.00	935.0
143.00	647.0
146.00	480.0
147.00	1619.0
148.00	3133.0
149.00	803.0
151.10	318.0
151.70	301.0
153.00	820.0
153.90	689.0
155.00	1503.0
156.00	2081.0
157.00	455.0

Instrument :
BNA_M
ClientSampleId :
DFTPP39

157.90	601.0
158.90	487.0
159.90	807.0
160.90	1404.0
162.00	446.0
165.00	1077.0
166.00	791.0
167.00	5810.0
168.00	2964.0
169.00	456.0
169.90	323.0
170.90	328.0
171.90	563.0
173.00	542.0
174.00	1370.0
175.00	2595.0
176.00	613.0
176.90	1090.0
177.90	318.0
179.00	4090.0
180.00	3058.0
181.00	1485.0
183.90	368.0
185.00	2222.0
186.00	16100.0
187.00	4660.0
187.90	376.0
188.90	1128.0
190.90	716.0
192.00	1480.0
193.00	1675.0
193.90	379.0
196.00	3301.0
196.80	629.0
198.00	120072.0
199.00	7849.0
200.00	731.0
201.40	588.0
203.00	844.0
204.00	4648.0
205.00	7703.0
206.00	31448.0
207.00	7410.0
208.00	1723.0
209.00	904.0
210.10	563.0
210.90	1100.0
215.00	332.0
216.00	685.0
217.00	8121.0
218.00	1150.0
221.00	4704.0
221.80	1077.0
223.00	1901.0
224.00	18208.0
225.00	4229.0
226.10	541.0
227.00	8302.0
228.00	916.0
229.00	1203.0
231.00	758.0
233.90	398.0
235.00	609.0
235.90	368.0
236.90	664.0
240.90	533.0
241.90	1014.0
243.00	1143.0
244.00	14285.0
245.00	1863.0
246.00	2715.0
246.90	581.0
248.90	477.0
252.90	401.0
254.10	587.0
255.00	76632.0
256.00	10580.0
257.00	741.0
258.00	4414.0
259.00	715.0
265.00	1577.0
272.90	2168.0
274.00	6586.0
275.00	35320.0
276.00	4532.0
277.00	2611.0
278.00	475.0
281.00	451.0
283.00	639.0
284.00	370.0
285.00	575.0
292.90	681.0
296.00	10523.0
297.00	1535.0
303.00	1130.0

Instrument :
BNA_M
ClientSampleId :
DFTPP39

304.10	311.0
314.00	488.0
314.90	1367.0
316.00	614.0
321.00	301.0
323.10	3651.0
324.00	579.0
327.00	649.0
328.00	384.0
334.00	2143.0
335.00	611.0
341.00	481.0
346.00	903.0
352.00	1040.0
353.10	567.0
354.00	1023.0
355.10	300.0
365.00	4995.0
365.90	679.0
372.00	2072.0
373.00	550.0
383.00	466.0
402.00	853.0
403.00	1267.0
404.00	388.0
421.10	890.0
422.00	866.0
423.10	6782.0
424.00	1806.0
441.00	20848.0
442.00	137280.0
443.10	26464.0
444.00	2672.0

Instrument :
BNA_M
ClientSampleId :
DFTPP39

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
SBLK81

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : PB90581BL
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005492.D
% Solids : 100
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	67	U
100-52-7	Benzaldehyde	330	U
108-95-2	Phenol	330	U
111-44-4	Bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	170	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2-oxybis(1-Chloropropane)	330	U
98-86-2	Acetophenone	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	170	U
67-72-1	Hexachloroethane	170	U
98-95-3	Nitrobenzene	170	U
78-59-1	Isophorone	170	U
88-75-5	2-Nitrophenol	170	U
105-67-9	2,4-Dimethylphenol	170	U
111-91-1	Bis(2-Chloroethoxy)methane	170	U
120-83-2	2,4-Dichlorophenol	170	U
91-20-3	Naphthalene	170	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	170	U
105-60-2	Caprolactam	330	U
59-50-7	4-Chloro-3-methylphenol	170	U
91-57-6	2-Methylnaphthalene	170	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	170	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
SBLK81

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : PB90581BL
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005492.D
% Solids : 100
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	170	U
92-52-4	1,1-Biphenyl	170	U
91-58-7	2-Chloronaphthalene	170	U
88-74-4	2-Nitroaniline	170	U
131-11-3	Dimethylphthalate	170	U
606-20-2	2,6-Dinitrotoluene	170	U
208-96-8	Acenaphthylene	170	U
99-09-2	3-Nitroaniline	330	U
83-32-9	Acenaphthene	170	U
51-28-5	2,4-Dinitrophenol	330	U
100-02-7	4-Nitrophenol	330	U
132-64-9	Dibenzofuran	170	U
121-14-2	2,4-Dinitrotoluene	170	U
84-66-2	Diethylphthalate	170	U
86-73-7	Fluorene	170	U
7005-72-3	4-Chlorophenyl-phenylether	170	U
100-01-6	4-Nitroaniline	330	U
534-52-1	4,6-Dinitro-2-methylphenol	330	U
86-30-6	N-Nitrosodiphenylamine	170	U
95-94-3	1,2,4,5-Tetrachlorobenzene	170	U
101-55-3	4-Bromophenyl-phenylether	170	U
118-74-1	Hexachlorobenzene	170	U
1912-24-9	Atrazine	330	U
87-86-5	Pentachlorophenol	330	U
85-01-8	Phenanthrene	170	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
SBLK81

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : PB90581BL
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005492.D
% Solids : 100
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	170	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	170	U
206-44-0	Fluoranthene	170	U
129-00-0	Pyrene	170	U
85-68-7	Butylbenzylphthalate	170	U
91-94-1	3,3-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	170	U
218-01-9	Chrysene	170	U
117-81-7	Bis(2-ethylhexyl)phthalate	170	U
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	170	U
207-08-9	Benzo(k)fluoranthene	170	U
50-32-8	Benzo(a)pyrene	170	U
193-39-5	Indeno(1,2,3-cd)pyrene	170	U
53-70-3	Dibenzo(a,h)anthracene	170	U
191-24-2	Benzo(g,h,i)perylene	170	U
58-90-2	2,3,4,6-Tetrachlorophenol	170	U

FORM 1B-OR
ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK81

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : PB90581BL
Sample wt/vol : 30.0 (g/mL): g
Lab File ID : BM005492.D
% Solids : 100
Date Received :
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
Extract Concentrated : (Y / N) Y
Date Analyzed : 05/19/2016
Soil Aliquot (VOA) : (µL)
Extract Volume : 500 (µL)
Heated Purge : (Y / N)
Extraction Type : SOXH
Purge Volume : (mL)
Injection Volume : 1.0 (µL)
Cleanup Types : GPC
pH : Dilution Factor : 1.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg
Cleanup Factor : 2.0

	CAS NO.	ANALYTE	RT	EST. CONC.	Q
1	E966796	Total Alkanes	N/A	0.0	

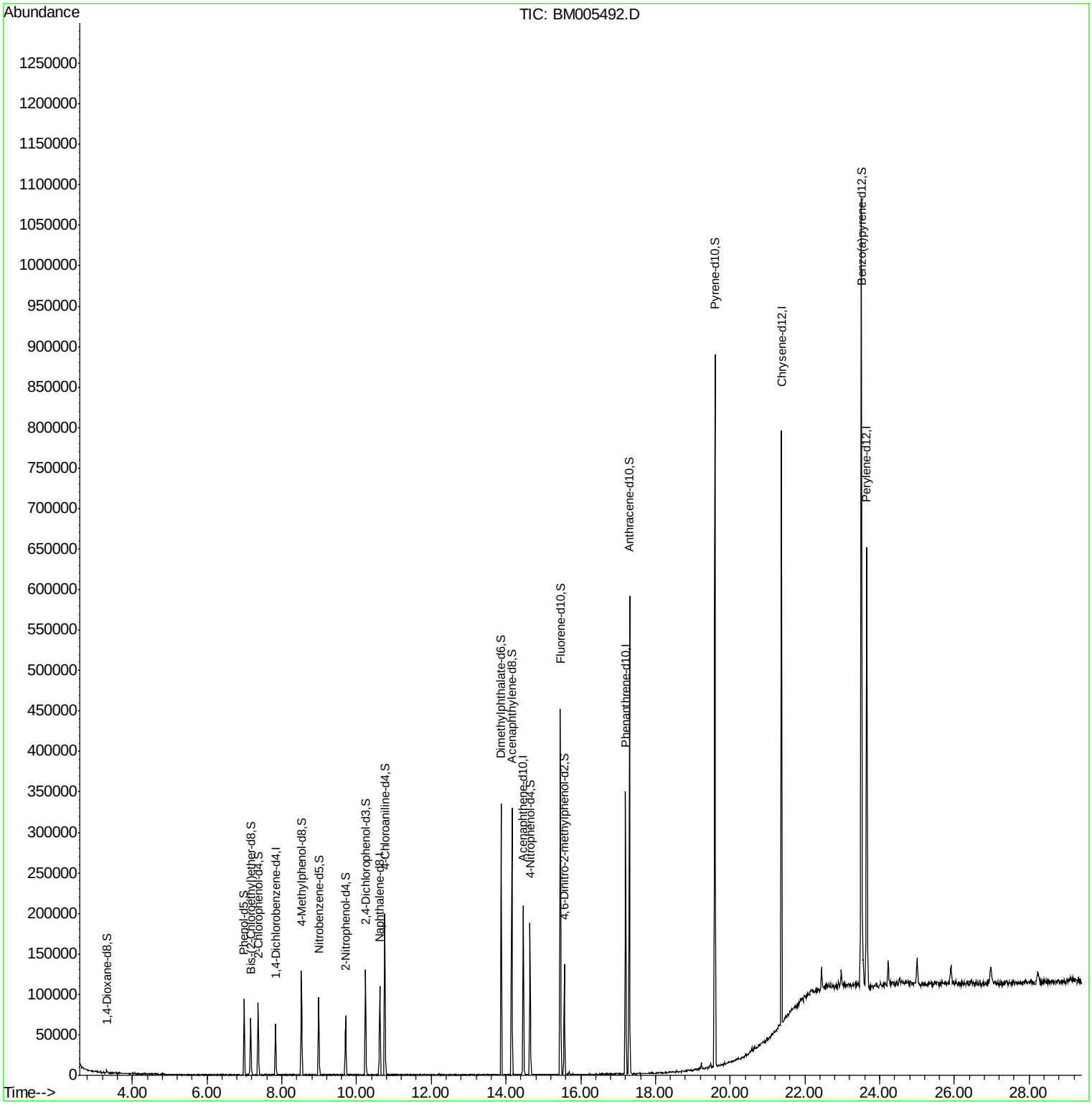
EPA-designated Registry Number.

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005492.D
Acq On : 19 May 2016 04:48
Operator : UM/SJ
Sample : PB90581BL
Misc :
ALS Vial : 32 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SBLK81

Quant Time: May 19 05:41:49 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005492.D
Acq On : 19 May 2016 04:48
Operator : UM/SJ
Sample : PB90581BL
Misc :
ALS Vial : 32 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK81

Quant Time: May 19 05:41:49 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.84	152	17971	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	94206	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.46	164	68228	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.20	188	195604	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	353209	20.00	ng/ul	-0.01
83) Perylene-d12	23.66	264	405542	20.00	ng/ul	-0.01
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	2105	4.51	ng/uL	0.00
5) Phenol-d5	6.99	99	53352	30.90	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	32292	34.15	ng/ul	0.00
9) 2-Chlorophenol-d4	7.36	132	41476	31.28	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	47354	32.21	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	21271	31.36	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	23362	31.58	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.24	165	46403	31.56	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	98385	58.18	ng/ul	0.00
43) Dimethylphthalate-d6	13.87	166	211613	37.73	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	233946	35.33	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	40672	35.34	ng/ul	0.00
57) Fluorene-d10	15.46	176	184884	37.36	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.56	200	29987	29.08	ng/ul	0.00
70) Anthracene-d10	17.30	188	338933	37.67	ng/ul	0.00
76) Pyrene-d10	19.59	212	467343	32.91	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.51	264	690035	38.06	ng/ul	-0.01

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005492.D
Acq On : 19 May 2016 04:48
Operator : UM/SJ
Sample : PB90581BL
Misc :
ALS Vial : 32 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK81

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Title : SVOA CALIBRATION

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.993	743	749	756	rVB	93865	148216	7.83%	1.395%
2	7.169	773	779	787	rVB	70118	110251	5.83%	1.038%
3	7.363	806	812	819	rVB	89119	144151	7.62%	1.357%
4	7.834	886	892	898	rVB	63535	102690	5.43%	0.966%
5	8.528	1003	1010	1019	rBV	128866	202940	10.72%	1.910%
6	8.987	1082	1088	1096	rVB	95872	153896	8.13%	1.448%
7	9.710	1204	1211	1217	rBV	73825	118207	6.25%	1.112%
8	10.240	1294	1301	1308	rBV	130617	203415	10.75%	1.914%
9	10.628	1357	1367	1376	rVB	109849	188173	9.94%	1.771%
10	10.757	1382	1389	1399	rVB	199570	327258	17.29%	3.080%
11	13.875	1913	1919	1926	rVB	335928	450773	23.82%	4.242%
12	14.157	1961	1967	1975	rBV	330138	479234	25.32%	4.510%
13	14.463	2013	2019	2027	rBV2	209085	311698	16.47%	2.933%
14	14.645	2044	2050	2060	rBV	187511	262042	13.85%	2.466%
15	15.457	2182	2188	2196	rVB	452049	671415	35.48%	6.318%
16	15.563	2201	2206	2212	rVB	135986	182964	9.67%	1.722%
17	17.204	2479	2485	2492	rVB	348875	472815	24.99%	4.449%
18	17.304	2495	2502	2512	rVV	590202	860262	45.46%	8.095%
19	19.592	2884	2891	2897	rBV	880695	1252255	66.17%	11.784%
20	21.374	3189	3194	3199	rBV	731801	936178	49.47%	8.810%
21	22.445	3373	3376	3382	rBV6	25413	37671	1.99%	0.354%
22	23.509	3550	3557	3565	rBV2	966467	1892364	100.00%	17.808%
23	23.656	3575	3582	3590	rVB2	544550	1117732	59.07%	10.518%

Sum of corrected areas: 10626600

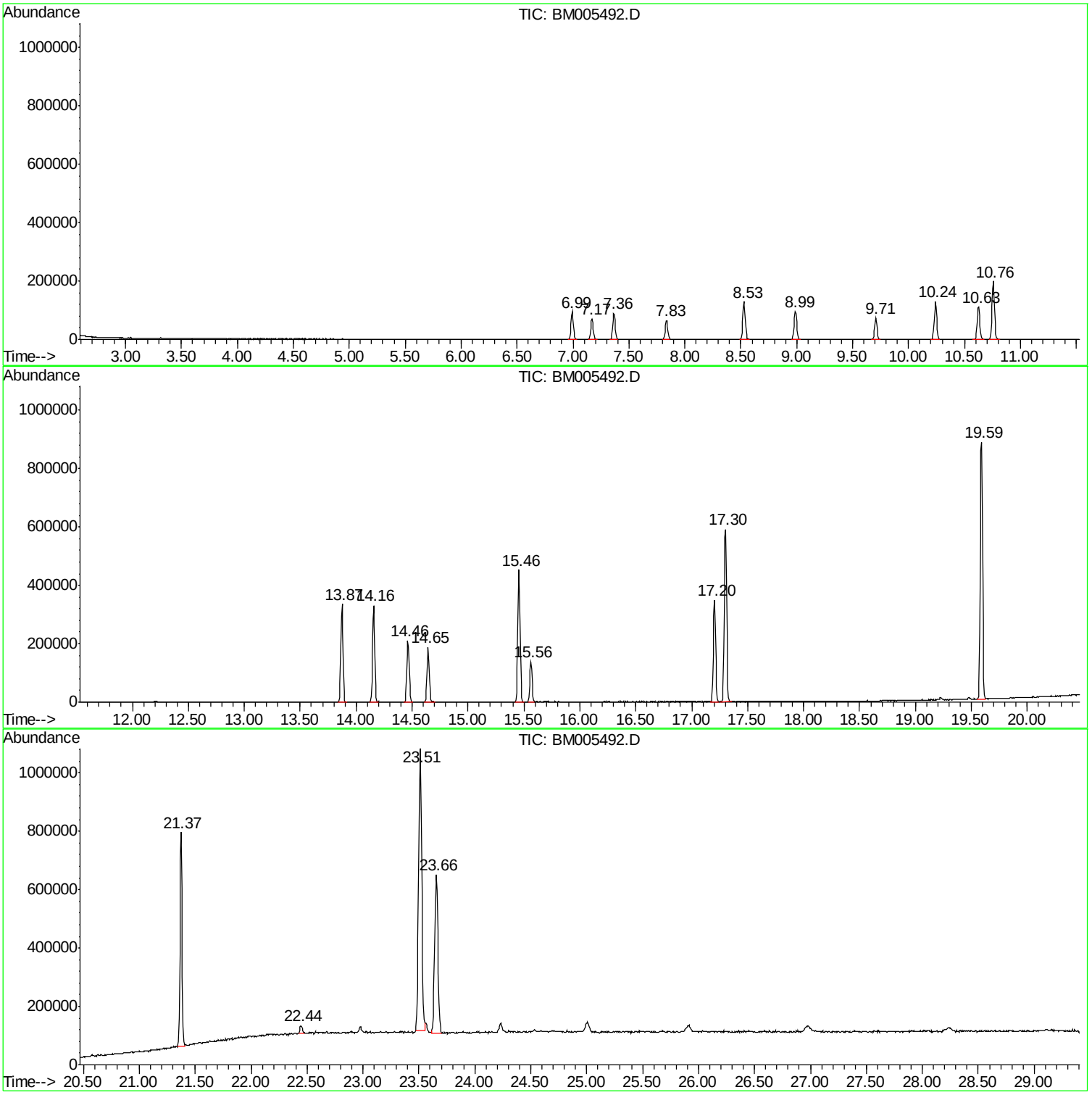
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005492.D
Acq On : 19 May 2016 04:48
Operator : UM/SJ
Sample : PB90581BL
Misc :
ALS Vial : 32 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK81

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005492.D
Acq On : 19 May 2016 04:48
Operator : UM/SJ
Sample : PB90581BL
Misc :
ALS Vial : 32 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SBLK81

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005492.D
Acq On : 19 May 2016 04:48
Operator : UM/SJ
Sample : PB90581BL
Misc :
ALS Vial : 32 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : SBLK81

Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-04MS
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005495.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	140	U
100-52-7	Benzaldehyde	690	U
108-95-2	Phenol	800	
111-44-4	Bis(2-Chloroethyl)ether	690	U
95-57-8	2-Chlorophenol	770	
95-48-7	2-Methylphenol	690	U
108-60-1	2,2-oxybis(1-Chloropropane)	690	U
98-86-2	Acetophenone	690	U
106-44-5	4-Methylphenol	130	J
621-64-7	N-Nitroso-di-n-propylamine	820	
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	Bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	690	U
87-68-3	Hexachlorobutadiene	350	U
105-60-2	Caprolactam	690	U
59-50-7	4-Chloro-3-methylphenol	890	
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	690	U
88-06-2	2,4,6-Trichlorophenol	350	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-04MS
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005495.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	350	U
92-52-4	1,1-Biphenyl	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	460	
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	690	U
83-32-9	Acenaphthene	880	
51-28-5	2,4-Dinitrophenol	690	U
100-02-7	4-Nitrophenol	840	
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	860	
84-66-2	Diethylphthalate	350	U
86-73-7	Fluorene	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
100-01-6	4-Nitroaniline	690	U
534-52-1	4,6-Dinitro-2-methylphenol	690	U
86-30-6	N-Nitrosodiphenylamine	350	U
95-94-3	1,2,4,5-Tetrachlorobenzene	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
1912-24-9	Atrazine	690	U
87-86-5	Pentachlorophenol	790	
85-01-8	Phenanthrene	350	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086MS

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-04MS
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005495.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

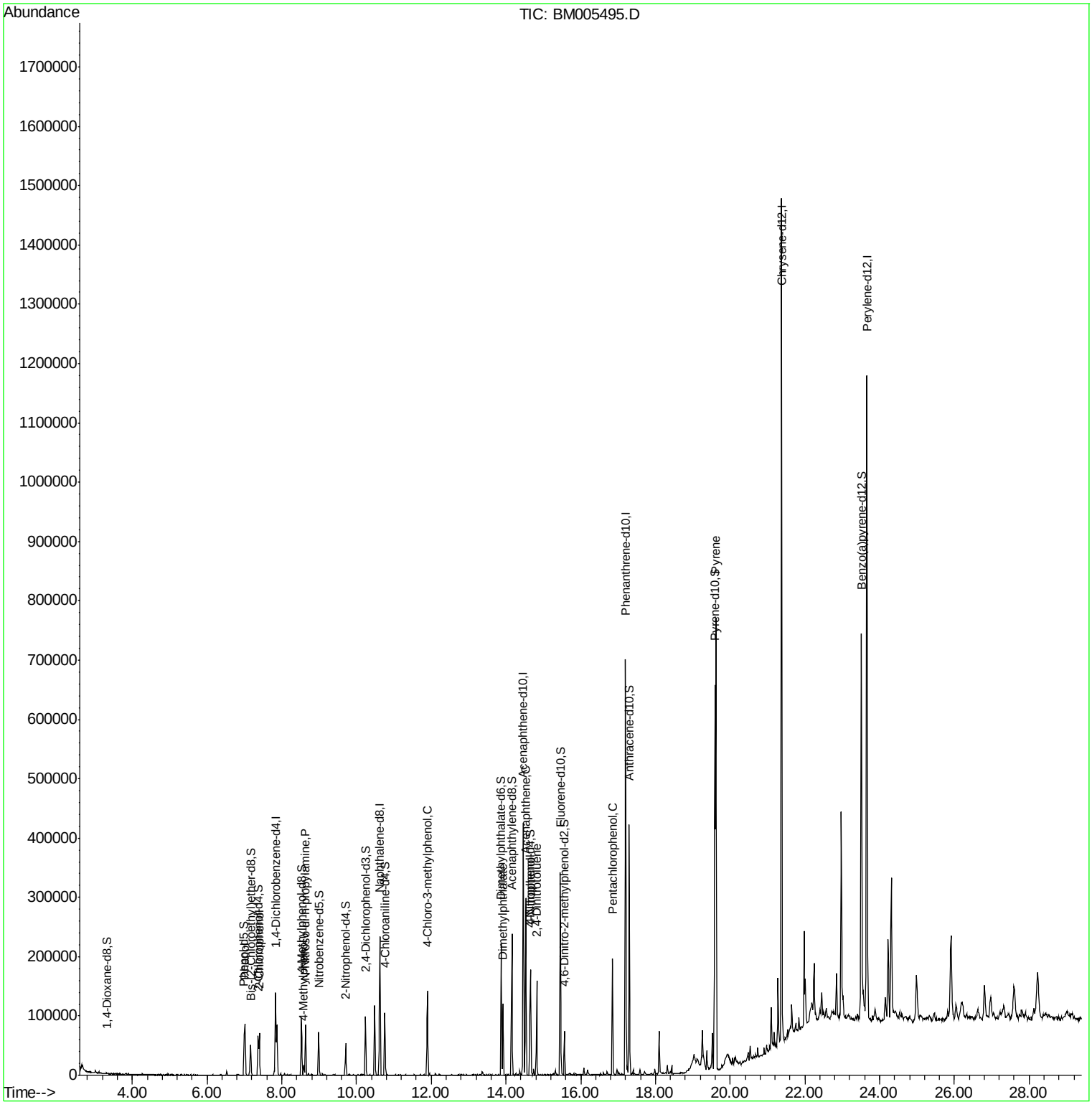
CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	350	U
86-74-8	Carbazole	690	U
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	880	
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	Bis(2-ethylhexyl)phthalate	350	U
117-84-0	Di-n-octyl phthalate	690	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenzo(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U
58-90-2	2,3,4,6-Tetrachlorophenol	350	U

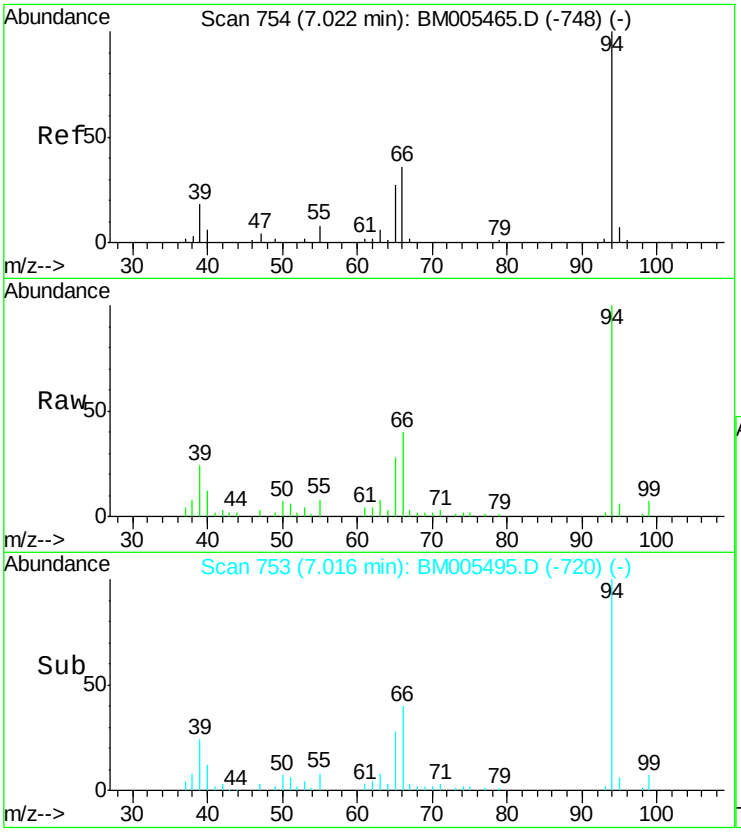
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005495.D
Acq On : 19 May 2016 06:37
Operator : UM/SJ
Sample : H2954-04MS
Misc :
ALS Vial : 35 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
H4086MS

Quant Time: May 19 07:17:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration



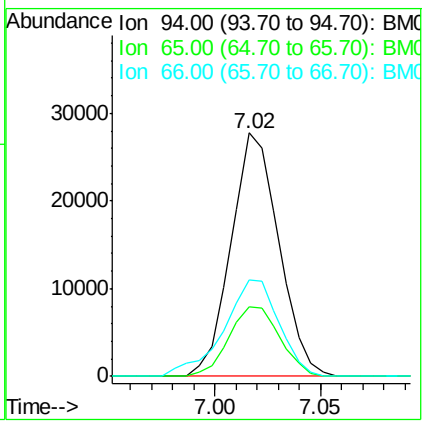


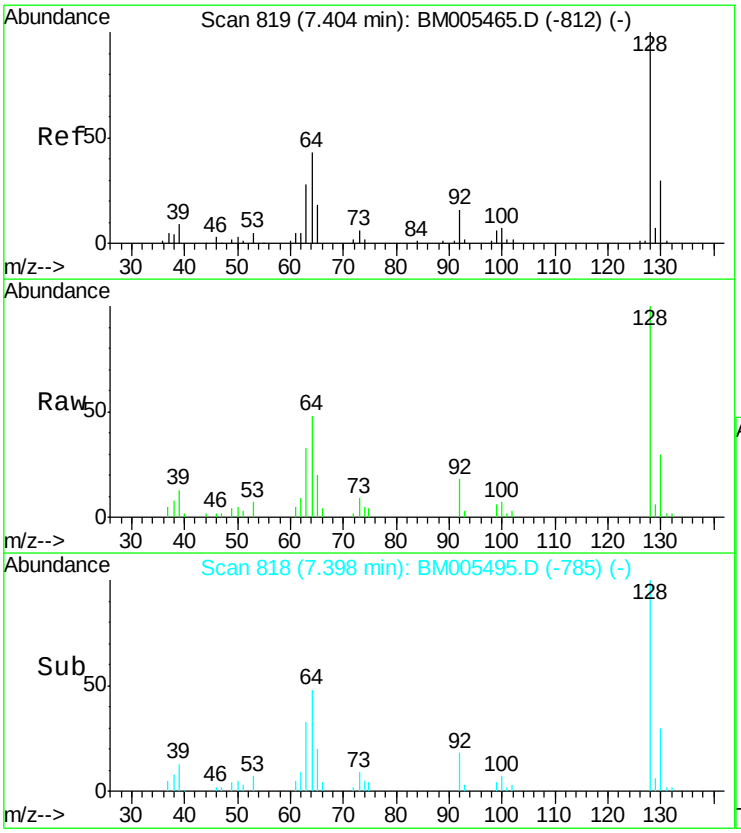
#6
Phenol
Concen: 11.50 ng/ul
RT: 7.02 min Scan# 753
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Instrument :
BNA_M
ClientSampleId :
H4086MS

Tgt Ion: 94 Resp: 43489

Ion	Ratio	Lower	Upper
94	100		
65	28.4	22.7	34.1
66	39.8	31.7	47.5

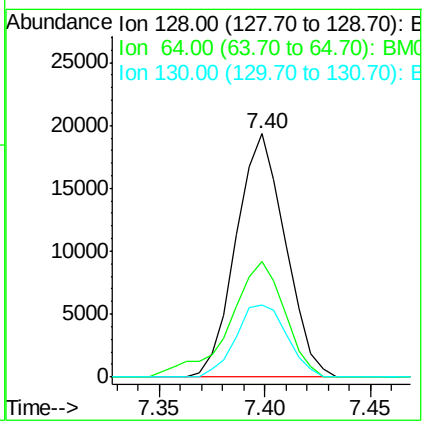


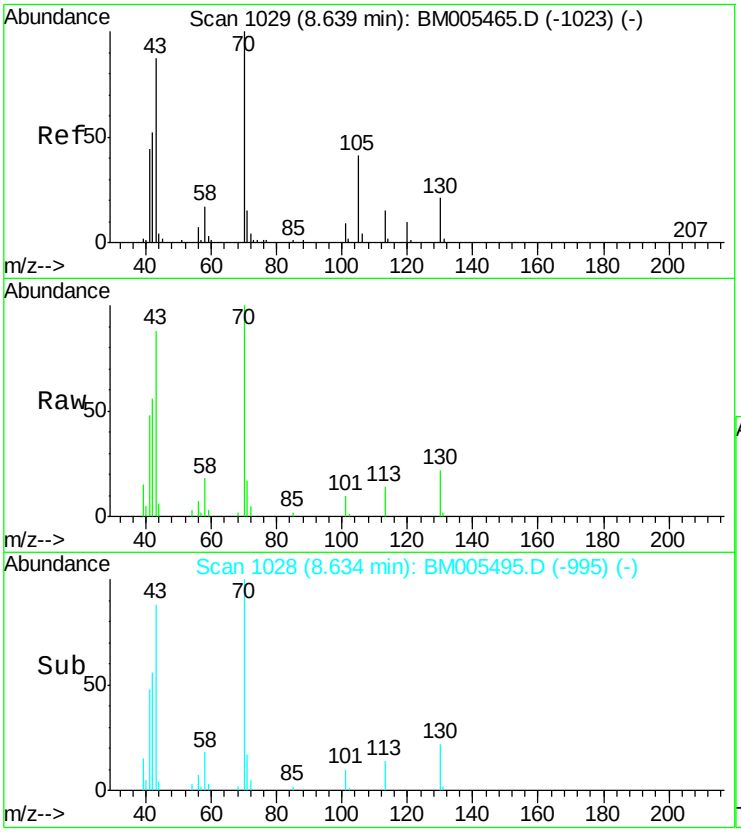


#10
2-Chlorophenol
Concen: 11.01 ng/ul
RT: 7.40 min Scan# 818
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Tgt Ion:128 Resp: 31299

Ion	Ratio	Lower	Upper
128	100		
64	47.6	37.8	56.8
130	29.8	24.9	37.3



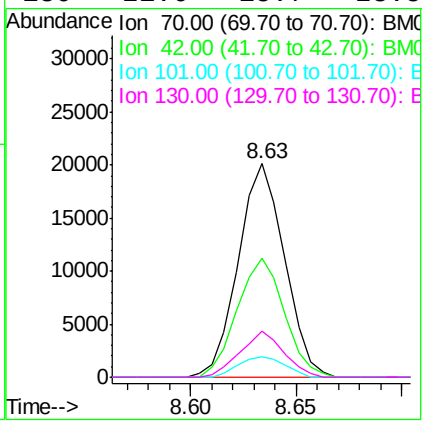


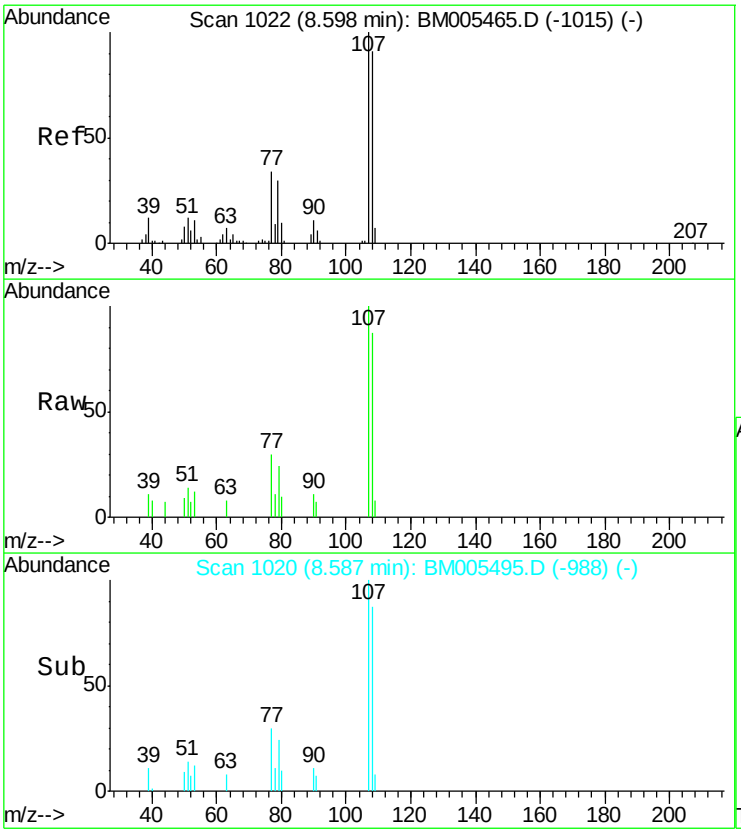
#15
N-Nitroso-di-n-propylamine
Concen: 11.75 ng/ul
RT: 8.63 min Scan# 1028
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Instrument :
BNA_M
ClientSampleId :
H4086MS

Tgt Ion: 70 Resp: 30659

Ion	Ratio	Lower	Upper
70	100		
42	55.9	42.8	64.2
101	9.9	7.8	11.6
130	21.6	15.7	23.5

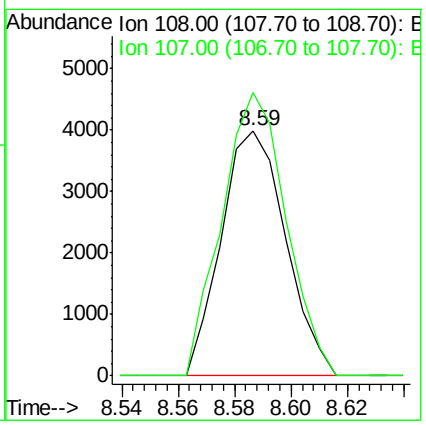


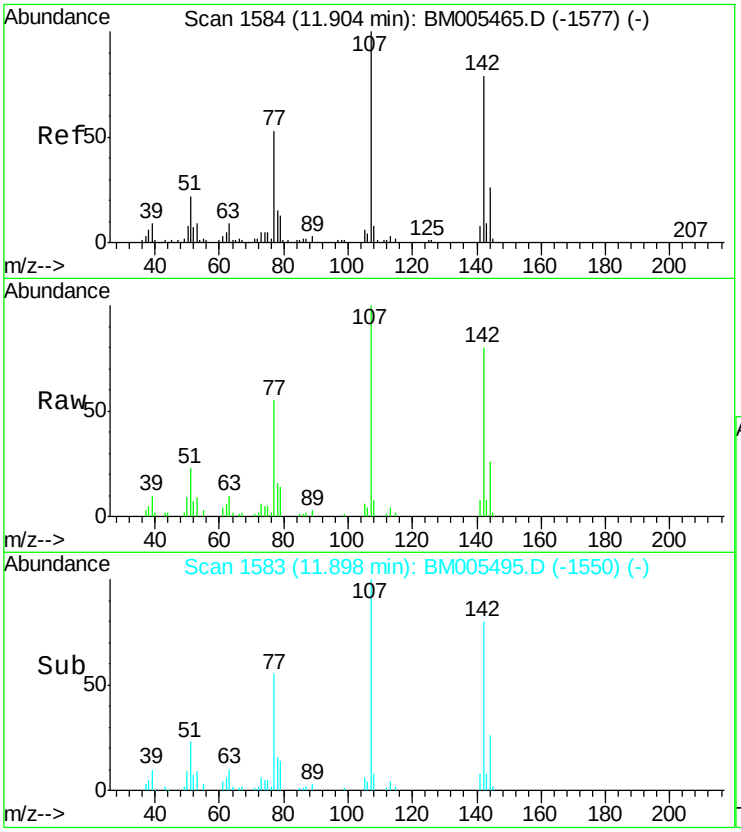


#16
4-Methylphenol
Concen: 1.91 ng/ul
RT: 8.59 min Scan# 1020
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Tgt Ion:108 Resp: 6316

Ion	Ratio	Lower	Upper
108	100		
107	115.5	91.1	136.7



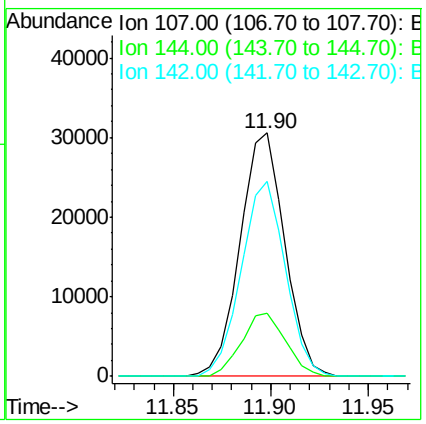


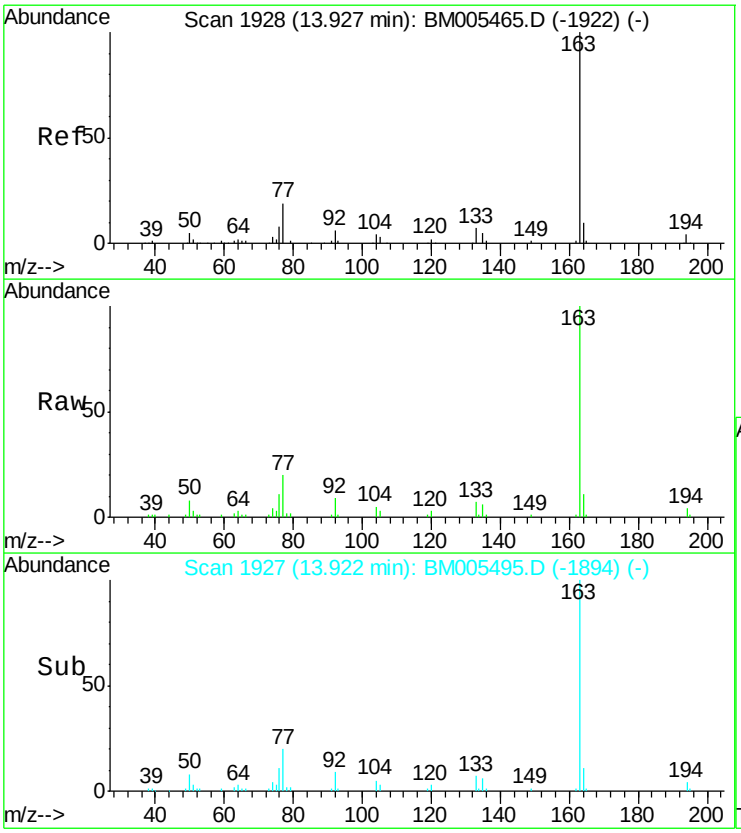
#33
4-Chloro-3-methylphenol
Concen: 12.78 ng/ul
RT: 11.90 min Scan# 1583
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Instrument :
BNA_M
ClientSampleId :
H4086MS

Tgt Ion:107 Resp: 48468

Ion	Ratio	Lower	Upper
107	100		
144	26.1	19.3	28.9
142	79.9	60.8	91.2

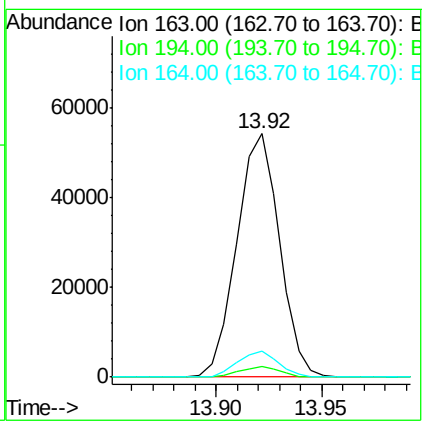


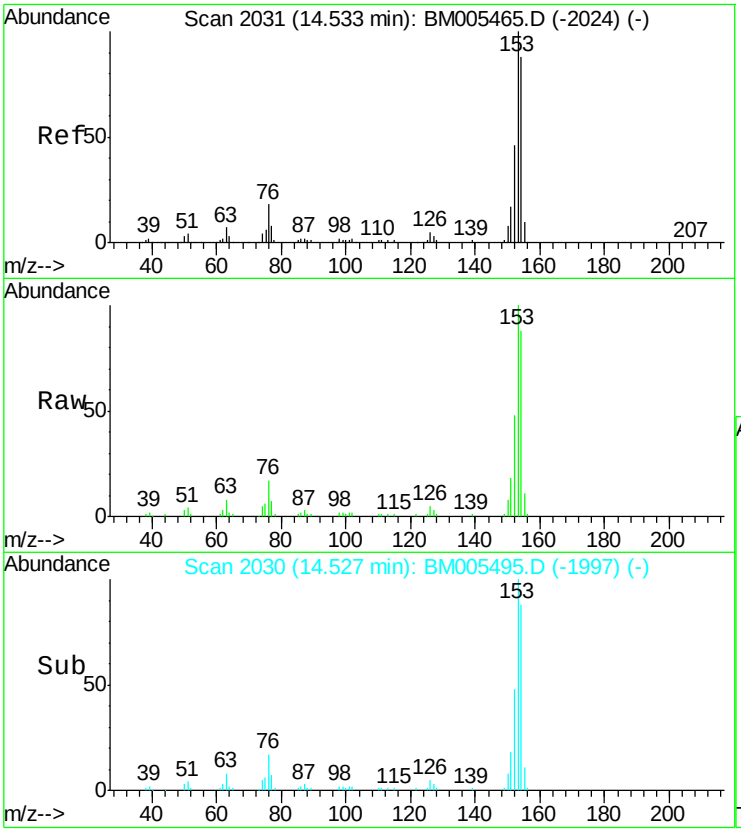


#44
Dimethylphthalate
Concen: 6.55 ng/ul
RT: 13.92 min Scan# 1927
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Tgt Ion:163 Resp: 76084

Ion	Ratio	Lower	Upper
163	100		
194	4.5	3.4	5.0
164	10.6	7.9	11.9



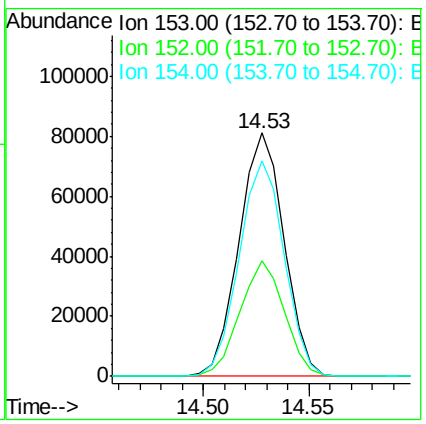


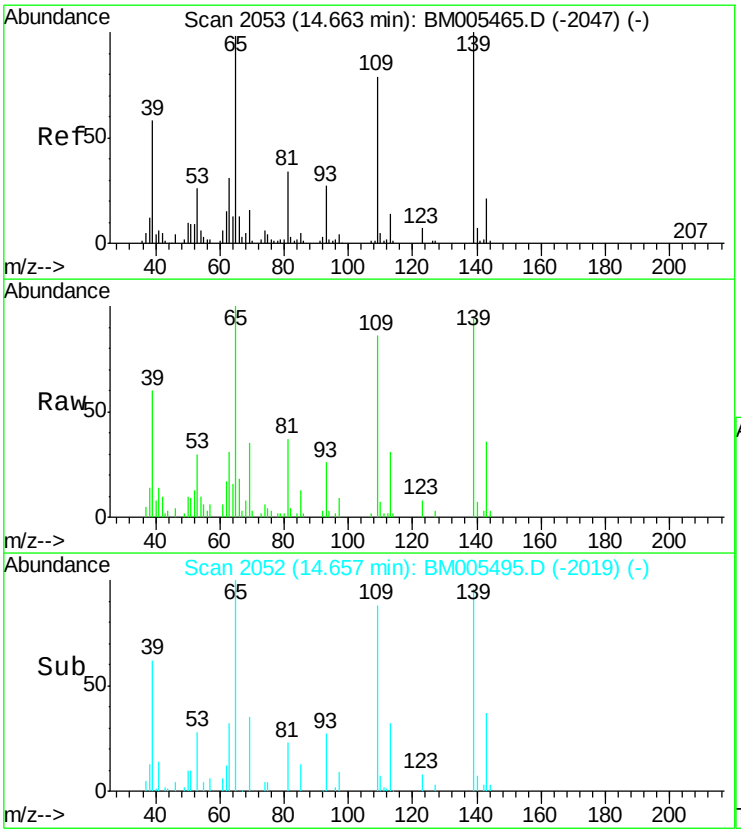
#49
Acenaphthene
Concen: 12.63 ng/ul
RT: 14.53 min Scan# 2030
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Instrument :
BNA_M
ClientSampleId :
H4086MS

Tgt Ion:153 Resp: 120178

Ion	Ratio	Lower	Upper
153	100		
152	47.6	38.9	58.3
154	88.5	70.3	105.5

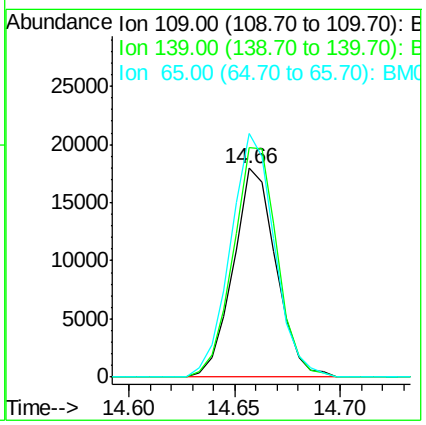


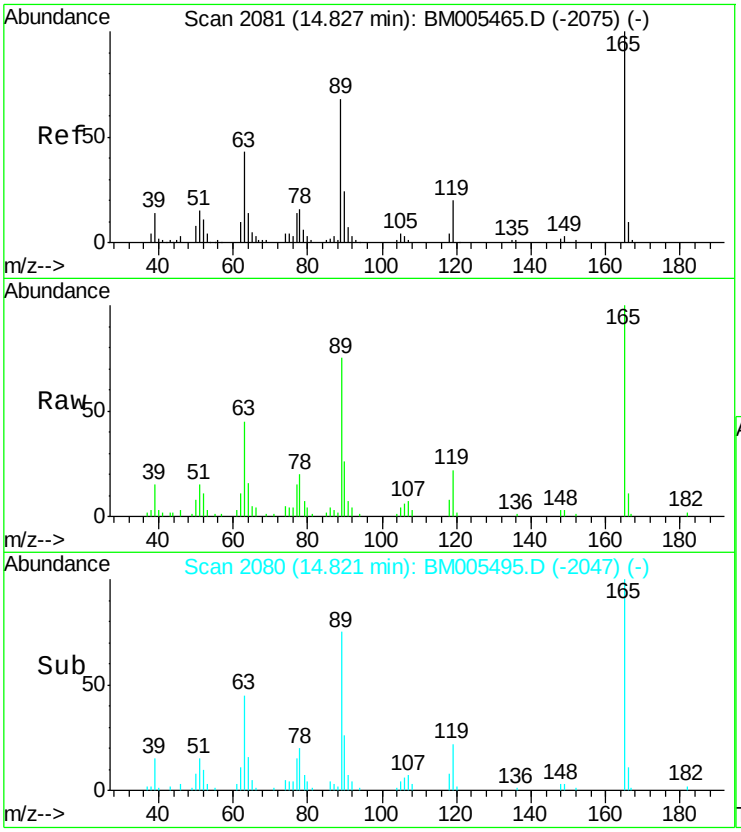


#52
4-Nitrophenol
Concen: 12.08 ng/ul
RT: 14.66 min Scan# 2052
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Tgt Ion:109 Resp: 25284

Ion	Ratio	Lower	Upper
109	100		
139	110.1	103.6	155.4
65	116.6	104.7	157.1



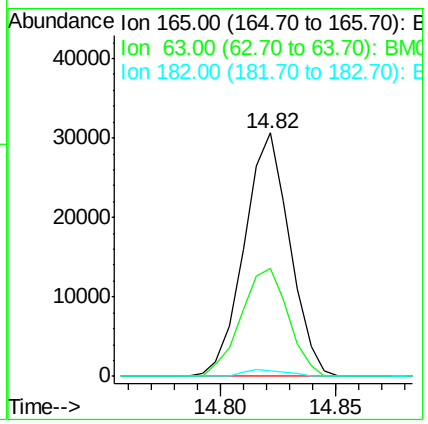


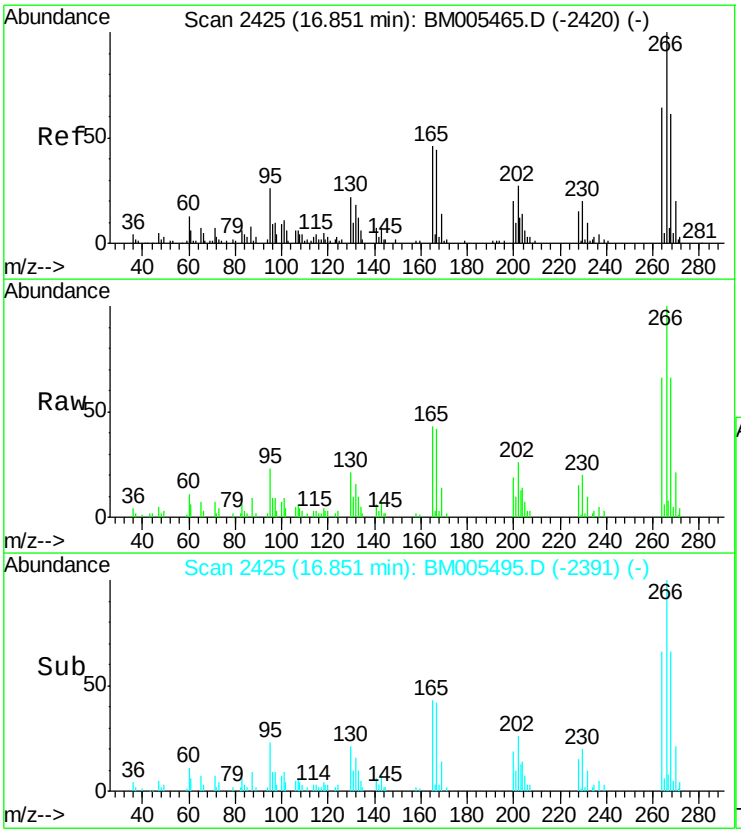
#54
2,4-Dinitrotoluene
Concen: 12.41 ng/ul
RT: 14.82 min Scan# 2080
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Instrument :
BNA_M
ClientSampleId :
H4086MS

Tgt Ion:165 Resp: 42106

Ion	Ratio	Lower	Upper
165	100		
63	44.5	36.2	54.4
182	2.0	2.5	3.7#

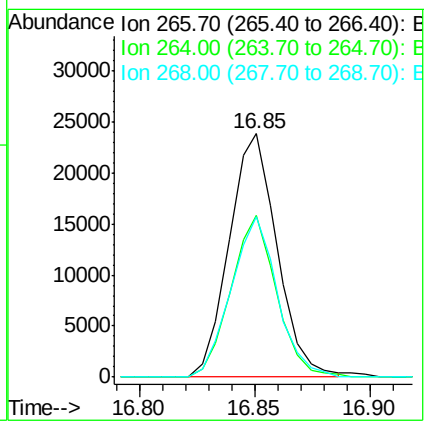


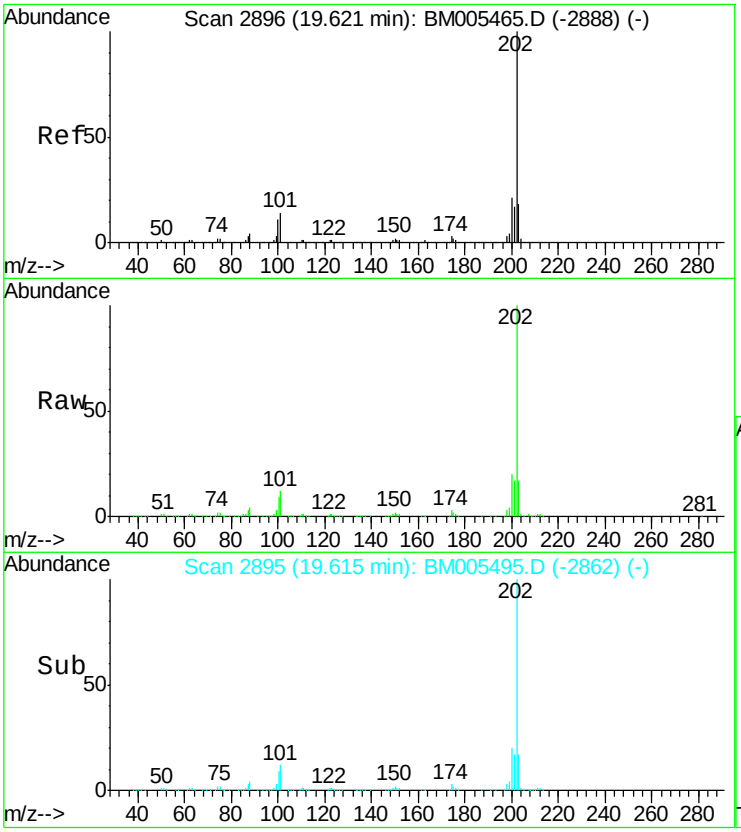


#68
Pentachlorophenol
Concen: 11.35 ng/ul
RT: 16.85 min Scan# 2425
Delta R.T. 0.00 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Tgt Ion:266 Resp: 34348

Ion	Ratio	Lower	Upper
266	100		
264	66.3	52.0	78.0
268	65.9	53.0	79.6



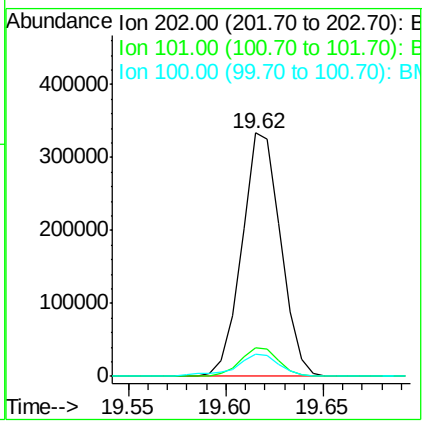


#77
Pyrene
Concen: 12.61 ng/ul
RT: 19.62 min Scan# 2895
Delta R.T. -0.01 min
Lab File: BM005495.D
Acq: 19 May 2016 06:37

Instrument :
BNA_M
ClientSampleId :
H4086MS

Tgt Ion:202 Resp: 458024

Ion	Ratio	Lower	Upper
202	100		
101	11.8	10.8	16.2
100	8.9	8.4	12.6



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005495.D
Acq On : 19 May 2016 06:37
Operator : UM/SJ
Sample : H2954-04MS
Misc :
ALS Vial : 35 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086MS

Quant Time: May 19 07:17:52 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.83	152	37452	20.00	ng/ul	0.00
18) Naphthalene-d8	10.63	136	194685	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.46	164	138602	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.20	188	399740	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	677843	20.00	ng/ul	-0.01
83) Perylene-d12	23.66	264	823320	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	1208	1.24	ng/uL	0.00
5) Phenol-d5	6.99	99	39547	10.99	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	23280	11.81	ng/ul	0.00
9) 2-Chlorophenol-d4	7.36	132	30479	11.03	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	36071	11.77	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	15691	11.19	ng/ul	0.00
22) 2-Nitrophenol-d4	9.71	143	17008	11.12	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.24	165	35597	11.71	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	55307	15.83	ng/ul	0.00
43) Dimethylphthalate-d6	13.87	166	144940	12.72	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	168999	12.56	ng/ul	0.00
51) 4-Nitrophenol-d4	14.64	143	22692	9.71	ng/ul	0.00
57) Fluorene-d10	15.46	176	134063	13.33	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.56	200	16760	7.95	ng/ul	0.00
70) Anthracene-d10	17.30	188	241651	13.14	ng/ul	0.00
76) Pyrene-d10	19.59	212	341660	12.54	ng/ul	0.00
87) Benzo(a)pyrene-d12	23.51	264	499646	13.57	ng/ul	-0.01
Target Compounds						Qvalue
6) Phenol	7.02	94	43489	11.50	ng/ul	100
10) 2-Chlorophenol	7.40	128	31299	11.01	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.63	70	30659	11.75	ng/ul	97
16) 4-Methylphenol	8.59	108	6316	1.91	ng/ul	98
33) 4-Chloro-3-methylphenol	11.90	107	48468	12.78	ng/ul	96
44) Dimethylphthalate	13.92	163	76084	6.55	ng/ul	98
49) Acenaphthene	14.53	153	120178	12.63	ng/ul	99
52) 4-Nitrophenol	14.66	109	25284	12.08	ng/ul	86
54) 2,4-Dinitrotoluene	14.82	165	42106	12.41	ng/ul#	99
68) Pentachlorophenol	16.85	266	34348	11.35	ng/ul	99
77) Pyrene	19.62	202	458024	12.61	ng/ul	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-05MSD
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005496.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
123-91-1	1,4-Dioxane	140	U
100-52-7	Benzaldehyde	690	U
108-95-2	Phenol	640	J
111-44-4	Bis(2-Chloroethyl)ether	690	U
95-57-8	2-Chlorophenol	600	
95-48-7	2-Methylphenol	690	U
108-60-1	2,2-oxybis(1-Chloropropane)	690	U
98-86-2	Acetophenone	690	U
106-44-5	4-Methylphenol	160	J
621-64-7	N-Nitroso-di-n-propylamine	670	
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	Bis(2-Chloroethoxy)methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	690	U
87-68-3	Hexachlorobutadiene	360	U
105-60-2	Caprolactam	690	U
59-50-7	4-Chloro-3-methylphenol	700	
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	690	U
88-06-2	2,4,6-Trichlorophenol	360	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-05MSD
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005496.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

CAS NO.	ANALYTE	CONCENTRATION	Q
95-95-4	2,4,5-Trichlorophenol	360	U
92-52-4	1,1-Biphenyl	360	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	310	J
606-20-2	2,6-Dinitrotoluene	360	U
208-96-8	Acenaphthylene	360	U
99-09-2	3-Nitroaniline	690	U
83-32-9	Acenaphthene	720	
51-28-5	2,4-Dinitrophenol	690	U
100-02-7	4-Nitrophenol	730	
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	680	
84-66-2	Diethylphthalate	360	U
86-73-7	Fluorene	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
100-01-6	4-Nitroaniline	690	U
534-52-1	4,6-Dinitro-2-methylphenol	690	U
86-30-6	N-Nitrosodiphenylamine	360	U
95-94-3	1,2,4,5-Tetrachlorobenzene	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
1912-24-9	Atrazine	690	U
87-86-5	Pentachlorophenol	640	J
85-01-8	Phenanthrene	360	U

FORM 1A-OR
ORGANIC ANALYSIS DATA SHEET
TARGET ANALYTE LIST

EPA SAMPLE NO.
H4086MSD

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 46114
MA No. : SDG No.: H4082
Analytical Method : SVOA
Level : LOW
Matrix : Soil
Lab Sample ID : H2954-05MSD
Sample wt/vol : 30.1 (g/mL): g
Lab File ID : BM005496.D
% Solids : 47.8
Date Received : 05/05/2016
GC Column : ZB-GR ID : 0.25 (mm)
Date Extracted : 05/12/2016
GC Column : ID : (mm)
Date Analyzed : 05/19/2016
Extract Concentrated :(Y / N) Y
Extract Volume : 500 (µL)
Soil Aliquot (VOA) : (µL)
Extraction Type : SOXH
Heated Purge : (Y / N)
Injection Volume : 1.0 (µL)
Purge Volume : (mL)
pH : Dilution Factor : 1.0
Cleanup Types : GPC
Cleanup Factor : 2.0
Concentration Units (µg/L,mg/L,µg/kg): µg/kg

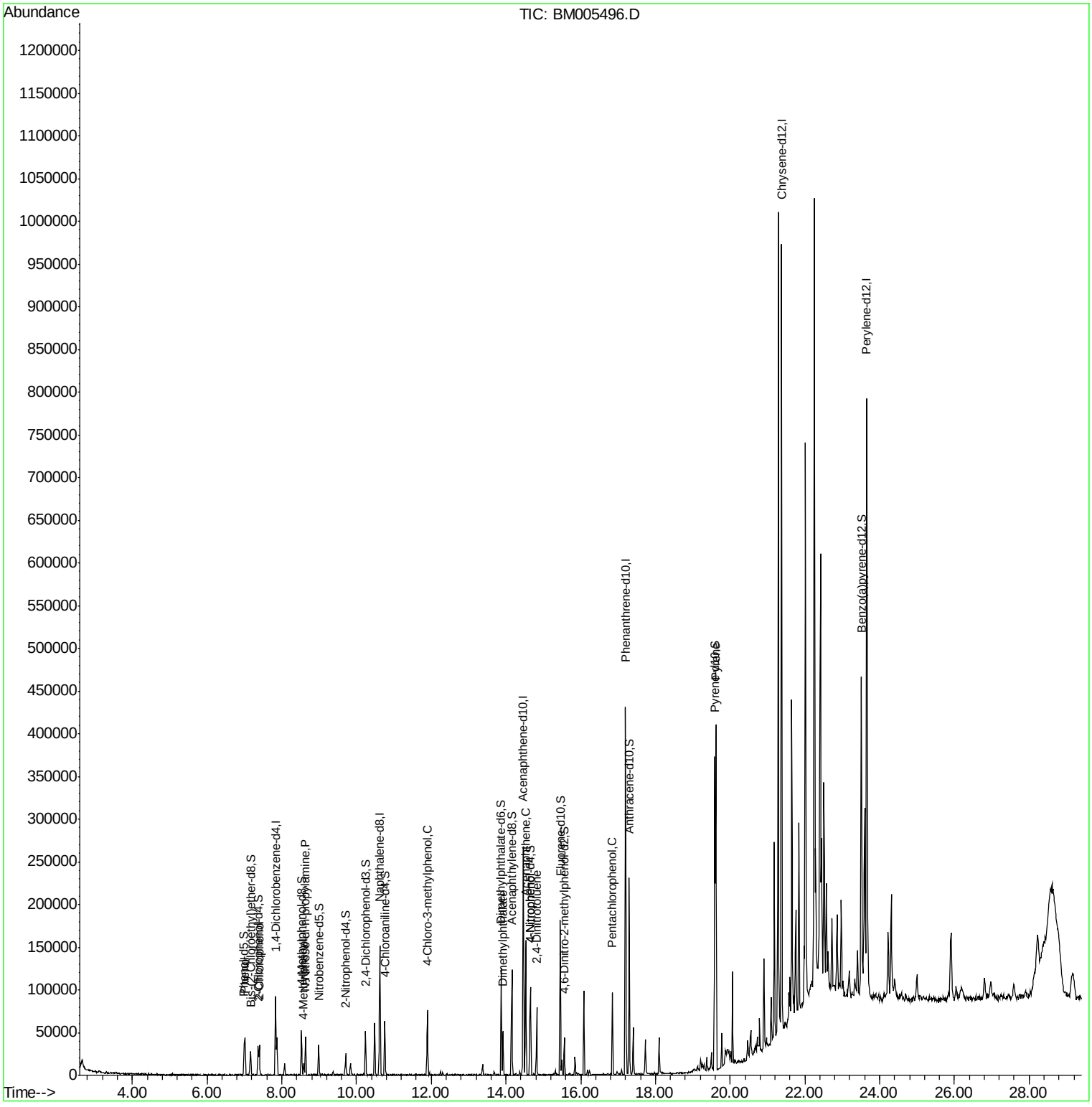
CAS NO.	ANALYTE	CONCENTRATION	Q
120-12-7	Anthracene	360	U
86-74-8	Carbazole	690	U
84-74-2	Di-n-butylphthalate	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	710	
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	360	U
218-01-9	Chrysene	360	U
117-81-7	Bis(2-ethylhexyl)phthalate	360	U
117-84-0	Di-n-octyl phthalate	690	U
205-99-2	Benzo(b)fluoranthene	360	U
207-08-9	Benzo(k)fluoranthene	360	U
50-32-8	Benzo(a)pyrene	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	360	U
53-70-3	Dibenzo(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	360	U
58-90-2	2,3,4,6-Tetrachlorophenol	360	U

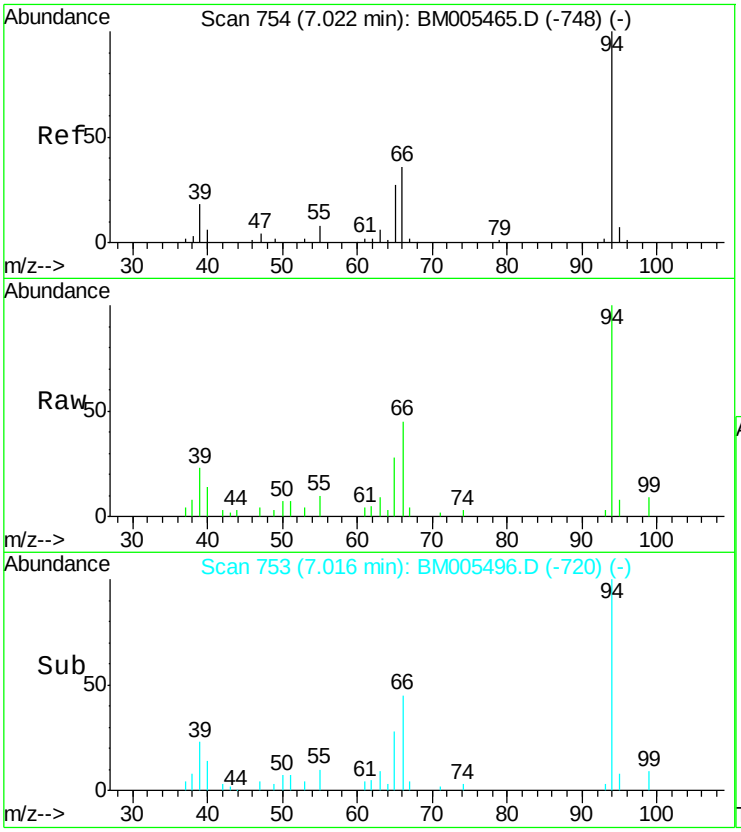
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005496.D
Acq On : 19 May 2016 07:13
Operator : UM/SJ
Sample : H2954-05MSD
Misc :
ALS Vial : 36 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086MSD

Quant Time: May 19 07:54:59 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration



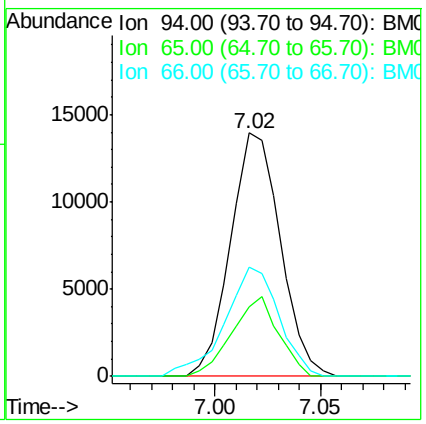


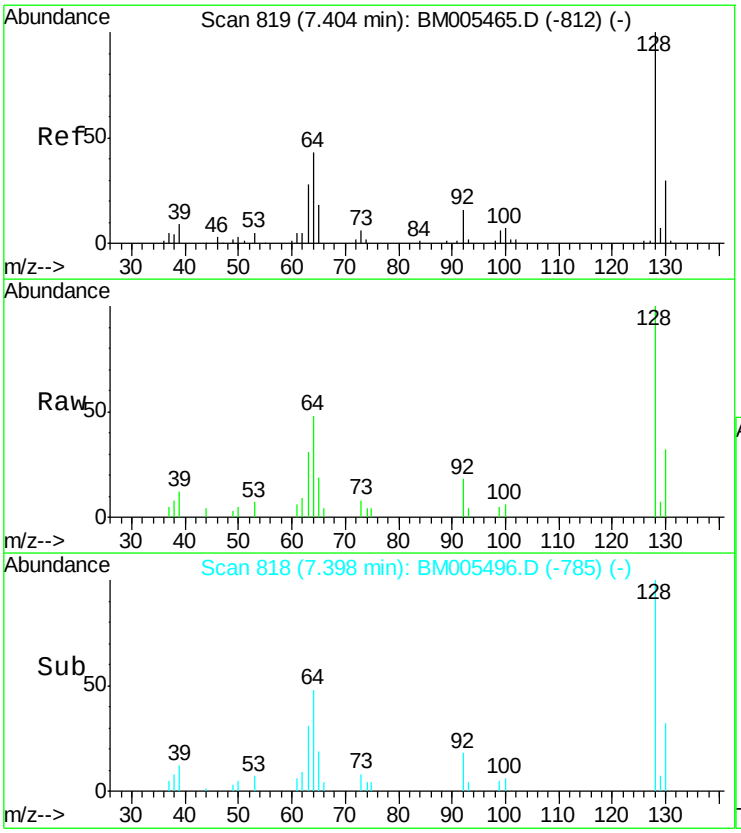
#6
Phenol
Concen: 9.17 ng/ul
RT: 7.02 min Scan# 753
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Instrument :
BNA_M
ClientSampleId :
H4086MSD

Tgt Ion: 94 Resp: 22846

Ion	Ratio	Lower	Upper
94	100		
65	28.3	22.7	34.1
66	44.7	31.7	47.5

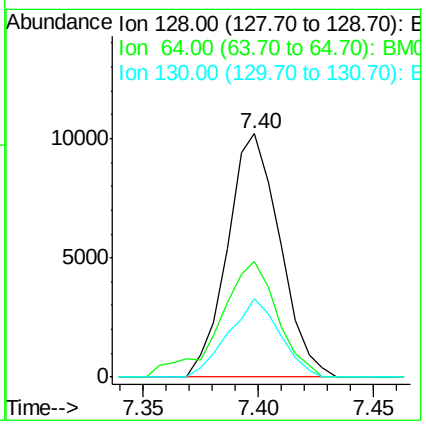


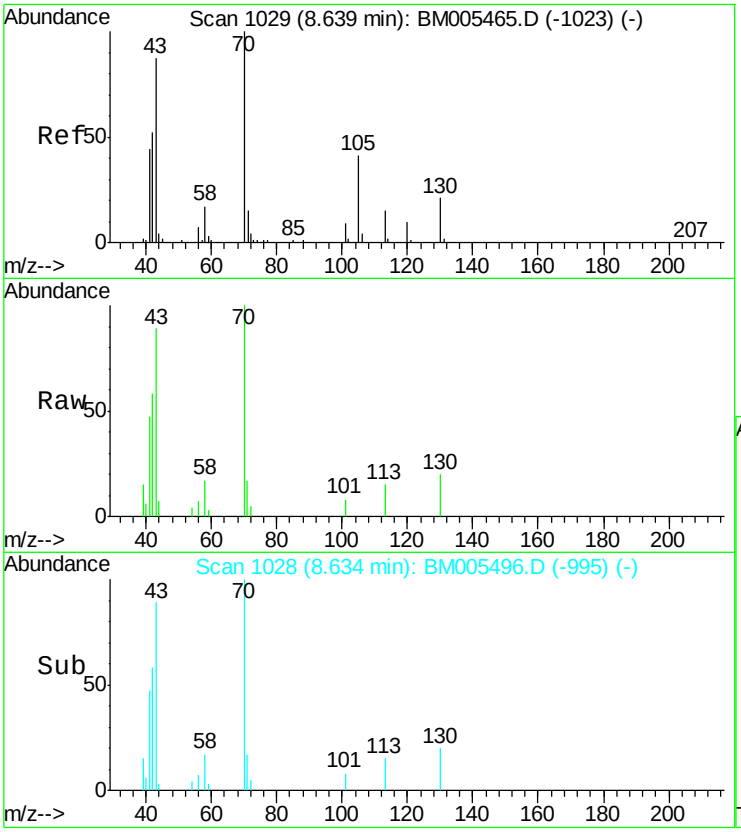


#10
2-Chlorophenol
Concen: 8.60 ng/ul
RT: 7.40 min Scan# 818
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Tgt Ion:128 Resp: 16105

Ion	Ratio	Lower	Upper
128	100		
64	47.7	37.8	56.8
130	32.3	24.9	37.3



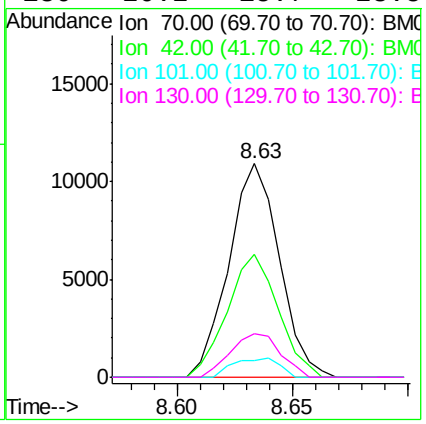


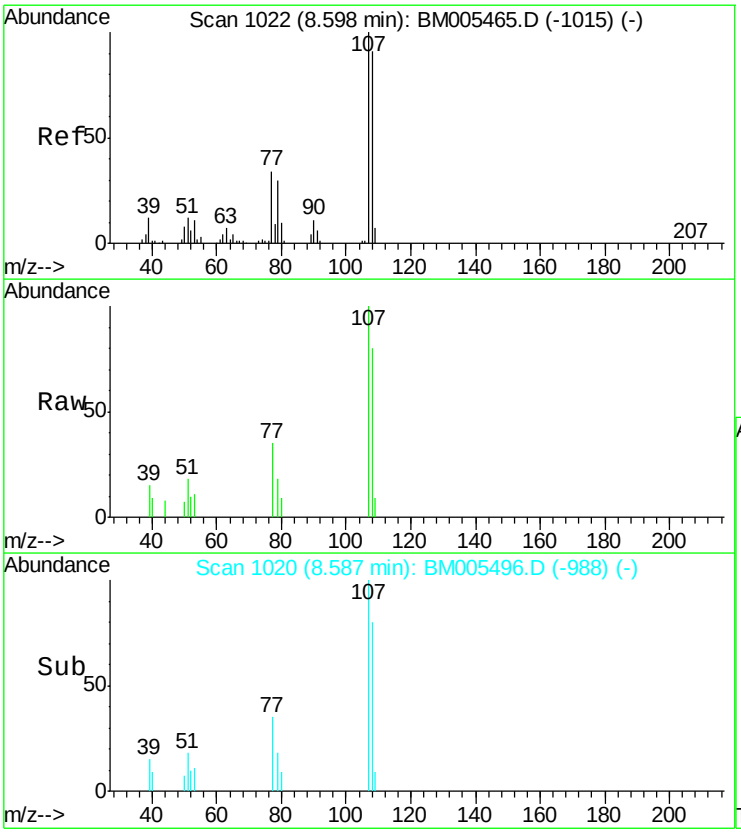
#15
N-Nitroso-di-n-propylamine
Concen: 9.68 ng/ul
RT: 8.63 min Scan# 1028
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Instrument :
BNA_M
ClientSampleId :
H4086MSD

Tgt Ion: 70 Resp: 16634

Ion	Ratio	Lower	Upper
70	100		
42	57.6	42.8	64.2
101	7.6	7.8	11.6#
130	20.2	15.7	23.5

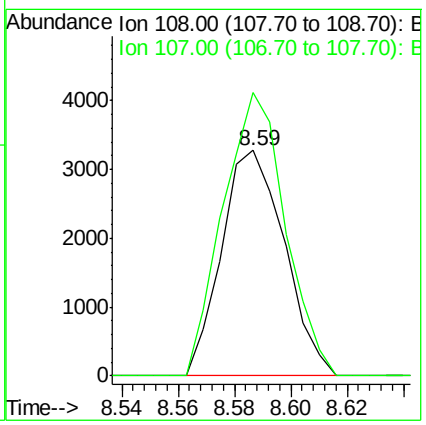


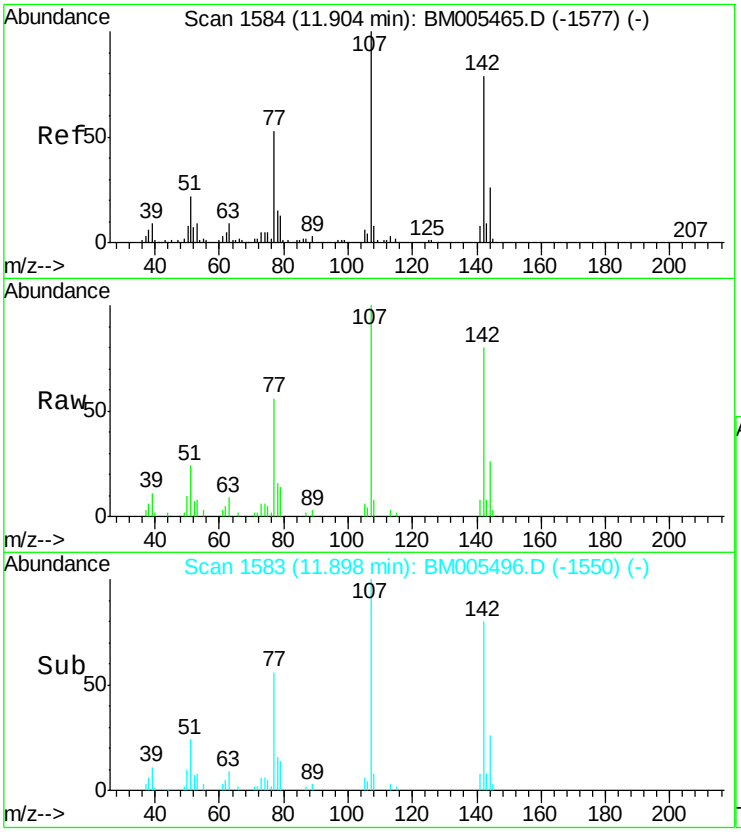


#16
4-Methylphenol
Concen: 2.33 ng/ul
RT: 8.59 min Scan# 1020
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Tgt Ion:108 Resp: 5068

Ion	Ratio	Lower	Upper
108	100		
107	125.4	91.1	136.7



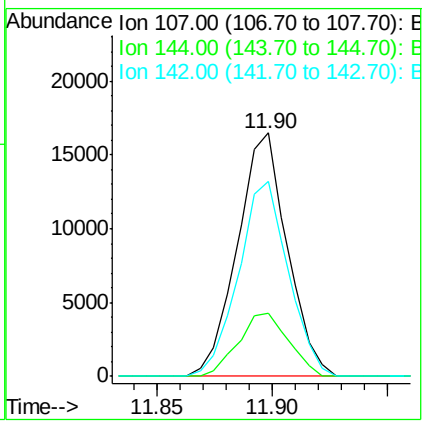


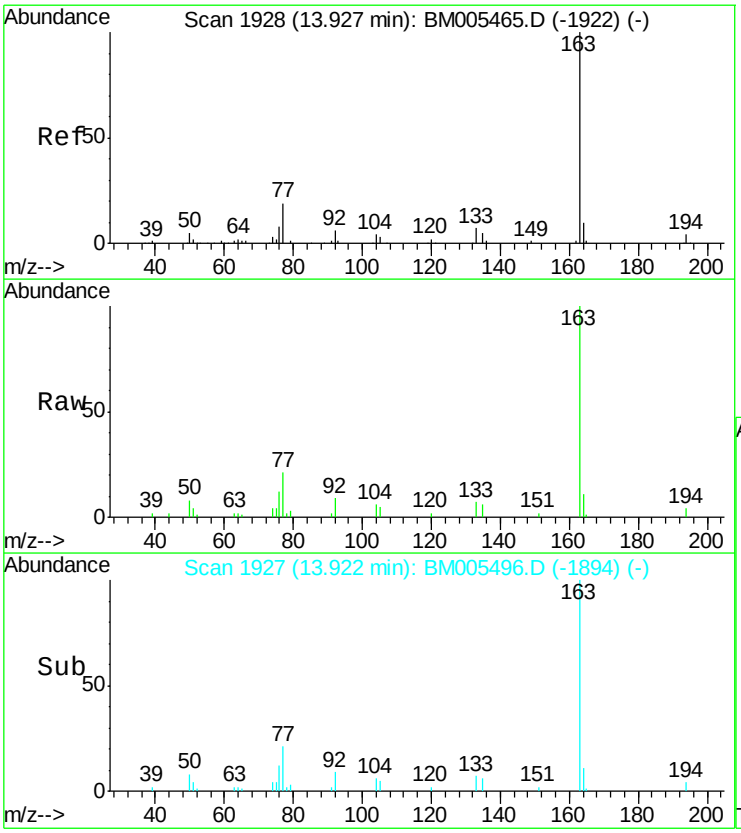
#33
4-Chloro-3-methylphenol
Concen: 10.01 ng/ul
RT: 11.90 min Scan# 1583
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Instrument :
BNA_M
ClientSampleId :
H4086MSD

Tgt Ion:107 Resp: 24799

Ion	Ratio	Lower	Upper
107	100		
144	25.8	19.3	28.9
142	80.1	60.8	91.2

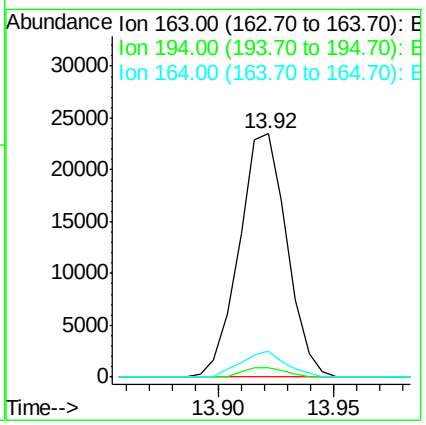


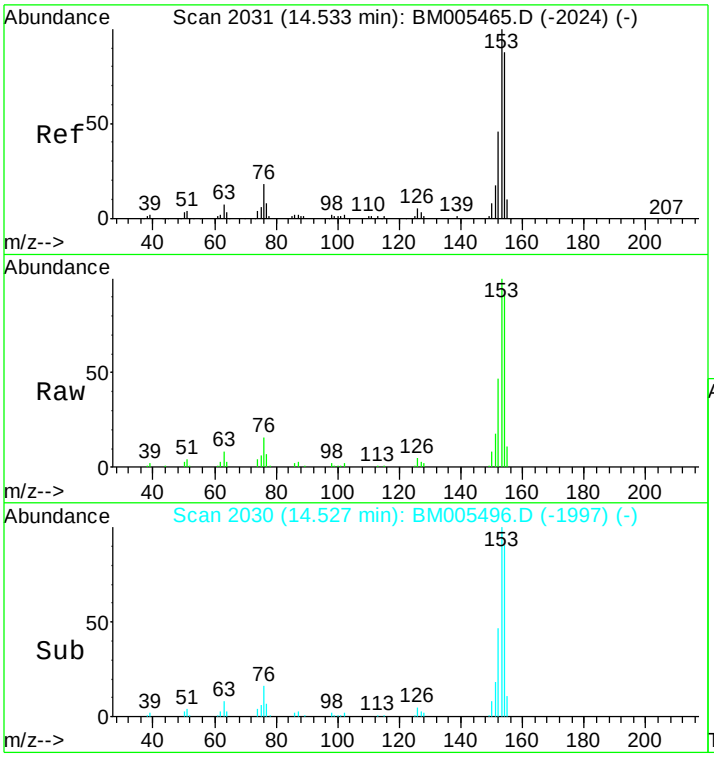


#44
Dimethylphthalate
Concen: 4.47 ng/ul
RT: 13.92 min Scan# 1927
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Tgt Ion:163 Resp: 33792

Ion	Ratio	Lower	Upper
163	100		
194	4.1	3.4	5.0
164	10.6	7.9	11.9



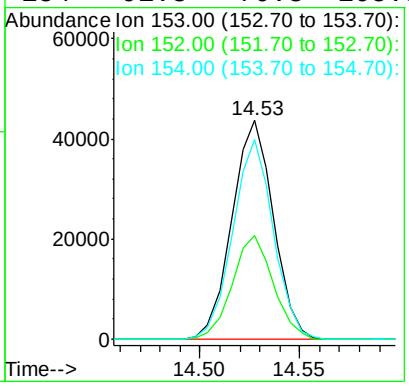


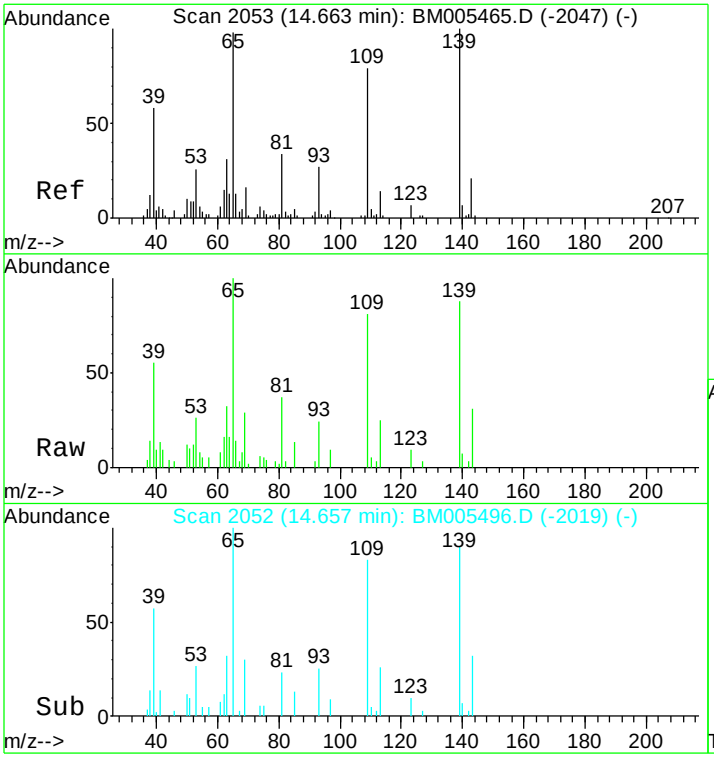
#49
Acenaphthene
Concen: 10.28 ng/ul
RT: 14.53 min Scan# 2030
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Instrument :
BNA_M
ClientSampleId :
H4086MSD

Tgt Ion:153 Resp: 63587

Ion	Ratio	Lower	Upper
153	100		
152	47.2	38.9	58.3
154	91.3	70.3	105.5

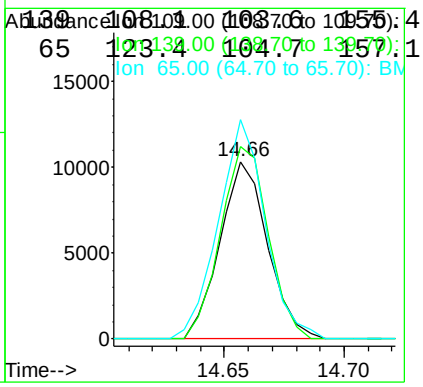


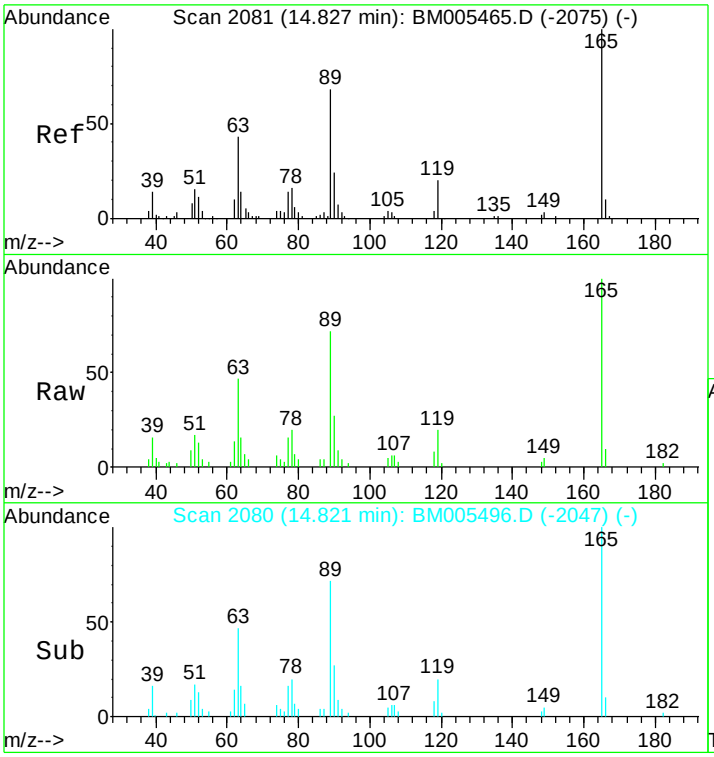


#52
4-Nitrophenol
Concen: 10.49 ng/ul
RT: 14.66 min Scan# 2052
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Tgt Ion:109 Resp: 14278

Ion	Ratio	Lower	Upper
109	100		
139	108.1	103.6	155.4
65	123.4	104.7	157.1



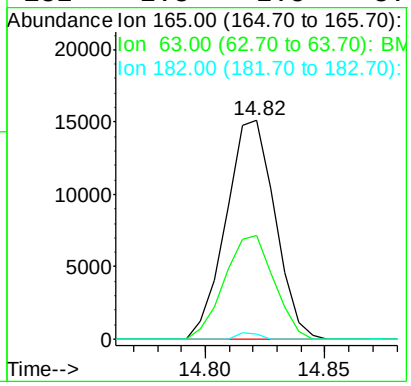


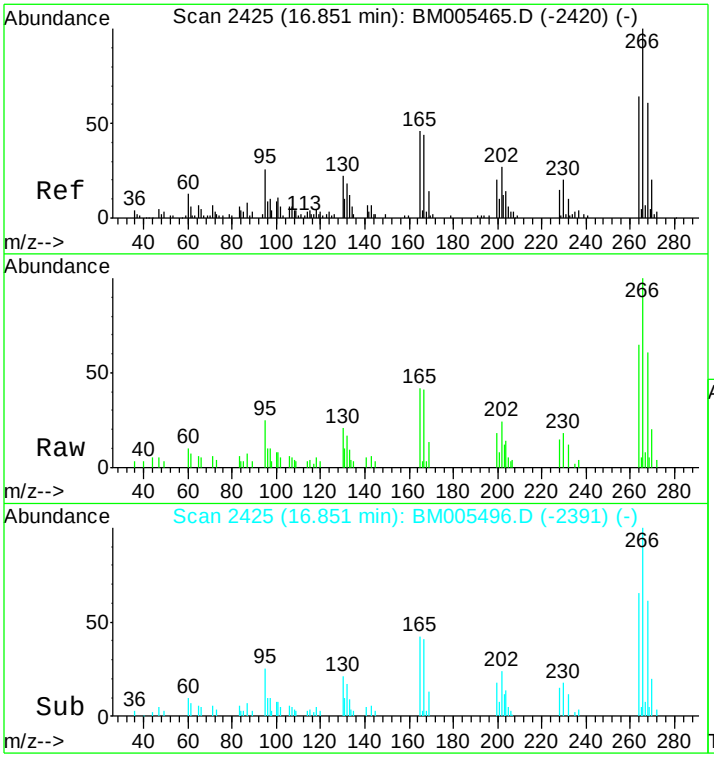
#54
2,4-Dinitrotoluene
Concen: 9.75 ng/ul
RT: 14.82 min Scan# 2080
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Instrument :
BNA_M
ClientSampleId :
H4086MSD

Tgt Ion:165 Resp: 21515

Ion	Ratio	Lower	Upper
165	100		
63	47.3	36.2	54.4
182	2.3	2.5	3.7#

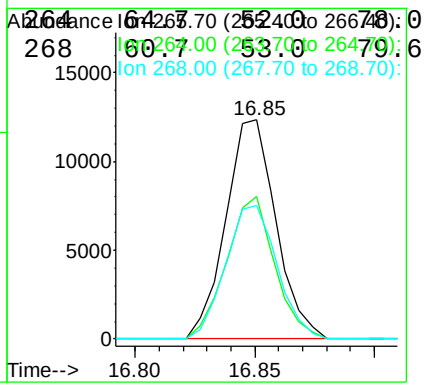


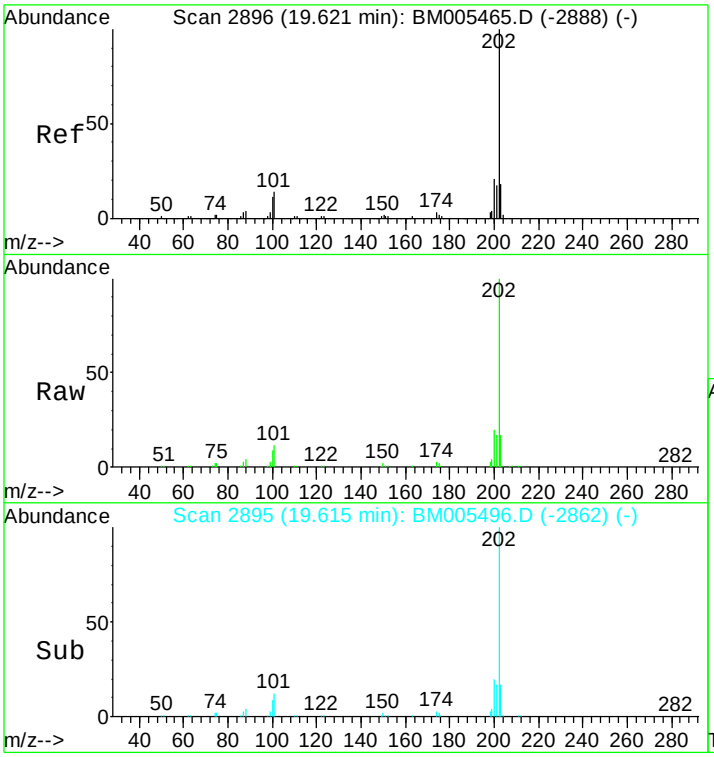


#68
Pentachlorophenol
Concen: 9.25 ng/ul
RT: 16.85 min Scan# 2425
Delta R.T. 0.00 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Tgt Ion:266 Resp: 18003

Ion	Ratio	Lower	Upper
266	100		
264	64.7	52.0	78.0
268	60.7	53.0	79.6

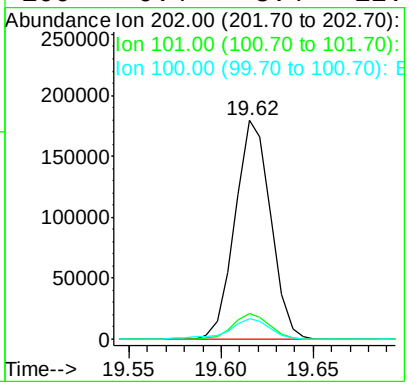




#77
Pyrene
Concen: 10.15 ng/ul
RT: 19.62 min Scan# 2895
Delta R.T. -0.01 min
Lab File: BM005496.D
Acq: 19 May 2016 07:13

Tgt Ion:202 Resp: 241369

Ion	Ratio	Lower	Upper
202	100		
101	11.9	10.8	16.2
100	9.4	8.4	12.6



Instrument :
BNA_M
ClientSampleId :
H4086MSD

Quantitation Report (QT Reviewed)

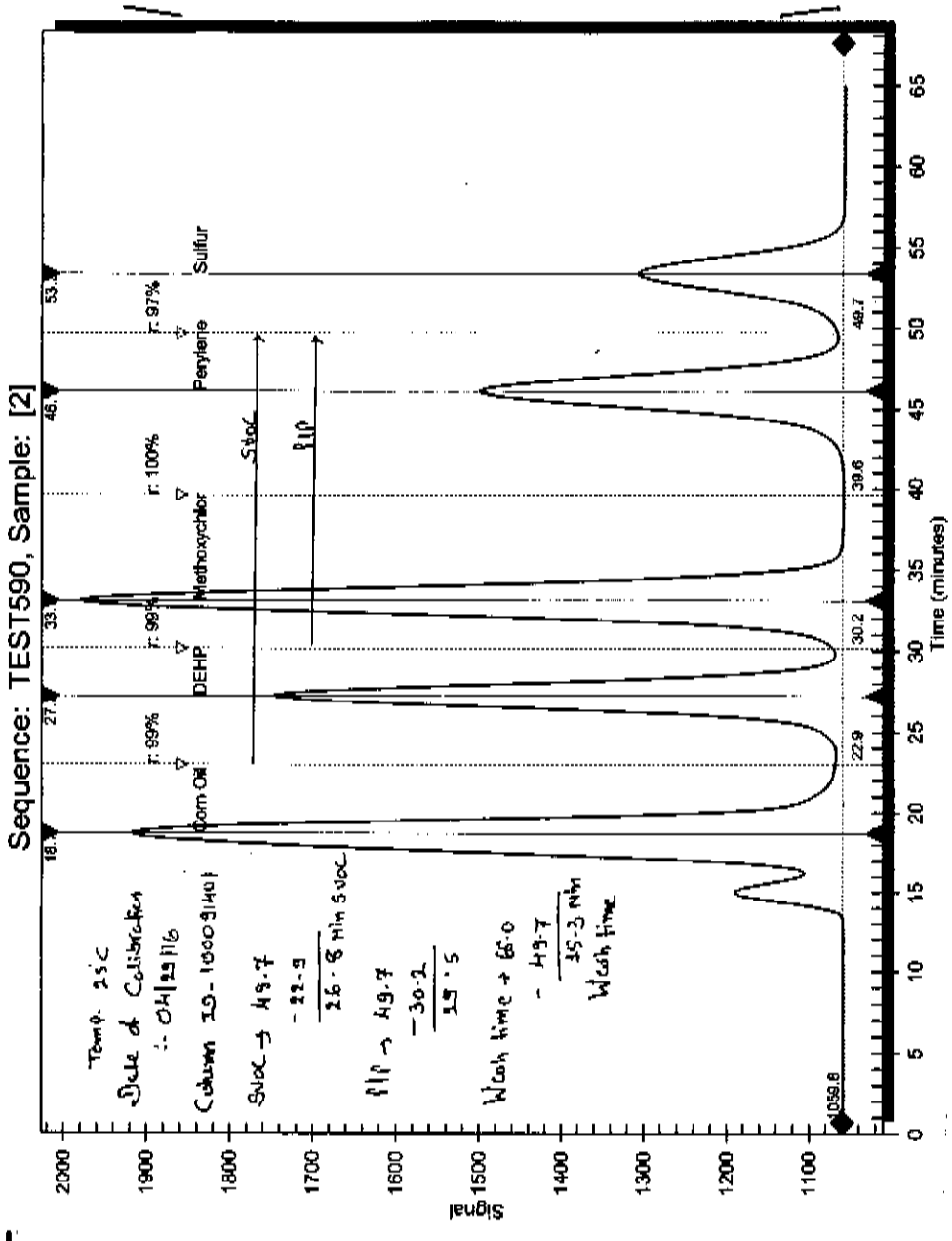
Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051816\
Data File : BM005496.D
Acq On : 19 May 2016 07:13
Operator : UM/SJ
Sample : H2954-05MSD
Misc :
ALS Vial : 36 Sample Multiplier: 1

Instrument : BNA_M
ClientSampleId : H4086MSD

Quant Time: May 19 07:54:59 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM051816.M
Quant Title : SVOA CALIBRATION
QLast Update : Wed May 18 14:47:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.83	152	24674	20.00	ng/ul	0.00
18) Naphthalene-d8	10.62	136	127242	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.46	164	90125	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.20	188	256975	20.00	ng/ul	0.00
75) Chrysene-d12	21.37	240	444006	20.00	ng/ul	-0.01
83) Perylene-d12	23.66	264	525159	20.00	ng/ul	-0.01
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.32	96	460	0.72	ng/uL	0.00
5) Phenol-d5	6.99	99	21649	9.13	ng/ul	0.00
7) Bis-(2-Chloroethyl)ether-d	7.17	67	13154	10.13	ng/ul	0.00
9) 2-Chlorophenol-d4	7.37	132	16659	9.15	ng/ul	0.00
13) 4-Methylphenol-d8	8.53	113	19942	9.88	ng/ul	0.00
19) Nitrobenzene-d5	8.99	128	8136	8.88	ng/ul	0.00
22) 2-Nitrophenol-d4	9.70	143	9062	9.07	ng/ul	0.00
26) 2,4-Dichlorophenol-d3	10.24	165	19326	9.73	ng/ul	0.00
29) 4-Chloroaniline-d4	10.76	131	32510	14.23	ng/ul	0.00
43) Dimethylphthalate-d6	13.87	166	82896	11.19	ng/ul	0.00
46) Acenaphthylene-d8	14.16	160	90510	10.35	ng/ul	0.00
51) 4-Nitrophenol-d4	14.65	143	13891	9.14	ng/ul	0.00
57) Fluorene-d10	15.46	176	73519	11.25	ng/ul	0.00
62) 4,6-Dinitro-2-methylphenol	15.56	200	10252	7.57	ng/ul	0.00
70) Anthracene-d10	17.30	188	129936	10.99	ng/ul	0.00
76) Pyrene-d10	19.59	212	192533	10.78	ng/ul	-0.01
87) Benzo(a)pyrene-d12	23.51	264	270288	11.51	ng/ul	-0.01
Target Compounds						Qvalue
6) Phenol	7.02	94	22846	9.17	ng/ul	95
10) 2-Chlorophenol	7.40	128	16105	8.60	ng/ul	99
15) N-Nitroso-di-n-propylamine	8.63	70	16634	9.68	ng/ul#	95
16) 4-Methylphenol	8.59	108	5068	2.33	ng/ul	89
33) 4-Chloro-3-methylphenol	11.90	107	24799	10.01	ng/ul	96
44) Dimethylphthalate	13.92	163	33792	4.47	ng/ul	99
49) Acenaphthene	14.53	153	63587	10.28	ng/ul	97
52) 4-Nitrophenol	14.66	109	14278	10.49	ng/ul	88
54) 2,4-Dinitrotoluene	14.82	165	21515	9.75	ng/ul#	97
68) Pentachlorophenol	16.85	266	18003	9.25	ng/ul	96
77) Pyrene	19.62	202	241369	10.15	ng/ul	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed



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Daily Analysis Runlog

J2 SCIENTIFIC ACCUPREP GPC System

Start Date: 05/02/16 End Date: 05/09/16 Analyst: [illegible] Review By: [illegible]

STD. Name	STD REF. #:	Check Standard	Data File and Date	Reagent
GPC Calibration	E# 1670	BNA Blank Check		Methylene Chloride
Pest Check Std	PP 10896 2.0 mL	Pesticide Blank Check		Reagent Reference #
PCB Check Std	PP 10906 1.0 mL	Pesticide Check		E 2105
CALIB. DATE:	04/29/16	PCB Check		

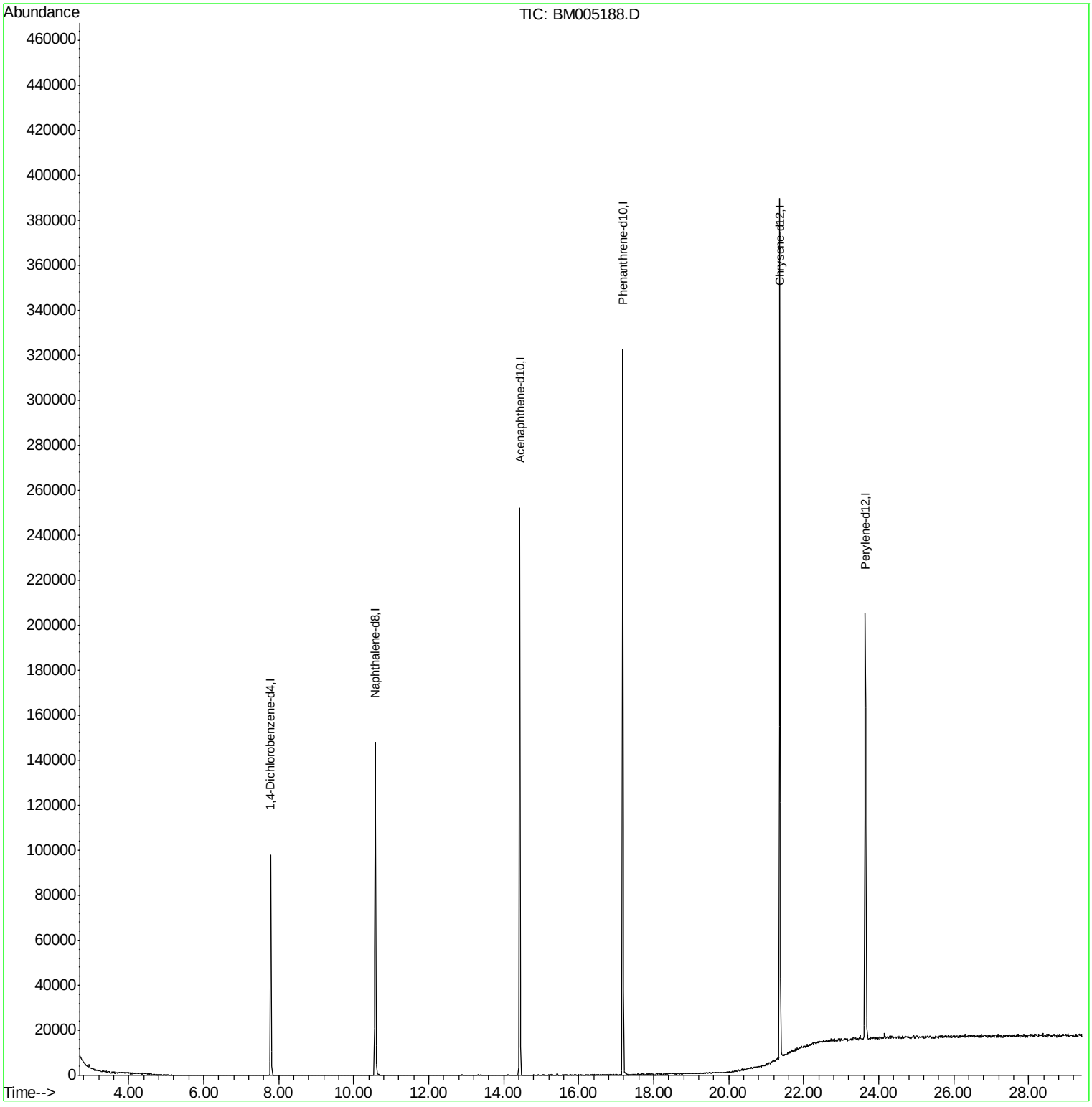
	Port #	Sample ID	Volume Collected	GPC Date	BNA	PEST	Comments
	1	Column Cleaned	-	04/29/16	-	-	
	2	GPC Calibration	-	1	-	-	U.V. Trace Analysis
	1	Column Cleaned	-	04/29/16	-	-	
	2	H 2796-09 Prg Blk	SS		-	✓	H 2796-BN Recovery
	3	H 2798-05 PCB Blk	SS		-	✓	
	4	H 2798-07 Pest Blk	SS		-	✓	
	5	H 2798-06 Pest Blk	SS		-	✓	
	6	H 2798-05 BN	FT		✓	-	

Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM050216\
Data File : BM005188.D
Acq On : 02 May 2016 12:20
Operator : UM/SJ
Sample : H2798-05
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SVOC-GPC-BLANK

Quant Time: May 03 10:49:19 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Tue May 03 03:20:39 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA M\DATA\BM050216\
Data File : BM005188.D
Acq On : 02 May 2016 12:20
Operator : UM/SJ
Sample : H2798-05
Misc :
ALS Vial : 3 Sample Multiplier: 1

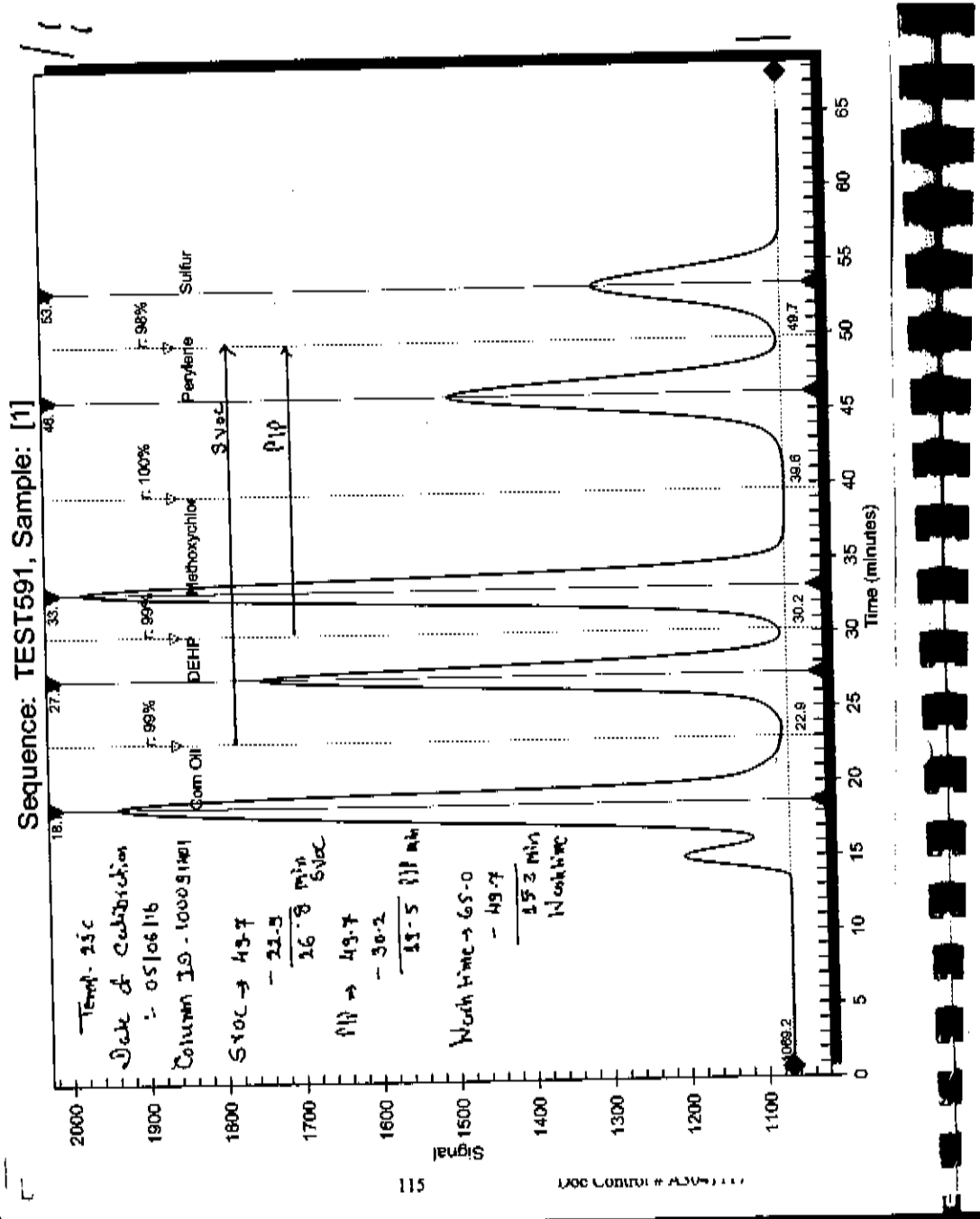
Instrument : BNA_M
ClientSampleId : SVOC-GPC-BLANK

Quant Time: May 03 10:49:19 2016
Quant Method : Z:\HPCHEM1\BNA M\METHODS\SOM02.2-EPA-BM042516.M
Quant Title : SVOA CALIBRATION
QLast Update : Tue May 03 03:20:39 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.79	152	28304	20.00	ng/ul	0.00
18) Naphthalene-d8	10.57	136	133029	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.43	164	86989	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.17	188	202031	20.00	ng/ul	0.00
75) Chrysene-d12	21.36	240	179336	20.00	ng/ul	0.00
83) Perylene-d12	23.64	264	145233	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0	0.00	ng/uL	
5) Phenol-d5	0.00	99	0	0.00	ng/ul	
7) Bis-(2-Chloroethyl)ether-d	0.00	67	0	0.00	ng/ul	
9) 2-Chlorophenol-d4	0.00	132	0	0.00	ng/ul	
13) 4-Methylphenol-d8	0.00	113	0	0.00	ng/ul	
19) Nitrobenzene-d5	0.00	128	0	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0	0.00	ng/ul	
29) 4-Chloroaniline-d4	0.00	131	0	0.00	ng/ul	
43) Dimethylphthalate-d6	0.00	166	0	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0	0.00	ng/ul	
51) 4-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
57) Fluorene-d10	0.00	176	0d	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	0.00	200	0	0.00	ng/ul	
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed



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Daily Analysis Runlog

J2 SCIENTIFIC ACCUPREP GPC System

Start Date: 05/09/16 End Date: 05/15/16 Analyst: MJ JLM Review By: _____

STD. Name	STD REF. #:	Check Standard	Data File and Date	Reagent
GPC Calibration	E11670	BNA Blank Check		Methylene Chloride
Pest Check Std	PP 10896 2.0 mL	Pesticide Blank Check		Reagent Reference #
PCB Check Std	PP 10806 1.0 mL	Pesticide Check		E 2105
CALIB. DATE:	05/06/16	PCB Check		

	Port #	Sample ID	Volume Collected	GPC Date	BNA	PEST	Comments
	1	Calc Calibration	-	05/06/16	-	-	W.V. Trace Analysis
	1	Column Cleaned	-	05/06/16	-	-	
	2	H2918 - 09 BCA SIX	55		-	✓	H2918 Bnl Pes Test
	3	H2918 - 08 Pes Blk	55		-	✓	
	4	H2918 - 07 Pest SIX	55		-	✓	
	5	H2918 - 06 Pest Blk	55		-	✓	
	6	H2918 - 05 BlkBN	75		✓	-	

5/16

Daily Maintenance Runlog For J2 SCIENTIFIC ACCUPREP GPC System

	Analyst Initial	Performed
1.	JR 5/12	Filling of Mecl2
2.		
3		
4		
5		

Daily Analysis Runlog
J2 SCIENTIFIC ACCUPREP GPC System

Start Date: 05/08/16 End Date: 05/12/16 Analyst JR/MM Review By:

STD. Name	STD REF. #:	Check Standard	Data File and Date	Reagent
GPC Calibration	EP1670	BNA Blank Check		Methylene Chloride
Pest Check Std	PP 10956 2.0 ML	Pesticide Blank Check		Reagent Reference #
PCB Check Std	PP 10906 1.0 ML	Pesticide Check		E 2110
CALIB. DATE:	05/06/16	PCB Check		

	Port #	Sample ID	Volume Collected	GPC Date	BNA	PEST	Comments
	1	H 2954-01 BW 2.2	95	05/12/16	✓	–	H 2954 BW 2.2
	2	-02	95		✓	–	
	3	MW-04	95		✓	–	
	4	MW-05	95		✓	–	
	5	H 2922-01 BW	95		✓	–	H 2922-BW 2.2
	6	-02 MW	95		✓	–	
	7	-03 MW	95		✓	–	
	8	BLK BW	95		✓	–	

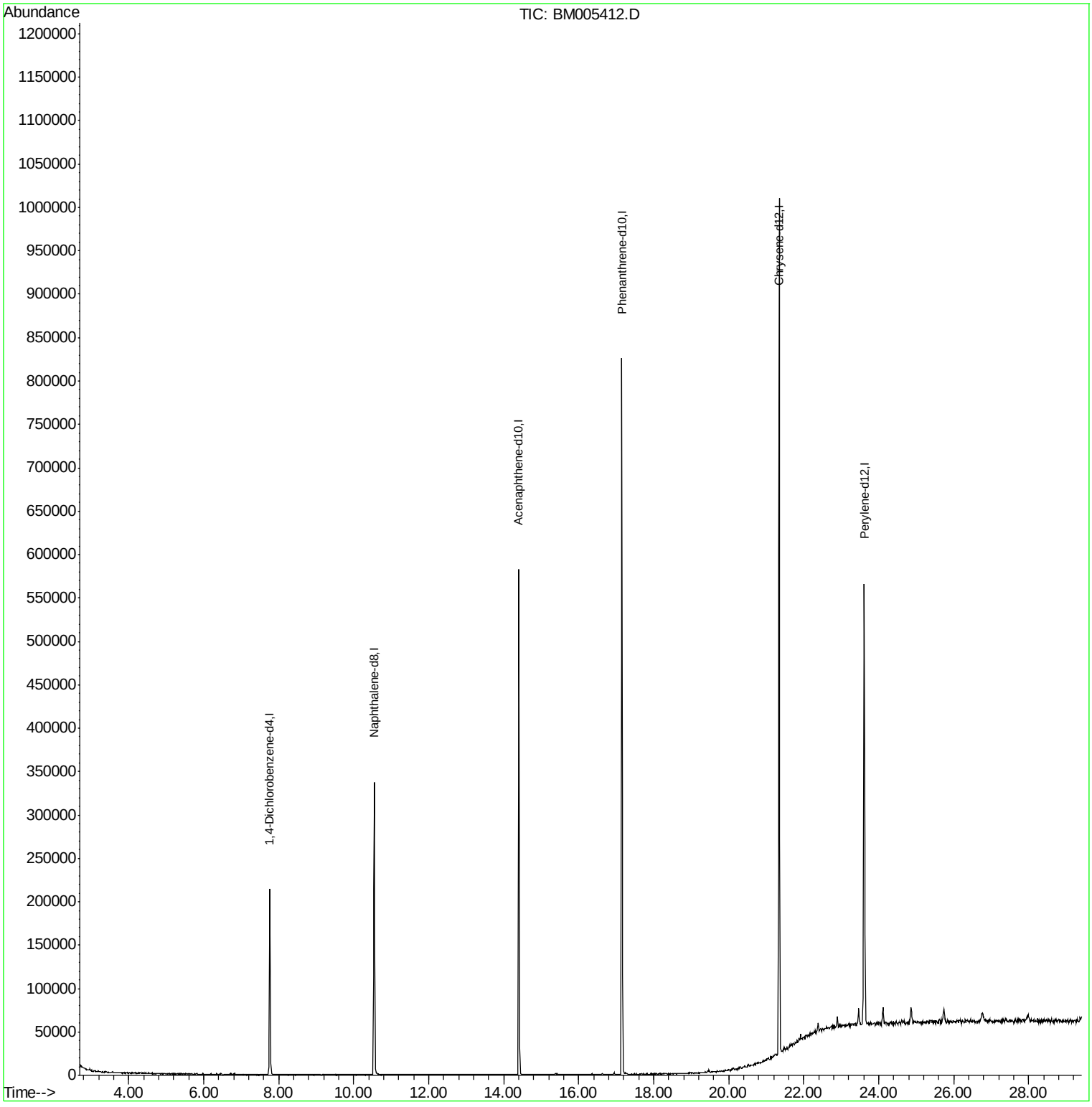
Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051216\
Data File : BM005412.D
Acq On : 12 May 2016 10:12
Operator : UM/SJ
Sample : H2918-05
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 13 16:39:35 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Instrument :
BNA_M
ClientSampleId :
SVOC-GPC-BLANK

Manual Integrations APPROVED
sohil
5/13/2016 8:01:51 PM



Quantitation Report (QT Reviewed)

Data Path : Z:\HPCHEM1\BNA_M\DATA\BM051216\
Data File : BM005412.D
Acq On : 12 May 2016 10:12
Operator : UM/SJ
Sample : H2918-05
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_M
ClientSampleId :
SVOC-GPC-BLANK

Manual Integrations APPROVED
sohil
5/13/2016 8:01:51 PM

Quant Time: May 13 16:39:35 2016
Quant Method : Z:\HPCHEM1\BNA_M\METHODS\SOM02.2-EPA-BM050516.M
Quant Title : SVOA CALIBRATION
QLast Update : Fri May 13 03:22:52 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.76	152	59968	20.00	ng/ul	0.00
18) Naphthalene-d8	10.55	136	284743	20.00	ng/ul	0.00
35) Acenaphthene-d10	14.40	164	205181	20.00	ng/ul	0.00
61) Phenanthrene-d10	17.15	188	503247	20.00	ng/ul	0.00
75) Chrysene-d12	21.34	240	493250	20.00	ng/ul	0.00
83) Perylene-d12	23.61	264	375547	20.00	ng/ul	0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	0.00	96	0	0.00	ng/uL	
5) Phenol-d5	0.00	99	0	0.00	ng/ul	
7) Bis-(2-Chloroethyl)ether-d	0.00	67	0	0.00	ng/ul	
9) 2-Chlorophenol-d4	0.00	132	0	0.00	ng/ul	
13) 4-Methylphenol-d8	0.00	113	0	0.00	ng/ul	
19) Nitrobenzene-d5	0.00	128	0	0.00	ng/ul	
22) 2-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
26) 2,4-Dichlorophenol-d3	0.00	165	0	0.00	ng/ul	
29) 4-Chloroaniline-d4	0.00	131	0	0.00	ng/ul	
43) Dimethylphthalate-d6	0.00	166	0	0.00	ng/ul	
46) Acenaphthylene-d8	0.00	160	0	0.00	ng/ul	
51) 4-Nitrophenol-d4	0.00	143	0	0.00	ng/ul	
57) Fluorene-d10	0.00	176	0d	0.00	ng/ul	
62) 4,6-Dinitro-2-methylphenol	0.00	200	0	0.00	ng/ul	
70) Anthracene-d10	0.00	188	0d	0.00	ng/ul	
76) Pyrene-d10	0.00	212	0	0.00	ng/ul	
87) Benzo(a)pyrene-d12	0.00	264	0d	0.00	ng/ul	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Prep Standard - Chemical Standard Summary

Order ID : H2954

Test : VOC-TCLVOA-10

Prepbatch ID :

Sequence ID/Qc Batch ID: VT051216,VT051316,VT051116,VT051316

Standard ID :
VP47998,VP51898,VP51899,VP52015,VP52036,VP52194,VP52453,VP52460,VP52707,VP52708,VP52827,VP52894,VP52895,VP52896,VP52897,VP52898,VP52899,VP52900,VP52901,VP52902,VP52903,VP52946,VP52947,VP52948,VP52976,VP52977,VP52985,VP52986,VP52987,VP52988,VP52989,VP52990,

Chemical ID :
V1456,V4923,V5218,V5740,V5882,V6162,V6285,V6325,V6326,V6327,V6330,V6377,V6410,V6411,V6413,V6419,V6421,V6422,V6493,V6580,V6583,V6588,V6592,V6593,V6598,V6600,V6601,V6603,V6671,V6674,V6723,V6725,V6728,V6729,

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
218	BFB, 25PPM	VP47998	11/13/2015	05/13/2016	sam

FROM 0.500ml of V5218 + 49.500ml of V6285 = Final Quantity: 50.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
650	SOM01.2 Surrogate, 100PPM	VP51898	04/12/2016	05/12/2016	sam

FROM 0.300ml of V6327 + 0.500ml of V6325 + 0.500ml of V6598 + 0.500ml of V6601 + 1.200ml of V6326 + 1.500ml of V6600 + 1.500ml of V6603 + 4.000ml of V6493 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2752	SOM01.2 Surrogate, 10ppm	VP51899	04/12/2016	05/12/2016	sam

FROM 4.500ml of V6493 + 0.500ml of VP51898 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2200	SOM01.2 trace MS intermediate std, 25PPM	VP52015	04/15/2016	05/15/2016	sam

FROM 0.050ml of V4923 + 4.950ml of V6493 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1896	Trace internal standard 50 ppm	VP52036	04/15/2016	05/16/2016	sam

FROM 0.200ml of V5740 + 9.800ml of V6493 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2159	SOM01.2. Internal Standard 50 ppm	VP52194	04/19/2016	05/19/2016	sam

FROM 0.200ml of V5740 + 9.800ml of V6493 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1897	Trace surrogate mix 25 ppm	VP52453	04/28/2016	05/28/2016	sam

FROM 0.200ml of V6593 + 0.500ml of V6330 + 1.200ml of V6580 + 1.200ml of V6583 + 1.200ml of V6588 + 1.200ml of V6592 + 4.500ml of V6671 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
651	SOM01.2 Calibration Mix, 200PPM	VP52460	04/28/2016	05/28/2016	sam

FROM 0.500ml of V6411 + 0.500ml of V6413 + 0.500ml of V6419 + 0.500ml of V6422 + 0.800ml of V6377 + 1.000ml of V5882 + 1.000ml of V6162 + 1.000ml of V6410 + 1.000ml of V6421 + 3.200ml of V6671 = Final Quantity: 10.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
913	SOM01.2 Calibration Mix, 100PPM	VP52707	05/05/2016	05/28/2016	sam

FROM 2.500ml of V6674 + 2.500ml of VP52460 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2133	SOM01.2 Calibration mix, 10PPM	VP52708	05/05/2016	05/28/2016	sam

FROM 4.750ml of V6674 + 0.250ml of VP52460 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
650	SOM01.2 Surrogate, 100PPM	VP52827	05/09/2016	06/10/2016	sam

FROM 0.400ml of V6729 + 0.800ml of V6326 + 1.200ml of V6325 + 1.200ml of V6723 + 1.200ml of V6725 + 1.200ml of V6728 + 4.000ml of V6674 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
732	BFB TUNE CHECK - SOIL	VP52894	05/11/2016	05/12/2016	feifei

FROM 4.998ml of V1456 + 0.002ml of VP47998 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
763	5 PPB ICC, SOM01.2LM-SOIL	VP52895	05/11/2016	05/12/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP51899 + 0.003ml of VP52708 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
764	10 PPB ICC, SOM01.2LM-SOIL	VP52896	05/11/2016	05/12/2016	feifei

FROM 4.985ml of V1456 + 0.005ml of VP51899 + 0.005ml of VP52194 + 0.005ml of VP52708 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
765	50 PPB ICC, SOM01.2LM-SOIL	VP52897	05/11/2016	05/12/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52827 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
766	100 PPB ICC, SOM01.2LM-SOIL	VP52898	05/11/2016	05/12/2016	feifei

FROM 4.988ml of V1456 + 0.003ml of VP52460 + 0.005ml of VP52194 + 0.005ml of VP52827 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
767	200 PPB ICC, SOM01.2LM-SOIL	VP52899	05/11/2016	05/12/2016	feifei

FROM 4.980ml of V1456 + 0.005ml of VP52194 + 0.005ml of VP52460 + 0.010ml of VP52827 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52900	05/11/2016	05/12/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52827 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52901	05/11/2016	05/12/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52827 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52902	05/11/2016	05/12/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52827 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52903	05/11/2016	05/12/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52827 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
732	BFB TUNE CHECK - SOIL	VP52946	05/12/2016	05/13/2016	feifei

FROM 4.998ml of V1456 + 0.002ml of VP47998 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52947	05/12/2016	05/13/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52827 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52948	05/12/2016	05/13/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52827 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
732	BFB TUNE CHECK - SOIL	VP52976	05/13/2016	05/13/2016	feifei

FROM 4.998ml of V1456 + 0.002ml of VP47998 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
768	50 PPB CCC-CCV, SOM01.2LM-SOIL	VP52977	05/13/2016	05/14/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52827 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2752	SOM01.2 Surrogate, 10ppm	VP52985	05/13/2016	06/10/2016	sam

FROM 4.500ml of V6674 + 0.500ml of VP52827 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
763	5 PPB ICC, SOM01.2LM-SOIL	VP52986	05/13/2016	05/14/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52708 + 0.003ml of VP52985 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
764	10 PPB ICC, SOM01.2LM-SOIL	VP52987	05/13/2016	05/14/2016	feifei

FROM 4.985ml of V1456 + 0.005ml of VP52194 + 0.005ml of VP52708 + 0.005ml of VP52985 = Final Quantity: 5.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
765	50 PPB ICC, SOM01.2LM-SOIL	VP52988	05/13/2016	05/14/2016	feifei

FROM 4.990ml of V1456 + 0.003ml of VP52707 + 0.003ml of VP52827 + 0.005ml of VP52194 = Final Quantity: 5.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3315	MS/MSD for Trace Method	VP52989	05/12/2016	05/13/2016	sam

FROM 39.980ml of V1456 + 0.004ml of VP52036 + 0.008ml of VP52015 + 0.008ml of VP52453 = Final Quantity: 40.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
218	BFB, 25PPM	VP52990	05/13/2016	11/04/2016	sam

FROM 0.500ml of V5218 + 49.500ml of V6674 = Final Quantity: 50.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Res-Kem General water	DIW / DI Water	DAILY	12/31/2019	03/01/2010 / apatel	03/02/2010 / apatel	V1456

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30005 / VOA Mix, CLP method Matrix Spike Std 2500uq/ml PTM, 1ml	A099332	11/30/2018	12/09/2015 / sam	03/06/2014 / sam	V4923

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30067 / BFB tuneing solution	A0102518	04/30/2019	11/13/2015 / sam	07/14/2014 / sam	V5218

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30091 / VOA Mix, CLP method L/C Internal Std 2500uq/ml, PT&M, 1ml/ampul	A099377	10/31/2018	04/13/2016 / sam	03/27/2015 / sam	V5740

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30042 / VOA Mix,500 series method 502.2 Calibration Std #1 gases, 2000uq/ml, PTM, 1ml	A0109529	11/30/2021	04/28/2016 / sam	05/28/2015 / sam	V5882

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30492 / VOA Mix, OLC 03.2 VOA Mega Mix, 1mL, 2000ug/mL, P&TM	A0102833	04/30/2017	04/28/2016 / sam	09/24/2015 / sam	V6162

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	118655	07/13/2017	11/13/2015 / sam	11/04/2015 / sam	V6285

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	03/30/2016 / sam	10/28/2015 / sam	V6325

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	04/12/2016 / sam	10/28/2015 / sam	V6326

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	04/12/2016 / sam	10/28/2015 / sam	V6327

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30624 / VOA Stock Standard, OLC 3.2 VOA non-ketone, deuterated monitoring compounds, 1mL, 500ug/mL, Methanol-d	A0113615	08/31/2018	04/22/2016 / sam	10/28/2015 / sam	V6330

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A0110042	07/31/2018	04/28/2016 / sam	10/28/2015 / sam	V6377

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	04/28/2016 / sam	11/17/2015 / sam	V6410

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	04/28/2016 / sam	11/17/2015 / sam	V6411

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31280 / Naphthalene, 1000 PPM in Methanol	A0111730	05/31/2021	03/15/2016 / sam	11/17/2015 / sam	V6413

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0109767	03/31/2020	04/14/2016 / sam	11/19/2015 / sam	V6419

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0109767	03/31/2020	04/28/2016 / sam	11/19/2015 / sam	V6421

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31081 / 1,3,5-Trichlorobenzene	A0113973	03/31/2020	04/28/2016 / sam	11/19/2015 / sam	V6422

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	127999	10/27/2017	04/05/2016 / sam	01/13/2016 / sam	V6493

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6580

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6583

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6588

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6592

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0114355	08/31/2017	04/28/2016 / sam	03/08/2016 / sam	V6593

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	03/30/2016 / sam	03/08/2016 / sam	V6598

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	04/12/2016 / sam	03/08/2016 / sam	V6600

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	04/12/2016 / sam	03/08/2016 / sam	V6601

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	04/12/2016 / sam	03/08/2016 / sam	V6603

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	0000127999	10/27/2017	04/28/2016 / sam	04/12/2016 / sam	V6671

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	0000127999	10/27/2017	05/04/2016 / sam	04/12/2016 / sam	V6674

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	05/09/2016 / sam	04/20/2016 / sam	V6723

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	05/09/2016 / sam	04/20/2016 / sam	V6725

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	05/09/2016 / sam	04/20/2016 / sam	V6728

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30625 / VOA Stock Std, OLC 3.2 VOA Ketone Deuterated Monitoring Compounds, 1mL, 500ug/mL, d2O	A0117015	08/31/2017	05/09/2016 / sam	04/20/2016 / sam	V6729

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Certificate of Analysis

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30492 **Lot No.:** A0102833

Description : OLC 03.2 VOA Mega Mix

OLC 03.2 VOA Mega Mix 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2017 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.: K=2)		
1	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1 (Lot Q9B-87) **Purity** 98%	2,006.1 µg/mL	+/- 11.7727 +/- 106.7701 +/- 106.8878	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	1,1-dichloroethene **CAS #** 75-35-4 (Lot 33096BKV) **Purity** 99%	2,001.3 µg/mL	+/- 15.4296 +/- 106.9831 +/- 107.1000	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Methyl acetate **CAS #** 79-20-9 (Lot 56696JMV) **Purity** 99%	2,001.5 µg/mL	+/- 11.7459 +/- 106.5274 +/- 106.6448	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Methylene chloride (dichloromethane) **CAS #** 75-09-2 (Lot SHBC7917V) **Purity** 99%	2,001.8 µg/mL	+/- 15.4334 +/- 107.0098 +/- 107.1268	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Carbon disulfide **CAS #** 75-15-0 (Lot C30Y997) **Purity** 98%	2,003.6 µg/mL	+/- 11.7583 +/- 106.6397 +/- 106.7573	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Methyl-tert-butyl ether (MTBE) **CAS #** 1634-04-4 (Lot SHBD2980V) **Purity** 99%	2,001.0 µg/mL	+/- 11.7430 +/- 106.5008 +/- 106.6182	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	trans-1,2-Dichloroethene **CAS #** 156-60-5 (Lot 09431AEV) **Purity** 99%	2,005.0 µg/mL	+/- 15.4585 +/- 107.1836 +/- 107.3007	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
8	1,1-Dichloroethane **CAS #** 75-34-3 (Lot Q179-33) **Purity** 98%	2,003.0 µg/mL	+/- 15.4429 +/- 107.0752 +/- 107.1923	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

25	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBD2073V)	2,000.2	µg/mL	+/- +/- +/-	15.4213 106.9257 107.0425	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	dibromochloromethane **CAS #** 124-48-1 **Purity** 98%	(Lot MKBP0459V)	2,000.4	µg/mL	+/- +/- +/-	15.4234 106.9403 107.0572	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBH3877V)	2,004.0	µg/mL	+/- +/- +/-	11.7606 106.6604 106.7780	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBD3200V)	2,002.3	µg/mL	+/- +/- +/-	15.4373 107.0366 107.1536	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBC9001V)	2,005.0	µg/mL	+/- +/- +/-	11.7665 106.7137 106.8313	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot H08Y016)	1,005.5	µg/mL	+/- +/- +/-	5.9008 53.5165 53.5755	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBC6261V)	1,004.0	µg/mL	+/- +/- +/-	5.8920 53.4367 53.4956	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBC4667V)	2,000.0	µg/mL	+/- +/- +/-	11.7371 106.4475 106.5649	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot 10174567)	2,002.5	µg/mL	+/- +/- +/-	11.7518 106.5806 106.6981	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10169400)	2,006.5	µg/mL	+/- +/- +/-	11.7753 106.7935 106.9112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBC3410V)	2,005.1	µg/mL	+/- +/- +/-	15.4593 107.1889 107.3061	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot I29W026)	2,001.9	µg/mL	+/- +/- +/-	15.4342 107.0152 107.1322	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	1,3-Dichlorobenzene **CAS #** 541-73-1 **Purity** 99%	(Lot BCBC1891V)	2,003.2	µg/mL	+/- +/- +/-	15.4448 107.0887 107.2057	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBL3891V)	2,007.4	µg/mL	+/- +/- +/-	15.4766 107.3092 107.4265	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	1,2-Dichlorobenzene **CAS #** 95-50-1 **Purity** 99%	(Lot 68996CMV)	2,002.6	µg/mL	+/- +/- +/-	15.4400 107.0553 107.1723	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
40	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8 **Purity** 99%	(Lot FBL01)	2,000.5	µg/mL	+/- +/- +/-	11.7401 106.4742 106.5916	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

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Catalog No. : 30625 **Lot No.:** A0117015

Description : OLC 3.2 VOA Deuterated Monitoring Compounds

OLC 3.2 VOA Ketone Deuterated Monitoring Compounds 500µg/mL, Deuterium Oxide, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M276P24) **Purity** 99%	500.0 µg/mL	+/- 2.9698 µg/mL +/- 30.1733 µg/mL +/- 30.2449 µg/mL	Gravimetric Unstressed Stressed
2	2-Hexanone-d5 **CAS #** 4840-82-8 (Lot I500P2) **Purity** 99%	500.0 µg/mL	+/- 2.9698 µg/mL +/- 30.1733 µg/mL +/- 30.2449 µg/mL	Gravimetric Unstressed Stressed

Solvent: Deuterium Oxide
CAS # 7789-20-0
Purity 99%

Methanol
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For Purge and Trap Analysis

Material No.:9077-02
Batch No.: 0000118655
Manufactured Date:2015/07/16
Expiration Date:2017/07/13

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.3000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	0.1
Water (by KF, coulometric)	<= 0.08 %	< 0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

For Laboratory, Research or Manufacturing Use
Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India. 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

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Methanol
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Material No.: 9077-02
Batch No.: 0000127999
Manufactured Date: 2015/10/30
Expiration Date: 2017/10/27

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.7000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	<0.01
Water (by KF, coulometric)	<= 0.08 %	< 0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

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Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
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Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 11485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 11485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

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Catalog No. : 30625 **Lot No.:** A0114355

Description : OLC 3.2 VOA Deuterated Monitoring Compounds

OLC 3.2 VOA Ketone Deuterated Monitoring Compounds 500µg/mL, Deuterium Oxide, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M276P24) **Purity** 99%	501.0 µg/mL	+/- 2.9758 µg/mL +/- 26.6691 µg/mL +/- 26.6985 µg/mL	Gravimetric Unstressed Stressed
2	2-Hexanone-d5 **CAS #** 4840-82-8 (Lot I500P2) **Purity** 99%	501.0 µg/mL	+/- 2.9758 µg/mL +/- 26.6691 µg/mL +/- 26.6985 µg/mL	Gravimetric Unstressed Stressed

Solvent: Deuterium Oxide
CAS # 7789-20-0
Purity 99%

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Catalog No. : 30006 **Lot No.:** A0110042

Description : VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone **CAS #** 67-64-1 **Purity** 99% (Lot 07196AK)	5,000.7 µg/mL	+/- 29.0745 +/- 266.1262 +/- 266.4197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99% (Lot BCBH7802V)	5,000.3 µg/mL	+/- 29.0722 +/- 266.1049 +/- 266.3984	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99% (Lot SHBD1798V)	5,000.7 µg/mL	+/- 29.0745 +/- 266.1262 +/- 266.4197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99% (Lot MKBN7380V)	5,000.7 µg/mL	+/- 29.0745 +/- 266.1262 +/- 266.4197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

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Catalog No. : 30005 **Lot No.:** A099332

Description : VOA Matrix Spike Mix

Matrix Spike Std 2500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,1-dichloroethene **CAS #** 75-35-4 (Lot 33096BKV) **Purity** 99%	2,507.0 µg/mL	+/- 14.7125 µg/mL +/- 26.6101 µg/mL +/- 30.9443 µg/mL	Gravimetric Unstressed Stressed
2	Benzene **CAS #** 71-43-2 (Lot SHBD2798V) **Purity** 99%	2,511.0 µg/mL	+/- 14.7360 µg/mL +/- 26.6525 µg/mL +/- 30.9937 µg/mL	Gravimetric Unstressed Stressed
3	Trichloroethene **CAS #** 79-01-6 (Lot SHBB1959V) **Purity** 99%	2,500.0 µg/mL	+/- 14.6714 µg/mL +/- 26.5358 µg/mL +/- 30.8579 µg/mL	Gravimetric Unstressed Stressed
4	Toluene **CAS #** 108-88-3 (Lot SHBC7558V) **Purity** 99%	2,508.0 µg/mL	+/- 14.7183 µg/mL +/- 26.6207 µg/mL +/- 30.9567 µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene **CAS #** 108-90-7 (Lot 00533KE) **Purity** 99%	2,512.0 µg/mL	+/- 14.7418 µg/mL +/- 26.6632 µg/mL +/- 31.0060 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

12 14

Methanol
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11/3/16

Material No.: 9077-02
Batch No.: 0000127999
Manufactured Date: 2015/10/30
Expiration Date: 2017/10/27

V-6482 to V 6493
S4

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.7000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	<0.01
Water (by KF, coulometric)	<= 0.08 %	< 0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

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Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
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Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
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Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
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Vice President Global Quality

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5 vials

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Testing Laboratory
Certificate #3222.02

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Catalog No.: 30067 **Lot No.:** A0102518

Description: 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size: 2 mL **Pkg Amt:** > 1 mL

Expiration Date: April 30, 2019 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,506.0 µg/mL	+/- 14.7066	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 01127COV)		+/- 28.3294	µg/mL	Unstressed
	Purity 99%		+/- 32.5790	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 30042 **Lot No.:** A0109529

Description : 502.2 Calibration Mix #1

502.2 Calibration Mix #1 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot Q167-08) **Purity** 99%	1,996.7 µg/mL	+/- 13.4280 µg/mL +/- 23.5055 µg/mL +/- 26.7738 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBC8470V) **Purity** 99%	2,003.4 µg/mL	+/- 13.4056 µg/mL +/- 23.5457 µg/mL +/- 26.8296 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 17542) **Purity** 99%	2,008.0 µg/mL	+/- 13.6043 µg/mL +/- 23.6960 µg/mL +/- 26.9758 µg/mL	Gravimetric Unstressed Stressed
4	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,009.5 µg/mL	+/- 13.0312 µg/mL +/- 23.3832 µg/mL +/- 26.7059 µg/mL	Gravimetric Unstressed Stressed
5	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot SHBD1717V) **Purity** 99%	1,998.3 µg/mL	+/- 13.3715 µg/mL +/- 23.4857 µg/mL +/- 26.7613 µg/mL	Gravimetric Unstressed Stressed
6	Trichlorofluoromethane (CFC-11) **CAS #** 75-69-4 (Lot SHBD5121V) **Purity** 99%	1,998.5 µg/mL	+/- 13.2531 µg/mL +/- 23.4203 µg/mL +/- 26.7045 µg/mL	Gravimetric Unstressed Stressed

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Catalog No. : 31081 **Lot No.:** A0109767

Description : 1,3,5-Trichlorobenzene Standard

1,3,5-Trichlorobenzene Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,3,5-Trichlorobenzene	1,008.0 µg/mL	+/- 5.9872	µg/mL Gravimetric
	CAS # 108-70-3 (Lot 11319AS)		+/- 11.4324	µg/mL Unstressed
	Purity 99%		+/- 13.1369	µg/mL Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 31280 **Lot No.:** A0111730

Description : Naphthalene Standard

Naphthalene Standard 1000 µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 25°C nominal

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L. ; K=2)		
1	Naphthalene **CAS #** 91-20-3 **Purity** 99% (Lot MKBH4351V)	1,004.0 µg/mL	+/- 5.9635 +/- 44.6249 +/- 49.0256	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

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Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30624 **Lot No.:** A0113615

Description : SOM 01.1 VOA DMC Non-Ketones Standard

OLC 3.2 VOA Non-Ketone Deuterated Monitoring Compounds
500µg/mL, Methanol-OD, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Vinyl Chloride-d3 **CAS #** 6745-35-3 (Lot PR-21820) **Purity** 98%	523.4 µg/mL	+/- 35.2305 µg/mL +/- 35.5916 µg/mL +/- 35.7499 µg/mL	Gravimetric Unstressed Stressed
2	Chloroethane-d5 **CAS #** 19199-91-8 (Lot F243P15) **Purity** 99%	509.0 µg/mL	+/- 19.1030 µg/mL +/- 19.7259 µg/mL +/- 19.9947 µg/mL	Gravimetric Unstressed Stressed
3	1,1-Dichloroethylene-d2 **CAS #** 22280-73-5 (Lot PR-21050) **Purity** 99%	501.0 µg/mL	+/- 2.9758 µg/mL +/- 5.6822 µg/mL +/- 6.5294 µg/mL	Gravimetric Unstressed Stressed
4	Chloroform-d **CAS #** 865-49-6 (Lot A021968500l) **Purity** 99%	503.0 µg/mL	+/- 2.9877 µg/mL +/- 5.7049 µg/mL +/- 6.5554 µg/mL	Gravimetric Unstressed Stressed
5	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 (Lot 14C-191) **Purity** 99%	504.0 µg/mL	+/- 2.9936 µg/mL +/- 5.7162 µg/mL +/- 6.5685 µg/mL	Gravimetric Unstressed Stressed
6	Benzene-d6 **CAS #** 1076-43-3 (Lot 14G-554) **Purity** 99%	500.0 µg/mL	+/- 2.9698 µg/mL +/- 5.6709 µg/mL +/- 6.5163 µg/mL	Gravimetric Unstressed Stressed
7	1,2-Dichloropropane-d6 **CAS #** 93952-08-0 (Lot Z322P8) **Purity** 99%	502.0 µg/mL	+/- 2.9817 µg/mL +/- 5.6935 µg/mL +/- 6.5424 µg/mL	Gravimetric Unstressed Stressed

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Catalog No. : 31081 **Lot No.:** A0113973

Description : 1,3,5-Trichlorobenzene Standard

1,3,5-Trichlorobenzene Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,3,5-Trichlorobenzene **CAS #** 108-70-3 (Lot 11319AS) **Purity** 99%	1,002.0 µg/mL	+/- 5.9516 +/- 11.3644 +/- 13.0587	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

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Catalog No. : 30625 **Lot No.:** A0117015

Description : OLC 3.2 VOA Deuterated Monitoring Compounds

OLC 3.2 VOA Ketone Deuterated Monitoring Compounds 500µg/mL, Deuterium Oxide, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L. K=2)		
1	2-Butanone-d5	500.0 µg/mL	+/- 2.9698	µg/mL	Gravimetric
	CAS # 24313-50-6 (Lot M276P24)		+/- 30.1733	µg/mL	Unstressed
	Purity 99%		+/- 30.2449	µg/mL	Stressed
2	2-Hexanone-d5	500.0 µg/mL	+/- 2.9698	µg/mL	Gravimetric
	CAS # 4840-82-8 (Lot I500P2)		+/- 30.1733	µg/mL	Unstressed
	Purity 99%		+/- 30.2449	µg/mL	Stressed

Solvent: Deuterium Oxide
CAS # 7789-20-0
Purity 99%

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Certificate of Analysis

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3111.01

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30091 **Lot No.:** A099377

Description : L/C VOA Internal Standard Mix

L/C Internal Std 2500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Difluorobenzene **CAS #** 540-36-3 (Lot 13105AO) **Purity** 99%	2,500.5 µg/mL	+/- 14.6743 µg/mL +/- 26.5411 µg/mL +/- 30.8641 µg/mL	Gravimetric Unstressed Stressed
2	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-22736) **Purity** 99%	2,499.0 µg/mL	+/- 14.6655 µg/mL +/- 26.5252 µg/mL +/- 30.8456 µg/mL	Gravimetric Unstressed Stressed
3	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	2,504.5 µg/mL	+/- 14.6978 µg/mL +/- 26.5836 µg/mL +/- 30.9135 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

CHEMTECH

Prep Standard - Chemical Standard Summary

Order ID : H2954

Test : SVOC-TCL BNA -20

Prepbatch ID : PB90581

Sequence ID/Qc Batch ID: bm051816

Standard ID :
EP1653,EP1671,SP3536,SP3592,SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643,SP3682,

Chemical ID :
1ul IS/ 100ul sample,E1520,E2036,E2072,E2087,E2105,E2106,E2110,H1268,H1316,S3852,S3950,S3957,S4228,S4605,S4617,S4663,S4672,S4673,S4704,S4711,S4815,S4816,S4985,S4992,S4993,S4996,S5008,S5023,S5073,S5074,S5075,S5076,S5077,S5078,S5079,S5085,

CHEMTECH

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
256	BAKED SODIUM SULPHATE	EP1653	02/29/2016	08/29/2016	Rajesh

FROM 4000.000ml of E2036 = Final Quantity: 4000.000 gram

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2017	1:1 ACETONE/METHYLENE CHLORIDE	EP1671	04/28/2016	10/26/2016	rajesh

FROM 8000.000ml of E2105 + 8000.000ml of E2106 = Final Quantity: 16000.000 ml

CHEMTECH

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3116	SOM02.2 Spike Solution, 80PPM	SP3536	12/17/2015	06/17/2016	Sohil

FROM 0.400ml of S3852 + 0.800ml of S4228 + 48.800ml of H1268 = Final Quantity: 50.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3334	50ug/ml SOM DFTPP	SP3592	02/08/2016	08/08/2016	UMANGI

FROM 0.200ml of S3957 + 9.800ml of E2072 = Final Quantity: 10.000 ml

CHEMTECH

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3243	SOM02.2 STOCK 160 PPM	SP3637	03/16/2016	07/31/2016	UMANGI

FROM 0.320ml of S4605 + 0.320ml of S4617 + 0.320ml of S4663 + 0.320ml of S4704 + 0.400ml of S4992 + 0.600ml of S4672 + 0.800ml of S3950 + 0.800ml of S4711 + 0.800ml of S4996 + 0.800ml of S5085 + 1.000ml of S4673 + 1.200ml of S4993 + 2.320ml of E2087 = Final Quantity: 10.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3244	SSTD160 PPM	SP3638	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 1.000ml of SP3637 = Final Quantity: 1.010 ml

CHEMTECH

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3245	SSTD80 PPM	SP3639	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.500ml of E2087 + 0.500ml of SP3637 = Final Quantity: 1.010 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3246	SSTD40 PPM	SP3640	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.725ml of E2087 + 0.250ml of SP3637 = Final Quantity: 1.010 ml

CHEMTECH

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3247	SSTD20 PPM	SP3641	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.875ml of E2087 + 0.125ml of SP3637 = Final Quantity: 1.010 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3248	SSTD10 PPM	SP3642	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.500ml of E2087 + 0.500ml of SP3641 = Final Quantity: 1.010 ml

CHEMTECH

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3249	SSTD005 PPM	SP3643	03/16/2016	07/31/2016	UMANGI

FROM 0.010ml of S5008 + 0.750ml of E2087 + 0.250ml of SP3641 = Final Quantity: 1.010 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3370	SOM02.3 Surrogate (80/1-4 D8@ 32)	SP3682	05/06/2016	11/06/2016	umangi

FROM 0.600ml of S4815 + 1.000ml of S4816 + 1.000ml of S4985 + 1.000ml of S5073 + 1.000ml of S5074 + 1.000ml of S5075 + 1.000ml of S5076 + 1.000ml of S5077 + 1.000ml of S5078 + 1.000ml of S5079 + 190.400ml of H1316 = Final Quantity: 200.000 ml

CHEMTECH

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3382-05 / Sand, Purified (cs/4x2.5kg)	J40625	02/15/2017	09/25/2012 / muteen	02/15/2012 / rajesh	E1520

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	/ Sodium sulfate (anhyhdrous)	433101	10/05/2020	10/30/2015 / rajesh	10/05/2015 / rajesh	E2036

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	0000131014	08/08/2016	02/09/2016 / rajesh	01/22/2016 / rajesh	E2072

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EMD Chemicals Inc.	DX0831CJ-38 / DCM, Cycle Tainer	56056	09/14/2016	03/15/2016 / rajesh	03/15/2016 / rajesh	E2087

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EMD Chemicals Inc.	DX0831CJ-38 / DCM, Cycle Tainer	56056	10/26/2016	04/27/2016 / rajesh	04/08/2016 / rajesh	E2105

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	0000133024	10/27/2016	04/28/2016 / rajesh	04/28/2016 / rajesh	E2106

CHEMTECH

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EMD Chemicals Inc.	DX0831CJ-38 / DCM, Cycle Tainer	56056	10/08/2016	05/09/2016 / rajesh	04/15/2016 / rajesh	E2110

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9093-03 / Methanol, HPLC (cs/4x4L)	0000064689	01/14/2018	03/10/2015 / TEJASKUMAR	01/14/2015 / IWONA	H1268

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9093-03 / Methanol, HPLC (cs/4x4L)	0000119840	08/16/2020	02/23/2016 / umangi	01/22/2016 / UMANGI	H1316

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31071 / SV Mix,8000 series method, acid matrix spike, 10,000ug/mL, methanol, 5mL/ampul	A0103147	06/30/2021	10/03/2015 / TEJASKUMAR	10/03/2014 / TEJASKUMAR	S3852

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31833 / caprolactam, 2,000 µg/mL in methylene chloride, 1 mL/ampul	A0105455	08/31/2016	01/02/2015 / jung	10/16/2014 / TEJASKUMAR	S3950

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31001 / SV Tuning Compound Standard, 2500 ug/ml,	A0103386	05/31/2017	01/22/2015 / TEJASKUMAR	10/30/2014 / TEJASKUMAR	S3957

CHEMTECH

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31084 / SV Mix,8000 series method, Base Neutral Matrix Spike, 5000ug/mL, MeOH, 5mL/ampul	A0108368	01/31/2018	06/16/2015 / TEJASKUMAR	02/12/2015 / TEJASKUMAR	S4228

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0110448	04/30/2020	02/22/2016 / Sohil	07/07/2015 / TEJASKUMAR	S4605

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30614 / 1,4-Dioxane-D8 Standard	A0111152	05/31/2018	02/23/2016 / umangi	07/17/2015 / TEJASKUMAR	S4617

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	98496 / 1,2,3,4-Tetrachlorobenzene, 5000 ug/mL, in MeCl2	061115	06/11/2020	02/22/2016 / Sohil	08/12/2015 / umangi	S4663

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31900 / SOM01.1 Mega Mix, 500-1000 ug/ml	A01082223	07/31/2016	02/22/2016 / Sohil	08/14/2015 / umangi	S4672

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31900 / SOM01.1 Mega Mix, 500-1000 ug/ml	A0112856	07/31/2016	02/29/2016 / UMANGI	08/14/2015 / umangi	S4673

CHEMTECH

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	98495 / Pentachlorobenzene, 5000 ug/mL, in MeCl2	061115	06/11/2020	02/22/2016 / Sohil	08/31/2015 / umangi	S4704

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	33017 / Benzaldehyde, 2000 ug/ml	A0111289	05/31/2017	03/14/2016 / UMANGI	09/08/2015 / UMANGI	S4711

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30614 / 1,4-Dioxane-D8 Standard	A0111152	05/31/2018	03/28/2016 / umangi	10/20/2015 / nEVILKUMAR	S4815

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30614 / 1,4-Dioxane-D8 Standard	A0111152	05/31/2018	05/06/2016 / umangi	10/20/2015 / nEVILKUMAR	S4816

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0112586	04/30/2019	03/28/2016 / umangi	11/13/2015 / Sohil	S4985

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32208 / atrazine, 1,000 µg/mL in acetone, 1 mL/ampul	A0112545	03/31/2019	02/22/2016 / Sohil	11/19/2015 / Sohil	S4992

CHEMTECH

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32208 / atrazine, 1,000 µg/mL in acetone, 1 mL/ampul	A0112545	03/31/2019	03/14/2016 / UMANGI	11/19/2015 / Sohil	S4993

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	90494 / 1-Methylnaphthalene, 2000 ug/mL, in methylene chloride	070314	07/03/2019	03/14/2016 / UMANGI	11/19/2015 / Sohil	S4996

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0115444	10/31/2021	03/16/2016 / UMANGI	12/18/2015 / Sohil	S5008

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0115444	10/31/2021	05/16/2016 / umangi	12/18/2015 / Sohil	S5023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	05/06/2016 / umangi	01/28/2016 / Sohil	S5073

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	05/06/2016 / umangi	01/28/2016 / Sohil	S5074

CHEMTECH

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	05/06/2016 / umangi	01/28/2016 / Sohil	S5075

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	05/06/2016 / umangi	01/28/2016 / Sohil	S5076

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	05/06/2016 / umangi	01/28/2016 / Sohil	S5077

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	05/06/2016 / umangi	01/28/2016 / Sohil	S5078

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	05/06/2016 / umangi	01/28/2016 / Sohil	S5079

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31810 / SV Mix, OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL, 2000ug/mL, CH2Cl2	A0115813	09/30/2019	03/14/2016 / UMANGI	01/28/2016 / Sohil	S5085

Methanol
HPLC
For use in Liquid Chromatography (HPLC & UHPLC) & Spectrophotometry
(methyl alcohol)

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9093-03
Batch No.: 0000064689
Manufactured Date: 2013/11/15
Retest Date: 2018/11/14

SEIDLER CHEMICAL COMPANY
537 Raymond Boulevard
Newark, NJ 07105

Rec: 1/14/15

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Ultraviolet Absorbance (1.00-cm cell vs. water) - 400-254 nm	<= 0.01	< 0.01
Ultraviolet Absorbance (1.00-cm cell vs. water) - 225 nm	<= 0.15	0.12
Ultraviolet Absorbance (1.00-cm cell vs. water) - UV Cut-off, nm	<= 205	204
Gradient Elution Test (a.u.) - 254 nm	<= 0.002	< 0.001
Fluorescence Trace Impurities, measured as Quinine Base - at 450 nm Emission	<= 0.3 ppb	< 0.1
Fluorescence Trace Impurities, measured as Quinine Base - at Emission Maximum for Impurities	<= 1.0 ppb	0.1
Acetone	<= 0.001 %	< 0.001
Residue after Evaporation	<= 1.0000 ppm	0.1000
Titrable Acid (µeq/g)	<= 0.3	0.3
Titrable Base (µeq/g)	<= 0.1	<0.01
Water (by KF, coulometric)	<= 0.05 %	< 0.01

For Laboratory, Research or Manufacturing Use

H1268
H1269
H1270
H1271

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & QC

ISO
Phillipsburg, NJ 9001:2008, 14001:2004
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008, 17025:2005
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

Richard M Siberski
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 98495
Lot Number: 061115
Description: Pentachlorobenzene

Expiration Date: 061120
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 5000

Solvent(s):	Lot#
Methylene chloride	72062

S4703
S4704
S4705
S4706

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 10.0 0.002 Flask Uncertainty

UM 8/31/15

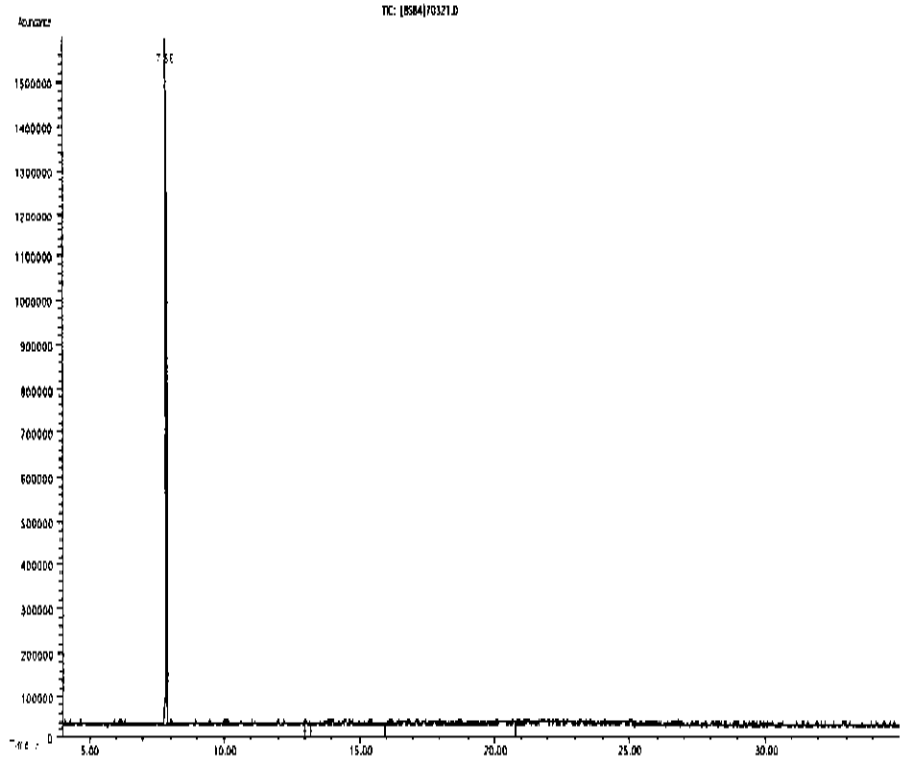
Paul Barron 061115
Formulated By: Paul Barron DATE

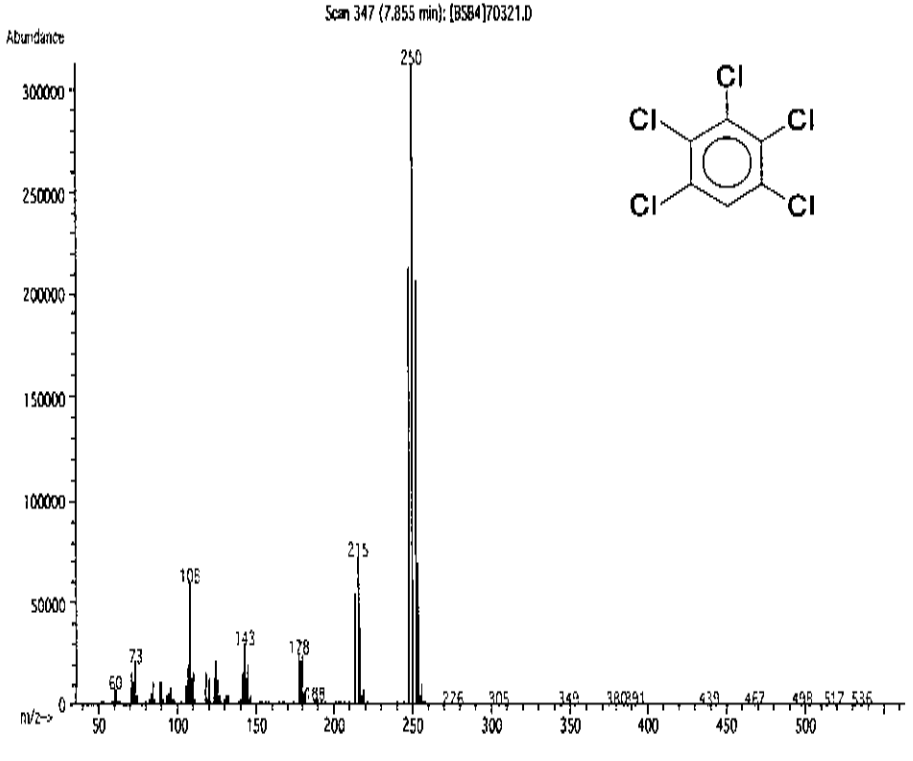
Pedro Rentas 061115
Reviewed By: Pedro L. Rentas DATE

MSDS Information
(Solvent Safety Info. On Attached pg.)

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	CAS#	OSHA PEL (TWA)	LD50
1. Pentachlorobenzene	321	2705100	5000	99.5	0.5	0.05024	0.05038	5013.7	0.0102	00608-93-5	N/A	orl-rat 1080mg/kg

Method GC7MSD-1.M: Column: SPB-608 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 150°C (4min.), Temp 2 = 290°C (13.5 min.), Rate = 8°C/min., Injector B= 200°C, Detector B = 290°C. Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Candice Warren.





565

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Certified Reference Material CRM

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Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 90494
Lot Number: 070314
Description: 1-Methylnaphthalene

Expiration Date: 070319
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 2000

Solvent(s):	Lot#
Methylene chloride	74359

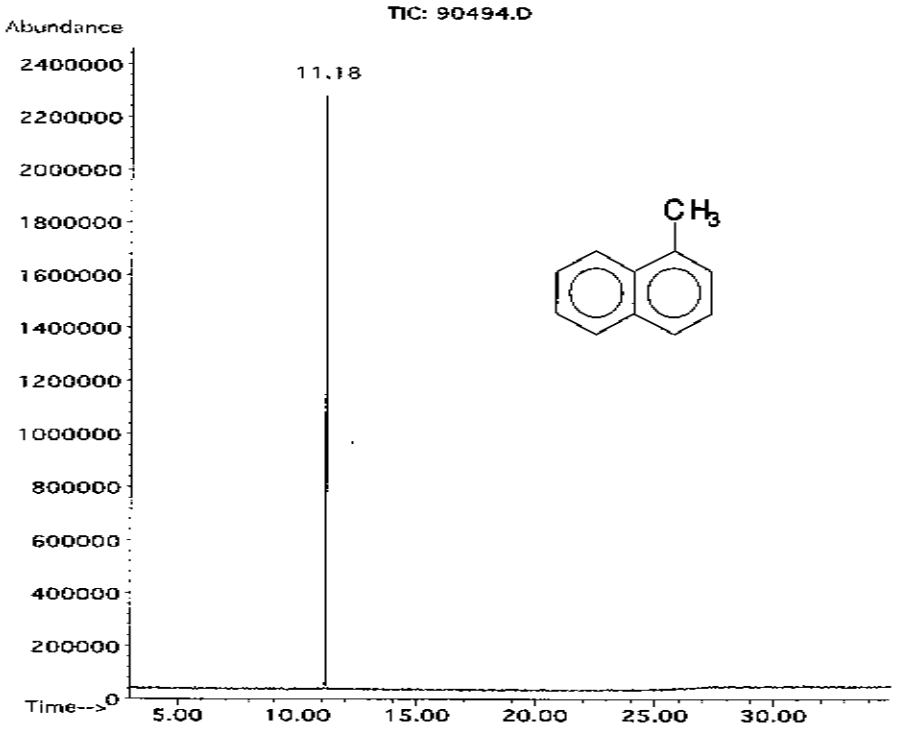
S4996 SJ
↓ 11/23/15
S5000

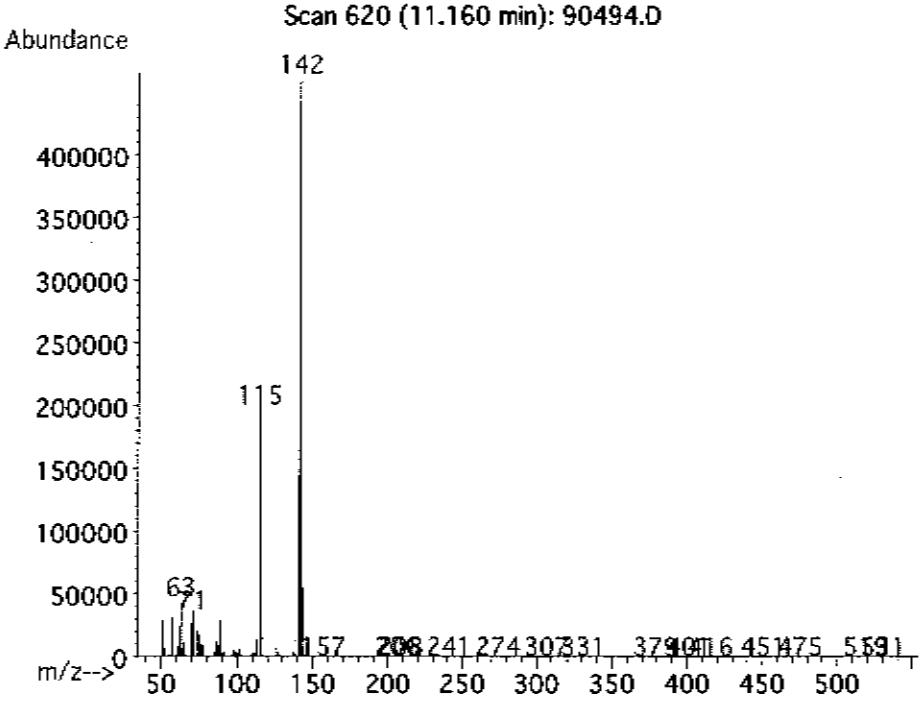
Formulated By:	Paul Barron	070314 DATE
Reviewed By:	Pedro L. Rentas	070314 DATE

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to: 100.0 0.003 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 1-Methylnaphthalene	313	04413BX	2000	98	0.2	0.20410	0.20420	2001.0	0.0041	00090-12-0	N/A	orl-rat 1840mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.



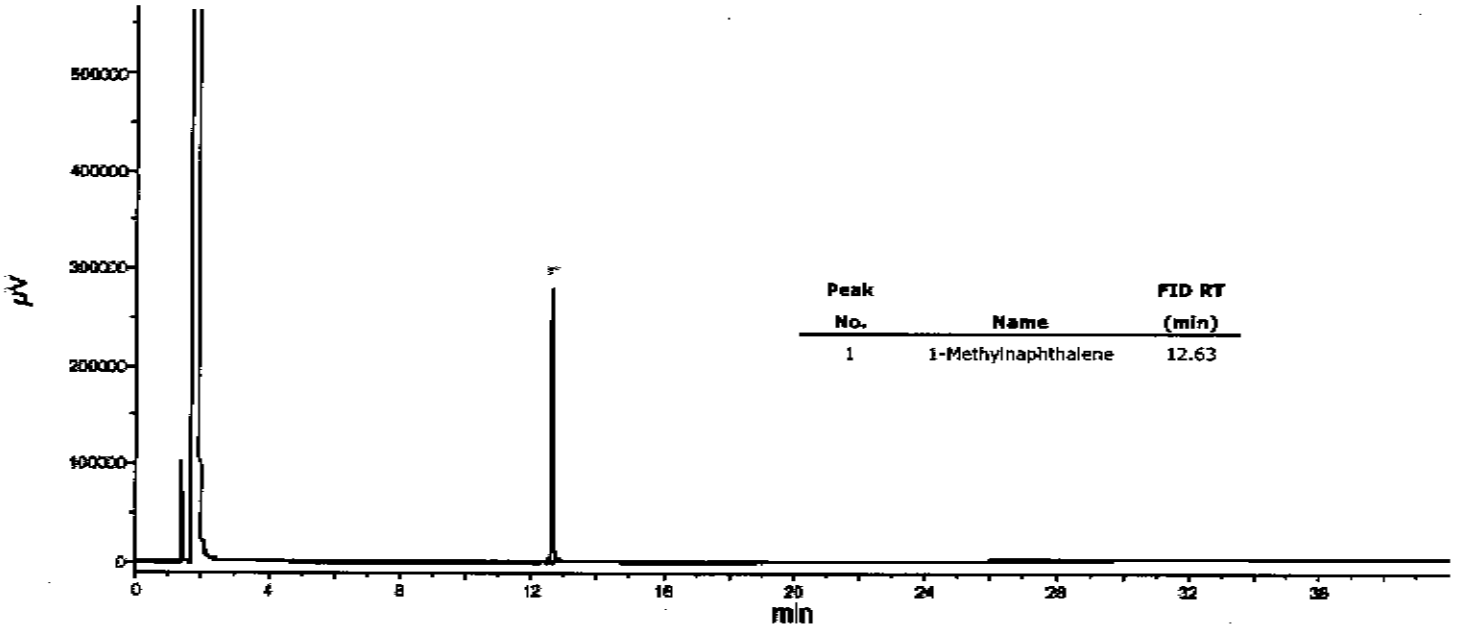


567

Run 49, "P90494 L070314 [2000µg/mL in MeCl2]"

Run Length: 39.99 min, 23997 points at 10 points/second.
Created: Thu, Jul 10, 2014 at 12:38:44 AM.
Sampled: Sequence "070814-GC9M2", Method "GC9-M2".
Analyzed using Method "GC9-M2".

Comments
GC9M2 Analysis by Melissa Stonier
SPB-5 30 meter x 0.53 µm x 1.5 df
Flow Rates; Total Flow = 300 mL/min, Helium (carrier)=6mL, Helium (makeup)=25mL, Hydrogen (detector)=30, Air (detector)=360
Oven Temp 1 = 50 C (1 min), Rate = 10 C/min, Oven Temp 2 = 300 (14 min), Total Run Time=40 min.
Injector Temp = 250 C, FID Temp = 300 C, FID Signal = Edaq Channel 1
Gas Chromatograph = HP5890, Injector = HP7673A, Standard Injection = 0.5 uL, Range = 4



Peak No.	Name	FID RT (min)
1	1-Methylnaphthalene	12.63

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Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory
Certificate #3222.02

RCA 7/17/15

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Materiel is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30614 **Lot No.:** A0111152

Description : 1,4-dioxane-d8 Standard

1,4-dioxane-d8 Standard 2000 µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.I.; K=2)		
1	1,4-Dioxane-d8	2,004.0 µg/mL	+/- 11.7606	µg/mL	Gravimetric
	CAS # 17647-74-4 (Lot 1-19073)		+/- 42.5297	µg/mL	Unstressed
	Purity 99%		+/- 42.7181	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

54614
54615
54616
54617

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

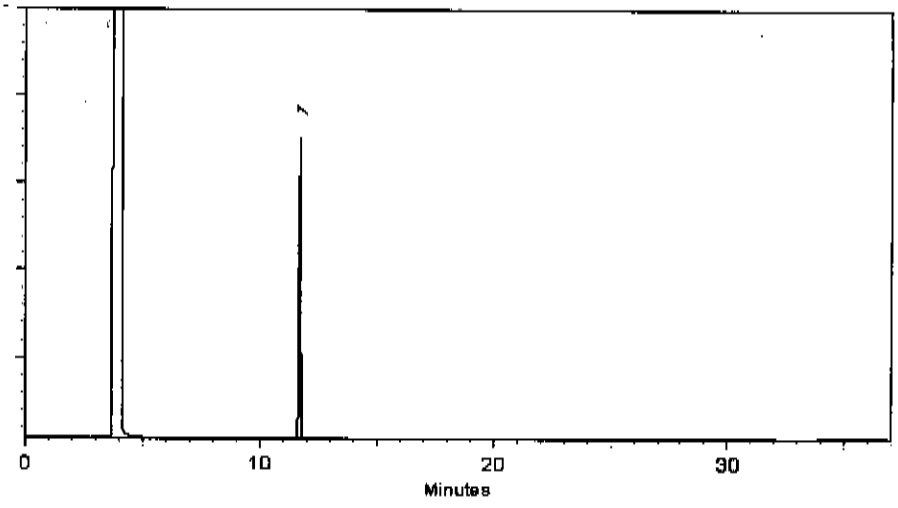
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Valerie S. Strohm - ARM R&D Chemist

Date Mixed: 15-May-2015 **Balance:** 1125113331

Jennifer L. Pollino - QC Analyst

Date Passed: 19-May-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommendad condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentretion of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes grevimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certifiad combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncartainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restak will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative fer details.
- If eny undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

02/19/15

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31084 **Lot No.:** A0108368

Description : B/N Matrix Spike Mix

Base Neutral Matrix Spike 5000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2018 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.I., K=2)		
1	1,4-Dichlorobenzene		5,001.3	µg/mL	+/- 29.3506	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBL3891V)			+/- 138.0486	µg/mL	Unstressed
	Purity 99%				+/- 138.0486	µg/mL	Stressed
2	N-Nitroso-di-n-propylamine		5,002.7	µg/mL	+/- 29.3585	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/- 138.0854	µg/mL	Unstressed
	Purity 99%				+/- 138.0854	µg/mL	Stressed
3	1,2,4-Trichlorobenzene		5,001.3	µg/mL	+/- 29.3502	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/- 138.0467	µg/mL	Unstressed
	Purity 98%				+/- 138.0467	µg/mL	Stressed
4	Acenaphthene		5,000.7	µg/mL	+/- 29.3467	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBJ4871V)			+/- 138.0302	µg/mL	Unstressed
	Purity 99%				+/- 138.0302	µg/mL	Stressed
5	2,4-Dinitrotoluene		5,001.3	µg/mL	+/- 29.3506	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/- 138.0486	µg/mL	Unstressed
	Purity 99%				+/- 138.0486	µg/mL	Stressed
6	Pyrene		5,000.3	µg/mL	+/- 29.3445	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBJ0984V)			+/- 138.0197	µg/mL	Unstressed
	Purity 98%				+/- 138.0197	µg/mL	Stressed

54228
54229

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

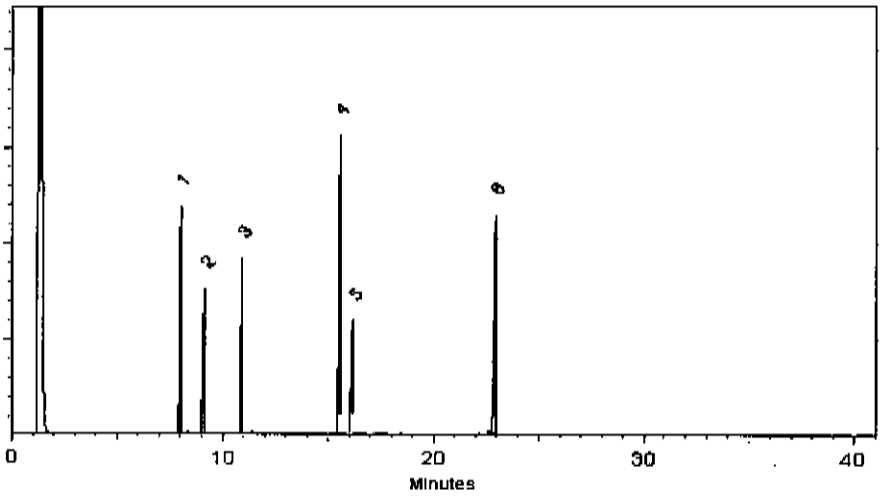
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Connor Flannery - Mix Technician

Date Mixed: 18-Jan-2015 **Balance:** 1128360905

Tyler Brown - QA Analyst

Date Passed: 21-Jan-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constreints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31071 **Lot No.:** A0103147

Description : Acid Matrix Spike Mix (SW-846)

Acid Matrix Spike 10,000µg/mL, Methanol, 5mL/ampul

10/03/14

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Phenol **CAS #** 108-95-2 **Purity** 99%	(Lot SHBC6998V)	10,003.0 µg/mL	+/- 58.5698 µg/mL +/- 249.3405 µg/mL +/- 313.5161 µg/mL	Gravimetric Unstressed Stressed
2	2-Chlorophenol **CAS #** 95-57-8 **Purity** 99%	(Lot MKBD3900V)	10,002.0 µg/mL	+/- 58.5639 µg/mL +/- 249.3156 µg/mL +/- 313.4848 µg/mL	Gravimetric Unstressed Stressed
3	4-Chloro-3-methylphenol **CAS #** 59-50-7 **Purity** 99%	(Lot STBC0769V)	10,004.0 µg/mL	+/- 58.5756 µg/mL +/- 249.3654 µg/mL +/- 313.5474 µg/mL	Gravimetric Unstressed Stressed
4	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	10,003.0 µg/mL	+/- 58.5698 µg/mL +/- 249.3405 µg/mL +/- 313.5161 µg/mL	Gravimetric Unstressed Stressed
5	Pentachlorophenol **CAS #** 87-86-5 **Purity** 99%	(Lot 140226JLM)	10,003.0 µg/mL	+/- 58.5698 µg/mL +/- 249.3405 µg/mL +/- 313.5161 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

53852
53853

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

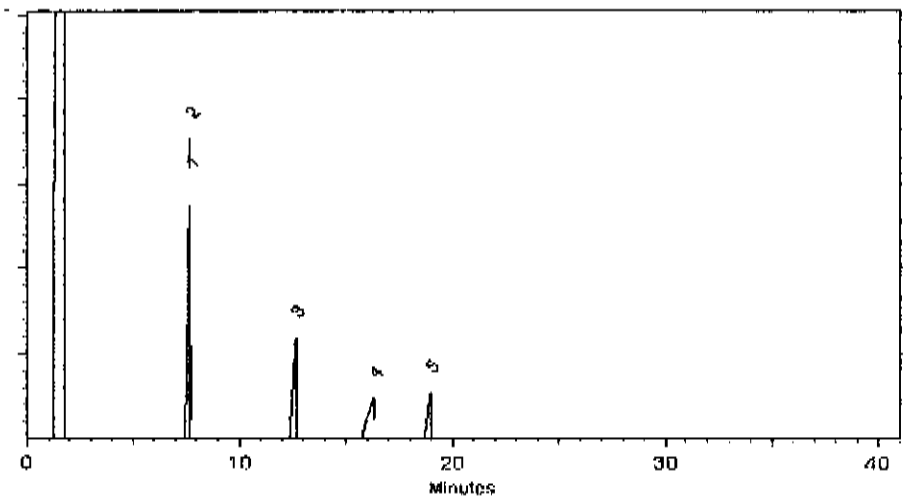
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 05-May-2014 **Balance:** 1125113331

Amanda Miller - QC Analyst

Date Passed: 07-May-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard cenditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncortainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec. 10/30/14

Catalog No. : 31001 **Lot No.:** A0103386

Description : SV Tuning Compound Standard

Tuning Std Decafluorotriphenylphosphine 2500µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.: K=2)		
1	DFTPP (Decafluorotriphenylphosphine)	2,500.0 µg/mL	+/- 14.8492	µg/mL	Gravimetric
	CAS # 5074-71-5 (Lot 10109917)		+/- 111.1178	µg/mL	Unstressed
	Purity 99%		+/- 122.0757	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

S 3957

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

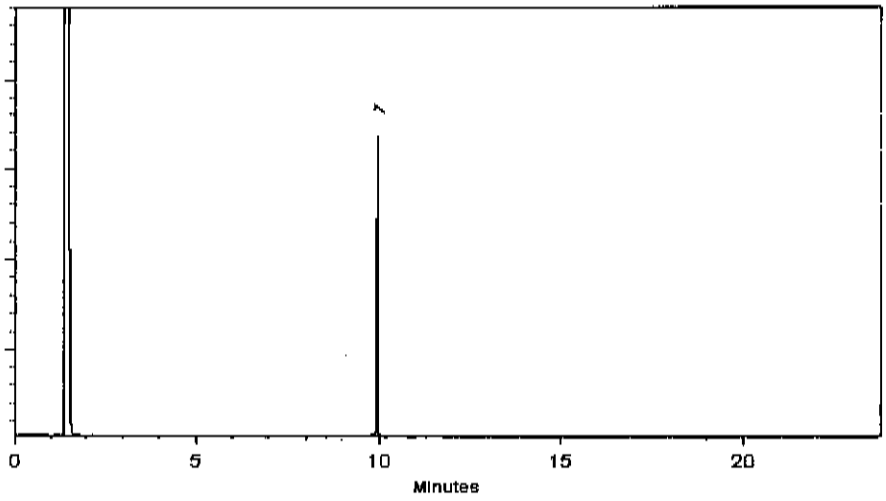
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 15-May-2014 **Balance:** 1128342313

Jennifer L. Pollino - QC Analyst

Date Passed: 19-May-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
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- Purity values are rounded to the nearest whole number.

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$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technicel Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space censtraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec: 12/30/14
Lot

Catalog No. : 31833 **Lot No.:** A0105455

Description : Epsilon-Caprolactam Standard

Epsilon-caprolactam Std 2000µg/mL, Methylene Chloride(Methanol free), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2016 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	epsilon-Caprolactam	2,004.0 µg/mL	+/- 18.6361	µg/mL	Gravimetric
	CAS # 105-60-2 (Lot 10000218)		+/- 26.3242	µg/mL	Unstressed
	Purity 99%		+/- 39.9571	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

54066
54067

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

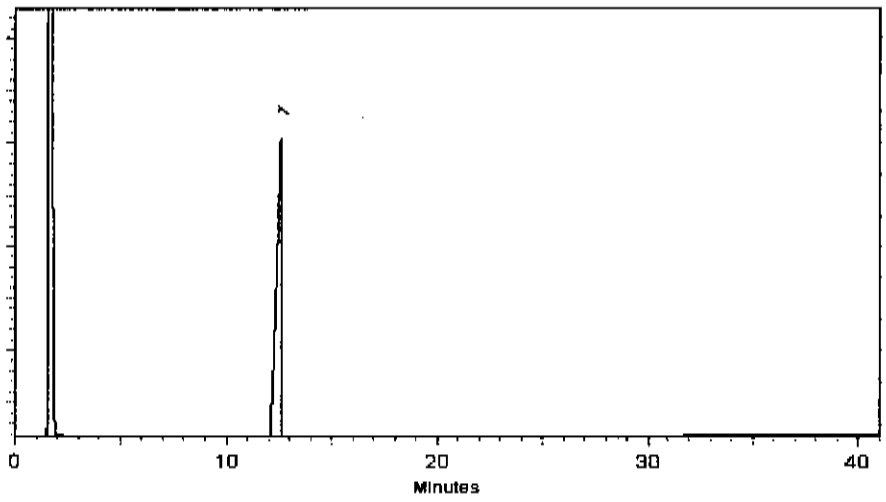
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Hauver

Date Mixed: 19-Aug-2014 **Balance:** 1128360905

Jodi E. Breon

Jodi E. Breon - QA Analyst

Date Passed: 27-Aug-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

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k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

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Manufacturing Notes:

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Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restok supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
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UM
54671 OLM01.1
54672

Catalog No. : 31900 **Lot No.:** A0108223

Description : OLM 01.1 Revised SV MegaMix

OLM 01.1 Revised SV MegaMix 500-1000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2016 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Phenol **CAS #** 108-95-2 **Purity** 99%	(Lot SHBC6998V)	1,000.2 µg/mL	+/- 6.6856 µg/mL +/- 11.4365 µg/mL +/- 18.8643 µg/mL	Gravimetric Unstressed Stressed
2	Bis(2-chloroethyl)ether **CAS #** 111-44-4 **Purity** 99%	(Lot 45296HKV)	1,001.6 µg/mL	+/- 6.6949 µg/mL +/- 11.4525 µg/mL +/- 18.8907 µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol **CAS #** 95-57-8 **Purity** 99%	(Lot MKBD3900V)	1,000.1 µg/mL	+/- 6.6852 µg/mL +/- 11.4359 µg/mL +/- 18.8633 µg/mL	Gravimetric Unstressed Stressed
4	2,2'-oxybis(1-chloropropane) **CAS #** 108-60-1 **Purity** 99%	(Lot 7-XDD-199-6)	1,001.4 µg/mL	+/- 6.6936 µg/mL +/- 11.4502 µg/mL +/- 18.8869 µg/mL	Gravimetric Unstressed Stressed
5	2-Methylphenol (o-cresol) **CAS #** 95-48-7 **Purity** 99%	(Lot SHBC1479V)	1,002.4 µg/mL	+/- 6.7003 µg/mL +/- 11.4616 µg/mL +/- 18.9058 µg/mL	Gravimetric Unstressed Stressed
6	Acetophenone **CAS #** 98-86-2 **Purity** 99%	(Lot MKBR7156V)	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 11.0159 µg/mL +/- 18.6105 µg/mL	Gravimetric Unstressed Stressed
7	Hexachloroethane **CAS #** 67-72-1 **Purity** 99%	(Lot 4H3SF)	1,003.0 µg/mL	+/- 6.7043 µg/mL +/- 11.4685 µg/mL +/- 18.9171 µg/mL	Gravimetric Unstressed Stressed

24	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot MKBH7393V)	1,000.3	µg/mL	+/- 6.6866 +/- 11.4382 +/- 18.8671	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot FHM01)	1,000.1	µg/mL	+/- 6.6852 +/- 11.4359 +/- 18.8633	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	2-Chloronaphthalene **CAS #** 91-58-7 **Purity** 99%	(Lot FIJ01)	1,001.8	µg/mL	+/- 6.6963 +/- 11.4548 +/- 18.8944	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Biphenyl **CAS #** 92-52-4 **Purity** 99%	(Lot 1277976)	1,000.0	µg/mL	+/- 5.9397 +/- 11.0159 +/- 18.6105	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,000.5	µg/mL	+/- 6.7354 +/- 11.4683 +/- 18.8877	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Acenaphthylene **CAS #** 208-96-8 **Purity** 99%	(Lot ER030707-01)	1,000.9	µg/mL	+/- 6.6906 +/- 11.4451 +/- 18.8784	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,000.8	µg/mL	+/- 6.6896 +/- 11.4433 +/- 18.8756	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,000.5	µg/mL	+/- 6.6879 +/- 11.4405 +/- 18.8709	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKBJ4871V)	1,002.9	µg/mL	+/- 6.7040 +/- 11.4679 +/- 18.9161	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBH5131V)	1,002.5	µg/mL	+/- 6.7488 +/- 11.4912 +/- 18.9255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot MKBP5833V)	1,001.0	µg/mL	+/- 6.6909 +/- 11.4456 +/- 18.8794	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKBK2375V)	1,000.0	µg/mL	+/- 5.9397 +/- 11.0159 +/- 18.6105	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,002.5	µg/mL	+/- 6.7013 +/- 11.4634 +/- 18.9086	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	1,000.3	µg/mL	+/- 6.6863 +/- 11.4376 +/- 18.8662	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot FN10221307)	1,001.5	µg/mL	+/- 6.7421 +/- 11.4798 +/- 18.9066	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,000.9	µg/mL	+/- 6.6907 +/- 11.4453 +/- 18.8789	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Chrysene		1,001.5 µg/mL	+/- 6.6943	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)		+/- 11.4514	µg/mL	Unstressed
	Purity 99%			+/- 18.8888	µg/mL	Stressed
57	3,3'-Dichlorobenzidine		1,002.5 µg/mL	+/- 6.7488	µg/mL	Gravimetric
	CAS # 91-94-1	(Lot 141205JLM)		+/- 11.4912	µg/mL	Unstressed
	Purity 99%			+/- 18.9255	µg/mL	Stressed
58	Bis(2-ethylhexyl)phthalate		1,006.9 µg/mL	+/- 6.7304	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)		+/- 11.5131	µg/mL	Unstressed
	Purity 99%			+/- 18.9906	µg/mL	Stressed
59	Di-n-octyl phthalate		1,003.2 µg/mL	+/- 6.7060	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3128600)		+/- 11.4714	µg/mL	Unstressed
	Purity 99%			+/- 18.9218	µg/mL	Stressed
60	Benzo(b)fluoranthene		1,003.8 µg/mL	+/- 6.7100	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER022008-02)		+/- 11.4782	µg/mL	Unstressed
	Purity 99%			+/- 18.9331	µg/mL	Stressed
61	Benzo(k)fluoranthene		1,004.3 µg/mL	+/- 6.7130	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot ER041513-01)		+/- 11.4834	µg/mL	Unstressed
	Purity 99%			+/- 18.9416	µg/mL	Stressed
62	Benzo(a)pyrene		1,002.7 µg/mL	+/- 6.7026	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)		+/- 11.4656	µg/mL	Unstressed
	Purity 99%			+/- 18.9124	µg/mL	Stressed
63	Indeno(1,2,3-cd)pyrene		1,002.9 µg/mL	+/- 6.7036	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)		+/- 11.4674	µg/mL	Unstressed
	Purity 99%			+/- 18.9152	µg/mL	Stressed
64	Dibenz(a,h)anthracene		1,001.5 µg/mL	+/- 6.6943	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)		+/- 11.4514	µg/mL	Unstressed
	Purity 99%			+/- 18.8888	µg/mL	Stressed
65	Benzo(g,h,i)perylene		1,004.3 µg/mL	+/- 6.7130	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER020708-08)		+/- 11.4834	µg/mL	Unstressed
	Purity 99%			+/- 18.9416	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

04107715
UM

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Catalog No. : 31853 **Lot No.:** A0110448

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

S4604

S4605

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane	2,005.0 µg/mL	+/- 11.7665	µg/mL	Gravimetric
	CAS # 123-91-1 (Lot SHBF2002V)		+/- 42.5509	µg/mL	Unstressed
	Purity 99%		+/- 42.7394	µg/mL	Stressed

Solvent: Methylene Chloride (MEOH FREE)
CAS # 75-09-2
Purity 99%

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S4814
1
S4838
MP
10/20/15

Catalog No. : 30614 **Lot No.:** A0111152

Description : 1,4-dioxane-d8 Standard

1,4-dioxane-d8 Standard 2000 µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane-d8	2,004.0 µg/mL	+/- 11.7606	µg/mL	Gravimetric
	CAS # 17647-74-4 (Lot 1-19073)		+/- 42.5297	µg/mL	Unstressed
	Purity 99%		+/- 42.7181	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
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Fax: (814)353-1309

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Certificate of Analysis

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

S4709
S4710
S4711
S4712
S4713 um 09/09/15

Catalog No. : 33017 **Lot No.:** A0111289

Description : Benzaldehyde Standard

Benzaldehyde 2000µg/mL Methylene Chloride (Methanol free), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzaldehyde **CAS #** 100-52-7 (Lot SHBD3510V) **Purity** 99%	2,012.0 µg/mL	+/- 11.8075 µg/mL +/- 64.5160 µg/mL +/- 74.9913 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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S4991 SJ 11/23/15 ↓ S4995

Catalog No. : 32208 **Lot No.:** A0112545

Description : Atrazine Standard

Atrazine Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav Conc. (weight/volume)	Expanded Uncertainty (95% C.L. ; K=2)		
1	Atrazine	1,009.4 µg/mL	+/- 5.9955	µg/mL	Gravimetric
	CAS # 1912-24-9 (Lot TZ8ED)		+/- 39.4963	µg/mL	Unstressed
	Purity 98%		+/- 62.6664	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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54976 – 54990

SJ
11/16/2015

Catalog No. : 31810 **Lot No.:** A0112586

Description : OLC03.2 SVOA Deuterated Monitoring Compounds Mix

OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL/ampul, Methylene Chloride, 2000µg/mL

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2019 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Phenol-d5	2,003.3 µg/mL	+/- 11.7567 µg/mL	Gravimetric
	CAS # 4165-62-2 (Lot X479P8)		+/- 49.9425 µg/mL	Unstressed
	Purity 99%		+/- 62.7939 µg/mL	Stressed
2	bis(2-Chloroethyl) ether-d8	2,005.3 µg/mL	+/- 11.7683 µg/mL	Gravimetric
	CAS # 93952-02-4 (Lot X485P12)		+/- 49.9919 µg/mL	Unstressed
	Purity 97%		+/- 62.8559 µg/mL	Stressed
3	2-Chlorophenol-d4	2,004.7 µg/mL	+/- 11.7645 µg/mL	Gravimetric
	CAS # 93951-73-6 (Lot PR-20630)		+/- 49.9758 µg/mL	Unstressed
	Purity 99%		+/- 62.8357 µg/mL	Stressed
4	4-Methylphenol-d8	2,004.0 µg/mL	+/- 11.7606 µg/mL	Gravimetric
	CAS # 190780-66-6 (Lot W519P30)		+/- 49.9591 µg/mL	Unstressed
	Purity 99%		+/- 62.8148 µg/mL	Stressed
5	Nitrobenzene-d5	2,005.3 µg/mL	+/- 11.7684 µg/mL	Gravimetric
	CAS # 4165-60-0 (Lot PR-24042)		+/- 49.9924 µg/mL	Unstressed
	Purity 99%		+/- 62.8566 µg/mL	Stressed
6	2-Nitrophenol-d4	2,002.0 µg/mL	+/- 11.7489 µg/mL	Gravimetric
	CAS # 93951-78-1 (Lot L184P31)		+/- 49.9093 µg/mL	Unstressed
	Purity 99%		+/- 62.7521 µg/mL	Stressed
7	2,4-Dichlorophenol-d3	2,000.0 µg/mL	+/- 11.7371 µg/mL	Gravimetric
	CAS # 93951-74-7 (Lot AB210P9)		+/- 49.8594 µg/mL	Unstressed
	Purity 99%		+/- 62.6894 µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

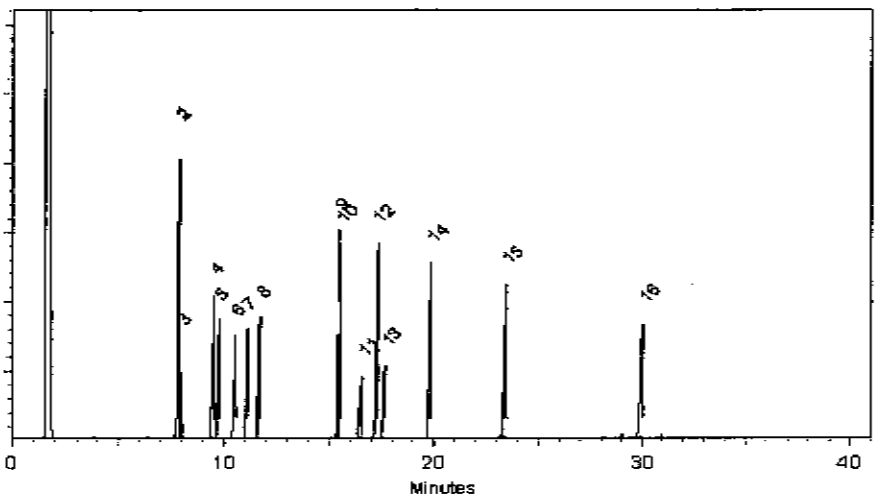
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael J Maye

Jennifer L. Pollino - QC Analyst

Date Mixed: 16-Jul-2015 **Balance:** 1128353505

Date Passed: 20-Jul-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

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Catalog No. : 31900 **Lot No.:** A0112856

Description : OLM 01.1 Revised SV MegaMix

OLM 01.1 Revised SV MegaMix 500-1000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2017 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive.

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CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Phenol **CAS #** 108-95-2 **Purity** 99%	(Lot SHBC6998V)	1,005.3 µg/mL.	+/- 6.7197 µg/mL +/- 11.4948 µg/mL +/- 18.9605 µg/mL		Gravimetric Unstressed Stressed
2	Bis(2-chlorocthyl)ether **CAS #** 111-44-4 **Purity** 99%	(Lot 45296HKV)	1,005.7 µg/mL	+/- 6.7223 µg/mL +/- 11.4994 µg/mL +/- 18.9680 µg/mL		Gravimetric Unstressed Stressed
3	2-Chlorophenol **CAS #** 95-57-8 **Purity** 99%	(Lot MKBD3900V)	1,000.0 µg/mL	+/- 6.6846 µg/mL +/- 11.4348 µg/mL +/- 18.8614 µg/mL		Gravimetric Unstressed Stressed
4	2,2'-oxybis(1-chloropropane) **CAS #** 108-60-1 **Purity** 99%	(Lot 2-KMW-57-8)	1,004.5 µg/mL	+/- 6.7147 µg/mL +/- 11.4862 µg/mL +/- 18.9463 µg/mL		Gravimetric Unstressed Stressed
5	2-Methylphenol (o-cresol) **CAS #** 95-48-7 **Purity** 99%	(Lot SHBC1479V)	1,001.8 µg/mL	+/- 6.6966 µg/mL +/- 11.4554 µg/mL +/- 18.8954 µg/mL		Gravimetric Unstressed Stressed
6	Acctophenone **CAS #** 98-86-2 **Purity** 99%	(Lot MKBR7156V)	1,008.0 µg/mL	+/- 5.9872 µg/mL +/- 11.1040 µg/mL +/- 18.7594 µg/mL		Gravimetric Unstressed Stressed
7	Hexachloroethane **CAS #** 67-72-1 **Purity** 99%	(Lot 4H3SF)	1,003.3 µg/mL	+/- 6.7066 µg/mL +/- 11.4725 µg/mL +/- 18.9237 µg/mL		Gravimetric Unstressed Stressed

8	N-Nitroso-di-n-propylamine		1,008.0	µg/mL	+/-	6.7859	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.5543	µg/mL	Unstressed
	Purity 99%				+/-	19.0293	µg/mL	Stressed
9	4-Methylphenol (p-cresol)		501.9	µg/mL	+/-	3.3547	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.7385	µg/mL	Unstressed
	Purity 99%				+/-	9.4656	µg/mL	Stressed
10	3-Methylphenol (m-cresol)		501.3	µg/mL	+/-	3.3506	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.7317	µg/mL	Unstressed
	Purity 99%				+/-	9.4543	µg/mL	Stressed
11	Nitrobenzene		1,003.2	µg/mL	+/-	6.7056	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBB0246V)			+/-	11.4708	µg/mL	Unstressed
	Purity 99%				+/-	18.9209	µg/mL	Stressed
12	Isophorone		1,004.1	µg/mL	+/-	6.7117	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.4811	µg/mL	Unstressed
	Purity 99%				+/-	18.9378	µg/mL	Stressed
13	2-Nitrophenol		1,002.1	µg/mL	+/-	6.6983	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.4582	µg/mL	Unstressed
	Purity 99%				+/-	18.9001	µg/mL	Stressed
14	2,4-Dimethylphenol		1,001.6	µg/mL	+/-	6.6953	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.4531	µg/mL	Unstressed
	Purity 99%				+/-	18.8916	µg/mL	Stressed
15	Bis(2-chloroethoxy)methane		1,002.9	µg/mL	+/-	6.7040	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 2238100)			+/-	11.4679	µg/mL	Unstressed
	Purity 99%				+/-	18.9161	µg/mL	Stressed
16	2,4-Dichlorophenol		1,003.2	µg/mL	+/-	6.7056	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.4708	µg/mL	Unstressed
	Purity 99%				+/-	18.9209	µg/mL	Stressed
17	Naphthalene		1,007.3	µg/mL	+/-	6.7334	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.5182	µg/mL	Unstressed
	Purity 99%				+/-	18.9991	µg/mL	Stressed
18	4-Chloroaniline		1,005.0	µg/mL	+/-	6.7657	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.5199	µg/mL	Unstressed
	Purity 99%				+/-	18.9727	µg/mL	Stressed
19	Hexachlorobutadiene		1,001.4	µg/mL	+/-	6.6937	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.4504	µg/mL	Unstressed
	Purity 98%				+/-	18.8872	µg/mL	Stressed
20	2-Methylnaphthalene		1,000.4	µg/mL	+/-	6.7344	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	11.4666	µg/mL	Unstressed
	Purity 95%				+/-	18.8849	µg/mL	Stressed
21	4-Chloro-3-methylphenol		1,000.4	µg/mL	+/-	6.6873	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.4393	µg/mL	Unstressed
	Purity 99%				+/-	18.8690	µg/mL	Stressed
22	1,2,4,5-Tetrachlorobenzene		1,008.5	µg/mL	+/-	6.7892	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AJV)			+/-	11.5600	µg/mL	Unstressed
	Purity 99%				+/-	19.0388	µg/mL	Stressed
23	Hexachlorocyclopentadiene		1,009.2	µg/mL	+/-	6.7457	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 3488800)			+/-	11.5394	µg/mL	Unstressed
	Purity 99%				+/-	19.0340	µg/mL	Stressed

24	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot MKBH17393V)	1,004.0	µg/mL	+/- 6.7110 +/- 11.4799 +/- 18.9359	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot FHM01)	1,007.6	µg/mL	+/- 6.7350 +/- 11.5211 +/- 19.0038	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	2-Chloronaphthalene **CAS #** 91-58-7 **Purity** 99%	(Lot FIJ01)	1,005.6	µg/mL	+/- 6.7220 +/- 11.4988 +/- 18.9671	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Biphenyl **CAS #** 92-52-4 **Purity** 99%	(Lot 1277976)	1,010.0	µg/mL	+/- 5.9991 +/- 11.1261 +/- 18.7966	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.0	µg/mL	+/- 6.7791 +/- 11.5428 +/- 19.0105	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Acenaphthylene **CAS #** 208-96-8 **Purity** 99%	(Lot ER030707-01)	1,000.9	µg/mL	+/- 6.6906 +/- 11.4451 +/- 18.8784	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,004.1	µg/mL	+/- 6.7117 +/- 11.4811 +/- 18.9378	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,002.2	µg/mL	+/- 6.6990 +/- 11.4594 +/- 18.9020	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKBP0384V)	1,005.5	µg/mL	+/- 6.7210 +/- 11.4971 +/- 18.9642	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	3-Nitroaniline **CAS #** 99-09-2 **Purity** 97%	(Lot MKBH5131V)	1,004.9	µg/mL	+/- 6.7651 +/- 11.5190 +/- 18.9712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBD8351V)	1,006.6	µg/mL	+/- 6.7284 +/- 11.5097 +/- 18.9850	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKBH8392V)	1,002.0	µg/mL	+/- 5.9516 +/- 11.0379 +/- 18.6477	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,004.2	µg/mL	+/- 6.7123 +/- 11.4822 +/- 18.9397	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBP6945V)	1,000.0	µg/mL	+/- 6.6846 +/- 11.4348 +/- 18.8614	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot Er100206-01)	1,009.5	µg/mL	+/- 6.7960 +/- 11.5715 +/- 19.0576	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,003.8	µg/mL	+/- 6.7101 +/- 11.4784 +/- 18.9334	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

40	4-Chlorophenyl phenyl ether		1,002.4	µg/mL	+/- 6.7006	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/- 11.4622	µg/mL	Unstressed
	Purity 99%				+/- 18.9067	µg/mL	Stressed
41	Diethylphthalate		1,005.3	µg/mL	+/- 6.7197	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/- 11.4948	µg/mL	Unstressed
	Purity 99%				+/- 18.9605	µg/mL	Stressed
42	4-Nitroaniline		1,007.5	µg/mL	+/- 6.7825	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/- 11.5485	µg/mL	Unstressed
	Purity 99%				+/- 19.0199	µg/mL	Stressed
43	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		1,000.0	µg/mL	+/- 6.6846	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC06195V)			+/- 11.4348	µg/mL	Unstressed
	Purity 99%				+/- 18.8614	µg/mL	Stressed
44	Diphenylamine		1,007.5	µg/mL	+/- 6.7825	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/- 11.5485	µg/mL	Unstressed
	Purity 99%				+/- 19.0199	µg/mL	Stressed
45	4-Bromophenyl phenyl ether		1,001.5	µg/mL	+/- 6.6944	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/- 11.4515	µg/mL	Unstressed
	Purity 98%				+/- 18.8890	µg/mL	Stressed
46	Hexachlorobenzene		1,004.0	µg/mL	+/- 6.7111	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC04221V)			+/- 11.4801	µg/mL	Unstressed
	Purity 98%				+/- 18.9362	µg/mL	Stressed
47	Pentachlorophenol		1,002.2	µg/mL	+/- 6.6990	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 140626JLM)			+/- 11.4594	µg/mL	Unstressed
	Purity 99%				+/- 18.9020	µg/mL	Stressed
48	Phenanthrene		1,000.3	µg/mL	+/- 6.6865	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBQ8219V)			+/- 11.4380	µg/mL	Unstressed
	Purity 98%				+/- 18.8668	µg/mL	Stressed
49	Anthracene		1,001.1	µg/mL	+/- 6.6919	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/- 11.4473	µg/mL	Unstressed
	Purity 99%				+/- 18.8822	µg/mL	Stressed
50	Carbazole		1,007.9	µg/mL	+/- 6.7854	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/- 11.5535	µg/mL	Unstressed
	Purity 98%				+/- 19.0280	µg/mL	Stressed
51	Di-n-butylphthalate		1,002.4	µg/mL	+/- 6.7006	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/- 11.4622	µg/mL	Unstressed
	Purity 99%				+/- 18.9067	µg/mL	Stressed
52	Fluoranthene		1,000.2	µg/mL	+/- 6.6858	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot 00828AJ)			+/- 11.4369	µg/mL	Unstressed
	Purity 98%				+/- 18.8650	µg/mL	Stressed
53	Pyrene		1,001.1	µg/mL	+/- 6.6916	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/- 11.4468	µg/mL	Unstressed
	Purity 99%				+/- 18.8812	µg/mL	Stressed
54	Benzyl butyl phthalate		1,003.0	µg/mL	+/- 6.7046	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 0302711V)			+/- 11.4691	µg/mL	Unstressed
	Purity 99%				+/- 18.9180	µg/mL	Stressed
55	Benz(a)anthracene		1,002.9	µg/mL	+/- 6.7040	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/- 11.4679	µg/mL	Unstressed
	Purity 99%				+/- 18.9161	µg/mL	Stressed

56	Chrysene **CAS #** 218-01-9 **Purity** 99%	(Lot PR121912-01)	1,006.2	µg/mL	+/- 6.7260 +/- 11.5057 +/- 18.9784	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	3,3'-Dichlorobenzidine **CAS #** 91-94-1 **Purity** 99%	(Lot 150701JLMA)	1,009.5	µg/mL	+/- 6.7960 +/- 11.5715 +/- 19.0576	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	Bis(2-ethylhexyl)phthalate **CAS #** 117-81-7 **Purity** 99%	(Lot MKBK2695V)	1,002.6	µg/mL	+/- 6.7016 +/- 11.4639 +/- 18.9095	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	Di-n-octyl phthalate **CAS #** 117-84-0 **Purity** 99%	(Lot 3128600)	1,001.2	µg/mL	+/- 6.6923 +/- 11.4479 +/- 18.8831	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	Benzo(b)fluoranthene **CAS #** 205-99-2 **Purity** 99%	(Lot ER022008-02)	1,002.5	µg/mL	+/- 6.7013 +/- 11.4634 +/- 18.9086	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	Benzo(k)fluoranthene **CAS #** 207-08-9 **Purity** 99%	(Lot 012012k)	1,002.7	µg/mL	+/- 6.7023 +/- 11.4651 +/- 18.9114	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	Benzo(a)pyrene **CAS #** 50-32-8 **Purity** 99%	(Lot ER071309-02)	1,002.3	µg/mL	+/- 6.6996 +/- 11.4605 +/- 18.9039	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	Indeno(1,2,3-cd)pyrene **CAS #** 193-39-5 **Purity** 99%	(Lot ER082107-02)	1,005.7	µg/mL	+/- 6.7227 +/- 11.4999 +/- 18.9690	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	Dibenz(a,h)anthracene **CAS #** 53-70-3 **Purity** 99%	(Lot ER032211-01)	1,008.6	µg/mL	+/- 6.7421 +/- 11.5331 +/- 19.0237	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	Benzo(g,h,i)perylene **CAS #** 191-24-2 **Purity** 99%	(Lot ER020708-08)	1,003.0	µg/mL	+/- 6.7046 +/- 11.4691 +/- 18.9180	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

RESTEK CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

S 5001
/
S 5030
SJ
12/14/15

Catalog No. : 31206 **Lot No.:** A0115444

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2,000 µg/ml, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav Conc. (weight/volume)	Expanded Uncertainty (95% C.L. K=2)		
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99% (Lot PR-18488)	2,000.2 µg/mL	+/- 11.6293 +/- 90.0902 +/- 99.9662	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 **Purity** 99% (Lot M-1452)	2,000.3 µg/mL	+/- 11.6299 +/- 90.0947 +/- 99.9712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 **Purity** 99% (Lot PR-25444)	2,000.3 µg/mL	+/- 11.6299 +/- 90.0947 +/- 99.9712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 **Purity** 99% (Lot PR-23065)	2,000.2 µg/mL	+/- 11.6293 +/- 90.0902 +/- 99.9662	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 **Purity** 99% (Lot I-19260)	2,000.9 µg/mL	+/- 11.6334 +/- 90.1217 +/- 100.0012	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 **Purity** 99% (Lot PR-24113)	2,000.3 µg/mL	+/- 11.6299 +/- 90.0947 +/- 99.9712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	4-Chloroaniline-d4 **CAS #** 191656-33-4 **Purity** 99%	(Lot C190P48)	2,008.7	µg/mL	+/- 11.7880 +/- 58.6415 +/- 71.1507	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Dimethylphthalate-d6 **CAS #** 85448-30-2 **Purity** 99%	(Lot X477P10)	2,009.3	µg/mL	+/- 11.7919 +/- 58.6610 +/- 71.1743	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Acenaphthylene-d8 **CAS #** 93951-97-4 **Purity** 99%	(Lot I-102)	2,007.3	µg/mL	+/- 11.7802 +/- 58.6026 +/- 71.1035	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	4-Nitrophenol-d4 **CAS #** 93951-79-2 **Purity** 99%	(Lot P-141)	2,010.0	µg/mL	+/- 11.7958 +/- 58.6804 +/- 71.1979	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Fluorene-d10 **CAS #** 81103-79-9 **Purity** 98%	(Lot M149P26)	2,005.7	µg/mL	+/- 11.7708 +/- 58.5559 +/- 71.0468	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	4,6-Dinitro-2-methylphenol-d2 **CAS #** 93951-76-9 **Purity** 99%	(Lot AB-322)	2,008.0	µg/mL	+/- 11.7841 +/- 58.6221 +/- 71.1271	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	Anthracene-d10 **CAS #** 1719-06-8 **Purity** 99%	(Lot PR-20576)	2,008.7	µg/mL	+/- 11.7880 +/- 58.6415 +/- 71.1507	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Pyrene-d10 **CAS #** 1718-52-1 **Purity** 98%	(Lot PR-14089)	2,010.3	µg/mL	+/- 11.7976 +/- 58.6894 +/- 71.2088	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Benzo(a)pyrene-d12 **CAS #** 63466-71-7 **Purity** 99%	(Lot PR-25741)	2,008.0	µg/mL	+/- 11.7841 +/- 58.6221 +/- 71.1271	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
Solvent:	Methylene Chloride **CAS #** 75-09-2 **Purity** 99%						

RESTEK
110 Banner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1668
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3223.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3223.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

S 5114 – S 5143

UH 04/07/16

Catalog No. : 31810 **Lot No.:** A0115813

Description : OLC03.2 SVOA Deuterated Monitoring Compounds Mix

OLC 03.2 SVOA Deuterated Monitoring Compounds, 1mL/ampul, Methylene Chloride, 2000µg/mL

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Phenol-d5 **CAS #** 4165-62-2 (Lot X479P8) **Purity** 99%	2,010.7 µg/mL	+/- 11.7997 µg/mL +/- 58.6999 µg/mL +/- 71.2215 µg/mL	Gravimetric Unstressed Stressed
2	bis(2-Chloroethyl) ether-d8 **CAS #** 93952-02-4 (Lot X-485) **Purity** 98%	2,004.4 µg/mL	+/- 11.7631 µg/mL +/- 58.5177 µg/mL +/- 71.0005 µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 (Lot PR-20630) **Purity** 99%	2,011.3 µg/mL	+/- 11.8036 µg/mL +/- 58.7194 µg/mL +/- 71.2452 µg/mL	Gravimetric Unstressed Stressed
4	4-Methylphenol-d8 **CAS #** 190780-66-6 (Lot W519P34) **Purity** 99%	2,012.0 µg/mL	+/- 11.8075 µg/mL +/- 58.7388 µg/mL +/- 71.2688 µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-24042) **Purity** 99%	2,008.7 µg/mL	+/- 11.7880 µg/mL +/- 58.6415 µg/mL +/- 71.1507 µg/mL	Gravimetric Unstressed Stressed
6	2-Nitrophenol-d4 **CAS #** 93951-78-1 (Lot H-151) **Purity** 99%	2,012.0 µg/mL	+/- 11.8075 µg/mL +/- 58.7388 µg/mL +/- 71.2688 µg/mL	Gravimetric Unstressed Stressed
7	2,4-Dichlorophenol-d3 **CAS #** 93951-74-7 (Lot AB210P6) **Purity** 99%	2,009.3 µg/mL	+/- 11.7919 µg/mL +/- 58.6610 µg/mL +/- 71.1743 µg/mL	Gravimetric Unstressed Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

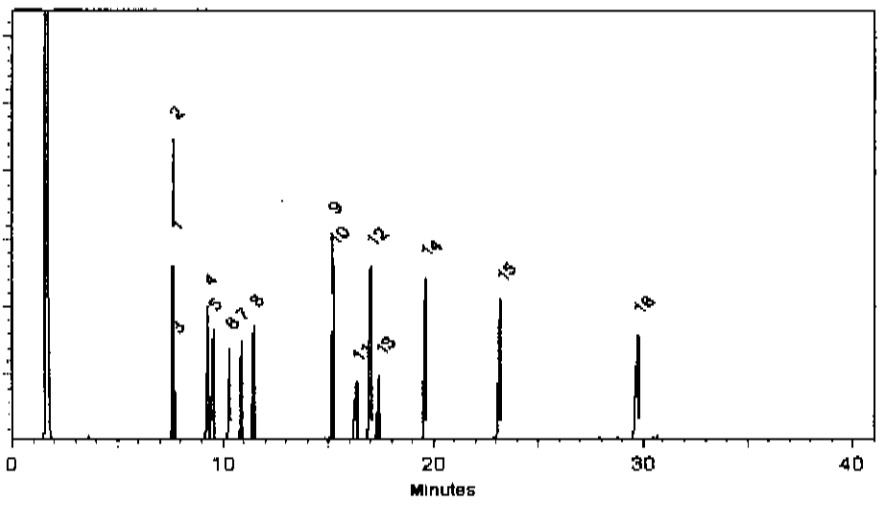
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 07-Dec-2015 **Balance:** B442140311

Jennifer L. Pollino - QC Analyst

Date Passed: 09-Dec-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

PCI SCIENTIFIC SUPPLY, INC.

41 PLYMOUTH STREET
FAIRFIELD, NJ 07004
P# (973) 244-9002
F# (973) 244-9448

CERTIFICATE OF ANALYSIS

PRODUCT :	SODIUM SULFATE ANHYDROUS		
QUALITY :	ACS	FORMULA :	Na_2SO_4
SPECIFICATION NUMBER :	6390	RELEASE DATE:	AGO/25/2014
LOT NUMBER :	433101		

TEST	SPECIFICATIONS	LOT VALUES
Insoluble matter	Max. 0.01%	0.006 %
Loss on ignition	Max. 0.5%	0.3 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.1
Chloride (Cl)	Max. 0.001%	<0.001 %
Nitrogen compounds (como N)	Max. 5 ppm	<5 ppm
Assay (Na_2SO_4)	Min. 99.0%	99.5 %
Iron (Fe)	Max. 0.001%	<0.001 %
Heavy metals (como Pb)	Max. 5 ppm	<5 ppm
Potassium (K)	Max. 0.008%	0.001 %
Calcium (Ca)	Max. 0.01%	0.001 %
Magnesium (Mg)	Max. 0.005%	0.002 %
Phosphate (PO_4)	Max. 0.001%	<0.001 %
Appearance	Crystals	Crystals
Retained on US Standard No. 10 sieve	Max. 1.0%	0.0 %
Retained on US Standard No. 60 sieve	Min. 80.0%	98.3 %
Through US Standard No. 60 sieve	Max. 19.0%	1.5 %
Through US Standard No. 100 sieve	Max. 10.0%	0.2 %

E 2036

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9266-A4
Batch No.: 0000131014
Manufactured Date: 2015/11/25
Expiration Date: 2017/02/23

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	2
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	>= 99.8 %	100.0
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0000 ppm	0.1000
Titrable Acid (µeq/g)	<= 0.3	< 0.1
Chloride (Cl)	<= 10 ppm	< 5
Water (by KF, coulometric)	<= 0.02 %	< 0.01

For Laboratory, Research or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

E2072

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Debradun, India, 9001:2008 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway. Suite #200. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Certificate of Analysis

Date of Release:	2/26/2016
Name:	Dichloromethane OmniSolv®
Item No:	DX0831 all size codes
Lot / Batch No:	56056
Country of Origin:	USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
Assay (GC)	99.9		99.95	%
Capillary ECD responsive substances (as PCNB)		2	0.32	ng/L
Capillary FID responsive substances (as decane)		3	< 0.10	µg/L
Color (APHA)		10	<10	
Filtered through 0.2 µm filter			Passes test	
Fluorescence (as quinine base)		500	78	ppt
Form			Clear liquid	
Free halogens			Passes test	
Identity (IR-spectrum)			Conforms	
Refractive index (n 20/D)			1.4240	
Residue after evaporation		1	<0.5	ppm
Titrable acid		0.2	0.09	µeq/g
UV Abs. at 231 nm		1.00	0.726	AU
UV Abs. at 235 nm		0.40	0.280	AU
UV Abs. at 240 nm		0.20	0.080	AU
UV Abs. at 250 nm		0.01	0.005	AU
UV Abs. at 260 nm		0.005	< 0.001	AU
UV Cut-off		231	229.6	nm
Water (H2O)		0.005	0.0003	%

Gene Desolelle

Quality Control Manager
This document has been produced electronically and is valid without a signature.

E 2087

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821
U.S.A

Certificate of Analysis

Date of Release: 2/26/2016

Name: Dichloromethane
OmniSolv®

Item No: DX0831 all size codes

Lot / Batch No: 56056

Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
Assay (GC)	99.9		99.95	%
Capillary ECD responsive substances (as PCNB)		2	0.32	ng/L
Capillary FID responsive substances (as decane)		3	< 0.10	µg/L
Color (APHA)		10	<10	
Filtered through 0.2 µm filter			Passes test	
Fluorescence (as quinine base)		500	78	ppt
Form			Clear liquid	
Free halogens			Passes test	
Identity (IR-spectrum)			Conforms	
Refractive index (n 20/D)			1.4240	
Residue after evaporation		1	<0.5	ppm
Titrable acid		0.2	0.09	µeq/g
UV Abs. at 231 nm		1.00	0.726	AU
UV Abs. at 235 nm		0.40	0.280	AU
UV Abs. at 240 nm		0.20	0.080	AU
UV Abs. at 250 nm		0.01	0.005	AU
UV Abs. at 260 nm		0.005	< 0.001	AU
UV Cut-off		231	229.6	nm
Water (H2O)		0.005	0.0003	%

Gene Desotelle

Quality Control Manager
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EMD Millipore is a division of Merck KGaA,Darmstadt, Germany
EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821
U.S.A

E 2105

Acetone
ULTRA RESI-ANALYZED
For Organic Residue Analysis

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9254-03
Batch No.: 0000133024
Manufactured Date: 2015/11/03
Expiration Date: 2018/11/02

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	>= 99.4 %	99.7
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0000 ppm	0.1000
Substances Reducing Permanganate	Passes Test	PT
Titrable Acid (µeq/g)	<= 0.3	0.1
Titrable Base (µeq/g)	<= 0.6	< 0.1
Water (H_2O)	<= 0.5 %	0.3
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	1

For Laboratory, Research or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

E 2106

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

James T Ethier
Jamie Ethier
Vice President Global Quality

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Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

SAFETY DATA SHEET

1. Identification

Product identifier: ACETONE

Other means of identification

Synonyms: 2-Propanone, Dimethyl ketone

Product No.: 2462, 2572, 2570, 9422, 9036, 9015, 9010, 9009, 9008, 9006, 9005, 9003, 9002, 2443, 2437, 2435, 2432, H580, 5975, 5965, H451, 2440, A134, 5580, 5356, 5018, 5008, 9271, 9254, 70444, 10654

Recommended use and restriction on use

Recommended use: Not available.
Restrictions on use: Not known.

Details of the supplier of the safety data sheet

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax: 610-573-2610
Contact Person: Environmental Health & Safety
E-mail: info@avantormaterials.com

Emergency telephone number:
CHEMTREC: 1-800-424-9300 within US and Canada
CHEMTREC: 1-703-527-3887 outside US and Canada

2. Hazard(s) identification

Hazard Classification

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement:
Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May be harmful if swallowed and enters airways.

Precautionary Statement

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting/equipment. Ground and bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Avoid breathing dust/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Response: In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
ACETONE		67-64-1	99 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Call a physician or poison control center immediately. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

Skin Contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.

Most important symptoms/effects, acute and delayed

Symptoms: Narcotic effect.

Indication of immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed. Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: Flammable liquid and vapor.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Heat may cause the containers to explode.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a profected location. Move containers from fire area if you can do so without risk.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind.
Methods and meterial for containment and cleaning up:	Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharges. Stop leak if possible without any risk. Use only non-sparking tools. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
Notification Procedures:	Inform authorities if large amounts are involved.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground and bond container and receiving equipment. Use personal protective equipment as required. Do not get in eyes, on skin, on clothing. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

Conditions for safe storage, including any incompatibilities: Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a cool, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
ACETONE	REL	250 ppm 590 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	1,000 ppm 2,400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	750 ppm 1,800 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	1,000 ppm 2,400 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	250 ppm	US. ACGIH Threshold Limit Values (03 2015)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (03 2015)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
ACETONE (acetone: Sampling time: End of shift.)	25 mg/l (Urine)	ACGIH BEL (03 2015)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: Chemical resistant gloves

Other: Wear suitable protective clothing and gloves.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.

Hygiene measures: Provide eyewash station and safety shower. Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Avoid contact with eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Sweet, mint-like
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	-94.7 °C
Initial boiling point and boiling range:	56 °C (101.3 kPa)
Flash Point:	-20 °C (Closed Cup)
Evaporation rate:	No data available.
Flammability (solid, gas):	Class IB Flammable Liquid
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	12.8 %(V)
Flammability limit - lower (%):	2.6 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	30.9 kPa (25 °C)
Vapor density:	2
Relative density:	0.7899 (4 °C)
Solubility(ies)	
Solubility in water:	Miscible with water.
Solubility (other):	alcohol: Very Soluble benzene: Soluble chloroform: Very Soluble ether: Very Soluble
Partition coefficient (n-octanol/water):	-0.24
Auto-ignition temperature:	869 °F
Decomposition temperature:	No data available.
Viscosity:	No data available.

Other information

Liquid conductivity:	0.06 µS/cm
Molecular weight:	58.08 g/mol (C3H6O)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.

Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Oxidizers, acids
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Harmful if swallowed.
Inhalation:	May cause irritation to the respiratory system.
Skin Contact:	Causes mild skin irritation. Prolonged or repeated skin contact may cause drying, cracking, or irritation.
Eye contact:	Causes eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: LD 50 (Rat): 5,800 mg/kg

Dermal
Product: LD 50 (Rabbit): 20,000 mg/kg

Inhalation
Product: LC 50 (Rat, 4 h): 76 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: Prolonged or repeated contact may cause irritation.

Serious Eye Damage/Eye Irritation
Product: Irritating to eyes.

Respiratory or Skin Sensitization
Product: Not a skin sensitizer.

Carcinogenicity
Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No mutagenic components identified

In vivo
Product: No mutagenic components identified

Reproductive toxicity
Product: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure
Product: Respiratory tract irritation. Narcotic effect.

Specific Target Organ Toxicity - Repeated Exposure
Product: None known.

Aspiration Hazard
Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: LC 50 (Fathead minnow (Pimephales promelas), 96 h): 5,490 - 7,030 mg/l Mortality
LC 50 (Bluegill (Lepomis macrochirus), 96 h): 8,300 mg/l Mortality

Aquatic Invertebrates
Product: LC 50 (Brine shrimp (Artemia salina), 24 h): 2,100 mg/l Mortality
LC 50 (Water flea (Daphnia magna), 48 h): 12,100 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: Expected to be readily biodegradable.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential
Bioconcentration Factor (BCF)
Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)
Product: Log Kow: -0.24

Mobility in Soil:	No data available.
Other Adverse Effects:	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions:	Discharge, treatment, or disposal may be subject to national, state, or local laws.
Contaminated Packaging:	Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN Number:	UN 1090
UN Proper Shipping Name:	Acetone
Transport Hazard Class(es)	
Class(es):	3
Label(s):	3
Packing Group:	II
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	–

IMDG

UN Number:	UN 1090
UN Proper Shipping Name:	ACETONE
Transport Hazard Class(es)	
Class(es):	3
Label(s):	3
EmS No.:	F-E, S-D
Packing Group:	II
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	–

IATA

UN Number:	UN 1090
Proper Shipping Name:	Acetone
Transport Hazard Class(es):	
Class(es):	3
Label(s):	3
Marine Pollutant:	Not a Marine Pollutant
Packing Group:	II
Special precautions for user:	–

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
ACETONE	5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Acute (Immediate)
Fire

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
ACETONE	5000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
ACETONE	10000 lbs

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
ACETONE

US. Massachusetts RTK - Substance List

Chemical Identity
ACETONE

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
ACETONE

US. Rhode Island RTK

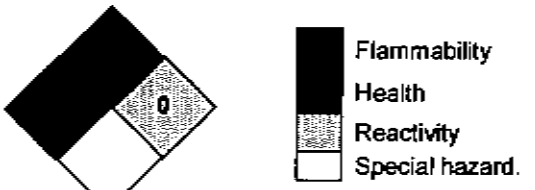
Chemical Identity
ACETONE

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	04-14-2016
Revision Date:	No data available.
Version #:	2.0
Further Information:	No data available.

Disclaimer:

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Certificate of Analysis

Date of Release: 2/26/2016

Name: Dichloromethane
OmniSolv®

Item No: DX0831 all size codes

Lot / Batch No: 56056

Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
Assay (GC)	99.9		99.95	%
Capillary ECD responsive substances (as PCNB)		2	0.32	ng/L
Capillary FID responsive substances (as decane)		3	< 0.10	µg/L
Color (APHA)		10	<10	
Filtered through 0.2 µm filter			Passes test	
Fluorescence (as quinine base)		500	78	ppt
Form			Clear liquid	
Free halogens			Passes test	
Identity (IR-spectrum)			Conforms	
Refractive index (n 20/D)			1.4240	
Residue after evaporation		1	<0.5	ppm
Titrable acid		0.2	0.09	µeq/g
UV Abs. at 231 nm		1.00	0.726	AU
UV Abs. at 235 nm		0.40	0.280	AU
UV Abs. at 240 nm		0.20	0.080	AU
UV Abs. at 250 nm		0.01	0.005	AU
UV Abs. at 260 nm		0.005	< 0.001	AU
UV Cut-off		231	229.6	nm
Water (H2O)		0.005	0.0003	%

Gene Desotelle

Quality Control Manager
This document has been produced electronically and is valid without a signature.

EMD Millipore is a division of Merck KGaA,Darmstadt, Germany
EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821
U.S.A

E 2110

CHEMTECH **EXTRACTION LOGPAGE**

PB90581

SOP ID: M SOM02.2

Matrix : Solid

Clean Up SOP #: GPC Cleanup

Weigh By: RS **Extraction By:** RS

Balance check: RS

Balance ID: Ex-SC-1

Batch# PB90581

Extraction Date : 05/12/16

Extraction Start Time : 12:31

Extraction End Time : 9:55 (5/13/16)

Review By :

Filter By: RS **Concentration By:** MM

Weight 1: (20.00) 20.00 **Weight 2:** (110.00) 110.00

Method of Extraction

☐ Seperatory Funne ☐ Continious Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☑ Soxhlet

Standared Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike	0.5ML	80 PPM	SP3536
Surrogate	0.5ML	80 ± 0.8 PPM	SP3682

Chemical Used	ML/SAMPLE USED	Lot Number
Mcl2/Acetone/1:1		EP1671
Methylene Chloride		E2110
Sand		E1520
Baked Na2SO4		EP1653

RS 5/12

Extraction Conformance/Non-Conformance Comments:

Extraction End Time: 9:55 (5/13/16) CnC Project # 2798 & # 2914

RS 5/12

KD Bath Temperature: 60.1 c

Envap Temperature: 40 c

Received Date: 05/12/16

Received By: UM

Delivered Date: 05/13/16

Delivered By: MM

Delivered Time: 10:00

Analysis Group:

Extraction Group: , RS, SJ, MM, UA, RP, JP, NP, UM

CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID** **PB90581**

Analytical Method: SOM02.2 SVOC **Extraction Date:** 05/12/2016-12:31 **Concentration Date:** 05/13/16

Lab Sample ID	Client Sample ID	Test	g/mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
		2 2			Added By	Verified By			
PB90581BL	SBLK81	SVOC-TCL BNA -20	30.01		RS		0.5		U3 01
H2922-01	E5NG0	SVOC-TCL BNA -20	30.04						02
H2922-02	E5NG0MS	SVOC-TCL BNA -20	30.10						03
H2922-03	E5NG0MSD	SVOC-TCL BNA -20	30.06						04
H2954-01	H4082	SVOC-TCL BNA -20	30.03						05
H2954-02	H4086	SVOC-TCL BNA -20	30.12						06
H2954-04	H4086MS	SVOC-TCL BNA -20	30.07						U4 01
H2954-05	H4086MSD	SVOC-TCL BNA -20	30.05						02

* Extracts relinquished on the same date as received.

CHEMTECH **EXTRACTION LOGPAGE** **PrepBatch ID : PB90581**

Analytical Method: 2 **Extraction Date:** 05/12/2016-12:31 **Concentration Date:** ___/___/___

Lab Sample ID	Client Sample ID	Test	g/ mL	PH	Surr/Spike By:		Final Vol.(mL)	Comments	Prep Pos
		2 2			Added By	Verified By			
PB90581BL	SBLK81	SVOC-TCL BNA -20	30.01		RUPESH	rajesh	0.5		
H2922-01	E5NG0	SVOC-TCL BNA -20	30.04		RUPESH	rajesh	0.5		
H2922-02	E5NG0MS	SVOC-TCL BNA -20	30.10		RUPESH	rajesh	0.5		
H2922-03	E5NG0MSD	SVOC-TCL BNA -20	30.06		RUPESH	rajesh	0.5		
H2954-01	H4082	SVOC-TCL BNA -20	30.03		RUPESH	rajesh	0.5		
H2954-02	H4086	SVOC-TCL BNA -20	30.12		RUPESH	rajesh	0.5		
H2954-04	H4086MS	SVOC-TCL BNA -20	30.07		RUPESH	rajesh	0.5		
H2954-05	H4086MSD	SVOC-TCL BNA -20	30.05		RUPESH	rajesh	0.5		

* Extracts relinquished on the same date as received.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051116

Review By	feifei	Review On	5/13/2016 12:02:38 PM		
SubDirectory	VT051116	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52894
Initial Calibration Stds	VP52895,VP52896,VP52897,VP52898,VP52899
CCC	VP52900,VP52901,VP52902,VP52903
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB91	VT014056.D	11 May 2016 4:25	FY/SY	Ok
2	VSTD2.596	VT014057.D	11 May 2016 4:51	FY/SY	Ok,M
3	VSTD00597	VT014058.D	11 May 2016 5:17	FY/SY	Ok,M
4	VSTD02598	VT014059.D	11 May 2016 5:43	FY/SY	Ok,M
5	VSTD05099	VT014060.D	11 May 2016 6:09	FY/SY	Ok,M
6	VSTD10076	VT014061.D	11 May 2016 6:35	FY/SY	Ok,M
7	VSTDCCC025	VT014062.D	11 May 2016 7:27	FY/SY	Ok,M
8	VT0511SBL01	VT014063.D	11 May 2016 8:45	FY/SY	Ok,M
9	H2911-12	VT014064.D	11 May 2016 9:11	FY/SY	Ok,M
10	H2911-13	VT014065.D	11 May 2016 9:37	FY/SY	Dilution
11	H2911-14	VT014066.D	11 May 2016 10:03	FY/SY	Dilution
12	H2911-17	VT014067.D	11 May 2016 10:29	FY/SY	ReRun
13	H2888-07	VT014068.D	11 May 2016 10:55	FY/SY	Ok,M
14	H2911-01	VT014069.D	11 May 2016 11:21	FY/SY	Ok,M
15	H2911-02MS	VT014070.D	11 May 2016 11:47	FY/SY	Not Ok
16	H2911-03MSD	VT014071.D	11 May 2016 12:13	FY/SY	Ok,M
17	H2909-01	VT014072.D	11 May 2016 12:40	FY/SY	Ok,M
18	H2909-02MS	VT014073.D	11 May 2016 13:06	FY/SY	Ok,M
19	H2909-03MSD	VT014074.D	11 May 2016 13:32	FY/SY	Ok,M
20	H2911-02MS	VT014075.D	11 May 2016 13:57	FY/SY	Ok,M
21	H2911-15	VT014076.D	11 May 2016 14:23	FY/SY	Ok,M
22	H2890-01	VT014077.D	11 May 2016 14:49	FY/SY	Ok,M
23	VSTDCCC025	VT014078.D	11 May 2016 15:41	FY/SY	Ok,M
24	VT0511SBL02	VT014079.D	11 May 2016 16:43	FY/SY	Ok,M
25	H2911-18	VT014080.D	11 May 2016 17:09	FY/SY	Ok,M
26	H2911-19	VT014081.D	11 May 2016 17:36	FY/SY	Ok,M

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051116

Review By	feifei	Review On	5/13/2016 12:02:38 PM		
SubDirectory	VT051116	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52894
Initial Calibration Stds	VP52895,VP52896,VP52897,VP52898,VP52899
CCC	VP52900,VP52901,VP52902,VP52903
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

27	H2911-20	VT014082.D	11 May 2016 18:02	FY/SY	Ok,M
28	H2911-21	VT014083.D	11 May 2016 18:27	FY/SY	Ok,M
29	H2911-22	VT014084.D	11 May 2016 18:53	FY/SY	Ok,M
30	H2911-23	VT014085.D	11 May 2016 19:20	FY/SY	Ok,M
31	H2955-01	VT014086.D	11 May 2016 19:45	FY/SY	Ok,M
32	H2955-02	VT014087.D	11 May 2016 20:12	FY/SY	Ok,M
33	H2955-03	VT014088.D	11 May 2016 20:38	FY/SY	Ok
34	H2955-04	VT014089.D	11 May 2016 21:04	FY/SY	Ok,M
35	H2955-05	VT014090.D	11 May 2016 21:56	FY/SY	Ok,M
36	H2955-06	VT014091.D	11 May 2016 22:22	FY/SY	Ok,M
37	H2955-07	VT014092.D	11 May 2016 22:47	FY/SY	Ok,M
38	H2955-08	VT014093.D	11 May 2016 23:13	FY/SY	Ok
39	H2955-09	VT014094.D	11 May 2016 23:40	FY/SY	Ok,M
40	H2955-10	VT014095.D	12 May 2016 00:05	FY/SY	ReRun
41	H2955-11	VT014096.D	12 May 2016 00:31	FY/SY	Ok,M
42	H2955-12	VT014097.D	12 May 2016 00:57	FY/SY	Ok,M
43	H2955-13	VT014098.D	12 May 2016 1:23	FY/SY	Ok,M
44	H2955-14	VT014099.D	12 May 2016 1:49	FY/SY	ReRun
45	VSTDCCC025	VT014100.D	12 May 2016 2:16	FY/SY	Ok,M
46	VT0511SBL03	VT014101.D	12 May 2016 4:01	FY/SY	Ok,M
47	H2888-23	VT014102.D	12 May 2016 4:27	FY/SY	Ok,M
48	H2849-14RE	VT014103.D	12 May 2016 4:53	FY/SY	Confirms
49	H2849-16	VT014104.D	12 May 2016 5:19	FY/SY	Ok,M
50	H2906-01RE	VT014105.D	12 May 2016 5:45	FY/SY	Confirms
51	H2906-02RE	VT014106.D	12 May 2016 6:11	FY/SY	Confirms
52	H2909-16	VT014107.D	12 May 2016 6:37	FY/SY	Ok,M
53	H2909-12RE	VT014108.D	12 May 2016 7:03	FY/SY	Confirms
54	H2909-20RE	VT014109.D	12 May 2016 7:29	FY/SY	Confirms

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051116

Review By	feifei	Review On	5/13/2016 12:02:38 PM		
SubDirectory	VT051116	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52894
Initial Calibration Stds	VP52895,VP52896,VP52897,VP52898,VP52899
CCC	VP52900,VP52901,VP52902,VP52903
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

55	H2909-21RE	VT014110.D	12 May 2016 7:55	FY/SY	Confirms
56	H2890-03	VT014111.D	12 May 2016 8:21	FY/SY	Ok,M
57	H2890-07RE	VT014112.D	12 May 2016 8:47	FY/SY	Confirms
58	H2890-08	VT014113.D	12 May 2016 9:13	FY/SY	Ok,M
59	H2890-10RE	VT014114.D	12 May 2016 9:39	FY/SY	Confirms
60	H2890-16RE	VT014115.D	12 May 2016 10:05	FY/SY	Confirms
61	H2890-17	VT014116.D	12 May 2016 11:50	FY/SY	Dilution
62	VSTDCCC025EC	VT014117.D	12 May 2016 12:16	FY/SY	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051216

Review By	feifei	Review On	5/13/2016 10:55:00 AM		
SubDirectory	VT051216	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52946
Initial Calibration Stds	VP52895,VP52896,VP52897,VP52898,VP52899
CCC	VP52947,VP52948
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB92	VT014118.D	12 May 2016 12:44	FY/SY	Ok
2	VSTDCCC025	VT014119.D	12 May 2016 13:10	FY/SY	Ok,M
3	VT0512SBL01	VT014120.D	12 May 2016 13:36	FY/SY	Ok,M
4	H2890-14	VT014121.D	12 May 2016 14:03	FY/SY	Ok,M
5	H2890-06	VT014122.D	12 May 2016 14:29	FY/SY	Ok,M
6	H2890-09	VT014123.D	12 May 2016 14:55	FY/SY	Ok,M
7	H2955-18	VT014124.D	12 May 2016 15:21	FY/SY	Ok,M
8	H2955-19MS	VT014125.D	12 May 2016 15:47	FY/SY	Ok,M
9	H2955-20MSD	VT014126.D	12 May 2016 16:14	FY/SY	Ok,M
10	H2911-17	VT014127.D	12 May 2016 16:40	FY/SY	Ok,M
11	H2955-10RE	VT014128.D	12 May 2016 17:06	FY/SY	Confirms
12	H2955-14RE	VT014129.D	12 May 2016 17:33	FY/SY	Confirms
13	H2849-02	VT014130.D	12 May 2016 17:59	FY/SY	Dilution
14	VIBLK76	VT014131.D	12 May 2016 18:51	FY/SY	Ok,M
15	H2955-15	VT014132.D	12 May 2016 19:18	FY/SY	Ok
16	H2955-16	VT014133.D	12 May 2016 19:44	FY/SY	Ok,M
17	H2955-17	VT014134.D	12 May 2016 20:10	FY/SY	Ok
18	H2954-01	VT014135.D	12 May 2016 20:36	FY/SY	ReRun
19	H2954-02	VT014136.D	12 May 2016 21:01	FY/SY	ReRun
20	H2909-23	VT014137.D	12 May 2016 21:27	FY/SY	Ok,M
21	H2906-08	VT014138.D	12 May 2016 21:53	FY/SY	Ok,M
22	H2849-10	VT014139.D	12 May 2016 22:20	FY/SY	Ok,M
23	H2955-21	VT014140.D	12 May 2016 22:46	FY/SY	Ok,M
24	VSTDCCC025EC	VT014141.D	12 May 2016 23:12	FY/SY	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051316

Review By	feifei	Review On	5/16/2016 10:15:12 AM		
SubDirectory	VT051316	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52976
Initial Calibration Stds	VP52986,VP52987,VP52988,VP52989,VP52990
CCC	VP52977
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB93	VT014142.D	13 May 2016 13:01	FY/SY	Ok
2	VSTD2.583	VT014143.D	13 May 2016 14:37	FY/SY	Ok,M
3	VSTD00584	VT014144.D	13 May 2016 15:03	FY/SY	Ok,M
4	VSTD02585	VT014145.D	13 May 2016 15:30	FY/SY	Ok,M
5	VSTD05086	VT014146.D	13 May 2016 15:57	FY/SY	Ok,M
6	VSTD10087	VT014147.D	13 May 2016 16:23	FY/SY	Ok,M
7	VT0513SBL01	VT014148.D	13 May 2016 17:42	FY/SY	Ok,M
8	H2954-01	VT014149.D	13 May 2016 18:08	FY/SY	Ok,M
9	H2954-02RE	VT014150.D	13 May 2016 18:34	FY/SY	Confirms
10	H2954-03	VT014151.D	13 May 2016 19:00	FY/SY	Ok,M
11	VSTDCCC025EC	VT014152.D	13 May 2016 19:26	FY/SY	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051116

Review By	feifei	Review On	5/13/2016 12:02:38 PM		
SubDirectory	VT051116	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52894
Initial Calibration Stds	VP52895,VP52896,VP52897,VP52898,VP52899
CCC	VP52900,VP52901,VP52902,VP52903
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB91	BFB91	VT014056.D		Ok
2	VSTD2.596	VSTD2.596	VT014057.D		Ok,M
3	VSTD00597	VSTD00597	VT014058.D		Ok,M
4	VSTD02598	VSTD02598	VT014059.D		Ok,M
5	VSTD05099	VSTD05099	VT014060.D		Ok,M
6	VSTD10076	VSTD10076	VT014061.D		Ok,M
7	VSTDCCC025	VSTD02588	VT014062.D		Ok,M
8	VT0511SBL01	VBLK82	VT014063.D		Ok,M
9	H2911-12	G9HS1	VT014064.D	Vial A	Ok,M
10	H2911-13	G9HS2	VT014065.D	Vial A, Need MEOH	Dilution
11	H2911-14	G9HS3	VT014066.D	Vial A, Need MEOH	Dilution
12	H2911-17	G9HY0	VT014067.D	Vial A, E flag in previous sample	ReRun
13	H2888-07	D9WW4	VT014068.D	Vial B	Ok,M
14	H2911-01	G9HR1	VT014069.D	Vial A	Ok,M
15	H2911-02MS	G9HR1MS	VT014070.D	Vial A, Not purge well	Not Ok
16	H2911-03MSD	G9HR1MSD	VT014071.D	Vial A	Ok,M
17	H2909-01	G9HP1	VT014072.D	Vial A	Ok,M
18	H2909-02MS	G9HP1MS	VT014073.D	Vial A	Ok,M
19	H2909-03MSD	G9HP1MSD	VT014074.D	Vial A	Ok,M
20	H2911-02MS	G9HR1MS	VT014075.D	Vial B	Ok,M
21	H2911-15	G9HS4	VT014076.D	PE	Ok,M
22	H2890-01	D9WY5	VT014077.D	Vial B	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051116

Review By	feifei	Review On	5/13/2016 12:02:38 PM		
SubDirectory	VT051116	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52894
Initial Calibration Stds	VP52895,VP52896,VP52897,VP52898,VP52899
CCC	VP52900,VP52901,VP52902,VP52903
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

23	VSTDCCC025	VSTD02589	VT014078.D		Ok,M
24	VT0511SBL02	VBLK83	VT014079.D		Ok,M
25	H2911-18	G9HY1	VT014080.D	Vial A	Ok,M
26	H2911-19	G9HY2	VT014081.D	Vial A	Ok,M
27	H2911-20	G9HY3	VT014082.D	Vial A	Ok,M
28	H2911-21	G9HY4	VT014083.D	Vial A	Ok,M
29	H2911-22	G9HY5	VT014084.D	Vial A	Ok,M
30	H2911-23	G9HY6	VT014085.D	Vial A	Ok,M
31	H2955-01	G9HY7	VT014086.D	Vial A	Ok,M
32	H2955-02	G9HY8	VT014087.D	Vial A	Ok,M
33	H2955-03	G9HY9	VT014088.D	Vial A	Ok
34	H2955-04	G9HZ0	VT014089.D	Vial A	Ok,M
35	H2955-05	G9HZ1	VT014090.D	Vial A	Ok,M
36	H2955-06	G9HZ2	VT014091.D	Vial A	Ok,M
37	H2955-07	G9HZ3	VT014092.D	Vial A	Ok,M
38	H2955-08	G9HZ4	VT014093.D	Vial A	Ok
39	H2955-09	G9HZ5	VT014094.D	Vial A	Ok,M
40	H2955-10	G9HZ6	VT014095.D	Vial A, Internal standard fail	ReRun
41	H2955-11	G9HZ7	VT014096.D	Vial A	Ok,M
42	H2955-12	G9HZ8	VT014097.D	Vial A	Ok,M
43	H2955-13	G9HZ9	VT014098.D	Vial A	Ok,M
44	H2955-14	G9J00	VT014099.D	Vial A, Internal standard fail	ReRun
45	VSTDCCC025	VSTD02590	VT014100.D		Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051116

Review By	feifei	Review On	5/13/2016 12:02:38 PM		
SubDirectory	VT051116	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52894
Initial Calibration Stds	VP52895,VP52896,VP52897,VP52898,VP52899
CCC	VP52900,VP52901,VP52902,VP52903
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

46	VT0511SBL03	VBLK84	VT014101.D		Ok,M
47	H2888-23	VHBLK01	VT014102.D	SB, vial A	Ok,M
48	H2849-14RE	C0AE9RE	VT014103.D	Vial B, Internal standard fail	Confirms
49	H2849-16	C0AF1	VT014104.D	Vial B	Ok,M
50	H2906-01RE	C0AG6RE	VT014105.D	Vial B, Internal standard fail	Confirms
51	H2906-02RE	C0AG7RE	VT014106.D	Vial B, Internal standard fail	Confirms
52	H2909-16	G9HQ4	VT014107.D	Vial B	Ok,M
53	H2909-12RE	G9HQ0RE	VT014108.D	Vial B, Internal standard fail,Not match with original	Confirms
54	H2909-20RE	G9HQ8RE	VT014109.D	Vial B, Internal standard fail	Confirms
55	H2909-21RE	G9HQ9RE	VT014110.D	Vial B, Internal standard fail	Confirms
56	H2890-03	D9WY9	VT014111.D	Vial B	Ok,M
57	H2890-07RE	D9WT3RE	VT014112.D	Vial B, Internal standard fail	Confirms
58	H2890-08	D9WT4	VT014113.D	Vial B	Ok,M
59	H2890-10RE	D9WT6RE	VT014114.D	Vial B , Internal standard fail,Surrogate Fail	Confirms
60	H2890-16RE	D9WY6RE	VT014115.D	Vial B , Internal standard fail,Surrogate Fail	Confirms
61	H2890-17	D9WY8	VT014116.D	Vial B , Need Meoh	Dilution
62	VSTDCCC025EC	VSTD02591	VT014117.D		Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051216

Review By	feifei	Review On	5/13/2016 10:55:00 AM		
SubDirectory	VT051216	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52946
Initial Calibration Stds	VP52895,VP52896,VP52897,VP52898,VP52899
CCC	VP52947,VP52948
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB92	BFB92	VT014118.D		Ok
2	VSTDCCC025	VSTD02581	VT014119.D		Ok,M
3	VT0512SBL01	VBLK85	VT014120.D		Ok,M
4	H2890-14	D9WT8	VT014121.D	Vial B	Ok,M
5	H2890-06	D9WT2	VT014122.D	Vial B, Internal Standard fail,Surrogate fail	Ok,M
6	H2890-09	D9WT5	VT014123.D	Vial B, Internal Standard fail,Surrogate fail	Ok,M
7	H2955-18	G9J04	VT014124.D	Vial A	Ok,M
8	H2955-19MS	G9J04MS	VT014125.D	Vial A	Ok,M
9	H2955-20MSD	G9J04MSD	VT014126.D	Vial A	Ok,M
10	H2911-17	G9HY0	VT014127.D	Vial B	Ok,M
11	H2955-10RE	G9HZ6RE	VT014128.D	Vial B, Internal Standard fail	Confirms
12	H2955-14RE	G9J00RE	VT014129.D	Vial B, Internal Standard fail	Confirms
13	H2849-02	C0AA2	VT014130.D	Vial B, Need MEOH	Dilution
14	VIBLK76	VIBLK76	VT014131.D		Ok,M
15	H2955-15	G9J01	VT014132.D	Vial A	Ok
16	H2955-16	G9J02	VT014133.D	Vial A	Ok,M
17	H2955-17	G9J03	VT014134.D	Vial A	Ok
18	H2954-01	H4082	VT014135.D	Vial A, Internal Standard fail	ReRun
19	H2954-02	H4086	VT014136.D	Vial A, Internal Standard fail	ReRun
20	H2909-23	VHBLK01	VT014137.D	SB, vial A	Ok,M
21	H2906-08	VHBLK02	VT014138.D	SB, vial A	Ok,M
22	H2849-10	VHBLK01	VT014139.D	SB, vial A	Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051216

Review By	feifei	Review On	5/13/2016 10:55:00 AM		
SubDirectory	VT051216	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52946
Initial Calibration Stds	VP52895,VP52896,VP52897,VP52898,VP52899
CCC	VP52947,VP52948
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

23	H2955-21	VHBLK01	VT014140.D	SB, vial A	Ok,M
24	VSTDCCC025EC	VSTD02582	VT014141.D		Ok,M

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Instrument ID: MSVOA_T

Daily Analysis Runlog For Sequence/QCBatch ID # VT051316

Review By	feifei	Review On	5/16/2016 10:15:12 AM		
SubDirectory	VT051316	HP Acquire Method	MOONMOON	HP Processing Method	SOM2TLM051016S.M

STD. NAME	STD REF.#
Tune/Reschk	VP52976
Initial Calibration Stds	VP52986,VP52987,VP52988,VP52989,VP52990
CCC	VP52977
Internal Standard/PEM	VP52194,VP52827
ICV/I.BLK	N/A

Sr#	SampleId	ClientID	Data File Name	Comment	Status
1	BFB93	BFB93	VT014142.D		Ok
2	VSTD2.583	VSTD2.583	VT014143.D		Ok,M
3	VSTD00584	VSTD00584	VT014144.D		Ok,M
4	VSTD02585	VSTD02585	VT014145.D		Ok,M
5	VSTD05086	VSTD05086	VT014146.D		Ok,M
6	VSTD10087	VSTD10087	VT014147.D		Ok,M
7	VT0513SBL01	VBLK86	VT014148.D		Ok,M
8	H2954-01	H4082	VT014149.D	Vial B	Ok,M
9	H2954-02RE	H4086RE	VT014150.D	Vial A, Internal standard fail	Confirms
10	H2954-03	VHBLK01	VT014151.D	SB, vial A	Ok,M
11	VSTDCCC025EC	VSTD02583	VT014152.D		Ok,M

Encore Preservation Log

Date Preservation: 12954-5/11/16 Analyst Signature:

Balance id: Mettler PE300 Supervisor Signature:

Methanol Solvent id: V6670

Lab ID	Preservation Time	Vial A weight	Vial B weight	Vial C weight Preserve with MeoH	Comments
12954-01A	10:00	4.31g	—	—	
-01B	10:01	—	2.76g	—	
-01C	10:02	—	—	3.06g	
-02A	10:04	4.65g	—	—	
-02B	10:05	—	4.46g	—	
-02C	10:06	—	—	4.35g	
-03A	10:08	5.00g	—	—	
-03B	10:10	—	5.00g	—	
					5/11/16

Instructions: 5ml MeOH added for CLP SOM method and 10ml for regular 8260. Water addition to vial A and B is done at time of analysis. Preserve samples immediately if the samples are not to be analyzed within 48hrs of sampling.

CHEMTECH

Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051816

Review By	sohil	Review On	5/19/2016 7:13:34 PM		
SubDirectory	BM051816	HP Acquire Method	BNA_M	HP Processing Method	BM051816

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5023, 1ul IS/ 100ul sample
ICV/I.BLK	NA

Sr #	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP39	BM005462.D	18 May 2016 09:31	UM/SJ	Ok
2	SSTD00538	BM005463.D	18 May 2016 10:07	UM/SJ	Ok
3	SSTD01039	BM005464.D	18 May 2016 10:43	UM/SJ	Ok
4	SSTD02040	BM005465.D	18 May 2016 11:19	UM/SJ	Ok
5	SSTD04041	BM005466.D	18 May 2016 11:55	UM/SJ	Ok,M
6	SSTD08042	BM005467.D	18 May 2016 12:31	UM/SJ	Ok,M
7	SSTD16043	BM005468.D	18 May 2016 13:53	UM/SJ	Ok,M
8	SSTDCCC020	BM005469.D	18 May 2016 14:29	UM/SJ	Ok
9	PB90308BL	BM005470.D	18 May 2016 15:26	UM/SJ	Ok
10	H2844-01	BM005471.D	18 May 2016 16:05	UM/SJ	Ok
11	PB90299BL	BM005472.D	18 May 2016 16:41	UM/SJ	Ok
12	PB90367BL	BM005473.D	18 May 2016 17:17	UM/SJ	Ok
13	H2844-02	BM005474.D	18 May 2016 17:54	UM/SJ	Ok
14	H2844-03	BM005475.D	18 May 2016 18:30	UM/SJ	Ok
15	H2844-04	BM005476.D	18 May 2016 19:07	UM/SJ	Ok
16	H2841-10	BM005477.D	18 May 2016 19:43	UM/SJ	Ok
17	H2841-11	BM005478.D	18 May 2016 20:19	UM/SJ	Ok
18	H2841-12	BM005479.D	18 May 2016 20:56	UM/SJ	Ok,M
19	H2841-13	BM005480.D	18 May 2016 21:32	UM/SJ	Ok
20	H2841-14	BM005481.D	18 May 2016 22:09	UM/SJ	Ok
21	H2841-18	BM005482.D	18 May 2016 22:45	UM/SJ	Ok
22	SSTDCCC020	BM005483.D	18 May 2016 23:21	UM/SJ	Ok
23	H2841-19	BM005484.D	18 May 2016 23:58	UM/SJ	Ok
24	H2841-20	BM005485.D	19 May 2016 00:34	UM/SJ	Ok
25	H2890-01	BM005486.D	19 May 2016 01:10	UM/SJ	Ok
26	H2890-02	BM005487.D	19 May 2016 01:46	UM/SJ	Ok

CHEMTECH

Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051816

Review By	sohil	Review On	5/19/2016 7:13:34 PM		
SubDirectory	BM051816	HP Acquire Method	BNA_M	HP Processing Method	BM051816

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5023, 1ul IS/ 100ul sample
ICV/I.BLK	NA

27	H2890-03	BM005488.D	19 May 2016 02:23	UM/SJ	Ok
28	H2890-15	BM005489.D	19 May 2016 02:59	UM/SJ	Ok
29	H2890-17	BM005490.D	19 May 2016 03:35	UM/SJ	Ok,M
30	PB90594BL	BM005491.D	19 May 2016 04:11	UM/SJ	Ok
31	PB90581BL	BM005492.D	19 May 2016 04:48	UM/SJ	Ok
32	H2954-01	BM005493.D	19 May 2016 05:24	UM/SJ	Ok
33	H2954-02	BM005494.D	19 May 2016 06:00	UM/SJ	Ok
34	H2954-04MS	BM005495.D	19 May 2016 06:37	UM/SJ	Ok
35	H2954-05MSD	BM005496.D	19 May 2016 07:13	UM/SJ	Ok
36	H2890-22RX	BM005497.D	19 May 2016 07:49	UM/SJ	Confirms
37	SSTDCCC020EC	BM005498.D	19 May 2016 08:25	UM/SJ	Ok

CHEMTECH

Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051816

Review By	sohil	Review On	5/19/2016 7:13:34 PM		
SubDirectory	BM051816	HP Acquire Method	BNA_M	HP Processing Method	BM051816

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5023, 1ul IS/ 100ul sample
ICV/I.BLK	NA

Sr #	SampleId	ClientID	Data File Name	Comment	Status
1	DFTPP39	DFTPP39	BM005462.D		Ok
2	SSTD00538	SSTD00538	BM005463.D		Ok
3	SSTD01039	SSTD01039	BM005464.D		Ok
4	SSTD02040	SSTD02040	BM005465.D		Ok
5	SSTD04041	SSTD04041	BM005466.D		Ok,M
6	SSTD08042	SSTD08042	BM005467.D		Ok,M
7	SSTD16043	SSTD16043	BM005468.D		Ok,M
8	SSTDCCC020	SSTD02044	BM005469.D		Ok
9	PB90308BL	SBLK08	BM005470.D		Ok
10	H2844-01	C0AB7	BM005471.D		Ok
11	PB90299BL	SBLK99	BM005472.D		Ok
12	PB90367BL	SBLK67	BM005473.D		Ok
13	H2844-02	C0AB8	BM005474.D		Ok
14	H2844-03	C0AB9	BM005475.D		Ok
15	H2844-04	C0AC0	BM005476.D		Ok
16	H2841-10	D9WS5	BM005477.D		Ok
17	H2841-11	D9WS6	BM005478.D		Ok
18	H2841-12	D9WS7	BM005479.D		Ok,M
19	H2841-13	D9WS8	BM005480.D		Ok
20	H2841-14	D9WS9	BM005481.D		Ok
21	H2841-18	D9WX4	BM005482.D		Ok
22	SSTDCCC020	SSTD02045	BM005483.D		Ok

CHEMTECH

Instrument ID: BNA_M

Daily Analysis Runlog For Sequence/QCBatch ID # BM051816

Review By	sohil	Review On	5/19/2016 7:13:34 PM		
SubDirectory	BM051816	HP Acquire Method	BNA_M	HP Processing Method	BM051816

STD. NAME	STD REF.#
Tune/Reschk	SP3592
Initial Calibration Stds	SP3637,SP3638,SP3639,SP3640,SP3641,SP3642,SP3643
CCC	SP3641
Internal Standard/PEM	S5023, 1ul IS/ 100ul sample
ICV/I.BLK	NA

23	H2841-19	D9WX5	BM005484.D		Ok
24	H2841-20	D9WX6	BM005485.D		Ok
25	H2890-01	D9WY5	BM005486.D		Ok
26	H2890-02	D9WY7	BM005487.D		Ok
27	H2890-03	D9WY9	BM005488.D		Ok
28	H2890-15	D9WY4	BM005489.D		Ok
29	H2890-17	D9WY8	BM005490.D		Ok,M
30	PB90594BL	SBLK94	BM005491.D		Ok
31	PB90581BL	SBLK81	BM005492.D		Ok
32	H2954-01	H4082	BM005493.D		Ok
33	H2954-02	H4086	BM005494.D		Ok
34	H2954-04MS	H4086MS	BM005495.D		Ok
35	H2954-05MSD	H4086MSD	BM005496.D	Some compounds fail for recovery	Ok
36	H2890-22RX	D9X07RX	BM005497.D	Surrogate fail	Confirms
37	SSTDCCC020EC	SSTD02046	BM005498.D		Ok

CHEMTECH

PERCENT SOLIDS

Analyst Name: HETA

Date: 5/13/2016

OVEN TEMP IN Celsius (°C) :	109	OVEN TEMP OUT Celsius (°C):	104
Time IN	16:30	Time OUT:	08:00
In Date:	05/12/2016	Out Date:	05/13/2016
Weight Check 1.0g=	1.00 g	Weight Check 1.0g=	1.00 g
Weight Check 10g=	10.00 g	Weight Check 10g=	10.00 g

QC: LB81546

Lab ID	Client Sample ID	Dish#	Dish Weight (g) (A)	Dish + Sample Wt. (g) (B)	Dish + Dry Sample Wt. (g) (C)	% Solid
H2954-01	H4082	1	1.18	9.52	3.95	33.2
H2954-02	H4086	2	1.13	9.95	5.35	47.8
H2954-03	VHBLK01	3	1.00	2.00	2.00	100
H2954-04	H4086MS	4	1.13	9.95	5.35	47.8
H2954-05	H4086MSD	5	1.13	9.95	5.35	47.8

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

LB81546

WORKLIST(Hardcopy Internal Chain)

WorkList Name : %1-h2954 WorkList ID : 87009 Date : 5/12/2016 10:05:16 AM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/14/2016	Solid	H2954-01	Percent Solids	Cool 4 deg C	USEP04	R11	H4082	05/04/2016	Chemtech -SO
05/14/2016	Solid	H2954-02	Percent Solids	Cool 4 deg C	USEP04	R11	H4086	05/04/2016	Chemtech -SO
05/15/2016	Solid	H2954-03	Percent Solids	Cool 4 deg C	USEP04	R11	VHBLK01	05/05/2016	Chemtech -SO
05/14/2016	Solid	H2954-04	Percent Solids	Cool 4 deg C	USEP04	R11	H4086MS	05/04/2016	Chemtech -SO
05/14/2016	Solid	H2954-05	Percent Solids	Cool 4 deg C	USEP04	R11	H4086MSD	05/04/2016	Chemtech -SO

644

Date/Time 05/12/16 3:00 PM

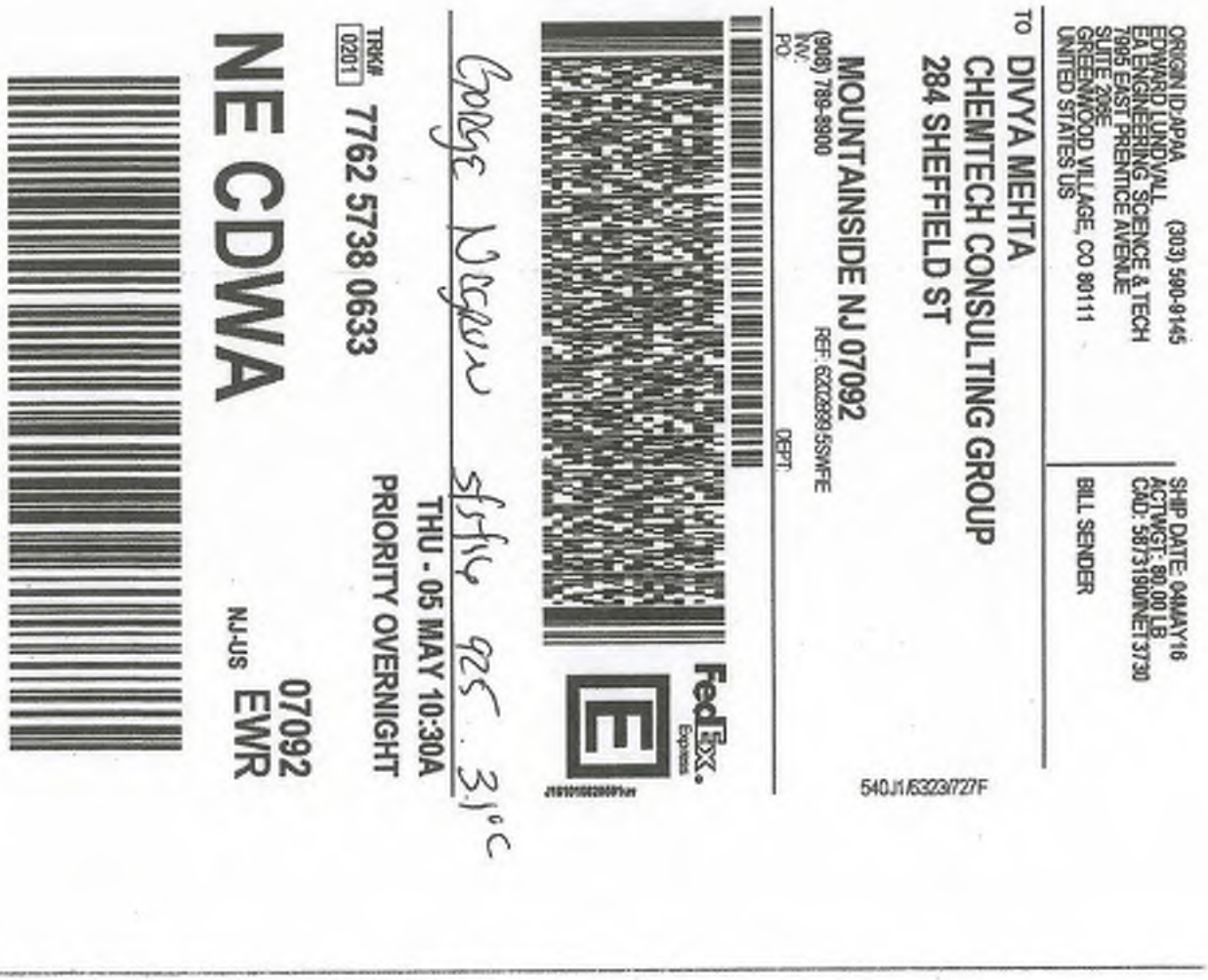
Received by:

Relinquished by:

Date/Time 05/12/16 10:05 AM

Received by:

Relinquished by:



After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Copy
Original Documents are included in CSF H4002
S.M. Jadhemi
Signature
5/5/16
Date

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Login Summary Report

Order ID :	H2954	Order Date :	5/5/2016 9:25:00 AM	Project Mgr :	Mohammad
Client :	USEPA CLP Organics	Project :	46114	Report Type :	USEPA CLP
Contact :	Anita Kapadia	Receive Date :	5/5/2016 9:25:00 AM	EDD Type :	EPA CLP
Date Sign Off :	5/12/2016 8:57:52 AM				

Sample ID	Client ID	Matrix	Sampling Date	Test	Test Group	Method	TAT Days	Fax Due Date	HC Due Date
H2954-01	H4082	Solid	05/04/2016						
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
				SVOC-TCL BNA -20		SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-TCLVOA-10		SOM02.2_VOC	15	05/26/2016	05/26/2016
H2954-02	H4086	Solid	05/04/2016						
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
				SVOC-TCL BNA -20		SOM02.2_SVOC	15	05/26/2016	05/26/2016
				VOC-TCLVOA-10		SOM02.2_VOC	15	05/26/2016	05/26/2016
H2954-03	VHBLK01	Solid	05/05/2016						
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
				VOC-TCLVOA-10		SOM02.2_VOC	15	05/26/2016	05/26/2016
H2954-04	H4086MS	Solid	05/04/2016						
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
				SVOC-TCL BNA -20		SOM02.2_SVOC	15	05/26/2016	05/26/2016
H2954-05	H4086MSD	Solid	05/04/2016						
				Percent Solids		Chemtech -SOP	15	05/26/2016	05/26/2016
				SVOC-TCL BNA -20		SOM02.2_SVOC	15	05/26/2016	05/26/2016

WORKLIST(Hardcopy Internal Chain)

WorkList Name : H2954 SVOC 2.2 WorkList ID : 87033 Date : 5/12/2016 12:14:30 PM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/18/2016	Solid	H2954-01	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4082	05/04/2016	SOM02.2_SVC
05/18/2016	Solid	H2954-02	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4086	05/04/2016	SOM02.2_SVC
05/18/2016	Solid	H2954-04	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4086MS	05/04/2016	SOM02.2_SVC
05/18/2016	Solid	H2954-05	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	H4086MSD	05/04/2016	SOM02.2_SVC

Date/Time 05/12/16
Received by:
Relinquished by:

Date/Time 05/12/16
Received by:
Relinquished by:

WORKLIST(Hardcopy Internal Chain)

WorkList Name : H2922 SVOC 2.2 WorkList ID : 87034 Date : 5/12/2016 4:20:50 PM

Due Date	Matrix	Sample	Test	Preservative	Customer	Storage Location	Customer Sample	Collect Date	Method
05/17/2016	Solid	H2922-01	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	E5NG0	05/03/2016	SOM02.2_SVC
05/17/2016	Solid	H2922-02	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	E5NG0MS	05/03/2016	SOM02.2_SVC
05/17/2016	Solid	H2922-03	SVOC-TCL BNA -20	Cool 4 deg C	USEP04	R11	E5NG0MSD	05/03/2016	SOM02.2_SVC

Date/Time 05/12/16
Received by:
Relinquished by:

Date/Time 05/12/16
Received by:
Relinquished by:

mildred V. Reyes

From: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Sent: Monday, May 09, 2016 11:20 AM
To: epa@chemtech.net
Cc: "Goodrich, Donald"; Moss, Pamela
Subject: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC | FINAL
Attachments: 46114-0507.pdf

Sohil,

Issue: The water samples for this Case are scheduled for 86 TVOA and 17 SVOA analysis; however, the COCs list VOA=TCL VOCs by CLP.

Resolution: Per Region 8, the samples in question shall be analyzed as scheduled for TVOA. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples. This resolution may be applied to all COCs received for this Case with this issue.

Please let me know if you have any questions. To waive any defect(s) associated with this issue, please contact your Regional CLP COR.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2, 7, and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Monday, May 09, 2016 11:15 AM
To: Vanaman, Alexandra
Cc: Moss, Pamela
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Correct, thanks.
-dgg

Don Goodrich

US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Monday, May 09, 2016 9:14 AM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Cc: Moss, Pamela <pmoss@eaest.com>
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Hi Don,

Should this resolution be applied to all COCs received for this Case with this issue?

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2, 7, and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Monday, May 09, 2016 11:12 AM
To: Vanaman, Alexandra
Cc: Moss, Pamela
Subject: RE: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Ali, the samples in question shall be analyzed as scheduled for TVOA.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Monday, May 09, 2016 7:52 AM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>

Cc: Moss, Pamela <pmoss@eaest.com>
Subject: Region 08 | Case 46114 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Good morning,

CHM is reporting the following issue regarding Case 46114. Please advise.

Issue: The water samples for this Case are scheduled for 86 TVOA and 17 SVOA analysis; however, the COCs list VOA=TCL VOCs by CLP.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2 and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
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From: Sohil Jodhani [mailto:Sohil@chemtech.net]
Sent: Saturday, May 07, 2016 11:29 AM
To: Vanaman, Alexandra
Cc: DASSsupport; Mohammad@chemtech.net
Subject: Region 08 | Case 46114 | Lab CHM | SDG multiple | Issue Discrepancies with tags, jars, and/or COC

Hi Alexandra,

Samples received today with 05/07 shipment and lab would like to confirm below.

Issue: As per ASR, water samples are scheduled for TVOA analysis but analysis key written on the COC is VOA=TCL VOCs by CLP so lab would like to confirm that Lab is following the ASR and doing analysis for TVOA for water samples, Please advise.

This issue is addressing for all previous shipments also.

Thanks & Regards,

Sohil Jodhani
QC-Analyst
Direct Line: (908)728-3148
General Number: (908)789-8900
Fax: (908)789-8922

CHEMTECH
284 Sheffield Street,
Mountainside, New Jersey 07092
Phone: (908) 789 8900
Fax: (908) 789 8922

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DoD ELAP

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mildred V. Reyes

From: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Sent: Thursday, May 12, 2016 11:20 AM
To: epa@chemtech.net
Cc: "Goodrich, Donald"; Moss, Pamela
Subject: Region 08 | Case 46114 | Lab CHM | SDG H4082 | Issue Insufficient volume | FINAL

Sohil,

Issue: The laboratory received two soil samples for VOA and SVOA analysis. Lab QC is required; however, no sample was designated for Lab QC for soil matrix in the COC. The laboratory would like to select sample H4086 for SVOA analysis. The laboratory does not have sufficient volume for VOA Laboratory QC, even at reduced volume.

Resolution: Per Region 8, sample H4086 selected for SVOA laboratory QC is acceptable to the Region. Cancel VOA laboratory QC due to insufficient volume along with noting the issue in the SDG Narrative.

Please let me know if you have any questions. To waive any defect(s) associated with this issue, please contact your Regional CLP COR.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2, 7, and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Thursday, May 12, 2016 11:14 AM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Cc: Moss, Pamela <pmoss@eaest.com>
Subject: RE: Region 08 | Case 46114 | Lab CHM | SDG H4082 | Issue Insufficient volume

Ali, sample H4086 selected for SVOA laboratory QC is acceptable to the Region. Cancel VOA laboratory QC due to insufficient volume along with noting the issue in the case narrative.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Thursday, May 12, 2016 9:02 AM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Cc: Moss, Pamela <pmoss@eaest.com>
Subject: Region 08 | Case 46114 | Lab CHM | SDG H4082 | Issue Insufficient volume

Good morning,

CHM is reporting the following issue regarding Case 46114. Please advise.

Issue: The laboratory received two soil samples for VOA and SVOA analysis. Lab QC is required; however, no sample was designated for Lab QC for soil matrix in the COC. The laboratory would like to select sample H4086 for SVOA analysis. The laboratory does not have sufficient volume for VOA Laboratory QC, even at reduced volume.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 2, 7, and 8
CSC Government Solutions LLC, A CSRA Company
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
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From: Sohil Jodhani [mailto:Sohil@chemtech.net]
Sent: Thursday, May 12, 2016 10:51 AM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Cc: Mohammad@chemtech.net
Subject: RE: Region 08 | Case 46114 | Lab CHM | SDG H4082 | Issue Discrepancies with tags, jars, and/or COC

Hi Alexandra,

Lab cannot be able to perform Lab QC for VOA at reduced volume.

Thanks & Regards,

Sohil Jodhani
QC-Analyst
Direct Line: (908)728-3148

General Number: (908)789-8900
Fax: (908)789-8922

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From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Thursday, May 12, 2016 10:45 AM
To: Sohil@chemtech.net
Cc: Mohammad@chemtech.net
Subject: RE: Region 08 | Case 46114 | Lab CHM | SDG H4082 | Issue Discrepancies with tags, jars, and/or COC

Sohil,

Does the laboratory have enough volume for reduced volume QC for VOA?

Thanks,

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From: Sohil Jodhani [mailto:Sohil@chemtech.net]
Sent: Thursday, May 12, 2016 9:38 AM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Cc: Mohammad@chemtech.net; DASSsupport <DASSsupport@csgov.com>; 'Moody, Brett' <Moody.Brett@epa.gov>; 'Kim' <Brandon-Bazile.Kim@epa.gov>; 'KEVIN' <cofield.kevin@epa.gov>
Subject: Region 08 | Case 46114 | Lab CHM | SDG H4082 | Issue Discrepancies with tags, jars, and/or COC

Good Morning Alexandra,

After further review of 05/05 shipment and found below discrepancy,

Issue: Two soil samples received with this shipment for VOA and SVOA analysis. As per ASR, lab QC is required for VOA and SVOA soil analysis but there is no sample designated for Lab QC for soil matrix in the COC so Lab would like to have permission to use sample H4086 for Lab QC for SVOA analysis as Lab have sufficient volume but Lab did not receive any extra volume for VOA Lab QC analysis so Lab can close the SDG without VOA Lab QC as today is the 7th day of this SDG and Lab did not receive any shipment for this case.

Please see attachment for your reference.

Thanks & Regards,

Sohil Jodhani
QC-Analyst
Direct Line: (908)728-3148
General Number: (908)789-8900
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H-4
2017 Vapor Intrusion Investigation
Field Data Report

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FINAL

2017 Vapor Intrusion Investigation Field Data Report

Accelerated Operable Unit 1
700 South 1600 East PCE Plume,
Salt Lake City, Utah

Contract No. W912DQ-15-D-3014 Task Order 0005

Prepared for

U.S. Army Corps of Engineers
Kansas City District
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September 2017

CH2M HILL, Inc.
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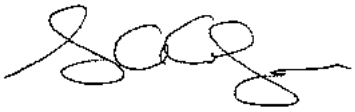
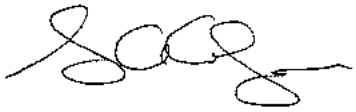
STATEMENT OF TECHNICAL REVIEW

AOU-1 Remedial Investigation for 700 South 1600 East PCE Plume, Salt Lake City, UT
Final 2017 Vapor Intrusion Investigation Field Data Report

The CH2M HILL, Inc. team has completed the technical review of the submittal of the Final 2017 Vapor Intrusion Investigation Field Data Report. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project, as defined in the Contractor Quality Control Plan. During the independent technical review, compliance with established policy principles and procedures was verified using justified and valid assumptions. This included review of assumptions; methods, procedures, and material used in analyses; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with the law and existing U.S. Army Corps of Engineers policy.

Technical Reviewer	Signature	Date of Review
Gary Colgan		9/12/17
	Signature	Date

Quality Control System Manager or Project Manager		Independent Technical Reviewer	
David Waite		Gary Colgan for Peter Lawson	
	9/12/17		9/12/17
Signature	Date	Signature	Date

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Acronyms and Abbreviations

--	No screening or removal levels have been established for cis-1,2-Dichloroethene
#	number
%	percent
'	feet
"	inches
<	less than
µg/m^3	microgram(s) per cubic meter
AOU-1	Accelerated Operable Unit 1 East Side Springs
bgs	below ground surface
BL	baseline
CASRN	Chemical Abstract Services Registry Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DCE	Dichloroethene
EA	EA Engineering, Science, and Technology, Inc., PBC
EPA	U.S. Environmental Protection Agency
FD	field duplicate
FE	First Environment
ft	foot (feet)
HAPSITE	INFICON HAPSITE®
IA	indoor air
IASL	residential indoor air screening level
ID	identification
J	Estimated value. The result is estimated due to associated quality control problems.
MFM	*Minor Field Modification*
N	normal sample
NA	not applicable
OA	outdoor air
Pa	pascal
PCE	tetrachloroethene
QA	quality assurance
QAPP	quality assurance project plan
RAL	removal action level
RBSL	risk-based screening level
Res.	residential
RI	remedial investigation
SG	soil gas
SAP	Sampling and analysis plan
SIM	selected ion monitoring
SL	screening level

TCE	trichloroethene
U	Not detected. The analyte was analyzed for but not detected above the method detection limit.
VHA	Veterans Health Administration
VI	vapor intrusion
VOC	volatile organic compound

SECTION 1

Introduction and Background

This report presents analytical results from the 2017 vapor intrusion (VI) investigation for Accelerated Operable Unit 1 East Side Springs (AOU-1), which is part of the 700 South 1600 East Tetrachloroethene (PCE) Plume Superfund site in Salt Lake City, Utah. This report is being submitted on behalf of the U.S. Department of Veterans Affairs Salt Lake City Health Care System, which is working cooperatively with the U.S. Environmental Protection Agency (EPA) and the Utah Department of Environmental Quality to implement the remedial investigation (RI). The VI investigation results included in this report supplement the indoor air and soil gas sampling performed in 2015 and 2016. The 2015 and 2016 sampling was guided by the RI Work Plan (First Environment [FE], 2015) that included the sampling and analysis plan and quality assurance (QA) project plan attachments. The data collection activities briefly described in this report are based on those detailed in the *Minor Field Modification* (MFM) *#18* (Appendix A) (EA Engineering, Science, and Technology, Inc., PBC [EA], 2017) to the RI Work Plan (FE, 2015). Results of these data collection activities will help the Veterans Health Administration (VHA) refine the conceptual site model describing the nature, extent, fate, and transport of PCE associated with the PCE plume, specifically with respect to the potential for impacts to indoor air through the subsurface-to-indoor-air VI pathway.

AOU-1 is located in Salt Lake City, Salt Lake County, Utah, along the Wasatch Fault scarp within the general residential area bounded by 500 South and Michigan Avenue between 1100 East and 1300 East (Figure 1). In 2010, chlorinated volatile organic compounds (VOCs), including PCE and trichloroethene (TCE), were detected in the surface water associated with seeps and springs along the fault scarp. The location of the seeps and springs near residences and other occupied structures and the shallow depth to groundwater suggested the potential for VI into occupied structures. AOU-1 is defined as the area where springs are known to have PCE contamination and groundwater is within 50 feet of the ground surface. AOU-1 is surrounded by a 100-foot buffer zone.

SECTION 2

Summary of Previous Characterization Activities

VHA began collecting site-specific VI data within AOU-1 in January 2015 (FE, 2015). More than 1,000 soil gas and indoor air data points were collected from 35 structures consisting of private residences, schools, a church, and an elder-care facility. The structures represent a cross section of structure types, construction dates, depths to groundwater, and locations within AOU-1. Analytical results from those samples were used to update the conceptual site model for AOU-1, which in turn was used to identify data gaps and to prepare a sampling plan (EA, 2015) to fill those gaps.

The VI data collected in 2015 pointed to a portion of AOU-1 where a higher potential for VI to result in indoor air concentrations above risk-based screening levels (RBSLs) was noted. These data, combined with AOU-1 hydrogeological data, facilitated the delineation of a focus area for the 2016 VI sampling. In 2016, 10 residential and 1 public structure (East High School) within the 2016 focus area underwent individual VI investigation as outlined in the 2016 sampling plan (EA, 2015). The 2016 VI sampling activities and results are presented in the *2016 Vapor Intrusion Investigation Field Data Report* (EA, 2016).

The combined 2015 and 2016 VI sampling data were used to again update the AOU-1 conceptual site model, which facilitated the identification of a few remaining data gaps. The seven new residential structures sampled in 2017 were selected based on the 2015/2016 data to address the identified data gaps, as detailed in Section 3 of this report.

SECTION 3

Summary of 2017 Characterization Activities

This section presents a summary of, and rationale for, additional VI sampling activities conducted within AOU-1 from March 2017 to April 2017. Further detail regarding 2017 VI sampling methodology can be found in the MFM #18 (EA, 2017) to the RI Work Plan (FE, 2015). The 2017 VI program consisted of sampling 7 new structures (that is, not previously sampled as part of the 2015 and 2016 effort) and 11 previously sampled structures (previously sampled in 2015) in an area with higher potential for VI. The seven new structures (residential) were located in areas that had not previously been sampled and were selected to improve the spatial data distribution of AOU-1. The 11 previously sampled structures were re-sampled in 2017 to confirm the 2015 indoor air results, which are currently under third-party quality review due to uncertainty regarding correct sampling and field documentation procedures. Table 1 lists the number and type of samples collected at the 11 previously sampled structures and 7 new structures. Details for each of these objectives are provided in the following subsections.

3.1 2017 Sampling Focus Area

The VI data collected in 2015 and 2016 pointed to a portion of AOU-1 where a higher potential for VI to result in indoor air concentrations above RBSLs was noted. These data, combined with AOU-1 hydrogeological data, facilitated the identification of seven new structures to undergo full VI protocol sampling to improve the AOU-1 conceptual site model (Figure 2). In 2017, 7 new structures and 11 previously sampled structures underwent full and limited VI protocol sampling, respectively. See below for a definition of what constitutes a full and a limited protocol. The locations of these structures are shown on Figure 2. Collection of additional VI data from these residential structures within this focus area was conducted to support preparation of the RI report, including refining the conceptual model of VI within AOU-1 and evaluating potential risk.

3.2 Locations and Methods

The following three sampling goals outlined in the RI Work Plan were to be satisfied with the additional 2017 sampling:

- Sampling indoor air with EPA Method TO-15 analysis at 11 previously sampled structures to assess temporal variability in potential VI-related indoor air PCE concentrations and help address uncertainty related to 2015 TO-15 analytical results (Section 3.2.1).
- Sampling seven new (not previously sampled) structures within the focus area to assess spatial variability. This included screening indoor air and near-slab soil gas using a portable gas chromatograph/mass spectrometer called an INFICON HAPSITE® (HAPSITE). EPA Method TO-15 analysis of both indoor air and soil gas was also specified in the event an RBSL exceedance occurred during HAPSITE indoor air and soil gas screening.
- Analyze indoor air concentrations of PCE, TCE, cis-1,2-dichloroethene (DCE), vinyl chloride, and 1,4-dioxane by EPA Method TO-15 Selected Ion Monitoring (SIM) and other VOCs by EPA Method TO-15. Additionally, analyze indoor air PCE, TCE, and cis-1,2-DCE concentrations with a HAPSITE. The following subsections describe the locations and methods for each sampling goal.

3.2.1 Previously Sampled Structures

In 2015, VI data were collected from 36 structures within AOU-1 using the Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments (i.e., *Full VI Protocol,* Appendix H of the RI Work Plan [FE, 2015]). Eleven of these previously sampled structures were re-sampled in 2017 following the limited VI protocol sampling to confirm the 2015 indoor air results, which are currently under third-party quality review due to uncertainty regarding correct sampling and field documentation procedures.

Confirmation samples were collected per Attachment 1 of MFM #18 (EA, 2017), utilizing a limited VI protocol that includes HAPSITE screening of indoor air to identify potential interior background source(s) (no pressure cycling) and collection of up to 2, 24-hour SUMMA™ canister samples per structure of indoor air for EPA Method TO-15 and TO-15 SIM analysis. Soil gas and ambient air samples were not collected. Other components of the VI protocol (FE, 2015), such as detailed building surveys, were not repeated. Instead, an abbreviated interview and building survey were performed to identify any major changes that could have affected the 2017 sampling and data evaluation (recent remodels or household chemical storage, for example). Attachment 1 of MFM #18 (EA, 2017) presents a copy of the full VI protocol that conveys, in detail (via text highlights), those steps of the protocol that were retained in the limited VI protocol used for confirmation sampling. Table 1 lists the type of samples collected at these 11 structures and Figure 2 shows the locations of the SUMMA confirmation samples.

As noted, up to 2, 24-hour SUMMA canister samples were collected from each structure. The determination of where samples were collected and conditions under which an additional sample may be warranted is described in the *Limited VI Protocol* (Attachment 1 of MFM #18 [EA, 2017]).

3.2.2 New Structures

The goal of sampling structures not previously sampled during 2015 and 2016 was to gain a better understanding of the spatial extent of potential VI-related impacts associated with AOU-1 groundwater. Additional structures within the focus area are identified on Figure 2 and in Table 1. The 7 new structures underwent full VI protocol sampling (HAPSITE screening of indoor air to identify potential interior background sources, pressure cycling, and collection of up to 2, 24-hour SUMMA canister samples per structure, if an indoor air RBSL(s) exceedance was measured with the HAPSITE), as outlined in MFM #18 (EA, 2017). The VI protocol (FE, 2015) guided data collection at these structures. This included HAPSITE screening of indoor air and near-slab soil gas and EPA Method TO-15 analysis of both if screening levels were exceeded during HAPSITE screening of each.

SECTION 4

Results

Findings from the 2017 sampling event are summarized in the following subsections. This section is divided into subsections based on data collection activities outlined in Section 3 (previously sampled structures and new structures). Analytical results are compared to RBSLs and removal action levels (RALs) presented in Table 2.

4.1 Previously Sampled Structures (Limited VI Protocol)

Table 3 contains analytical results for the confirmation EPA Method TO-15 SIM samples collected at locations 0001-H, 0002-H, 0004-H, 0012-H, 0013-H, 0025-H, 0026-H, 0027-H, 0029-H, 0038-H, and 0064-H (Figure 2). These samples were 24-hour indoor air samples collected in 6-liter SUMMA canisters that had been individually laboratory-certified clean. Each sample was analyzed using EPA Method TO-15 and TO-15 SIM. Validated analytical results are provided in the *Quality Control Summary Report* (provided as Appendix B) and laboratory sample receipt notifications are provided as Appendix C. Indoor air in these previously sampled structures was screened with a HAPSITE to identify potential interior background source(s) (no pressure cycling) prior to 24-hour SUMMA canister sample collection. HAPSITE calibration reports associated with sampled locations are included in Appendix D and are organized by calibration date. The following subsections present the results of each limited VI protocol sampling event by structure.

4.1.1 0001-H

The limited VI protocol investigation at location 0001-H was conducted on March 15, 2017 and March 22, 2017. Two sample dates were required because the initial HAPSITE survey identified an interior background source containing PCE beneath the upstairs kitchen sink. The product was removed from the residence and a second appointment scheduled to collect a 24-hour SUMMA canister sample. A normal and field duplicate 24-hour SUMMA canister sample were collected at this residence. Table 3 and Table 4 present the EPA Method TO-15 and HAPSITE analytical results, respectively.

Vinyl chloride was the only target analyte that exceeded an indoor air RBSL but not the RAL at 0.17 and 0.19 micrograms per cubic meter ($\mu g/m^3$) in the normal and field duplicate samples, respectively (Table 3).

4.1.2 0002-H

The VI investigation at location 0002-H was conducted on March 22, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Table 5 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the basement living room. No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 5, respectively).

4.1.3 0004-H

The VI investigation at location 0004-H was conducted on March 13, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Table 6 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the basement (single large room). No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 6, respectively).

4.1.4 0012-H

The VI investigation at location 0012-H was conducted on March 13, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Table 7 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the basement living room. No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 7, respectively).

4.1.5 0013-H

The VI investigation at location 0013-H was conducted on March 9, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Table 8 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the basement living room. No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 8, respectively).

4.1.6 0025-H

The VI investigation at location 0025-H was conducted on March 13, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Table 9 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the basement living room. 1,4-Dioxane was detected at 2.3 $\mu g/m^3$, which exceeded the 1,4-Dioxane RBSL (0.56 $\mu g/m^3$) but not the RAL (Table 3). No other target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 9, respectively).

4.1.7 0026-H

The VI investigation at location 0026-H was conducted on March 9, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Table 10 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the basement living room. The initial 24-hour SUMMA canister indoor air sample was deployed on March 9, 2017. Upon retrieval of the initial canister on March 10, 2017 the final vacuum was positive; therefore, a new canister was deployed on March 15, 2017 and retrieved on March 16, 2017. The second canister was analyzed and the initial canister was not. No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 10, respectively).

4.1.8 0027-H

The VI investigation at location 0027-H was conducted on March 9, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Table 11 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the basement laundry room. A normal and a field duplicate 24-hour SUMMA canister sample were collected. No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 11, respectively).

4.1.9 0029-H

The VI investigation at location 0029-H was conducted on March 30, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Table 12 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the basement living room. No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 12, respectively).

4.1.10 0038-H

The VI investigation at location 0038-H was conducted on April 10, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Table 13 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the basement living room. A normal and field duplicate 24-hour SUMMA canister sample were collected. No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 13, respectively).

4.1.11 0064-H

The VI investigation at location 0064-H was conducted on April 13, 2017. This location was not previously sampled in 2015, but was sampled in 2017 following the resident's request. The residence underwent a limited VI protocol sampling event, per the request of VHA. No interior background sources were identified within the residence during the HAPSITE survey. Table 14 presents the HAPSITE survey analytical results for this structure.

The 24-hour SUMMA canister indoor air sample was collected in the ground-level living room (single-story residence). No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey or the 24-hour SUMMA canister sampling at this structure (Tables 3 and 14, respectively).

4.2 New Structures (Full VI Protocol)

The following subsections present the analytical results of the HAPSITE survey/pressure-cycling along with sample locations and sample condition descriptions for the seven new structures sampled in 2017 (0057-H, 0058-H, 0059-H, 0060-H, 0061-H, 0062-H, and 0063-H). HAPSITE calibration reports are included in Appendix D and are organized by calibration date. HAPSITE calibration parameters were within the specifications defined in the RI Work Plan (FE, 2015).

4.2.1 0057-H

The VI investigation at location 0057-H was conducted on April 5, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Three targeted differential pressures (-5, -10, and 5 pascals [Pa]) were achieved during pressure cycling. Approximately 2.5 air volumes were exchanged during each pressure step. Table 15 presents the HAPSITE analytical results from the HAPSITE survey and the pressure cycling event at this structure.

No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey and pressure cycling event at this structure (Table 15). No indoor air samples were collected for EPA Method TO-15 analysis.

No target analytes were detected above the soil gas RBSL in the near-slab soil gas (Table 15).

4.2.2 0058-H

The VI investigation at location 0058-H was conducted on March 6, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Three targeted differential pressures (-5, -10, and 5 Pa) were achieved during pressure cycling. Approximately 2.5 air volumes were exchanged during each pressure step. Table 16 presents the HAPSITE analytical results from the HAPSITE survey and the pressure cycling event at this structure.

No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey and pressure cycling event at this structure (Table 16). No indoor air samples were collected for EPA Method TO-15 analysis.

No target analytes were detected above the soil gas RBSL in the near-slab soil gas (Table 16).

4.2.3 0059-H

The VI investigation at location 0059-H was conducted on March 17, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Three targeted differential pressures (-5, -10, and 5 Pa) were achieved during pressure cycling. Approximately 2.5 air volumes were exchanged during each pressure step. Table 17 presents the HAPSITE analytical results from the HAPSITE survey and the pressure cycling event at this structure.

Vapors entering the residence basement laundry room floor drain during induced negative pressure exceeded both the PCE indoor air RBSL and RAL and the TCE indoor air RBSL. Vapor screening samples were collected with the HAPSITE probe 1 inch above the floor drain and not in the breathing zone. All screening samples collected within the breathing zone during the HAPSITE survey and pressure cycling were below the indoor air RBSLs (Table 17). For this reason, no indoor air samples were collected for EPA Method TO-15 analysis, in accordance with the approved VI sampling protocol.

No target analytes were detected above the soil gas RBSL in the near-slab soil gas (Table 17).

4.2.4 0060-H

The VI investigation at location 0060-H was conducted on March 7, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Three targeted differential pressures (-5, -10, and 5 Pa) were achieved during pressure cycling. Approximately 2.5 air volumes were exchanged during each pressure step. Table 18 presents the HAPSITE analytical results from the HAPSITE survey and the pressure cycling event at this structure.

No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey and pressure cycling event at this structure (Table 18). No indoor air samples were collected for EPA Method TO-15 analysis.

No target analytes were detected above the soil gas RBSL in the near-slab soil gas (Table 18).

4.2.5 0061-H

The VI investigation at location 0061-H was conducted on March 8, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Three targeted differential pressures (-5, -10, and 5 Pa) were achieved during pressure cycling. Approximately 2.5 air volumes were

exchanged during each pressure step. Table 19 presents the HAPSITE analytical results from the HAPSITE survey and the pressure cycling event at this structure.

No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey and pressure cycling event at this structure (Table 19). No indoor air samples were collected for EPA Method TO-15 analysis.

No target analytes were detected above the soil gas RBSL in the near-slab soil gas (Table 19).

4.2.6 0062-H

The VI investigation at location 0062-H was conducted on March 29, 2017. No interior background sources were identified within the residence during the HAPSITE survey. Three targeted differential pressures (-5, -10, and 5 Pa) were achieved during pressure cycling. Approximately 2.5 air volumes were exchanged during each pressure step. Table 20 presents the HAPSITE analytical results from the HAPSITE survey and the pressure cycling event at this structure.

No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey and pressure cycling event at this structure (Table 20). No indoor air samples were collected for EPA Method TO-15 analysis.

No target analytes were detected above the soil gas RBSL in the near-slab soil gas (Table 20).

4.2.7 0063-H

The VI investigation at location 0063-H was conducted on March 21, 2017. Three interior background sources containing PCE were identified within the residence during the HAPSITE survey. These three products were removed from residence prior to pressure cycling. One additional PCE-containing product was identified at the beginning of the 5 Pa pressure cycle and was removed from the residence. Three targeted differential pressures (-5, -10, and 5 Pa) were achieved during pressure cycling. Approximately 2.5 air volumes were exchanged during each pressure step. Table 21 presents the HAPSITE analytical results from the HAPSITE survey and the pressure cycling event at this structure.

No target analytes exceeded indoor air RBSLs or RALs within the breathing zone during the HAPSITE survey and pressure cycling event at this structure (Table 21). No indoor air samples were collected for EPA Method TO-15 analysis.

No target analytes were detected above the soil gas RBSL in the near-slab soil gas (Table 21).

4.2.8 Additional Information

All field notes were scribed in spiral-bound notebooks during the 2017 sampling events. These notebooks included a field logbook, HAPSITE field forms, SUMMA field forms, pressure cycling field forms, VI investigation QA assurance checklist forms, and daily report forms. A scanned copy of all field notes is included in Appendix E. Chain-of-custody forms and Analytical Request forms for the EPA Method TO-15 and TO-15 SIM samples collected during the 2017 sampling events also are included in Appendix E. All field documentation was scanned and sent to the VHA and U.S. Army Corps of Engineers (USACE) for quality control review on a weekly basis for the first three weeks of sampling. Appendix F contains the native HAPSITE data reports for each sampled location.

In an effort to ensure that field documentation was performed in accordance with the QAPP and Sampling and Analysis Plan (SAP), a pre-field kickoff meeting took place with the field staff to discuss field documentation and the requirements of the QAPP and SAP prior to any sampling. A daily QA checklist to monitor compliance with the QAPP was completed.

Furthermore, quality assurance protocols were implemented to ensure supplemental sampling data would achieve project data quality objectives. During the first week of VI sampling, the USACE provided oversight in the field and an in-person meeting with the contractor, regulators, and VHA was conducted to review field documentation for accuracy and completeness. Additionally, the VHA and USACE routinely spot-checked field documentation throughout the sampling event. This was accomplished by submitting electronic scanned copies of all completed field documentation to the VHA and USACE weekly for review. Any noncompliance issues were identified and adjustments by the field team were made to resolve them. All field documentation is presented in Appendix E.

4.3 Deviations from Remedial Investigation Work Plan

During the 2017 VI investigative work, there was no deviations from the RI Work Plan (SAP, Appendix B of the RI Work Plan [FE, 2015]) and MFM #18 (Appendix A) (EA, 2017).

SECTION 5

References

EA Engineering, Science, and Technology, Inc., PBC (EA). 2015. *2016 VI Sampling Plan for Accelerated Operable Unit 1: 700 South 1600 East PCE Plume Technical Memorandum*, Salt Lake City, Utah. December.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2016. *700 South 1600 East PCE Plume AOU 1: East Side Springs 2016 Vapor Intrusion Investigation Field Data Report*, Salt Lake City, Utah. September.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2017. *Minor Field Modification #18 Remedial Investigation Work Plan AOU 1: 700 South 1600 East PCE Plume*, Salt Lake City, Utah. March.

First Environment (FE). 2015. *Final Remedial Investigation Work Plan, AOU 1: East Side Springs, 700 South 1600 East PCE Plume*, Salt Lake City, Utah. July.

Tables

Table 1. Sample Purpose, Location, and Type

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Sample Purpose	Structure Location ID	HAPSITE®/ Pressure Control Protocol	HAPSITE®/ No Pressure Control Protocol	TO-15/TO-15 SIM Indoor Air[a]	TO-15 Near-Slab Soil Gas[a]	HAPSITE® Ambient Air Monitoring	Full Interview and Building Survey	Abbreviated Interview and Building Survey Update
SUMMA confirmation sampling (resampling previously sampled structures using limited VI protocol)	0001-H		X	X				X
	0002-H		X	X				X
	0004-H		X	X				X
	0012-H		X	X				X
	0013-H		X	X				X
	0025-H		X	X				X
	0026-H		X	X				X
	0027-H		X	X				X
	0029-H		X	X				X
	0038-H		X	X				X
	0064-H		X	X				X
New structures (supplemental data using full VI protocol)	0057-H	X				X	X	
	0058-H	X				X	X	
	0059-H	X				X	X	
	0060-H	X				X	X	
	0061-H	X				X	X	
	0062-H	X				X	X	
	0063-H	X				X	X	

[a] TO-15 and TO-15 SIM confirmation samples were only to be collected at full VI protocol structures (new structures) if a residential indoor air screening level and/or soil gas screening level was exceeded during full VI protocol sampling. No residential indoor air and soil gas screening levels were exceeded during full VI protocol investigations. TO-15 and TO-15 SIM indoor air confirmation samples were collected at all limited VI protocol structures (previously sampled structures).

Notes:
AOU-1 = Accelerated Operable Unit 1 East Side Springs
ID = identification
VI = vapor intrusion

Table 2. Summary of Screening Levels and Removal Action Levels

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

CASRN	Chemical	Residential Indoor Air SL (µg/m^3)	Residential Indoor Air Tier 1 RAL (µg/m^3)	Residential Indoor Air Tier 2 RAL (µg/m^3)	Residential Soil Gas SL (µg/m^3)
123911	1,4-Dioxane	0.56	5.6	56	19
156592	cis-1,2-Dichloroethene	--	--	--	--
127184	Tetrachloroethene	11	41	120	370
79016	Trichloroethene	0.48	2.1	6.3	16
75014	Vinyl chloride	0.17	1.7	17	5.7

Source: Remedial Investigation Work Plan Appendix F (FE 2015)

Notes:
-- = No screening or removal levels have been established for cis-1,2-Dichloroethene.
µg/m^3 = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
CASRN = Chemical Abstract Services Registry Number
RAL = removal action level
SL = screening level

Table 3. 2017 Confirmation EPA Method TO-15 SIM Indoor Air Results for 2015 Previously Sampled Locations

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

							Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	1,4-Dioxane
							Res. IASL: 11 µg/m³	0.48 µg/m³	NA	0.17 µg/m³	0.56 µg/m³
Location ID	**Sample ID**	**Sample Location Description**	**Sample Date**	**Sample Type**	**Method**	**Units**	Tier 1 RAL: 41 µg/m³	2.1 µg/m³	NA	1.7 µg/m³	5.6 µg/m³
0001-H	A-0001H-032317-TO-001-BAS	Basement Living Room	3/23/2017	N	EPA TO-15 SIM	µg/m³	**1.1**	0.27 U	0.2 U	**0.17**	0.18 U
0001-H	A-0001H-032317-TO-002-BAS	Basement Living Room	3/23/2017	FD	EPA TO-15 SIM	µg/m³	**1.1**	0.27 U	0.2 U	**0.19**	0.18 U
0002-H	A-0002H-032317-TO-001-BAS	Basement Living Room	3/23/2017	N	EPA TO-15 SIM	µg/m³	**1.4**	**0.29**	0.2 U	0.13 U	0.18 U
0004-H	A-0004H-031417-TO-001-BAS	Basement (one large room)	3/14/2017	N	EPA TO-15 SIM	µg/m³	0.34 U	0.27 U	0.2 U	0.13 U	0.18 U
0012-H	A-0012H-031417-TO-001-BAS	Basement Living Room	3/14/2017	N	EPA TO-15 SIM	µg/m³	**2.3**	0.27 U	0.2 U	0.13 U	0.18 U
0013-H	A-0013H-031017-TO-001-BAS	Basement Living Room	3/10/2017	N	EPA TO-15 SIM	µg/m³	0.34 U	0.27 U	0.2 U	0.13 U	0.18 U
0025-H	A-0025H-031417-TO-001-BAS	Basement Hallway	3/14/2017	N	EPA TO-15 SIM	µg/m³	**0.37**	0.27 U	0.2 U	0.13 U	**2.3**
0026-H	A-0026H-031617-TO-001-LIV	Basement Living Room	3/16/2017	N	EPA TO-15 SIM	µg/m³	**2**	0.27 U	0.2 U	0.13 U	0.18 U
0027-H	A-0027H-031017-TO-001-BAS	Basement Laundry Room	3/10/2017	N	EPA TO-15 SIM	µg/m³	0.34 U	0.27 U	0.2 U	0.13 U	0.18 U
0027-H	A-0027H-031017-TO-002-BAS	Basement Laundry Room	3/10/2017	FD	EPA TO-15 SIM	µg/m³	0.34 U	0.27 U	0.2 U	0.13 U	0.18 U
0029-H	A-0029H-033117-TO-001-BAS	Basement Living Room	3/31/2017	N	EPA TO-15 SIM	µg/m³	**2**	0.27 U	0.2 U	0.13 U	0.18 U
0038-H	A-0038H-041117-TO-001-BAS	Basement Living Room	4/11/2017	N	EPA TO-15 SIM	µg/m³	0.34 U	0.27 U	0.2 U	0.13 U	0.18 U
0038-H	A-0038H-041117-TO-002-BAS	Basement Living Room	4/11/2017	FD	EPA TO-15 SIM	µg/m³	0.34 U	0.27 U	0.2 U	0.13 U	0.18 U
0064-H	A-0064H-041417-TO-001-LIV	Main Level Living Room	4/14/2017	N	EPA TO-15 SIM	µg/m³	1.9 J	0.27 UJ	0.2 UJ	0.13 UJ	0.18 UJ

Notes:

Table 3 contains the TO-15 SIM analytical results. See Appendix B for TO-15 analytical results.

Bolded values are detections.

Shaded values are screening level exceedances.

µg/m³ = micrograms per cubic meter

AOU-1 = Accelerated Operable Unit 1 East Side Springs

EPA = U.S. Environmental Protection Agency

FD = field duplicate

IASL = residential indoor air screening level

ID = identification

J = Estimated value. The result is estimated due to associated quality control problems.

N = normal sample

RAL = residential removal action level

Res. = residential

SIM = selected ion monitoring

U = Not detected. The analyte was analyzed for but not detected above the method detection limit.

Table 4. 0001-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

					cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
					SG RSL	NA	16 µg/m³	370 µg/m³	
Date	Time	Run #	Sample ID	Sample Location Description	IA RSL	NA	0.48 µg/m³	11 µg/m³	Notes
3/15/2017	8:19	1	CV1-031517	Calibration check	96%		94%	92%	Relative percent difference (acceptable range > 70% or < 130%)
3/15/2017	10:21	2	NA	Blank sample	NA		NA	NA	Blank sample
3/15/2017	11:05	3	A-0001H-031517-OA-003-OUT1	Outdoor air (west side)	< 0.4		< 0.5	< 0.7	
3/15/2017	11:12	4	A-0001H-031517-IA-004-LIV1	Main level living room	< 0.4		< 0.5	**4.95**	
3/15/2017	11:27	5	A-0001H-031517-IA-005-BAS1	Basement living area	< 0.4		< 0.5	**2.24**	
3/15/2017	11:38	6	A-0001H-031517-IA-006-SUM1	Basement sump room	< 0.4		< 0.5	**2.31**	
3/15/2017	11:52	7	A-0001H-031517-IA-007-BED1	Basement bedroom	< 0.4		< 0.5	**1.69**	
3/15/2017	12:07	8	A-0001H-031517-IA-008-WBED1	Upstairs bedroom (west)	< 0.4		< 0.5	**2.44**	
3/15/2017	12:18	9	A-0001H-031517-IA-009-MBED1	Master bedroom (east)	< 0.4		< 0.5	**5.15**	
3/15/2017	12:27	1	A-0001H-031517-IA-001-KIT1	Kitchen (upstairs)	NA		NA	NA	Run scan method to help determine background for Ion 61.
3/15/2017	12:36	10	A-0001H-031517-IA-010-BAT1	Upstairs bathroom	< 0.4		< 0.5	**4.81**	
3/15/2017	12:45	1	NA	PCE survey of products	NA		NA	NA	PCE survey of products under kitchen sink; Goo Gone identified. Requested product removal from residence.
3/15/2017	12:51	2	NA	PCE survey of products	NA		NA	NA	PCE survey of products under kitchen sink; Goo Gone identified. Requested product removal from residence.
3/15/2017	13:00	17	CV2-031517	Calibration check	152%		96%	84%	Relative percent difference (acceptable range > 70% or < 130%)
3/22/2017	10:40	8	CV1-032217	Calibration check	104%		110%	112%	Relative percent difference (acceptable range > 70% or < 130%)
3/22/2017	10:50	9	NA	Blank sample	NA		NA	NA	Blank sample
3/22/2017	11:15	10	A-0001H-032217-IA-010-LIV1	Main level living room	< 0.4		< 0.5	**1.94**	
3/22/2017	11:25	11	A-0001H-032217-OA-011-OUT1	Outdoor air (west side)	< 0.4		< 0.5	< 0.7	
3/22/2017	11:32	12	A-0001H-032217-IA-012-BAS1	Basement living area	< 0.4		< 0.5	**1.36**	
3/23/2017	7:23	1	CV2-032317	Calibration check	96%		96%	92%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:
Bolded values are detections.

% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
PCE = tetrachloroethene
RSL = residential screening level
SG = soil gas
VI = vapor intrusion

Table 5. 0002-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

					cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
					SG RSL	NA	16 µg/m³	370 µg/m³	
Date	**Time**	**Run #**	**Sample ID**	**Sample Location Description**	**IA RSL**	**NA**	**0.48 µg/m³**	**11 µg/m³**	**Notes**
3/22/2017	10:41	8	CV1-032217	Calibration check	104%		110%	112%	Relative percent difference (acceptable range > 70% or < 130%)
3/22/2017	14:16	13	A-0002H-032217-IA-013-LIV1	Living room (main level)	< 0.4		< 0.5	< 0.7	
3/22/2017	14:25	14	A-0002H-032217-OA-014-OUT1	Outdoor air (north side)	< 0.4		< 0.5	< 0.7	
3/22/2017	14:38	15	A-0002H-032217-IA-015-BAS1	Basement living room	< 0.4		< 0.5	< 0.7	
3/22/2017	14:44	16	A-0002H-032217-IA-016-STO1	Basement storage under stairs	< 0.4		< 0.5	< 0.7	
3/22/2017	14:54	17	NA	HAPSITE froze; run failed	NA		NA	NA	
3/22/2017	15:09	18	A-0002H-032217-IA-018-KIT1	Basement kitchen near floor drain	< 0.4		< 0.5	**0.88**	
3/22/2017	15:19	19	A-0002H-032217-IA-019-FLD1	Floor drain in basement kitchen	< 0.4		< 0.5	**1.02**	
3/23/2017	7:23	1	CV2-032317	Calibration check	96%		96%	92%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:
Bolded values are detections.

= number
% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 6. 0004-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

					cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
					SG RSL	NA	16 µg/m³	370 µg/m³	
Date	Time	Run #	Sample ID	Sample Location Description	IA RSL	NA	0.48 µg/m³	11 µg/m³	Notes
3/13/2017	7:00	2	CV1-031317	Calibration check	90%		96%	94%	Relative percent difference (acceptable range > 70% or < 130%)
3/13/2017	11:15	6	A-0004H-031317-OA-006-OUT1	Outdoor air - north side	< 0.4		< 0.5	< 0.7	
3/13/2017	11:25	7	A-0004H-031317-IA-007-LIV1	Main level living room	< 0.4		< 0.5	< 0.7	
3/13/2017	11:39	8	A-0004H-031317-IA-008-BAS1	Basement (one large open room)	< 0.4		< 0.5	< 0.7	
3/13/2017	12:21	9	NA	Blank sample	NA		NA	NA	Blank sample
3/13/2017	NA	10	NA	Run failed	NA		NA	NA	HAPSITE froze; sample run canceled
3/13/2017	NA	11	NA	Run failed	NA		NA	NA	HAPSITE froze; sample run canceled
3/13/2017	13:00	12	CV2-031317	Calibration check	82%		92%	90%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:

= number
% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 7. 0012-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

					cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
					SG RSL	NA	16 µg/m³	370 µg/m³	
Date	Time	Run #	Sample ID	Sample Location Description	IA RSL	NA	0.48 µg/m³	11 µg/m³	Notes
3/13/2017	13:00	12	CV2-031317	Calibration check	82%		92%	90%	Relative percent difference (acceptable range > 70% or < 130%)
3/13/2017	13:16	13	NA	Blank sample	NA		NA	NA	
3/13/2017	14:16	14	A-0012H-031317-IA-014-LIV1	Main level living room	< 0.4		< 0.5	**1.22**	
3/13/2017	14:30	15	A-0012H-031317-OA-015-OUT1	Outdoor air - west side	< 0.4		< 0.5	< 0.7	
3/13/2017	14:38	16	A-0012H-031317-IA-016-BAS1	Basement living room	< 0.4		< 0.5	**1.90**	
3/13/2017	14:47	17	A-0012H-031317-IA-017-OFF1	Basement office	< 0.4		< 0.5	**2.58**	
3/13/2017	14:56	18	A-0012H-031317-IA-018-BAT1	Basement bathroom	< 0.4		< 0.5	**2.03**	Floor drain on bathroom floor
3/13/2017	15:05	19	A-0012H-031317-IA-019-LAU1	Basement laundry room	< 0.4		< 0.5	**2.03**	Floor drain in laundry room
3/13/2017	15:35	20	A-0012H-031317-IA-020-FDR1	Basement bathroom floor drain	< 0.4		< 0.5	**2.24**	HAPSITE probe placed on floor drain
3/13/2017	16:35	21	CV3-031317	Calibration check	74%		86%	84%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:
Bolded values are detections.

= number
% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 8. 0013-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

						cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
						SG RSL	NA	16 µg/m³	370 µg/m³	
Date	**Time**	**Run #**	**Sample ID**	**Sample Location Description**		**IA RSL**	**NA**	**0.48 µg/m³**	**11 µg/m³**	**Notes**
3/9/2017	8:08	4	CV1-030917	Calibration check		80%		90%	84%	Relative percent difference (acceptable range > 70% or < 130%)
3/9/2017	14:10	17	A-0013H-030917-OA-017-OUT1	Outdoor air - south side		< 0.4		< 0.5	< 0.7	
3/9/2017	14:20	18	A-0013H-030917-IA-018-HAL1	Main level hallway near kitchen		< 0.4		< 0.5	< 0.7	
3/9/2017	14:30	19	A-0013H-030917-IA-019-LAN1	Upstairs landing/office area		< 0.4		< 0.5	< 0.7	
3/9/2017	14:40	20	A-0013H-030917-IA-020-BAS1	Basement living room		< 0.4		< 0.5	< 0.7	
3/9/2017	17:03	25	CV2-030917	Calibration check		82%		94%	92%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:

= number
% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 9. 0025-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

					cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
					SG RSL	NA	16 µg/m³	370 µg/m³	
Date	**Time**	**Run #**	**Sample ID**	**Sample Location Description**	**IA RSL**	**NA**	**0.48 µg/m³**	**11 µg/m³**	**Notes**
3/13/2017	7:00	2	CV1-031317	Calibration check	90%		96%	94%	Relative percent difference (acceptable range > 70% or < 130%)
3/13/2017	9:05	3	A-0025H-031317-OA-003-OUT1	Outdoor air - east side	< 0.4		< 0.5	< 0.7	
3/13/2017	9:14	4	A-0025H-031317-IA-004-LIV1	Main level living room	< 0.4		< 0.5	< 0.7	
3/13/2017	9:23	5	A-0025H-031317-IA-005-BAS1	Basement hallway (central location)	< 0.4		< 0.5	< 0.7	
3/13/2017	13:00	12	CV2-031317	Calibration check	82%		92%	90%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:

= number
% = percent
< = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 10. 0026-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

					cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
					SG RSL	NA	16 µg/m³	370 µg/m³	
Date	**Time**	**Run #**	**Sample ID**	**Sample Location Description**	**IA RSL**	**NA**	**0.48 µg/m³**	**11 µg/m³**	**Notes**
3/9/2017	8:08	4	CV1-030917	Calibration check	80%		90%	84%	Relative percent difference (acceptable range > 70% or < 130%)
3/9/2017	9:05	6	A-0026H-030917-OA-006-OUT1	Outdoor air - north side	< 0.4		< 0.5	< 0.7	
3/9/2017	9:15	7	A-0026H-030917-IA-007-BAS1	Basement living room	< 0.4		< 0.5	**1.29**	
3/9/2017	9:25	8	A-0026H-030917-IA-008-LAU1	Basement laundry room	< 0.4		< 0.5	**1.08**	
3/9/2017	9:33	9	A-0026H-030917-IA-009-LIV1	Main level living room	**0.48**		< 0.5	**0.88**	
3/9/2017	9:42	10	A-0026H-030917-IA-010-HAL1	Main level hallway near kitchen	< 0.4		< 0.5	**0.88**	
3/9/2017	9:51	11	A-0026H-030917-IA-011-LAN1	Second level landing	< 0.4		< 0.5	**0.95**	
3/9/2017	10:00	12	A-0026H-030917-IA-012-UTI1	Basement utility room	< 0.4		< 0.5	**1.08**	
3/9/2017	10:10	1	NA	PCE survey of products	NA		NA	NA	Conducted on products in utility room; no products with PCE identified
3/9/2017	17:03	25	CV2-030917	Calibration check	82%		94%	92%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:
Bolded values are detections.

= number
% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = Indoor air
ID = identification
NA = not applicable
OA = outdoor air
PCE = tetrachloroethene
RSL = residential screening level
SG = soil gas

Table 11. 0027-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

					cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
					SG RSL	NA	16 µg/m³	370 µg/m³	
Date	**Time**	**Run #**	**Sample ID**	**Sample Location Description**	**IA RSL**	**NA**	**0.48 µg/m³**	**11 µg/m³**	**Notes**
3/9/2017	8:08	4	CV1-030917	Calibration check	80%		90%	84%	Relative percent difference (acceptable range > 70% or < 130%)
3/9/2017	11:05	13	A-0027H-030917-OA-013-OUT1	Outdoor air - north side	< 0.4		< 0.5	< 0.7	
3/9/2017	11:14	14	A-0027H-030917-IA-014-LIV1	Main level living room	< 0.4		< 0.5	< 0.7	
3/9/2017	11:27	15	A-0027H-030917-IA-015-BAS1	Basement hallway area	< 0.4		< 0.5	< 0.7	
3/9/2017	11:34	16	A-0027H-030917-IA-016-MEC1	Basement mechanical room	< 0.4		< 0.5	< 0.7	
3/9/2017	17:03	25	CV2-030917	Calibration check	82%		94%	92%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:

= number
% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 12. 0029-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

					cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
					SG RSL	NA	16 µg/m³	370 µg/m³	
Date	Time	Run #	Sample ID	Sample Location Description	IA RSL	NA	0.48 µg/m³	11 µg/m³	Notes
3/30/2017	8:25	1	CV1-033017	Calibration check	94%		94%	92%	Relative percent difference (acceptable range > 70% or < 130%)
3/30/2017	16:17	2	A-0029H-033017-IA-002-LIV1	Living room (main level)	< 0.4		< 0.5	**5.29**	
3/30/2017	16:28	3	A-0029H-033017-OA-003-OUT1	Outdoor air (south side)	< 0.4		< 0.5	< 0.7	
3/30/2017	16:34	4	A-0029H-033017-IA-004-BAS1	Basement living room	< 0.4		< 0.5	**1.22**	
3/30/2017	16:42	5	A-0029H-033017-IA-005-LAN1	Second floor landing	< 0.4		< 0.5	**6.58**	Resident requested sampling be completed by 17:00.
4/3/2017	10:33	2	CV2-040317	Calibration check	140%[a]		134%[a]	132%[a]	Relative percent difference (acceptable range > 70% or < 130%)

[a] No action was taken due to these RPD exceedances since prior sample results were either nondetect or below RSLs. A high RPD indicates that sample results are biased higher than the actual concentration. That is, actual indoor air detections are biased higher than the actual indoor air concentrations. For example, the TCE RPD for CV2-040317 was 134% and the TCE CV result for was 6.7 ppbv for a known calibration gas of 5 ppbv.

Notes:
Bolded values are detections.

= number
% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 13. 0038-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

					cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	
					SG RSL	NA	16 µg/m³	370 µg/m³	
Date	**Time**	**Run #**	**Sample ID**	**Sample Location Description**	**IA RSL**	**NA**	**0.48 µg/m³**	**11 µg/m³**	**Notes**
4/10/2017	8:53	1	CV1-041017	Calibration check	96%		92%	92%	Relative percent difference (acceptable range > 70% or < 130%)
4/10/2017	12:15	2	A-0038H-041017-IA-002-LIV1	Main level living room	< 0.4		< 0.5	< 0.7	
4/10/2017	12:25	3	A-0038H-041017-IA-003-BAS1	Basement living room	< 0.4		< 0.5	< 0.7	
4/10/2017	13:40	4	CV2-041017	Calibration check	82%		86%	84%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:

= number
% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 14. 0064-H Limited VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition	cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL	NA	16 µg/m³	370 µg/m³	
						IA RSL	NA	0.48 µg/m³	11 µg/m³	
4/12/2017	15:25	1	CV1-041217	Calibration check	NA	120%		105%	100%	Relative percent difference (acceptable range > 70% or < 130%)
4/13/2017	8:23	2	A-0064H-041317-IA-002-LIV1	Living room	BL	< 0.4		< 0.5	**2.51**	
4/13/2017	14:37	3	CV2-041317	Calibration check	NA	120%		115%	105%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:
Bolded values are detections.

= number
% = percent
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
BL = baseline
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 15. 0057-H Full VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL	NA	16 µg/m³	370 µg/m³	
						IA RSL	NA	0.48 µg/m³	11 µg/m³	
4/5/2017	7:18	1	CV1-040517	Calibration check	NA	114%		106%	106%	Relative percent difference (acceptable range > 70% or < 130%)
4/5/2017	8:34	2	A-0057H-04052017-IA-002-LIV1	Main level living room	BL	< 0.4		< 0.5	< 0.7	Sample collected in upper unit
4/5/2017	8:42	3	A-0057H-04052017-IA-003-HAL1	Main level hallway	BL	< 0.4		< 0.5	< 0.7	Sample collected in upper unit
4/5/2017	8:59	4	A-0057H-04052017-IA-004-LLIV1	Lower level living room	BL	< 0.4		< 0.5	< 0.7	Lower level samples are collected in lower unit
4/5/2017	9:06	5	A-0057H-04052017-IA-005-LHAL1	Lower level hallway	BL	< 0.4		< 0.5	< 0.7	
4/5/2017	9:21	6	A-0057H-04052017-IA-006-STO1	Storage area below lower unit	BL	< 0.4		< 0.5	< 0.7	
4/5/2017	10:17	7	A-0057H-04052017-IA-007-LHAL1	Lower level hallway	-5	< 0.4		< 0.5	< 0.7	-5 Pa pressure cycle started at 10:16
4/5/2017	10:26	8	A-0057H-04052017-IA-008-LLIV1	Lower level living room	-5	< 0.4		< 0.5	< 0.7	
4/5/2017	10:35	9	A-0057H-04052017-IA-009-LBLO1	Lower level blower door - East wall	-5	< 0.4		< 0.5	< 0.7	
4/5/2017	10:43	10	A-0057H-04052017-IA-010-LHAL1	Lower level hallway	-5	< 0.4		< 0.5	< 0.7	
4/5/2017	10:52	11	A-0057H-04052017-IA-011-LBLO1	Lower level blower door - East wall	-5	< 0.4		< 0.5	< 0.7	
4/5/2017	11:03	12	A-0057H-04052017-IA-012-LHAL1	Lower level hallway	-10	< 0.4		< 0.5	< 0.7	-10 Pa pressure cycle started at 11:02
4/5/2017	11:12	13	A-0057H-04052017-IA-013-LLIV1	Lower level living room	-10	< 0.4		< 0.5	< 0.7	
4/5/2017	11:20	14	A-0057H-04052017-IA-014-LBLO1	Lower level blower door - East wall	-10	< 0.4		< 0.5	< 0.7	
4/5/2017	11:30	15	A-0057H-04052017-IA-015-LHAL1	Lower level hallway	-10	< 0.4		< 0.5	< 0.7	
4/5/2017	11:38	16	A-0057H-04052017-IA-016-LLIV1	Lower level living room	-10	< 0.4		< 0.5	< 0.7	
4/5/2017	11:47	17	A-0057H-04052017-IA-017-LBLO1	Lower level blower door - East wall	-10	< 0.4		< 0.5	< 0.7	
4/5/2017	11:56	18	A-0057H-04052017-IA-018-LHAL1	Lower level hallway	+5	< 0.4		< 0.5	< 0.7	+5 Pa pressure cycle started at 11:52
4/5/2017	12:05	19	A-0057H-04052017-IA-019-LLIV1	Lower level living room	+5	< 0.4		< 0.5	< 0.7	
4/5/2017	12:14	20	A-0057H-04052017-IA-020-LBLO1	Lower level blower door - East wall	+5	< 0.4		< 0.5	< 0.7	
4/5/2017	12:24	21	A-0057H-04052017-IA-021-LLIV1	Lower level living room	+5	< 0.4		< 0.5	< 0.7	
4/5/2017	12:50	1	NA	PCE survey of soil gas sample	NA	NA		NA	NA	No response
4/5/2017	12:52	22	A-0057H-04052017-SG-022-2'	Sample collected at 24" bgs	NA	< 0.4		< 0.5	**2.1**	Undiluted sample
4/5/2017	13:00	23	NA	Blank sample	NA	NA		NA	NA	Blank sample
4/5/2017	14:30	25	CV2-040517	Calibration check	NA	70%		80%	80%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:
Bolded values are detections.

= number
% = percent
' = feet
" = inches
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
bgs = below ground surface
BL = baseline
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
RSL = residential screening level
SG = soil gas

Table 16. 0058-H Full VI Protocol HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL	NA	16 µg/m³	370 µg/m³	
						IA RSL	NA	0.48 µg/m³	11 µg/m³	
3/6/2017	6:25	2	CV1-030617	Calibration check	NA	104%		104%	104%	Relative percent difference (acceptable range > 70% or < 130%)
3/6/2017	9:26	4	A-0058H-030617-OA-004-OUT1	Outdoor air (east side)	BL	< 0.4		< 0.5	< 0.7	Outdoor air (east side)
3/6/2017	9:39	5	A-0058H-030617-IA-005-LIV1	Upstairs living room	BL	< 0.4		< 0.5	< 0.7	
3/6/2017	9:44	6	A-0058H-030617-IA-006-BAS1	Basement living room	BL	< 0.4		< 0.5	< 0.7	
3/6/2017	11:18	7	A-0058H-030617-IA-007-BAS2	Basement living room near kitchen	-5	< 0.4		< 0.5	< 0.7	-5 Pa pressure cycle started at 11:15
3/6/2017	11:28	8	A-0058H-030617-IA-008-STA1	Blower door/back stairs	-5	< 0.4		< 0.5	< 0.7	
3/6/2017	11:36	9	A-0058H-030617-IA-009-DIN1	Upstairs dining room	-5	< 0.4		< 0.5	< 0.7	
3/6/2017	11:45	10	A-0058H-030617-IA-010-BAS2	Basement living room near kitchen	-5	< 0.4		< 0.5	< 0.7	
3/6/2017	11:52	11	A-0058H-030617-IA-011-STA1	Blower door/back stairs	-5	< 0.4		< 0.5	< 0.7	
3/6/2017	12:00	12	A-0058H-030617-IA-012-DIN1	Upstairs dining room	-5	< 0.4		< 0.5	< 0.7	
3/6/2017	12:08	13	A-0058H-030617-IA-013-BAS2	Basement living room near kitchen	-5	< 0.4		< 0.5	< 0.7	
3/6/2017	12:18	14	A-0058H-030617-IA-014-STA1	Blower door/back stairs	-5	< 0.4		< 0.5	< 0.7	
3/6/2017	12:25	15	A-0058H-030617-IA-015-BAS2	Basement living room near kitchen	-10	< 0.4		< 0.5	< 0.7	-10 Pa pressure cycle started at 12:25
3/6/2017	12:32	16	A-0058H-030617-IA-016-STA1	Blower door/back stairs	-10	< 0.4		< 0.5	< 0.7	
3/6/2017	12:40	17	A-0058H-030617-IA-017-DIN1	Upstairs dining room	-10	< 0.4		< 0.5	< 0.7	
3/6/2017	12:49	18	A-0058H-030617-IA-018-BAS2	Basement living room near kitchen	-10	< 0.4		< 0.5	< 0.7	
3/6/2017	12:58	19	A-0058H-030617-IA-019-STA1	Blower door/back stairs	-10	< 0.4		< 0.5	< 0.7	
3/6/2017	13:11	20	A-0058H-030617-IA-020-BAS1	Basement living room	5	< 0.4		< 0.5	< 0.7	+5 Pa pressure cycle started at 13:10
3/6/2017	13:19	21	A-0058H-030617-IA-021-STA1	Blower door/back stairs	5	< 0.4		< 0.5	< 0.7	
3/6/2017	13:28	22	A-0058H-030617-IA-022-DIN1	Upstairs dining room	5	< 0.4		< 0.5	< 0.7	
3/6/2017	13:37	23	A-0058H-030617-IA-023-BAS1	Basement living room	5	< 0.4		< 0.5	< 0.7	
3/6/2017	13:48	24	A-0058H-030617-IA-024-STA1	Blower door/back stairs	5	< 0.4		< 0.5	< 0.7	+5 Pa pressure cycle ended at 13:50
3/6/2017	14:30	25	A-0058H-030617-SG-025-4'	South side of house, 4 ft bgs (48" bgs)	NA	< 0.4		< 0.5	< 0.7	Sample diluted 1:10
3/6/2017	14:42	26	A-0058H-030617-SG-026-4'	South side of house, 4 ft bgs (48" bgs)	NA	< 0.4		< 0.5	< 0.7	Undiluted sample
3/6/2017	14:52	27	A-0058H-030617-SG-027-6'	South side of house, 6 ft bgs (71.5" bgs)	NA	< 0.4		< 0.5	< 0.7	Undiluted sample
3/6/2017	15:02	28	NA	Blank Sample	NA	NA		NA	NA	Blank
3/6/2017	16:28	30	CV2-030617	Calibration check	NA	50%		82%	82%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:

= number
% = percent
' = feet
" = inches
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
bgs = below ground surface
BL = baseline.
ft = foot (feet)
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
Pa = pascal(s)
RSL = residential screening level
SG = soil gas

Table 17. 0059-H Pressure Cycling HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³	Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL NA	16 µg/m³	370 µg/m³	
						IA RSL NA	0.48 µg/m³	11 µg/m³	
3/17/2017	8:30	14	CV1-031717	Calibration check	NA	92%	98%	96%	Relative percent difference (acceptable range > 70% or < 130%)
3/17/2017	9:10	15	A-0059H-031717-OA-015-OUT1	Outdoor air (east side)	BL	< 0.4	< 0.5	< 0.7	
3/17/2017	9:22	16	A-0059H-031717-IA-016-HAL1	Hallway (main level)	BL	< 0.4	< 0.5	< 0.7	
3/17/2017	9:28	17	A-0059H-031717-IA-017-LAN1	Upstairs landing area	BL	< 0.4	< 0.5	< 0.7	
3/17/2017	9:37	18	A-0059H-031717-IA-018-BAS1	Basement landing	BL	< 0.4	< 0.5	< 0.7	
3/17/2017	10:44	19	A-0059H-031717-IA-019-STO1	Basement storage room with hole in floor	BL	< 0.4	< 0.5	< 0.7	Hole is 3 ft by 3 ft; sub material open
3/17/2017	11:00	20	A-0059H-031717-IA-020-LAU1	Basement laundry room	-5	< 0.4	< 0.5	**2.37**	-5 Pa pressure cycling started at 11:00
3/17/2017	11:08	21	A-0059H-031717-IA-021-STO1	Basement storage room with hole in floor	-5	< 0.4	< 0.5	< 0.7	
3/17/2017	11:18	22	A-0059H-031717-IA-022-BLO1	Blower door/basement living room	-5	< 0.4	< 0.5	**1.83**	
3/17/2017	11:25 - 11:32	1	NA	PCE survey of products	-5	NA	NA	NA	Screened products in laundry room; Goo Gone identified, placed outside of house.
3/17/2017	11:36 - 11:38	2	NA	PCE survey of products	-5	NA	NA	NA	Screened additional products; no detections.
3/17/2017	11:41	23	A-0059H-031717-IA-023-HAL1	Hallway (main level)	-5	< 0.4	< 0.5	< 0.7	
3/17/2017	11:50	24	A-0059H-031717-IA-024-LAN1	Upstairs landing area	-5	< 0.4	< 0.5	< 0.7	
3/17/2017	11:58	25	A-0059H-031717-IA-025-LAU1	Basement laundry room	-5	< 0.4	< 0.5	**1.22**	
3/17/2017	12:06	26	A-0059H-031717-IA-026-BLO1	Blower door/basement living room	-5	< 0.4	< 0.5	**1.15**	
3/17/2017	12:14	27	A-0059H-031717-IA-027-STO1	Basement storage room with hole in floor	-5	< 0.4	< 0.5	< 0.7	
3/17/2017	12:24	28	A-0059H-031717-IA-028-HAL1	Hallway (main level)	-5	< 0.4	< 0.5	< 0.7	
3/17/2017	12:30	29	A-0059H-031717-IA-029-LAU2	Basement laundry room floor drain	-10	**2.18**	**12.35**	**1071.2 E**	-10 Pa pressure cycle started at 12:35; floor drain has notable sewer odor, not a breathing space sample
3/17/2017	12:40	30	A-0059H-031717-IA-030-LAU1	Basement laundry room	-10	< 0.4	< 0.5	**3.19**	
3/17/2017	12:45	3	NA	PCE survey of products	-10	NA	NA	NA	Survey of aerosol fabric adhesive; PCE not detected
3/17/2017	12:53	31	A-0059H-031717-IA-031-BLO1	Blower door/basement living room	-10	< 0.4	< 0.5	< 0.7	
3/17/2017	13:03	32	A-0059H-031717-IA-032-LAU1	Basement laundry room	-10	< 0.4	< 0.5	**0.95**	
3/17/2017	13:15	4	NA	PCE survey of products	-10	NA	NA	NA	PCE survey of floor drain; PCE detected
3/17/2017	13:17	33	A-0059H-031717-IA-033-LAU2	Basement laundry room floor drain	-10	< 0.4	**2.09**	**220.3**	Floor drain sample after flushing with water, not a breathing space sample
3/17/2017	13:40	34	A-0059H-031717-IA-034-LAU1	Basement laundry room	+5	< 0.4	< 0.5	< 0.7	+5 Pa pressure cycling started at 13:35
3/17/2017	13:47	35	A-0059H-031717-IA-035-BLO1	Blower door/basement living room	+5	< 0.4	< 0.5	< 0.7	
3/17/2017	13:58	36	A-0059H-031717-IA-036-HAL1	Hallway (main level)	+5	< 0.4	< 0.5	< 0.7	

Table 17. 0059-H Pressure Cycling HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL	NA	16 µg/m³	370 µg/m³	
						IA RSL	NA	0.48 µg/m³	11 µg/m³	
3/17/2017	14:15	37	A-0059H-031717-IA-037-LAN1	Upstairs landing area	+5	< 0.4		< 0.5	< 0.7	
3/17/2017	14:25	38	A-0059H-031717-IA-038-LAU1	Basement laundry room	+5	< 0.4		< 0.5	< 0.7	
3/17/2017	15:08	33	NA	PCE survey of soil gas sample	NA	NA		NA	NA	No response
3/17/2017	15:10	39	A-0059H-031717-SG-039-1.8'	Southwest side of house, 20" bgs	NA	< 0.4		< 0.5	< 0.7	Undiluted sample
3/17/2017	15:20	4	NA	PCE survey of soil gas sample	NA	NA		NA	NA	No response
3/17/2017	15:22	40	A-0059H-031717-SG-040-5'	Southwest side of house, 59" bgs	NA	< 0.4		< 0.5	< 0.7	Undiluted sample
3/17/2017	15:32	41	CV2-031717	Calibration check	NA	52%		94%	92%	Relative percent difference (acceptable range > 70% or < 130%)
3/17/2017	15:42	42	NA	Blank sample	NA	NA		NA	NA	Blank sample

Notes:

Bolded values are detections.

Shaded values are screening level and/or removal action level exceedances.

= number
% = percent
' = feet
" = inches
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
bgs = below ground surface
ft = foot (feet)
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
Pa = pascal
PCE = tetrachloroethene
RSL = residential screening level
SG = soil gas

Table 18. 0060-H Pressure Cycling HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³	Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL NA	16 µg/m³	370 µg/m³	
						IA RSL NA	0.48 µg/m³	11 µg/m³	
3/7/2017	7:36	4	CV1-030717	Calibration check	NA	96%	108%	104%	Relative percent difference (acceptable range > 70% or < 130%)
3/7/2017	9:06	5	A-0060H-030717-OA-005-OUT1	Outdoor air (south side)	BL	< 0.4	< 0.5	< 0.7	Wind from southwest
3/7/2017	9:20	6	A-0060H-030717-IA-006-ENT1	Main level entry area	BL	< 0.4	< 0.5	< 0.7	
3/7/2017	9:30	7	A-0060H-030717-IA-007-STA1	Upstairs landing area	BL	< 0.4	< 0.5	< 0.7	
3/7/2017	9:38	8	A-0060H-030717-IA-008-BAS1	Basement living room	BL	< 0.4	< 0.5	< 0.7	
3/7/2017	9:40	9	A-0060H-030717-IA-009-STO1	Basement storage/mechanical room	BL	< 0.4	< 0.5	< 0.7	
3/7/2017	9:50	10	A-0060H-030717-IA-010-STO2	Basement storage room	BL	< 0.4	< 0.5	< 0.7	
3/7/2017	11:20	11	A-0060H-030717-IA-011-STO1	Basement storage/mechanical room	-5	< 0.4	< 0.5	< 0.7	-5 Pa pressure cycle started at 11:20
3/7/2017	11:30	12	A-0060H-030717-IA-012-BAS1	Basement living room	-5	< 0.4	< 0.5	< 0.7	
3/7/2017	11:39	13	A-0060H-030717-IA-013-BAC1	Blower door/back entrance	-5	< 0.4	< 0.5	< 0.7	
3/7/2017	11:48	14	A-0060H-030717-IA-014-STO1	Basement storage/mechanical room	-5	< 0.4	< 0.5	< 0.7	
3/7/2017	11:57	15	A-0060H-030717-IA-015-BAS1	Basement living room	-5	< 0.4	< 0.5	< 0.7	
3/7/2017	12:06	16	A-0060H-030717-IA-016-BAC1	Blower door/back entrance	-5	< 0.4	< 0.5	< 0.7	
3/7/2017	12:15	17	A-0060H-030717-IA-017-STO1	Basement storage/mechanical room	-5	< 0.4	< 0.5	< 0.7	
3/7/2017	12:28	18	A-0060H-030717-IA-018-BAS1	Basement living room	-5	< 0.4	< 0.5	< 0.7	
3/7/2017	12:37	19	A-0060H-030717-IA-019-BAC1	Blower door/back entrance	-5	< 0.4	< 0.5	< 0.7	
3/7/2017	12:47	20	A-0060H-030717-IA-020-STO1	Basement storage/mechanical room	-5	< 0.4	< 0.5	< 0.7	
3/7/2017	12:56	21	A-0060H-030717-IA-021-STO1	Basement storage/mechanical room	-10	< 0.4	< 0.5	< 0.7	-10 Pa pressure cycle started at 12:50
3/7/2017	13:05	22	A-0060H-030717-IA-022-BAS1	Basement living room	-10	< 0.4	< 0.5	< 0.7	
3/7/2017	13:16	23	A-0060H-030717-IA-023-BAC1	Blower door/back entrance	-10	< 0.4	< 0.5	< 0.7	
3/7/2017	13:25	24	A-0060H-030717-IA-024-STO1	Basement storage/mechanical room	-10	< 0.4	< 0.5	< 0.7	
3/7/2017	13:34	25	A-0060H-030717-IA-025-BAS1	Basement living room	-10	< 0.4	< 0.5	< 0.7	
3/7/2017	13:43	26	A-0060H-030717-IA-026-BAC1	Blower door/back entrance	-10	< 0.4	< 0.5	< 0.7	
3/7/2017	13:52	27	A-0060H-030717-IA-027-STA1	Upstairs landing area	-10	< 0.4	< 0.5	< 0.7	
3/7/2017	14:00	28	A-0060H-030717-IA-028-ENT1	Main level entry area	-10	< 0.4	< 0.5	< 0.7	
3/7/2017	14:17	29	A-0060H-030717-IA-029-STO2	Basement storage room	-10	< 0.4	< 0.5	< 0.7	
3/7/2017	14:29	30	A-0060H-030717-IA-030-STO1	Basement storage/mechanical room	+5	< 0.4	< 0.5	< 0.7	+5 Pa pressure cycle started at 14:20
3/7/2017	14:38	31	A-0060H-030717-IA-031-BAS1	Basement living room	+5	< 0.4	< 0.5	< 0.7	
3/7/2017	14:47	32	A-0060H-030717-IA-032-BAC1	Blower door/back entrance	+5	< 0.4	< 0.5	< 0.7	

Table 18. 0060-H Pressure Cycling HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³	Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL NA	16 µg/m³	370 µg/m³	
						IA RSL NA	0.48 µg/m³	11 µg/m³	
3/7/2017	14:57	33	A-0060H-030717-IA-033-STO2	Basement storage room	+5	< 0.4	< 0.5	< 0.7	
3/7/2017	15:06	34	A-0060H-030717-IA-034-ENT1	Main level entry area	+5	< 0.4	< 0.5	< 0.7	
3/7/2017	15:15	35	A-0060H-030717-IA-035-STA1	Upstairs landing area	+5	< 0.4	< 0.5	< 0.7	
3/7/2017	15:24	36	A-0060H-030717-IA-036-STO1	Basement storage/mechanical room	+5	< 0.4	< 0.5	< 0.7	
3/7/2017	16:30	37	A-0060H-030717-SG-037-4.8'	North side of house, 57" bgs	NA	0.40	< 0.5	< 0.7	1:10 dilution
3/7/2017	16:37	38	A-0060H-030717-SG-038-4.8'	North side of house, 57" bgs	NA	< 0.4	< 0.5	**4.81**	Undiluted sample
3/7/2017	16:45	39	NA	Blank sample	NA	NA	NA	NA	Blank sample
3/7/2017	17:48	40	CV2-030717	Calibration check	NA	80%	90%	88%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:
Bolded values are detections.

= number
% = percent
' = feet
" = inches
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
bgs = below ground surface
BL = baseline
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
Pa = pascal
RSL = residential screening level
SG = soil gas

Table 19. 0061-H Pressure Cycling HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³	Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL NA	16 µg/m³	370 µg/m³	
						IA RSL NA	0.48 µg/m³	11 µg/m³	
3/8/2017	7:06	1	CV1-030817	Calibration check	NA	82%	90%	82%	Relative percent difference (acceptable range > 70% or < 130%)
3/8/2017	9:15	2	A-0061H-030817-OA-002-OUT1	Outdoor air (north side)	BL	< 0.4	< 0.5	< 0.7	
3/8/2017	9:25	3	A-0061H-030817-IA-003-LIV1	Main level living room	BL	< 0.4	< 0.5	< 0.7	
3/8/2017	9:34	4	A-0061H-030817-IA-004-BAS1	Basement area	BL	< 0.4	< 0.5	< 0.7	Basement is not liveable space
3/8/2017	9:55	6	A-0061H-030817-IA-006-BED1	Upstairs southwest bedroom	BL	< 0.4	< 0.5	< 0.7	Run #5 failed during analysis; run not recorded
3/8/2017	10:05	7	A-0061H-030817-IA-007-KIT1	Main level kitchen	BL	< 0.4	< 0.5	< 0.7	
3/8/2017	10:56	8	CV2-030817	Calibration check	NA	78%	88%	88%	Relative percent difference (acceptable range > 70% or < 130%)
3/8/2017	11:28	9	A-0061H-030817-IA-009-BAS1	Basement area	-5	< 0.4	< 0.5	< 0.7	-5 Pa pressure cycling started at 11:35
3/8/2017	11:37	10	A-0061H-030817-IA-010-KIT1	Kitchen	-5	< 0.4	< 0.5	< 0.7	
3/8/2017	11:49	11	A-0061H-030817-IA-011-LIV1	Living Room (main floor)	-5	< 0.4	< 0.5	< 0.7	
3/8/2017	12:07	12	A-0061H-030817-IA-012-BED1	Upstairs bedroom	-5	< 0.4	< 0.5	< 0.7	
3/8/2017	12:16	13	A-0061H-030817-IA-013-LAU1	Laundry room/blower door	-5	< 0.4	< 0.5	< 0.7	
3/8/2017	12:25	14	A-0061H-030817-IA-014-BAS1	Basement area	-5	< 0.4	< 0.5	< 0.7	
3/8/2017	12:34	15	A-0061H-030817-IA-015-KIT1	Kitchen	-5	< 0.4	< 0.5	< 0.7	
3/8/2017	12:45	16	A-0061H-030817-IA-016-LAU1	Laundry room/blower door	-5	< 0.4	< 0.5	< 0.7	
3/8/2017	13:00	17	A-0061H-030817-IA-017-BAS1	Basement area	-10	< 0.4	< 0.5	< 0.7	-10 Pa pressure cycling started at 12:55
3/8/2017	13:07	18	A-0061H-030817-IA-018-KIT1	Kitchen	-10	< 0.4	< 0.5	< 0.7	
3/8/2017	13:16	19	A-0061H-030817-IA-019-LAU1	Laundry room/blower door	-10	NA	NA	NA	HAPSITE battery died
3/8/2017	13:24	20	A-0061H-030817-IA-020-LIV1	Living Room (main floor)	-10	NA	NA	NA	HAPSITE froze; rebooted HAPSITE
3/8/2017	13:47	21	A-0061H-030817-IA-021-LIV1	Living Room (main floor)	-10	< 0.4	< 0.5	< 0.7	
3/8/2017	13:56	22	A-0061H-030817-IA-022-LAU1	Laundry room/blower door	-10	< 0.4	< 0.5	< 0.7	
3/8/2017	14:05	23	A-0061H-030817-IA-023-BED1	Upstairs bedroom	-10	< 0.4	< 0.5	< 0.7	
3/8/2017	14:18	24	A-0061H-030817-IA-024-BAS1	Basement area	+5	< 0.4	< 0.5	< 0.7	+5 Pa pressure cycling started at 14:15
3/8/2017	14:27	25	A-0061H-030817-IA-025-KIT1	Kitchen	+5	< 0.4	< 0.5	< 0.7	
3/8/2017	14:35	26	A-0061H-030817-IA-026-LAU1	Laundry room/blower door	+5	< 0.4	< 0.5	< 0.7	
3/8/2017	14:44	27	A-0061H-030817-IA-027-BED1	Upstairs bedroom	+5	< 0.4	< 0.5	< 0.7	
3/8/2017	14:54	28	A-0061H-030817-IA-028-LIV1	Living Room (main floor)	+5	< 0.4	< 0.5	< 0.7	
3/8/2017	15:30	29	A-0061H-030817-SG-029-4.7'	West side of house, 56" bgs (4.7’ bgs)	NA	< 0.4	< 0.5	< 0.7	1:10 dilution

Table 19. 0061-H Pressure Cycling HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL	NA	16 µg/m³	370 µg/m³	
						IA RSL	NA	0.48 µg/m³	11 µg/m³	
3/8/2017	15:38	30	A-0061H-030817-SG-030-4.7'	West side of house, 56" bgs (4.7’ bgs)	NA	< 0.4		< 0.5	< 0.7	Undiluted sample
3/8/2017	15:48	31	A-0061H-030817-SG-031-6.1'	West side of house, 73" bgs (6.1’ bgs)	NA	< 0.4		< 0.5	< 0.7	Undiluted sample
3/8/2017	15:56	32	NA	Blank sample	NA	NA		NA	NA	Blank sample
3/8/2017	17:25	33	CV3-030817	Calibration check	NA	70%		84%	82%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:

= number
% = percent
' = feet
" = inches
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
bgs = below ground surface
BL = baseline
IA = Indoor air
ID = identification
NA = not applicable
OA = outdoor air
Pa = pascal
RSL = residential screening level
SG = soil gas

Table 20. 0062-H Pressure Cycling HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL	NA	16 µg/m³	370 µg/m³	
						IA RSL	NA	0.48 µg/m³	11 µg/m³	
3/29/2017	6:26	2	CV1-032917	Calibration check	NA	124%		112%	112%	Relative percent difference (acceptable range > 70% or < 130%)
3/29/2017	7:01	3	NA	Blank sample	NA	NA		NA	NA	Blank sample
3/29/2017	9:08	4	A-0062H-032917-OA-004-OUT1	Outdoor air (north side)	BL	< 0.4		< 0.5	< 0.7	
3/29/2017	9:17	5	A-0062H-032917-IA-005-KIT1	Kitchen	BL	< 0.4		< 0.5	< 0.7	
3/29/2017	9:24	6	A-0062H-032917-IA-006-BAS1	Basement	BL	< 0.4		< 0.5	< 0.7	
3/29/2017	9:49	9	A-0062H-032917-IA-009-LAN1	Second floor landing area	BL	< 0.4		< 0.5	< 0.7	HAPSITE skipped run 007; run 008 failed
3/29/2017	10:01	10	A-0062H-032917-IA-010-GAR1	Garage	BL	< 0.4		< 0.5	< 0.7	
3/29/2017	11:03	11	A-0062H-032917-IA-011-KIT1	Kitchen/blower door	-5	< 0.4		< 0.5	< 0.7	-5 Pa pressure cycling started at 11:05
3/29/2017	11:13	12	A-0062H-032917-IA-012-BAS1	Basement	-5	< 0.4		< 0.5	< 0.7	
3/29/2017	11:21	13	A-0062H-032917-IA-013-LAN1	Second floor landing area	-5	< 0.4		< 0.5	< 0.7	
3/29/2017	11:30	14	A-0062H-032917-IA-014-KIT1	Kitchen/blower door	-5	< 0.4		< 0.5	< 0.7	
3/29/2017	11:38	15	A-0062H-032917-IA-015-BAS1	Basement	-10	< 0.4		< 0.5	< 0.7	-10 Pa pressure cycling started at 11:37
3/29/2017	11:46	16	A-0062H-032917-IA-016-KIT1	Kitchen/blower door	-10	< 0.4		< 0.5	< 0.7	
3/29/2017	11:55	17	A-0062H-032917-IA-017-LAN1	Second floor landing area	-10	< 0.4		< 0.5	< 0.7	
3/29/2017	12:04	18	A-0062H-032917-IA-018-BAS1	Basement	-10	< 0.4		< 0.5	< 0.7	
3/29/2017	12:13	19	A-0062H-032917-IA-019-KIT1	Kitchen/blower door	-10	< 0.4		< 0.5	< 0.7	
3/29/2017	12:23	20	A-0062H-032917-IA-020-KIT1	Kitchen/blower door	+5	NA		NA	NA	+5 Pa pressure cycling started at 12:20; Run failed
3/29/2017	12:31	21	A-0062H-032917-IA-021-KIT1	Kitchen/blower door	+5	< 0.4		< 0.5	< 0.7	
3/29/2017	12:41	22	A-0062H-032917-IA-022-BAS1	Basement	+5	< 0.4		< 0.5	< 0.7	
3/29/2017	12:50	23	A-0062H-032917-IA-023-LAN1	Second floor landing area	+5	< 0.4		< 0.5	< 0.7	
3/29/2017	13:00	24	A-0062H-032917-IA-024-BAS1	Basement	+5	< 0.4		< 0.5	< 0.7	
3/29/2017	13:45	25	A-0062H-032917-SG-025-6.5'	Southeast side of house; 76.5" bgs	NA	< 0.4		< 0.5	< 0.7	Undiluted soil gas
3/30/2017	8:25	1	CV2-033017	Calibration check	NA	94%		94%	92%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:

= number
% = percent
' = feet
" = inches
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
bgs = below ground surface
BL = baseline
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
Pa = pascal
RSL = residential screening level
SG = soil gas

Table 21. 0063-H Pressure Cycling HAPSITE Analytical Results

AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³		Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL	NA	16 µg/m³	370 µg/m³	
						IA RSL	NA	0.48 µg/m³	11 µg/m³	
3/21/2017	8:40	8	CV1-032117	Calibration check	NA	112%		112%	114%	Relative percent difference (acceptable range > 70% or < 130%)
3/21/2017	8:53	9	NA	Blank sample	NA	NA		NA	NA	Blank sample
3/21/2017	10:02	10	A-0063H-032117-OA-010-OUT1	Outdoor air (south side)	BL	< 0.4		< 0.5	< 0.7	
3/21/2017	10:08	11	A-0063H-032117-IA-011-DIN1	Dining room (main level)	BL	< 0.4		< 0.5	**2.31**	
3/21/2017	10:22	12	A-0063H-032117-IA-012-LAN1	Upstairs landing (2nd floor)	BL	< 0.4		< 0.5	**2.64**	
3/21/2017	10:30	13	A-0063H-032117-IA-013-BAS1	Basement landing area	BL	< 0.4		< 0.5	**2.85**	
3/21/2017	10:38	14	A-0063H-032117-IA-014-BAT1	Basement bathroom	BL	< 0.4		< 0.5	**3.25**	
3/21/2017	10:47	15	A-0063H-032117-IA-015-STO1	Basement storage room	BL	< 0.4		< 0.5	**4.00**	Room contains various chemicals including Goo Gone
3/21/2017	10:57	1	NA	PCE survey of products	BL	NA		NA	NA	Survey of products in basement storage room; three products identified containing PCE and removed from structure.
3/21/2017	11:08	16	A-0063H-032117-IA-016-GAR1	Garage	BL	< 0.4		< 0.5	**2.03**	
3/21/2017	13:14	17	A-0063H-032117-IA-017-BAS1	Basement landing area	-5	< 0.4		< 0.5	**2.24**	-5 Pa pressure cycling started at 13:10
3/21/2017	13:21	18	A-0063H-032117-IA-018-BLO1	Blower door/east basement door	-5	< 0.4		< 0.5	**1.90**	
3/21/2017	13:30	19	A-0063H-032117-IA-019-DIN1	Dining room (main level)	-5	< 0.4		< 0.5	**1.63**	
3/21/2017	13:38	20	A-0063H-032117-IA-020-LAN1	Upstairs landing (2nd floor)	-5	< 0.4		< 0.5	**1.29**	
3/21/2017	13:47	21	A-0063H-032117-IA-021-BAS1	Basement landing area	-5	< 0.4		< 0.5	**1.83**	
3/21/2017	13:58	22	A-0063H-032117-IA-022-BLO1	Blower door/east basement door	-5	< 0.4		< 0.5	**2.17**	
3/21/2017	14:07	23	A-0063H-032117-IA-023-DIN1	Dining room (main level)	-5	< 0.4		< 0.5	**1.42**	
3/21/2017	14:15	24	A-0063H-032117-IA-024-LAN1	Upstairs landing (2nd floor)	-5	< 0.4		< 0.5	**1.03**	
3/21/2017	14:23	25	A-0063H-032117-IA-025-BAS1	Basement landing area	-5	< 0.4		< 0.5	**2.03**	
3/21/2017	14:32	26	A-0063H-032117-IA-026-BLO1	Blower door/east basement door	-5	< 0.4		< 0.5	**1.83**	
3/21/2017	14:40	27	A-0063H-032117-IA-027-DIN1	Dining room (main level)	-5	< 0.4		< 0.5	**1.08**	
3/21/2017	14:48	28	A-0063H-032117-IA-028-LAN1	Upstairs landing (2nd floor)	-5	< 0.4		< 0.5	**0.75**	
3/21/2017	15:00	29	A-0063H-032117-IA-029-BAS1	Basement landing area	-5	< 0.4		< 0.5	**2.78**	
3/21/2017	15:10	30	A-0063H-032117-IA-030-BAS1	Basement landing area	-10	< 0.4		< 0.5	**0.95**	-10 Pa pressure cycling started at 15:10
3/21/2017	15:19	31	A-0063H-032117-IA-031-BLO1	Blower door/east basement door	-10	< 0.4		< 0.5	**1.42**	
3/21/2017	15:28	32	A-0063H-032117-IA-032-DIN1	Dining room (main level)	-10	< 0.4		< 0.5	**0.81**	
3/21/2017	15:37	33	A-0063H-032117-IA-033-LAN1	Upstairs landing (2nd floor)	-10	< 0.4		< 0.5	< 0.7	

Table 21. 0063-H Pressure Cycling HAPSITE Analytical Results

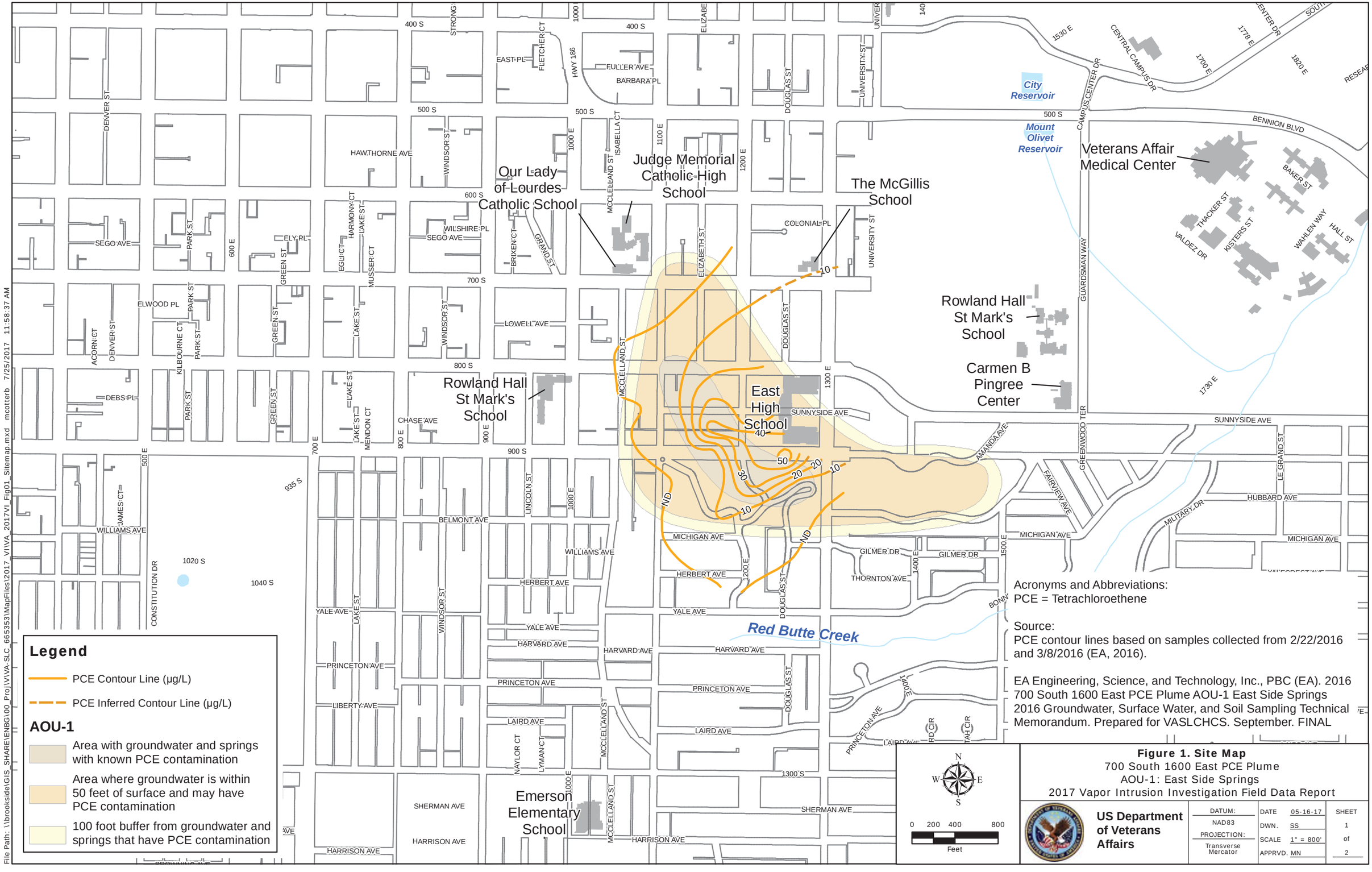
AOU-1 – 2017 Vapor Intrusion Investigation Field Data Report, Salt Lake City, Utah

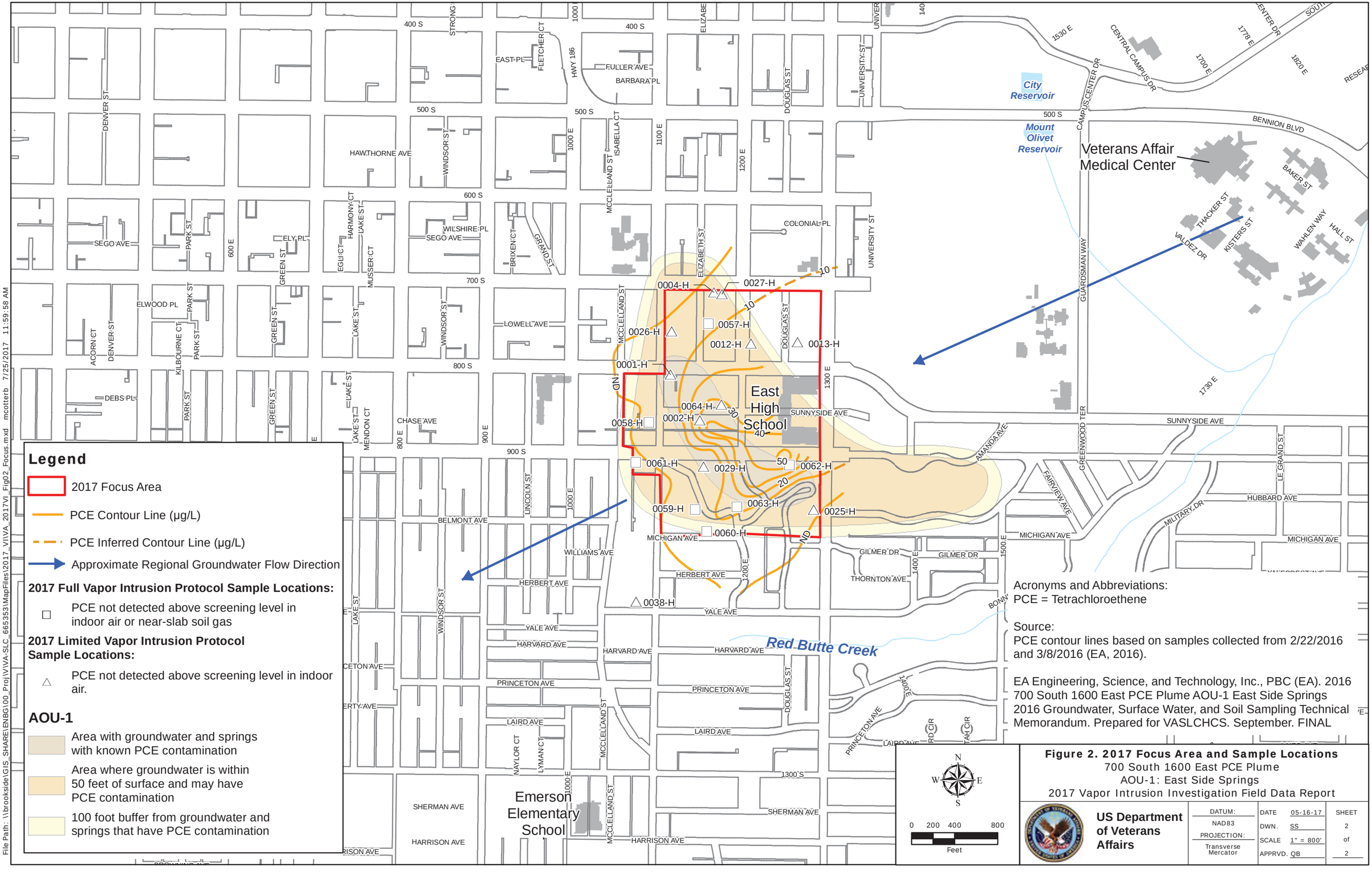
Date	Time	Run #	Sample ID	Sample Location Description	Differential Pressure Condition (Pa)	cis-1,2-Dichloroethene µg/m³	Trichloroethene µg/m³	Tetrachloroethene µg/m³	Notes
						SG RSL NA	16 µg/m³	370 µg/m³	
						IA RSL NA	0.48 µg/m³	11 µg/m³	
3/21/2017	15:46	34	A-0063H-032117-IA-034-BAS1	Basement landing area	-10	< 0.4	< 0.5	< 0.7	
3/21/2017	15:55	35	A-0063H-032117-IA-035-BLO1	Blower door/east basement door	-10	< 0.4	< 0.5	**1.69**	
3/21/2017	16:04	36	A-0063H-032117-IA-036-BLO1	Blower door/east basement door	-10	< 0.4	< 0.5	0.17	
3/21/2017	16:12	2	NA	PCE survey of products	+5	NA	NA	NA	+5 Pa pressure cycle started at 16:10; screened products in basement laundry cabinet; additional products identified containing PCE; these PCE containing product were not removed during the +5 Pa pressure cycle to maintain consistency during pressure cycling
3/21/2017	16:15	3	NA	PCE survey of products	+5	NA	NA	NA	Screened additional products in basement laundry area; no detections
3/21/2017	16:20	37	A-0063H-032117-IA-037-BAS1	Basement landing area	+5	< 0.4	< 0.5	< 0.7	
3/21/2017	16:30	38	A-0063H-032117-IA-038-BLO1	Blower door/east basement door	+5	< 0.4	< 0.5	< 0.7	
3/21/2017	16:38	39	A-0063H-032117-IA-039-DIN1	Dining room (main level)	+5	< 0.4	< 0.5	< 0.7	
3/21/2017	16:47	40	A-0063H-032117-IA-040-LAN1	Upstairs landing (2nd floor)	+5	< 0.4	< 0.5	< 0.7	
3/21/2017	17:17	4	NA	PCE survey of soil gas sample	NA	NA	NA	NA	No response
3/21/2017	17:20	41	A-0063H-032117-SG-041-6’	Sample collected at 72.5” bgs	NA	< 0.4	< 0.5	**108.5 E**	Undiluted sample
3/21/2017	17:29	42	NA	Blank sample	NA	NA	NA	NA	
3/22/2017	8:04	2	CV2-032217	Calibration check	NA	66%	80%	76%	Relative percent difference (acceptable range > 70% or < 130%)

Notes:
Bolded values are detections.

= number
% = percent
' = feet
" = inches
> = greater than
< = less than
µg/m³ = micrograms per cubic meter
AOU-1 = Accelerated Operable Unit 1 East Side Springs
bgs = below ground surface
BL = baseline
IA = indoor air
ID = identification
NA = not applicable
OA = outdoor air
Pa = pascal
PCE = tetrachloroethene
RSL = residential screening level
SG = soil gas

Figures


Our Lady of Lourdes Catholic School
Judge Memorial Catholic High School
The McGillis School
Veterans Affair Medical Center
Rowland Hall St Mark's School
Carmen B Pingree Center
East High School
Rowland Hall St Mark's School
Emerson Elementary School
City Reservoir
Mount Olivet Reservoir
Red Butte Creek
Legend
PCE Contour Line (µg/L)
PCE Inferred Contour Line (µg/L)
AOU-1
Area with groundwater and springs with known PCE contamination
Area where groundwater is within 50 feet of surface and may have PCE contamination
100 foot buffer from groundwater and springs that have PCE contamination
Acronyms and Abbreviations:
PCE = Tetrachloroethene
Source:
PCE contour lines based on samples collected from 2/22/2016 and 3/8/2016 (EA, 2016).
EA Engineering, Science, and Technology, Inc., PBC (EA). 2016 700 South 1600 East PCE Plume AOU-1 East Side Springs 2016 Groundwater, Surface Water, and Soil Sampling Technical Memorandum. Prepared for VASLCHCS. September. FINAL
N
W
E
S
0 200 400 800
Feet
Figure 1. Site Map
700 South 1600 East PCE Plume
AOU-1: East Side Springs
2017 Vapor Intrusion Investigation Field Data Report
US Department of Veterans Affairs
DATUM: NAD83
PROJECTION: Transverse Mercator
DATE 05-16-17
DWN. SS
SCALE 1" = 800'
APPRVD. MN
SHEET 1 of 2
File Path: \\brookside\GIS_SHARE\ENBG\100_Proj\VIVA-SLC_665353\MapFiles\2017_VIVA_2017VI_Fig01_Sitemap.mxd mcotterb 7/25/2017 11:58:37 AM



Acronyms and Abbreviations:
PCE = Tetrachloroethene

Source:
PCE contour lines based on samples collected from 2/22/2016 and 3/8/2016 (EA, 2016).

EA Engineering, Science, and Technology, Inc., PBC (EA). 2016 700 South 1600 East PCE Plume AOU-1 East Side Springs 2016 Groundwater, Surface Water, and Soil Sampling Technical Memorandum. Prepared for VASLCHCS. September. FINAL

Figure 2. 2017 Focus Area and Sample Locations
700 South 1600 East PCE Plume
AOU-1: East Side Springs
2017 Vapor Intrusion Investigation Field Data Report

US Department of Veterans Affairs

DATUM:	NAD83
PROJECTION:	Transverse Mercator
DATE	05-16-17
DWN.	SS
SCALE	1" = 800'
APPRVD.	QB
SHEET	2 of 2

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Appendix A
Minor Field Modification #18

EA Engineering, Science, and Technology, Inc., PBC

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MINOR FIELD MODIFICATION #18
Remedial Investigation Work Plan
AOU-1: East Side Springs
700 South 1600 East PCE Plume
Salt Lake City, Utah
Approved

TO: D. Lynne Welsh, Department of Veterans Affairs

FROM: Pamela Moss, EA Team (EA Engineering, Science, and Technology, Inc., PBC/CH2M)

DATE: 8 March 2017

SUBJECT: Minor Field Modification to the Remedial Investigation Work Plan AOU-1: East Side Springs 700 South 1600 East PCE Plume Salt Lake City, Utah (July 2015)

1. Introduction

This document provides a description of the minor field modification to the Remedial Investigation Work Plan (RIWP) AOU-1: East Side Springs 700 South 1600 East Tetrachloroethene (PCE) Plume Salt Lake City, Utah (First Environment, Inc. [FE] 2015a) to conduct additional vapor intrusion (VI) sampling at up to 13 previously sampled structures and at up to seven new (not previously sampled) structures as described below. Minor Field Modifications #1 - #17 were provided in separate documents and detail changes to the RIWP and the Sampling and Analysis Plan (SAP) (Appendix A of the RIWP). The following modification is detailed below:

- Minor Field Modification (MFM) #18 – Supplemental VI sampling will be conducted in accordance with the protocols described in the sections below. This field modification includes additional VI sampling at up to 13 structures previously sampled in 2015 and up to seven new (not previously sampled) structures in an attempt to fill potential data gaps from the 2015 and 2016 AOU-1 remedial investigation (RI) VI evaluation. The supplemental sampling is being performed in the event that some or all of the 2015 HAPSITE and TO-15 VI investigation data is determined to be unusable. Usability is being assessed through verification of field and laboratory data, which has identified field notation discrepancies in addition to non-compliance with the project plans. The determination of 2015 VI data usability and whether the data meets project objectives is still in process.

  The 13 structures to be resampled were selected from the 2015 indoor air sampling locations by evaluating the 2016 groundwater and surface water data and selecting the 2015 indoor air sampling locations where 1) groundwater is known to be impacted by PCE, 2) where estimated depth to groundwater was less than fifty feet below ground surface, and 3) where 2016 surface water data (EA 2017) indicates elevated PCE concentrations in the vicinity of PCE impacted groundwater area 4) and the western most edge of the investigation area in the direction of groundwater flow where there is currently no data. The southwest extent of the groundwater PCE plume was not defined during the RI due to limitations of the Geoprobe (which could not drill to

depths exceeding 40 ft bgs). Therefore, locations 0010-H and 0028-H, near the presumed southwest extent of the shallow PCE plume were also retained for confirmation sampling.

The seven new structures were selected by contacting property owners in, or near, the data gap areas from the 2015 and 2016 AOU-1 RI VI evaluation and/or by soliciting volunteers downgradient of the data gap areas. Initial RI data evaluation suggests PCE impact in shallow (i.e., less than 50 ft bgs) groundwater near and east of the intersection of 900 South and 1100 East, and west of 1300 East. There were multiple residences that fell within this area of the shallow PCE GW plume who did not volunteer to have sampling conducted. Some of these residences have since granted access and the structures have been included for VI evaluation The supplemental sampling will be performed in accordance with the work plan requirements and this MFM to ensure data of sufficient quantity and quality are obtained to achieve project data quality objectives.

- In the event that the 2015 data usability assessment determines that some or all of the 2015 data is not usable or does not meet project objectives, the confirmation sampling with the additional new sample locations is expected to be adequate to meet the data quality objectives as outlined in Table 3 of the QAPP (Summary of Data Quality Objective Process). Specifically, principal study questions 1 and 2 of the DQO process address the problem statement regarding indoor air as indicated below:
    - Question 1 - Does vapor intrusion present a complete pathway to structures overlying AOU-1 and is it significant?
    - Question 2 – What is the lateral extent of AOU-1 groundwater contamination that may result in a complete pathway and significant vapor intrusion exposures in overlying structures?

  Data inputs with regard to addressing the indoor air path for both of these questions include (amongst others): indoor air VOC concentrations (collected over temporal and spatial ranges); shallow soil gas VOC concentrations; and groundwater and surface water VOC concentrations from the areas where surface water and groundwater have PCE contamination and is within 50 ft of the ground surface (plus a buffer of 100 ft) (EA 2017). Groundwater and surface water data collected to date in support of the RI have suggested that the area of PCE contamination in springs and groundwater within 50 ft of ground surface is generally located east of McClelland Street, west of 1300 East, south of 700 South and north of Yale (see preliminary PCE in groundwater contours on Figure 1). While not all of the 36 structures from the 2015 sampling event are included for confirmation sampling (many of which are outside this area), each of the confirmation samples (as well as the new VI sampling locations) are within this area. SUMMA TO-15 SIM data is propose be collected from each of the confirmation sampling locations and from those new locations where HAPSITE® results indicate exceedance of screening criteria. The QAPP also indicates that making the indoor air sampling available to owners of any structure within and adjacent to AOU-1 who volunteer for sampling will meet the acceptance criteria for the acceptable number of data points. These proposed confirmation and new sampling locations target areas within the bounds of AOU-1, will result in collection of data necessary to meet the project objectives, fulfills the spirit of sampling the structure of any volunteer within the AOU-1 boundary, and therefore, are expected to meet the data and project objectives as outlined in the QAPP.

2. Minor Field Modification #18 – Proposed Sampling Plan

This section presents the rationale and details for additional AOU-1 VI sampling. Sampling at up to seven new structures (not previously sampled as part of the 2015 and 2016 RI sampling effort) and resampling at 13 previously sampled structures is proposed for the supplemental sampling program. The 2017 supplemental VI sampling will be conducted during the heating season and is currently scheduled to begin in early March 2017. Except where specifically noted within this MFM, the sampling will be performed in accordance with field, HAPSITE®, and laboratory methods and standard operating procedures (SOPs); indoor air and soil gas sampling protocols; quality control (QC) and quality assurance (QA) provisions; and data validation requirements presented in the following planning and procedural documents:

- RIWP (FE 2015a)
- Quality Assurance Project Plan (QAPP) Update Revision 1 (EA Engineering, Science, and Technology, Inc., PBC [EA] 2016a) and Revision 2 (Department of Veterans Affairs [VA] 2017)
- SAP (Attachment A of the RIWP, FE 2015a); and
- Minor Field Modifications
    - Minor Field Modification #1 to the RIWP - Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments (FE 2015b);
    - Minor Field Modifications #3, #4, and #5 to the RIWP - Change of Analytical Method for Analysis of 1,4-Dioxane; Updates to the Analytical Methods, Parameters, and Sample Media; and Update of Health and Safety Plan (EA 2016b);
    - Minor Field Modifications #7 and #8 to the SAP - Change of Analytical Method for Analysis of 1,4-Dioxane and Updates to the Analytical Methods, Parameters, and Sample Media (EA 2016c)

Table 1 presents the type of information included in each of these documents that is relevant to the supplemental investigation.

2.1 SUMMA Confirmation Sampling

In 2015, VI data was collected from 36 structures within AOU-1 using the Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments (i.e., "full VI protocol", Appendix H of the RIWP [FE 2015a]). During a third-party QA review of the 2015 VI field, electronic, and laboratory documentation, several discrepancies and instances of noncompliance with the QAPP were identified. These discrepancies and instances of noncompliance include: inconsistent or missing information regarding where HAPSITE® data were collected; chains of custody forms that were illegible due to improper error correction practices; omission of sample times and dates from chain of custody forms; inconsistent information recorded on electronic field forms and field logbooks; and sample receipts and analytical run logs that were absent from the laboratory data reports. Due to these discrepancies, noncompliance with the QAPP, and the ongoing evaluation of the validity of the 2015 VI data, thirteen of the previously evaluated structures will undergo confirmation sampling.

The confirmation samples will be collected per the planning documents listed above, but utilizing a "limited VI protocol" that includes HAPSITE® screening of indoor air to identify potential interior background sources (no pressure cycling) and collection of up to two 24-hour SUMMA canister samples per structure. Soil gas and ambient air samples will not be collected. Other components of the VI protocol (FE 2015a), such as detailed building surveys, will not repeated. Instead, an abbreviated interview and building survey will be performed to identify any major changes that could affect the

sampling and data evaluation (recent remodels or household chemical storage, for example). Attachment 1 presents a copy of the "full VI protocol" that conveys, in detail (via text highlights), those steps of the protocol that will be retained in "limited VI protocol" that will be utilized for confirmation sampling. Table 2 lists the number and type of samples to be collected at these thirteen structures and Figure 1 shows the locations of the SUMMA confirmation samples.

As noted, up to two 24-hour SUMMA canister samples will be collected from each structure. The determination of where samples will be collected and conditions under which an additional sample may be warranted is described in the "limited VI protocol" (Attachment 1).

2.2 New Locations for Full VI Protocol

Up to seven new (not previously sampled) structures will be sampled in order to supplement 2015 and 2016 VI data (Figure 1). The additional structures to be sampled within AOU-1 are identified as potential new sample locations on Figure 1 and in Table 2. The samples will be collected per the planning documents listed above utilizing a "full VI protocol" (i.e., Appendix H of the RIWP) that includes pressure cycling monitored with the HAPSITE®. Additionally, if an indoor air screening level is exceeded during the full VI protocol sampling, up to two 24-hour SUMMA confirmation samples will be collected at said structure. Ambient air monitoring and near-slab soil gas analysis will be performed if required per the VI protocol (FE 2015a). A full interview and building survey will be conducted at each location in advance of VI sampling.

3. Analytical

Samples will be collected in individually certified clean SUMMA canisters per QAPP Update Revisions 1 and 2. SUMMA canisters will be sent to ALS Environmental in Salt Lake City, Utah for analysis of target volatile organic compounds (VOCs) via TO-15 selective ion monitoring (SIM) (for preliminary contaminants of potential concern [PCOPC]) or TO-15 (for other target analytes) per Table 7 of the QAPP Update Revisions 1 and 2 (EA 2016a, VA 2017). PCE will be analyzed via TO-15 SIM for indoor air samples. QC samples will be collected as specified in QAPP Update Revisions 1 and 2 (EA 2016a, VA 2017). Analytical results will be reported to the lowest achievable method detection limits and reliable quantification levels. Once results are received from the laboratory, data will be validated in accordance with the QAPP Update Revisions 1 and 2 (EA 2016a, VA 2017).

4. Quality Assurance

Additional QA protocol will be implemented in order to ensure supplemental sampling data will achieve project data quality objectives. During the first week of VI sampling, the US Army Corps of Engineers will provide oversight in the field and an in-person meeting with the contractor, regulators, and VA will be conducted to review field documentation for accuracy and completeness. Additionally, the VA will routinely spot-check field documentation throughout the sampling event. If any noncompliance issues are identified, then field audits and meetings will continue weekly until which time the issues are resolved.

In an effort to ensure that field documentation is performed in accordance with the QAPP and SAP, a pre-field kick off meeting will take place with the field staff to discuss all field documentation and to discuss the requirements of the QAPP and SAP. A daily QA checklist (Attachment 2) to monitor compliance with the QAPP will be completed. Once field work has commenced, the Project Manager will be responsible for ensuring field documentation is performed in accordance with the QAPP and SAP.

The field documentation for confirmation samples collected via Limited VI Protocol will consist of:

1. **Field Logbook**: The field logbook will contain all of the field notes specific to each residential limited VI protocol sampling event (i.e., HAPSITE® calibration information, time of arrival/departure, brief floor plan sketch with sampled locations, whether or not an interior source(s) was identified with the HAPSITE®, product manufacture name and its location, SUMMA deployment time, location, initial/final vacuum, canister/flow controller ID, Sample ID, etc.). This will be a Rite in the Rain® notebook with numbered pages.

2. **HAPSITE® Field Form**: HAPSITE® field forms will be used to log each HAPSITE® sample (run number, time, date, location, location description, sample ID, and detected VOC concentrations). One form will be dedicated to each sampled residence. HAPSITE® field forms will be spiral bound in booklet form.

3. **SUMMA Field Form**: SUMMA field forms will be used to log each SUMMA canister deployment. These forms will include the following information: sample location, sample ID, canister/flow controller ID, start/end time, start/end date, initial/final vacuums, flow controller flow rate, etc.). One form will be used per sample location. SUMMA field forms will be spiral bound in booklet form.

The field documentation for new samples collected via the Full VI Protocol Sampling will consist of the same documentation for the Limited VI Protocol with the addition of a pressure cycling field form where blower flowrates and differential pressures will be logged. The SUMMA field form will only be necessary if a screening level is exceeded during the Full Protocol VI sampling, and soil gas samples will be logged on the HAPSITE® field form.

5. Documentation and Reporting

The findings from the 2017 sampling will be summarized in a VI Field Report. Information that may result in the need for actions prior to the VI Field Report will be conveyed to the agencies during the regularly scheduled project-team conference calls.

6. References

Department of Veterans Affairs (VA). 2017. Quality Assurance Project Plan Update Revision 2, 700 South 1600 East PCE Plume AOU-1: East Side Springs, Salt Lake City, Utah.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2016a. Quality Assurance Project Plan Update Revision 1, 700 South 1600 East PCE Plume AOU-1: East Side Springs, Salt Lake City, Utah. February.

EA. 2016b. Minor Field Modifications #3 - #6. Remedial Investigation Work Plan, AOU-1: East Side Springs, 700 South 1600 East Street PCE Plume, Salt Lake City, Utah. March.

EA. 2016c. Minor Field Modifications #7 - #13. Sampling and Analysis Plan, AOU-1: East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah. March.

EA. 2017. 2016 Surface Water and Stormwater Data Validation Report, 700 South 1600 East PCE Plume AOU-1: East Side Springs, Salt Lake City, Utah.

First Environment (FE). 2015a. Final Remedial Investigation Work Plan, AOU-1: East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah. July.

FE. 2015b. Minor Field Modification-01. Remedial Investigation Work Plan, Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments, 700 South 1600 East PCE Plume Superfund Site Salt Lake City, Utah. July.

Tables

1 Key Information and Associated Document
2 VI Sample Purposes, Locations, and Types

Figure

1 2017 Supplemental VI Sampling Locations

Attachments

1 Limited Protocol for Performing Indoor Air Assessments (“Limited VI Protocol”)
2 Quality Assurance Checklist

Tables

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TABLE 1
Key Information and Associated Document
Minor Field Modification #18 to the Remedial Investigation Work Plan
AOU-1: East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah

Document	Key Information
RIWP	• Project objectives, technical approach, and sample rationale • Appendix E - Risk Assessment Work Plan for identification of PCOPCs • Appendix H - Protocol for Performing Indoor Air and Near-Slab Soil Gas Assessments • Appendix I - Project Communications Plan for Contractor Field Staff
QAPP Update Revision 1 and 2	• Data quality, precision, and accuracy objectives • Required training and documentation • Target analyte list, laboratory analytical methods, quantitation limits, and SOPs • Instrument maintenance and calibration • Required quality control samples • Corrective action requirements • Data validation requirements
SAP (Appendix A of the RIWP)	• Sampling methodology and procedures, sample handling, sample designations, and sample documentation • Sample custody requirements • Field SOPs • VI field screening instrument instructions and HAPSITE® Operators Manual
Minor Field Modification #1	• Changes in the order of various components of the indoor air screening process (“full VI protocol”)
Minor Field Modifications #3 and #7	• Indicates analysis of PCOPCs, including 1,4-dioxane, to be completed by TO-15 SIM. TO-13 analysis is no longer required. • This field modification is a change to sections 6.2.1.3 and 6.2.2.2 of the RIWP and 4.1 and 4.2 of the SAP.
Minor Field Modifications #4 and #8	• Replaces Section 6.2.1 Indoor Air Quality Assessment of the RIWP and Section 4.1 Indoor Air Quality Screening, Characterization, and Verification of the SAP with QAPP Update Revision 1 and 2 Section 2.3.1. • Replaces Section 6.2.2 of the RIWP and Section 4.2 of the SAP (i.e., Near-Slab Soil Gas Investigation) with QAPP Update Revision 1 and 2 Section 2.3.2. • Replaces Section 6.2.3 of the RIWP and Section 4.3 of the SAP (i.e., Open-Field Soil Gas Investigation) with QAPP Update Revision 1 and 2 Section 2.3.3.
Minor Field Modification #5	• Replacement of the Health and Safety Plan (Appendix C of the RIWP) to reflect the health and safety protocols specific to EA Engineering, Science, and Technology, Inc. • Assesses the risks associated with potential and actual health and safety hazards and identifies those controls to be implemented during investigation activities.

NOTES:
PCOPC = Preliminary contaminants of potential concern.
QAPP = Quality Assurance Project Plan.
RIWP = Remedial Investigation Work Plan.
SAP = Sampling and Analysis Plan.
SOP = Standard operating procedure.
VI = Vapor intrusion.

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TABLE 2
VI Sample Purpose, Location, and Type
Minor Field Modification #18 to the Remedial Investigation Work Plan
AOU-1: East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah

Sample Purpose	Structure Location ID	HAPSITE®/ Pressure Control Protocol	HAPSITE®/ No Pressure Control Protocol	TO-15 Indoor Air(1)	TO-15 Near-Slab Soil Gas(1)	HAPSITE® Ambient Air Monitoring	Full Interview and Building Survey	Abbreviated Interview and Building Survey Update
SUMMA confirmation sampling (resampling previously sampled structures using "limited VI protocol")	0001-H		X	X				X
	0002-H		X	X				X
	0004-H		X	X				X
	0010-H		X	X				X
	0012-H		X	X				X
	0013-H		X	X				X
	0025-H		X	X				X
	0026-H		X	X				X
	0027-H		X	X				X
	0029-H		X	X				X
	0033-H		X	X				X
	0036-H		X	X				X
	0038-H		X	X				X
New structures (supplemental data using "full VI protocol")	0057-H	X		X	X	X	X	
	0058-H	X		X	X	X	X	
	0059-H	X		X	X	X	X	
	0060-H	X		X	X	X	X	
	0061-H	X		X	X	X	X	
	0062-H *	X		X	X	X	X	
	0063-H *	X		X	X	X	X	

NOTES:
(1) = TO-15 confirmation samples will only be collected at full VI protocol structures (new structures) if an residential indoor air screening level and/or soil gas screening level is exceeded during full VI protocol sampling. TO-15 indoor air confirmation samples will be collected at all limited VI protocol structures (previously sampled structures).
* Tentative locations pending signed access agreements
ID = Identification.
VI = Vapor intrusion.

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Figure

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Legend

Geoprobe Groundwater Samples

PCE Concentrations

- 0-10 µg/L
- >10 µg/L
- Not Installed
- Did not hit GW
- NA
- ND
- RI Surface Water Sampling Locations
- RI Storm Water Sampling Locations
- PCE Countour

2017 Proposed SUMMA Confirmation Sample Locations

Potential New VI Sample Locations

Potential VI Data Gap

Label Explanation:
Red labels: Indicate approximate location of indoor air survey conducted in 2015
Grey labels: Indicate approximate location of 2016 confirmatory air sample
Blue lables: Indicate approximate location of indoor air surveys conducted in 2016

**Circles demonstrate approximate location of sample. The location of the label within each circle should not be interpreted as the specific location of where the sample was gathered rather, the sample is somewhere within that circle.*

Labels attached to black arrows indicate general direction of site not located on map

Sources:
Utah Automated Geographic Reference Center (AGRC)
GIS Project Files from EA EST

0005-H
0032-H
0006-H
0016-H
0030-H
0024-H
0019-B
0021-S
0020-C
0004-H
0027-H
0057-H
0012-H
0013-H
0026-H
0001-H
0036-H
0017-H
0058-H
0041-H
0050-H
0002-H
0056-H
0047-H
0011-H
0053-H
0022-S
0045-S
0031-S
0028-S
0008-H
0009-H
0014-H
0007-H
0061-H
0059-H
0029-H
0037-H
0018-H
0054-H
0040-H
0055-H
0052-H
0063-H
0023-H
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0025-H
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0003-H
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0051-H
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0048-H
0049-H
0042-H
0043-H
0044-H
0046-H
0034-H
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0064-H
0065-H
0066-H
0067-H
0068-H
0069-H
0070-H
0071-H
0072-H
0073-H
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0075-H
0076-H
0077-H
0078-H
0079-H
0080-H
0081-H
0082-H
0083-H
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0117-H
0118-H
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0120-H
0121-H
0122-H
0123-H
0124-H
0125-H
0126-H
0127-H
0128-H
0129-H
0130-H
0131-H
0132-H
0133-H
0134-H
0135-H
0136-H
0137-H
0138-H
0139-H
0140-H
0141-H
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0158-H
0159-H
0160-H
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0162-H
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Figure 1 - 2017 Supplemental VI Sampling 700 South 1600 East PCE Plume AOU-1 RIWP Minor Field Modification No. 18	
US Department of Veterans Affairs	DATUM: NAD83 PROJECTION: Transverse Mercator DATE: 02-01-17 SCALE: 1:2300 SHEET 1 of 1

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Attachment 1
Limited Protocol for Performing Indoor Air Assessments (“Limited VI Protocol”)

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PREFACE

Limited Protocol for Performing Indoor Air Assessments ("Limited VI Protocol")

The attached document, *Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments* (i.e., referred to as the "full vapor intrusion (VI) protocol" herein, and dated 17 July 2015), was included as Appendix H of the Accelerated Operable Unit 1 (AOU-1) Remedial Investigation Work Plan (RIWP). This document has been included in its entirety (below) to illustrate those steps from the "full VI protocol" that will be performed as part of the "limited VI protocol" noted in Minor Field Modification (MFM) #18. Steps that are highlighted in yellow in the "full VI protocol" constitute those items that are retained as part of the "limited VI protocol".

In addition, MFM #1, #2, #3, #4 and #8 represent approved changes to the "full VI protocol" and shall be reviewed prior to implementing the protocol. For example, since approval in July 2015, the following changes have been made to the "full VI protocol":

- The order of HAPSITE® operations to screen structures for indoor background sources was updated to begin with the use of analyze mode to identify indoor spaces with elevated concentrations of volatile organic compounds (VOCs). Followed by the use of survey mode to positively identify suspect indoor background sources of VOCs. (MFM #1, #4, and #8 [Attachments 1A – 1C, respectively]).

- Vinyl chloride is no longer a reported HAPSITE® analyte based on 2015 TO-15 sample results (MFM #4 and #8 [Attachments 1B and 1C, respectively]).

- Soil gas samples for TO-15 analysis will only be collected if measured PCE soil gas concentrations exceed the 370 micrograms per cubic meter ($\mu g/m^3$) (55.4 parts per billion by volume [ppbv]) screening level (SL) (QAPP Revision 2 [Department of Veterans Affairs (VA) 2017]).

- No soil gas samples will be analyzed using method TO-13 per the approved MFM #3 (Attachment 1B).

Where clarifications to the protocol based on previously approved minor field modifications are included in the text of the protocol, the clarifications are identified by bracketed red, italicized text so that the reader understands these are approved changes from the original approved protocol (standard black font).

FINAL

Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments
700 South 1600 East PCE Plume Superfund Site
Salt Lake City, Utah

PREPARED FOR: D. Lynne Welsh/VA Salt Lake City Health Care System

PREPARED BY: Scott Beckman and Ed Reid, First Environment, Inc.

COPIES: David Waite, CH2M-Hill; Rolf Lange, Avalon; Devin DeMarco, First Environment, Inc.

DATE: July 17, 2015

1.0 Introduction

This document provides a protocol for the use of real-time on-site gas chromatography/mass spectrometry (GC/MS) analysis to screen for indoor sources, identify potential points for vapor intrusion, screen for the presence of volatile organic compounds in soil gas and indoor air, and direct 24-hour SUMMA canister sampling at selected locations (with TO-15 analyses) to evaluate the potential for vapor intrusion in structures associated with the Accelerated Operable Unit-1 (AOU-1) portion of the 700 South 1600 East PCE Plume (Plume).

The AOU-1 Remedial Investigation will involve an assessment structure including residential, commercial, and public buildings within the Study Area. The objectives of the investigation are several-fold:

- Determine, using real-time indoor air sampling via portable laboratory equipment and confirmatory EPA TO-15 analyses for volatile organic compounds (VOCs), if there is an immediate threat to human health in structures associated with the Plume.
- Expedite the indoor air assessment using real-time data from a field-portable GC/MS to identify indoor sources and identify potential vapor intrusion points during negative depressurization followed by positive pressurization of the entire structure or key discrete portions, as determined practical in the field.
- Collect indoor and near-slab soil vapor data as part of a collaborative data-set that will support the overall remedial investigation of both the groundwater plume and vapor intrusion potential, development of a periodic indoor air monitoring program for AOU-1, future risk assessment, and refinement of the conceptual site model.
- Determine the relationship between a subset of co-located TO-15 grab samples and field-portable GC/MS air sample results for determining the comparability of the field instrument to provide acceptable and usable real-time data.

This vapor intrusion investigational approach was adopted from an Environmental Security Technology Certification Program (ESTCP) Project No. ER- 201119-Final Report (GSI, 2013) and ER-201119-GD- Standard Protocol (GSI, 2014) and provides an alternative to the conventional investigation method of indoor air and sub-slab testing. The project-specific Quality Assurance Project Plan (QAPP) and Sampling and Analysis Plan (SAP) (including

Standard Operating Procedures (SOPs) for HAPSITE preparation and general operation) were also used as references for this Protocol, as well as the Infinicon HAPSITE Smart Plus™ and HAPSITE-ER™ Operating Manuals.

The Protocol relies on the use of on-site data acquisition of indoor air volatile organic contaminants and near-slab soil gas using field portable gas chromatography/mass spectrometry (GC/MS) for real-time assessment of structures. The protocol also provides a methodology for locating and quantifying sources of indoor air contamination should indoor air contaminants be identified during the assessment process. For this study, the field portable instrument will be the HAPSITE Smart Plus™ or HAPSITE ER Chemical Identification System™ (HAPSITE). Indoor air constituents detected above initial action screening levels proposed by the Department of Veterans Affairs (VA) will be confirmed by conventional 24-hour SUMMA canister sampling. The SUMMA canister samples will be analyzed using Environmental Protection Agency (EPA) Method TO-15 Select Ion Monitoring (SIM) and TO-15 laboratory analyses by a National Environmental Laboratory Accreditation Program (NELAP)-certified off-site laboratory.

The following activities will be performed as part of the protocol. Real-time assessment using the HAPSITE™ will determine the nature and applicability of specific activities. For AOU-1, the decision criteria are contained in the technical memorandum: Vapor Intrusion Screening Levels and Removal Action Levels 700 South 1600 East PCE Plume, Salt Lake City, Utah dated 10/17/2014.

- Selection of Structures for Vapor Intrusion Assessment (Section 3.0) – selection of structures to be included in the Remedial Investigation.
- Pre-Assessment Activities (Section 4.0) – confirmation of access agreements/ permissions, schedules, and address for testing; property owner/occupant review of questionnaire for locating potential indoor air background sources; and building condition assessment for sampling locations.
- HAPSITE™ Use, Calibration and QC Checks (Section 5.0) – use and operation, initial calibration; continuing calibration and tuning checks, overnight storage, and regular maintenance.
- Outdoor (upwind) Real-time Qualitative Sampling (Section 6.0) - conduct ambient outdoor (background) testing at an upwind location adjacent to the structure using the HAPSITE ™ in analyze mode to identify presence of target VOCs.
- Initial (upon entry) Survey of indoor VOC Concentrations/Identification of Interior Background Sources (Section 7.0) – room-by-room (or groups of room openly connected) walk through of the structure using the HAPSITE™ in survey mode to identify the presence of any elevated VOC concentrations, followed by localized (sub-areas of rooms) assessments as indicated by initial results to identify and record locations of interior background sources.
- Survey of Potential Vapor Intrusion Entry Points (Section 8.0) – areas identified during initial building condition assessment inspection to assess for vapor entry points using HAPSITE™ in survey mode.
- Initial Real-Time Quantitative Sampling (Section 9.0) – under ambient conditions, interior floor-by-floor and (if necessary) room-by-room quantitative assessment of target chlorinated VOCs: Tetrachloroethylene (PCE); Trichloroethylene (TCE); cis-1,2-Dichloroethylene **(**cis-1-2-DCE); and, Vinyl Chloride (VC). *[Note that VC has been*

removed from the HAPSITE® analyte list per approved MFM #4 and #8 (Attachments 1B and 1C, respectively).]

- Negative Pressure Real-Time Quantitative Sampling (Section 10.0) – place the building interior, or if the structure is divided into discrete areas, the portion of the building interior identified as having the greatest potential for vapor intrusion, under negative pressure, and conduct continuous (repeated samples at a central location) quantitative sampling for target chlorinated VOCs during initial depressurization and air exchange, followed by quantitative sampling using the HAPSITE™ on all other floors while building is under negative pressure.
- Positive Pressure Real Time Quantitative Sampling (Section 11.0) – place the building interior, or if the structure is divided into discrete areas, the same portion of the interior where depressurization was previously performed, under positive pressure and conduct continuous (repeated samples at a central location) quantitative sampling in the same locations and sampling procedures as used during the negative depressurization.
- SUMMA Canister Sampling (Section 12.0) – SUMMA™ canisters (24-hour samples) deployed after interior background source are identified and after quantitative HAPSITE™ sampling under ambient and negative pressure, if data indicates exceedances of the established risk action screening levels for any analyte.
- Near-Slab Real-Time Soil Gas Sampling (Section 13.0) – perform real-time, near-slab soil gas quantitative evaluation of contaminants of interest using the HAPSITE™ in analytical mode. Collect SUMMA canister samples at selected sampling probe locations adjacent to structures where indoor SUMMA™ canisters were collected, plus at least two soil gas locations without detectable COCs in soil gas.
- Data Management and Distribution (Section 14.0) – data management and distribution to project participants.

2.0 Problem Definition

A PCE plume (Plume) has been detected in the vicinity of the George E. Wahlen VA Medical Center (VAMC or Facility). The Plume underlies the neighborhoods surrounding the intersection of 700 South and 1600 East in Salt Lake City, Utah, a blended commercial and residential area of approximately 300 acres. PCE was detected at parts per billion (ppb) levels in one of Salt Lake City's secondary drinking water wells (removed from service in 2004) and the Mt. Olivet Cemetery irrigation well. PCE has also been detected at ppb levels in shallow and deep groundwater, surface water springs, and in storm sewers in this area.

VA subsequently designated the primarily residential area on and just below the Wasatch Fault Scarp as AOU-1, also known as the East Side Springs area. This area is characterized by numerous small seeps and springs, some of which discharge PCE-containing groundwater to the land surface near the suspected downgradient margin of the PCE plume. The residential areas just to the north of AOU-1 and a dry gulch just to the east of AOU-1 are included in AOU-1. The northernmost and easternmost portions of AOU-1 are not currently known to contain springs or seeps, and the depth-to-groundwater beneath the surface is not known. However, the proximity of these areas to the groundwater table and springs containing PCE warrant further study to determine whether any subsurface contaminants related to the Site extend to those areas and pose risks to human health and/or the environment.

The primary public health concern within AOU-1 is the potential for vapor intrusion of chlorinated volatile organic compounds, associated with the Plume, into surrounding homes, schools, and other structures in the East Side Springs area. The potential public health threat is the accumulation of volatilized PCE and its degradation by-products from contaminated groundwater into proximal occupied structures above regional screening levels; thus creating an inhalation exposure hazard. The potential pathways for PCE (and associated degradation products) into indoor air may include the surrounding or underlying soil gas, surface water springs, and shallow groundwater in the vicinity of the structure or dwelling.

This protocol outlines performing real-time and conventional indoor-air assessment of structures associated with the East Side Springs in order to rapidly assess excess risk associated with contaminated indoor air resultant of VI and to obtain legally defensible data for future mitigation decisions.

3.0 Selection of Structures for Remedial Investigation Initial VI Assessment

Prior to field-activities, the VA and technical team will coordinate the solicitation of property owners for voluntary testing of their property for VI assessment. VA plans to approach the 50 or so property owners that have already indicated a willingness to allow testing and pending access permission, structures on these properties will constitute the initial group of buildings to be tested for potential vapor intrusion. VA's goal is to identify a sufficient number of structures within the known location of the Plume and outside the Plume that may exhibit a full-spectrum of indoor air vapor concentrations for the contaminants of interest. Of the 50 or so properties to date where owners have volunteered for testing, some are located within the approximate known areas of the Plume where PCE detections in the surface springs were encountered, some are above the Plume in areas where groundwater is at least 30 to 50 feet below the surface, some are located over shallow groundwater that is outside the Plume, and some are located a considerable distance from the known Plume extent and well above the groundwater table.

The rationale for testing a range of locations within the Remedial Investigation Area is to: (1) maximize the probability of encountering structures with a spectrum of measurable concentrations of the contaminants of interest in the known impact areas; and (2) maximize the probability of encountering some structures with no or minimal levels of the contaminants. The combined data-set will be used as an early guide to recruit additional sampling locations and prioritize the recruitment based on potential for vapor intrusion.

4.0 Pre-Assessment Activities

Pre-assessment activities include the following: (1) confirming that an access agreement/permission of the property owner is in place, confirming the schedule for the investigation, and the structure's address; (2) reviewing questionnaire responses in order to evaluate potential indoor air background sources; (3) identifying indoor air sampling locations and evaluating the structural conditions that may affect vapor intrusion; and (4) noting the locations of background sources (to the extent possible) of materials containing chlorinated volatile organics. The activities noted for 1, 2, and 3, above, may be done in advance of the arrival of the sampling team whenever possible. Removal of significant background sources, including non-target sources such as gasoline or paint thinners that are likely to potentially overwhelm the field instruments, will be discussed with owner upon arrival and removed from

the structure with their permission to the extent possible. For this effort, the assessment team will consist of two individuals, at least one of which is trained and certified by the equipment vendor on the use of the HAPSITE.

4.1 Confirmation of Access Agreements, Schedules, and Addresses

Prior to arriving at the testing site, the assessment team will confirm with the VA that permission for access is in place, the scheduled date and address are correct, and a responsible party will be at the building to grant access and provide pertinent information. For the day of the assessment, upon arrival of the sampling team, the property owner will be asked to close all windows, exterior and interior doors, and shut off any forced air climate control equipment for the duration of each sampling task that requires no air circulation (i.e., indoor source survey and entry point survey, negative depressurization). Between sampling tasks and during personnel breaks or lunchtimes, forced air climate controls can be restarted to maintain indoor temperatures. Homes with baseboard electric heat or hot-water radiator heat do not require systems to be turned off.

4.2 Review of Building Questionnaire Responses

A questionnaire will be filled out by the property owner or building occupant prior to on-site assessment and reviewed by the assessment team. The questionnaire will include information regarding the layout of the structure (e.g., number of floors, approximate square-footage, rooms on each floor, attached structures); and the type and location of potential background sources (dry cleaning, glues, solvents, fuels, cleaning products). This information will be used to (1) identify initial sampling locations; and (2) locate and document any potential background sources prior to conducting any screening or sample collection.

4.3 Building Survey

Upon arrival at the building, if the structure was not able to be inspected and the layout obtained prior to the sampling date, the assessment team will perform a walk-through to confirm the layout of the structure. The assessment team will sketch a floor plan layout showing each room on each level with approximate dimensions of each room. Any obvious interior background sources identified from the questionnaire or during the walk-through will be documented as to the type of product and its location within the structure. Unless the source is creating high concentrations of indoor VOCs that will overwhelm the HAPSITE™, all identified background sources will be left in place. The potential source and location will be recorded on the sampling record, as well as the presence of any fixed sources that cannot be removed such as new carpet, freshly painted surfaces, etc. From the building survey, initial quantitative sampling locations will be marked on the layout sketch. These initial locations shall be, at a minimum, on every level and generally centered within the level.

5.0 HAPSITE™ Use, Calibration, and QC Checks

5.1 HAPSITE™ Use

The HAPSITE™ will be operated by a KD Analytical Trained and Certified assessment team member. The trained assessment team member will be familiar with the general use of the instrument, as well as with the project specific measurements and QC requirements.

The HAPSITE™ will be used in two modes - Quantitative Analyze and Qualitative Survey. In Quantitative Analyze mode the instrument will detect and quantify the target chlorinated VOCs: PCE, TCE, cis-1,2-DCE, and VC. The sensitivity of the HAPSITE™ for chlorinated VOCs in

Analyze Mode is 0.1 to 0.5 µg/m3, which is below the characterization criteria (EPA RSLs; in parentheses) for PCE, but close to the criteria for the other selected target analytes: PCE (11.0 µg/m3, TCE (0.48 µg/m3), VC (0.17 µg/m3), and cis-1,2-DCE (no value established by EPA). In Qualitative Survey Mode the instrument will be used as a screening tool for the continuous-reading of the target analytes. The sensitivity of the HAPSITE ™ for the target analytes in Survey Mode is in the low mg/m3 range. Survey mode will be used to assess the location of background sources from indoor products and materials, as well as determine potential entry points for subsurface vapor contaminants.

For the Analyze Mode, a project-specific sample intake and analysis method has been developed for the HAPSITE™ by the operator focusing on the target analytes: PCE, TCE, cis 1,2-DCE, and VC. The selective ion monitoring (SIM) mode will be used to increase the detector sensitivity for the target analytes. The customized method for the HAPSITE™ will include selecting the characteristic ions for each compound targeted, the temperature settings, GC temperature profiles, including ramp times and rates, and the timing and mass measurements associated with each scan set in the method. The equipment vendor is providing the method programming pre-installed as a selection option on the HAPSITE™. These parameters can also be modified or reset according to manufacturer instructions provided in the HAPSITE™ Operations Manual (included as an attachment to the SAP). The method will be designed for low concentration samples (i.e., 0.1 – 10 ppbV range). However, if high concentrations are encountered (e.g., 100 – 1,000 ppbv), the method can be modified simply by reducing the sampling duration – effectively diluting the sample and raising the lower quantification limit for any lower concentration VOCs.

In the Survey Mode, the HAPSITE™ by-passes the GC column and sends a continuous sample directly to the mass spectrometer detector. Survey mode for this project will be used to continuously search for indoor background generating materials and for screening potential entry points for subsurface vapors. For the Survey Mode, the HAPSITE™ is carried from room to room and the concentrator probe placed near a suspected source or near potential vapor intrusion points (e.g., foundation cracks) to identify concentrations of VOCs, as further discussed below. *[Note that the order of HAPSITE® operations were updated in MFM #4 and #8 (Attachment 1B and 1C, respectively). The indoor air will be analyzed for VOCs using the field portable GC/MS in quantitation mode. Screening will be conducted on each level (basements and living/working floors). If VOCs are detected, the portable GC/MS will be run in survey mode to aid identification of background sources of VOCs such as chemical products and dry-cleaned clothing. If such sources are found, the resident will be asked to relocate the materials from the occupied structure to prepare for real-time air assessment (MFM #4 and #8 (Attachments 1B and 1C, respectively)).]*

5.2 Calibration and QC Checks

For the Analyze Mode, tuning, initial calibration, continuing calibrations, and QC checks will be performed to assure that the instrument meets the data quality objectives specified in the Quality Assurance Project Plan.

Prior to the analyses of any samples, blanks, or calibration standards in Analyze Mode, the instrument performance check (tuning check) will be performed to establish that the HAPSITE™ meets the mass spectral ion abundance criteria. The instrument tuning check (also known as the continuing calibration verification; CCV) gas will be analyzed initially following the calibration of the HAPSITE™ and once per 24-hour time period of operation. In the event the instrument performance check standard does not meet criteria, the HAPSITE™ will not be used in Analyze mode until corrections (including recalibration) are made in

accordance with the Operators Manual, however, the Survey Mode may be used to look for the selected ions of the chemicals of interest.

The HAPSITE™ will be calibrated using a minimum of five chemical concentrations that span the monitoring range of interest (0.1 ppbv to 100 ppmv) in an initial calibration sequence to determine instrument sensitivity and the linearity of GC/MS response for the target compounds (PCE, TCE, cis-1,2-DCE, and VC). QA criteria for calibration curve acceptability are: Relative Standard Deviation (RSD) <20%; RSD of RF < 30%; and curve fit R-Squared (R^2) ≥ 0.98, where the RSD % is the measure of the linearity of the concentration levels (ion counts) in the calibration curve for each compound; and the Relative Standard Deviation of the Response Factor (RSD of RF %) is the measure of the linearity of the response factors for each compound in the calibration curve, where the response factor is a measure of the relative response (ion count) of an analyte compared to that of an internal standard. Calibration will be conducted in accordance with the procedures described in detail within the HAPSITE™ Operation Manual attached to the SAP. R^2 is the coefficient of determination or correlation coefficient squared and measures variation in the y variable attributable to the x variable. In the case of instrument calibration, this is the instrument reading relative to the known concentration of a calibration standard.

Prior to the daily analysis of samples and blanks, but after tuning criteria and initial calibration have been met, the initial calibration of the GC/MS system must be routinely checked by analyzing a continuing calibration verification (CCV) standard to ensure that the instrument continues to remain within control limits. The CCV standard will be performed once every 24 hours.

The initial equipment checks and QA analyses will be performed using a project-specific method and calibration library provided onboard the instrument. If the QA results fall outside of the desired performance goals, the instrument will be recalibrated.

In the event a sample concentration overwhelms the HAPSITE™ (i.e., concentrations completely saturate the detector as indicated by analytical results), the instrument will require purging of the analytical system with nitrogen in accordance with the Operators Manual to clean the detector before the next sample can be analyzed. Purging shall continue until the instrument results (blanks) indicate the no carry-over concentrations remain.

5.3 Storage and Routine Maintenance

The HAPSITE should be stored in a climate-controlled, dry location where it can be plugged into a stable power outlet and left in “Stand-by” mode – even over weekends. The use of Stand-by mode maintains the system temperature and carrier gas pumps and preserves the system calibration so that daily startup times are considerably shorter. A properly stored HAPSITE in standby mode can maintain its reliability and calibration for up to a month.

The routine maintenance schedule of the HAPSITE is described in the QAPP and in the Operators Manual. Key maintenance includes switching tuning standard cylinders and performing self-test programs before beginning sampling. The internal power source (battery) for the HAPSITE™ provides only two to three hours of operation time and, except when using the instrument in Survey Mode, the HAPSITE should be placed on the floor or on a cart and connected to external electrical 110 Volt AC power.

6.0 Outdoor Real-time Qualitative Sampling

After confirming that the HAPSITE™ meets tuning and continuing calibration requirements, and upon arrival at a testing site, the HAPSITE™ shall be operated in Analyze Mode to collect an ambient outdoor background sample. The sample is acquired in order to define the ambient (outdoor) concentration of the target VOCs.

The outdoor quantitative sampling should be conducted upwind, but within 10 to 30 feet of the structure to be assessed. The sample is collected upwind of the building at a height of approximately three to five feet above the ground surface (approximating the breathing zone). Outside weather conditions shall be recorded including temperature, barometric pressure, wind direction, and an estimate of wind velocity (categorical).

7.0 Identification of Interior Background Sources

Consumer products and household items are commonly found to be significant sources of chlorinated VOCs in indoor air (see Table below).

CHEMICAL[1]	GENERAL CATEGORIES
1,2-DCA	Molded plastic products, air fresheners
Carbon Tetrachloride	Aerosol cans, refrigerants, dry cleaned clothes, varnish
Chloroform	Dry cleaned clothes, fire extinguishers, adhesive remover, chlorinated drinking water
PCE	Dry cleaned clothes, automotive brake cleaners, metal degreasers, hobby craft glue
TCE	Self-defense pepper spray, degreaser, rug-cleaners
Trans-1,2-DCE	Taxidermy foam, refrigerants, cleaning solutions
1,1,1-TCA	Cleaners, adhesives, aerosol cans

1) Data sources: U.S. Department of Health and Human Services. Household Products Database. 2012.

After collecting a quantitative outdoor ambient background sample, the HAPSITE™shall be switched to operate in Survey Mode inside the building to identify the presence of any elevated VOC concentrations. The initial indoor survey should be conducted by walking through the structure room-by-room (or groups of openly connected rooms) while holding the HAPSITE™ probe at waist level and observing instrument responses (ion count). The initial room to room survey will be followed by localized (sub-areas of rooms) assessments as indicated by initial results to identify and record locations of interior background sources.

The indoor source identification procedure involves using a combination of continuous-read qualitative analysis in survey mode, visual inspection, and isolation. In continuous-reading survey mode, the instrument is used to scan potential sources for the specific target analytes. In survey mode, scan near storage units (e.g., cabinets, closets, storage containers, etc.) and product containers found in the room(s) with the highest concentration of the target VOCs detected during the initial survey and quantitative testing. As the potential source area is approached, the ion counts on the instrument will increase. If an instrument response is observed for a storage unit such as a cabinet or drawer, with permission of the property representative, examine the unit for products or materials. Examine the product labels to see if

the target VOC is identified on the label and note the type of product on the sampling record. Do not remove the products, return the unit to its as found condition, and proceed with the assessment. If permission is not granted to inspect a storage unit, the area will be noted as a possible source of background contamination. *[Note that the procedures outlined in the previous two paragraphs have been updated in MFM #4 and #8 (Attachment 1B and 1C, respectively). The indoor air will be analyzed for VOCs using the field portable GC/MS in quantitation mode. Screening will be conducted on each level (basements and living/working floors. If VOCs are detected, the portable GC/MS will be run in survey mode to aid identification of background sources of VOCs such as chemical products and dry-cleaned clothing. If such sources are found, the resident will be asked to relocate the materials from the occupied structure to prepare for real-time air assessment (MFM #4 and #8 (Attachments 1B and 1C, respectively)).]*

Locations of identified indoor sources will be recorded on the electronic sampling forms and rooms with elevated VOCs not tied to an indoor source shall be noted for further investigation for vapor intrusion points.

8.0 Survey of Potential Vapor Intrusion Entry Points

Areas identified in the initial VI assessment inspection and during the initial walk-through of the structure for potential vapor intrusion entry points will be assessed using the HAPSITE™ in survey mode. The vapor intrusion entry survey will be concurrent with the indoor source survey to the extent practical.

The instrument will be used to scan potential vapor entry points such as sumps, floor drains, expansion joints, plumbing penetrations, or foundation cracks. The sampling port is placed near the potential vapor entry point. If the ion counts increase in the vicinity of the entry point, then there is evidence that there is a vapor intrusion problem. In addition, any VOCs identified by type by the instrument will be recorded. The particular room (or rooms) shall be further evaluated in quantitative mode under depressurization conditions.

9.0 Initial Real-time Quantitative Sampling

After the initial Survey for indoor background and vapor intrusion points for target VOCs has been completed, the HAPSITE™ shall be switched to Analyze Mode to conduct real-time quantitative indoor air sampling and analysis (under ambient pressure conditions). Based on the structural assessment, floor plan of the structure, and Survey Mode results, an initial indoor sample for quantitative analysis will be collected from the three to five foot high breathing zone interval in each major floor level within the building; for example, the basement, main floor, and second floor of the structure. Additional samples may be collected from potential indoor source areas such as an attached garage and from specific rooms where the initial survey indicated evidence of elevated VOCs.

If the concentration of the target VOCs in all areas is below detection limits or below the screening action level concentrations, then it can be concluded that there are no significant background sources of indoor air contamination. The assessment then proceeds to performing an indoor air assessment under negative pressure conditions (Section 10.0). If target VOCs in one or more major areas are detected above screening levels, then a more detailed quantitative assessment is performed to determine the specific rooms associated with the areas exhibiting the highest concentrations. For example, if the VOC concentrations from the first round of sampling were highest in the basement, each room in the basement would be

sampled in quantitative mode.

10.0 Negative Pressure Real-Time Quantitative Sampling

Building depressurization (negative pressure) can exacerbate a vapor intrusion problem and may be a conservative means of detecting vapor intrusion within a structure. The structure will be placed under a stable differential pressure of -5 pascals using a variable speed louvered air door installed in a doorway located at the lowest possible level at the structure. A recording digital manometer will be used to measure the indoor versus outdoor pressure differential and the structure will be maintained under negative differential pressurization for 30 minutes (or until at least 2.5 air exchanges have occurred) before initiating sampling. The louvered air door to be employed in the depressurization will be capable of exhausting up to 6,000 cubic feet per minute of air; however, depending on construction tightness of the structure, particularly in homes built prior to the 1970s, air leakage into the home may not allow attaining of the -5.0 pascal target depressurization level. In this case, testing will proceed as long as any differential depressurization can be achieved. In the event the structure does not achieve a one pascal depressurization relative to the outdoors, this will be taken as an indicator that the structure construction is so leaky with respect to outdoor air that depressurization does not naturally occur and will be noted on the sampling forms, and the sampling will continue to verify that no increases in concentrations occurred..

The HAPSITE™ will be deployed in Analyze Mode in a high-risk location (defined as the lowest living or occupied level of a structure and where vapor intrusion is most likely to occur) immediately prior to the start and operated continuously (one sample every eight minutes or as often as instrument cycling allows) during negative pressurization until the 2.5 air exchanges have been attained. Upon achieving conditions stated above, additional quantitative sampling will be performed on every level of the structure, in the same locations used during the ambient characterization. If the previous entry point screening using the HAPSITE™ in Survey mode identified an area of probable vapor intrusion, then a quantitative measurement will be performed in that room while it is under negative depressurization.

It is important to note that the residences and structures to be tested range in size from single floor dwellings to large public buildings and range in age from 30 to over 100 years. In the event that an entire structure cannot effectively be placed under negative pressure due to size, floor plan layout, or extreme air leakage, the blower door will be located to depressurize the lowest level of the structure where vapor intrusion is most likely to occur, as indicated by the previous testing results. The final decision will be made by the field team leader, and the decision rationale noted in the electronic field record.

11.0 Positive Pressure Real Time Quantitative Sampling

Building pressurization (positive pressure) can assist in the differentiation of indoor background sources and actual vapor intrusion. The structure will be placed under a stable differential pressure of +5 pascals using a variable speed louvered air door installed at the same location as used for the negative depressurization discussed in Section 10.0. In addition, if the initial indoor source survey and ambient quantitative analysis results suggest an indoor source on an upper level, the pressurization test will be conducted with the blower door installed on that level. A recording digital manometer will be used to measure the indoor versus outdoor pressure differential and the structure will be maintained under positive differential pressurization for 30 minutes (or until at least 2.5 air exchanges have occurred) before initiating sampling. Testing will proceed as long as any differential pressurization can be achieved. In the event the

structure does not achieve pressurization relative to the outdoors, the building will be assumed to be too leaky to pressurize and any reduction in vapor concentrations is the result of fresh air dilution.

The HAPSITE™ will be deployed in Analyze Mode in a high-risk location (defined as the lowest living or occupied level of a structure and where vapor intrusion is most likely to occur) immediately prior to the start and operated continuously (one sample every eight minutes or as often as instrument cycling allows) once positive pressurization is achieved until the 2.5 air exchanges have been attained. Upon achieving conditions stated above, additional quantitative sampling, at a minimum, will be performed on every level of the structure, in the same locations used during the ambient characterization. If the previous entry point screening using the HAPSITE™ in Survey mode identified an area of probable vapor intrusion, then a quantitative measurement will be performed in that room while it is under positive pressurization.

It is important to note that the residences and structures to be tested range in size from single floor dwellings to large public buildings and range in age from 30 to over 100 years. In the event that an entire structure cannot effectively be placed under positive pressure due to building size, floor plan layout, or extreme air leakage, the blower door will be located to pressurize the lowest level of the structure where vapor intrusion is most likely to occur, as indicated by the previous testing results, and secondly, in the area noted as most likely containing indoor source materials. The final decision will be made by the field team leader, and the decision rationale noted in the electronic field record.

12.0 SUMMA™ Canister Sampling

Laboratory confirmation samples will be collected from structures where any quantitative HAPSITE ambient indoor or quantitative HAPSITE™ depressurization analyses exceed the screening action levels for any target VOC. Sample collection will use a 24-hour composite sample from a SUMMA™ canister and will be analyzed by Method TO-15.

For residences or other occupied buildings meeting this criteria, at least one indoor air sample for lab analysis will be collected per building. This sample will typically be collected in the lowest regularly occupied level of the home (either a finished basement or first floor) in contact with the ground. If the specific construction or configuration of a residence suggests one indoor sample will not be representative, or field-based detections of any contaminant of interest are detected in widely separated multiple locations, then a second indoor air sample may be collected from another living space, working space, or an unfinished basement room, as indicated by HAPSITE™ characterization results. A house or dwelling's heating and cooling systems can be used during the SUMMA™ Canister sampling.

Non-residential structures such as school buildings and businesses will be screened for indoor air sources, vapor entry points, and negative/positive pressurization as described above, and SUMMA™ canister sample locations will be selected based on the uses of the lower levels of the structure or where VI is most likely to occur. In particular, basement level classrooms in school buildings may be tested with SUMMA canisters for lab analysis regardless of the HAPSITE™ results.

In addition, at least three structures that exhibit concentrations below screening levels (including at least one location with no HAPSITE™ detection of target VOCs) will be sampled using 24-hour SUMMA canisters.

The indoor air samples for full laboratory analysis will be collected into laboratory-supplied six-liter SUMMA™ canisters over a 24-hour period, as detailed below:

- A clean and inerted six-liter Summa canister under a 25 in. Hg vacuum equipped with a flow regulator will be placed at a height of three to five feet above the floor in the center of the space to be sampled.
- The flow regulator will be set to collect a 24-hour time weighted sample (approximately 4 ml/min).
- Sampling will be stopped (i.e., the valves closed and the canister disconnected) after about 24 hours once the vacuum reaches about 5 in. Hg).
- The sampling crew will record the sample name, initial and final vacuums, initial and final sampling times, canister and flow controller serial numbers, and other pertinent information on the field sampling summary and laboratory Chain of Custody (CoC) forms.
- Canisters will be packed in a rigid wall shipping container, such as a cooler or heavy-duty cardboard box (ice is not required), if shipping is required.
- A custody seal will be placed over the openings to the shipping container.
- The shipping container will be shipped or delivered immediately to the laboratory for analysis.
- All samples will be accompanied by the CoC as described in the QAPP.

SUMMA™ Canister sampling will be conducted in accordance with the SOPs provided in the SAP.

As an additional confirmation on the accuracy and precision of the HAPSITE™, up to six instantaneous SUMMA™ grab samples will be collected and analyzed for TO-15 parameters in residences where VOCs are detected during the HAPSITE quantitative sampling. The grab samples will be co-located with the HAPSITE™ sample probe and collected by opening the SUMMA™ canister valve to allow the canister to fill concurrently with the HAPSITE sample intake process. The results will represent the VOC concentrations present at a given location at the time of collection and can be correlated compared directly to HAPSITE quantitative results similar to a duplicate sample analysis.

13.0 Near-Slab Real-Time Soil Gas Sampling and Analysis

The near-slab soil gas characterization approach will be implemented concurrent with the indoor air characterization to identify and characterize target VOCs present in soils adjacent to tested structures. The purpose of the soil gas sampling is two-fold (1) provide soil gas concentrations near structure foundations for support of the AOU-1 Vapor Intrusion Risk Assessment pathway evaluation process; and (2) provide information to help define the potential extents of the underlying groundwater VOC plume.

Near-slab soil gas characterization will be performed adjacent (within five feet) to all structures screened and assessed for indoor vapor intrusion. Soil vapor probes will be driven adjacent to the structure's foundation to a depth approximately six inches below the base of the foundation or to the top of the water table, whichever occurs first. Samples will be collected with a peristaltic pump and Tedlar® bags, field screened with a PID and multi-gas meter, then a second sample collected in the same manner and field-screened in real-time with the portable GC/MS in analyze

mode to identify and quantify any target VOCs present in soil pore space adjacent to structures. At locations where groundwater is not encountered at the base of the foundation, after sampling, the probe rod will be driven another five feet, if soil conditions allow, and the sampling process repeated to obtain vertical delineation data for soil gas. If groundwater is encountered, the approximate depth-to-water will be measured and recorded, the probe re-installed to just above the water table, and a soil gas sample collected just above the water level.

Soil gas samples will also be collected in SUMMA™ canisters and analyzed for full volatile organics (TO-15) analysis for any near-slab characterization sample where indoor SUMMA™ canisters are collected. *[Note that MFM #4 and #8 (Attachments 1B and 1C, respectively) state: collect soil gas samples in a Summa canister and submit selected soil gas samples for full volatile organics (TO-15) analysis at a UDOH certified laboratory at any location where a near-slab characterization sample exceeds the 11.0 µg/m^3 (1.62 ppbv) SL for PCE or where soil gas vapors are found to be elevated 10 times the RSL for the detected VOC. Note however, this screening value was corrected to 370 µg/m^3 (54.55 ppbv) in QAPP Revision 2 (VA 2017).]* In addition, three selected locations throughout AOU-1 where the field portable GC/MS did not detect target VOCs in soil gas above screening levels will be sampled. Sampling for laboratory analyses will be accomplished using SUMMA™ canisters equipped with flow regulators to collect 24-hour time-averaged samples from the soil vapor probes.

In addition to confirmatory VOC analyses, five percent of the soil gas sampling locations within the PCE plume area will be selected for additional Semi-Volatile Organic Compound (SVOC) analyses using method TO-13A. Method TO-13A employs laboratory-supplied sorbent tubes attached inline between the vapor probe and a vacuum pump set at a flow rate of 5 L/min for 480 minutes (8 hours). SVOC samples are for informational purposes to support full characterization of the plume nature and extent, and possible future risk assessment of the Site. *[Note that MFM #3 (Attachment 1B) indicates that no samples will be analyzed using method TO-13. Additionally, per MFM #4 and #8 (Attachments 1B and 1C, respectively) soil gas samples for TO-15 analysis will only be collected if soil gas PCE concentrations exceed the 11.0 µg/m^3 (1.62 ppbv) SL or where soil gas vapors are found to be elevated 10 times the RSL for the detected VOC. Note however, this screening value was corrected to 370 µg/m^3 (54.55 ppbv) in QAPP Revision 2 (VA 2017).]*

The procedures for emplacing the soil gas probes, testing the integrity of the seal, and for collecting and analyzing samples both for the HAPSITE™ and the TO-15 Method and TO-13A Method are described in the QAPP (Section 2.3.2) and the SAP (Section 5.4).

14.0 Data Management and Distribution

14.1 Data Management

Information that will be included in the project data record relative to the indoor air study include field log books, sample collection and handling records, operational records, GPS data, chain-of-custody forms sample receipt records, and shipping documentation. Field log books may be kept electronically via hand-held tablets.

The project field team leader will be required to maintain a field logbook of daily activities. A separate logbook of suitable material that will be bound with consecutively numbered pages will be used for this project. All entries will be legibly written in black ink. Any entry errors are corrected by drawing one solid line through the incorrect entry followed by the user's initials and date. The bottom of each page is signed and dated by the individual making the entries. Factual and objective language will be used. All entries will be complete and accurate enough to allow

reconstruction of each field activity. Activities should be recorded contemporaneously.

The field logbook cover will include the following information:

- job name, contract, and delivery order numbers,
- site activity name,
- start date,
- end date of last logbook entry.

Daily entries of the following minimum information will be recorded in the logbook as follows:

- date and time, expressed in 24-hour (military) format;
- sampling start/stop times;
- weather conditions;
- personnel present;
- field observations;
- site identification and building layout (visual sketches where appropriate);
- location of sampling points (GPS coordinates and/or visual sketches where appropriate);
- description of sample;
- sample identification number;
- number of samples taken;
- time of sample collection;
- number of Quality Assurance/Quality Control (QA/QC) samples taken;
- type and mode of field instrumentation;
- names of people collecting samples;
  all calibrations done;
- any other field instruments;
- any general observations or notes;
- any deviations from the sampling plan.

Sample custody will be documented on standardized CoC records, an example of which is included in Attachment 3 of the QAPP. The CoC record establishes the documentation necessary to trace sample possession from time of collection through sample analysis and final disposition. A sample is in the custody of a person if any of the following criteria are met:

- the sample is in a person's physical possession;
- the sample is in a person's view after being in his or her physical possession;
- the sample was in a person's physical possession and was then locked up or sealed to prevent tampering; and/or
- the sample is kept in a secured area.

Field forms including soil gas sampling data sheet, indoor air sampling data sheets, HAPSITE calibration, and QC information will be used during field work. Examples of these forms can be found in Attachment D of the QAPP.

Photographs will be taken in the field to document sampling locations and conditions. Digital camera photographs will be taken with the date/time record turned on. Photographs of all sampling locations will be taken with the sample number. A photographic log will be kept in

which the date, location, photographer's name, and direction the photographer is facing (if appropriate) will be recorded. Photographs will be labeled, placed in a binder or stored electronically, and submitted at the end of the field work. Selected photographs will be used in reports as deemed necessary or appropriate.

14.2 Data Distribution

Data distribution, in the form of reports and memos, are described in the QAPP (Section 4.2) and are summarized below:

- *Weekly Field Status Reports* – Communicates to VA Remedial Project Manager (RPM) weekly progress and any significant preliminary findings, QA/QC issues, and changes to the field schedule.
- *Progress Reports* – Communicates the progress made by VA and its consultants on a monthly basis regarding site investigation, community involvement, achievement of project milestones, and the myriad of actions that encompass the investigation of AOU-1.
- *Environmental Media Reports* – Communicates in brief the conclusions of individual investigation events (Indoor Air, Soil Gas, Surface Water, and Groundwater) for AOU-1 and any laboratory analysis associated with the event. These reports will be written by the Program Manager and submitted to the VA RPM, EPA, and Utah Department of Environmental Quality (UDEQ).
- *Nonconformance Reports* – Identifies any deviations of planned or expected scope-of-work activities relating to the investigation of AOU-1. Reports may pertain to field data collection, health and safety events, etc. These reports will be written by the FET Program Manager or QA Manager. The reports will be submitted to the VA RPM and Quality Assurance Manager, and if needed, the EPA and UDEQ.
- *Laboratory Audits/Corrective Action Reports* – Communicates the result of any third-party audit or review of the analytical laboratory that is supporting the FET investigation activities. This report will be written by the CLP (soil and water media results) and ALS Global Labs (soil gas and air) laboratory designated personnel. The reports will be submitted to the FET Program Manager, VA RPM and Quality Assurance Manager, UDEQ RPM and the EPA RPMs.
- *Remedial Project Managers (RPM) Debriefings* – Weekly conference calls between VA, EPA, UDEQ and other key stakeholders to discuss previous week's field efforts and investigation.
- *Data Validation Reports* – Communicates the results of laboratory data validation for each media (indoor air, soil gas, surface water, and groundwater) to VA, EPA, and UDEQ. Each report will provide a summary of the data validation process, a list of analytes having changed data qualifiers, a list of analytes rejected during validation, and a determination of the usability of the data. The data validation reports will be prepared by the FET lead data validator and the QA/QC Manager.
- *Remedial Investigation Report (RI Report)* – Communicates the conclusions of all investigation events for AOU-1 and any laboratory analysis associated with the event. The RI Report will also contain summaries of data validation reports and deviations from the SAP and QAPP.

15.0 References

Department of Veterans Affairs (VA). 2017. Quality Assurance Project Plan Update Revision 2, 700 South 1600 East PCE Plume AOU-1: East Side Springs, Salt Lake City, Utah.

ESTCP (2013). *Use of GC/MS Analysis to Distinguish Between Vapor Intrusion and Indoor Sources of VOCs –Final Report* - ESTCP Project ER-201119, November 2013.

ESTCP (2014). *Use of GC/MS Analysis to Distinguish Between Vapor Intrusion and Indoor Sources of VOCs – Standardized Protocol for On-Site Evaluation of Vapor Intrusion* - ESTCP Project ER-201119, July 2014.

Quality Assurance Project Plan (QAPP), 700 South and 1600 East Street PCE Plume, AOU-1: East Side Springs, Salt Lake City, Utah – October 1, 2014.

Sampling and Analysis Plan (SAP), 700 South and 1600 East Street PCE Plume, AOU-1: East Side Springs, Salt Lake City, Utah – October 1, 2014.

INFICON (2006). *Operation Manual for the HAPSITE Smart Plus – 074-472-P1C*.

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Attachment 1A
Minor Field Modification #1

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FINAL

RIWP Minor Field Modification-01
Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments
700 South 1600 East PCE Plume Superfund Site
Salt Lake City, Utah

PREPARED FOR: D. Lynne Welsh, VA Salt Lake City Health Care System

PREPARED BY: Ed Reid, First Environment, Inc.

COPIES: David Waite, CH2M-Hill; Rolf Lange, Avalon; Devin DeMarco, Ellen Reid, First Environment, Inc.

DATE: July 17, 2015

Introduction

This document provides a description of a minor modification to the Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments, Version 4.0 (dated December 23, 2014) for the use of real-time on-site gas chromatography/mass spectrometry (GC/MS) analysis to evaluate the potential for vapor intrusion in structures associated with the Accelerated Operable Unit-1 (AOU-1) portion of the 700 South 1600 East PCE Plume (Plume). The protocol is included as Appendix H of the RIWP. The minor modification is a result of lessons learned during implementing the protocol in early January 2015, additional field training with the field-portable GC/MS (HAPSite™), and the initial screening using the protocol at a variety of sites during the first four weeks of the field effort.

The changes to the protocol are primarily changes in the order of various components of the indoor air screening process. In addition, further clarification to the quantitative indoor ambient air testing process to better define the location and number of rooms to be tested per floor level are provided.

Indoor Air Screening Process Modification

The current Protocol provides general procedures in Sections 7.0, 8.0, and 9.0 for conduct of initial qualitative (HAPSite™ in survey mode) screening for indoor background sources, conduct of initial qualitative (HAPSite™ in survey mode) vapor entry point screening, and conduct of quantitative (HAPSite™ in analyze mode) indoor ambient air sampling, respectively. This portion of the testing is done under ambient conditions. Currently, immediately upon entering a site, the HAPSite™ is used to conduct surveys throughout the building to identify potential locations of indoor background source materials and potential locations of vapor entry. Then, based on the surveys, the HAPSite™ is used in analyze mode to quantify concentrations on each floor of the structure and in habitable rooms.

After testing a number of buildings, it is apparent that walking through a site room-by-room with the HAPSite™ in survey mode is inefficient due to the lack of elevated indoor sources above the survey mode detection limits of about 100 ppb in nearly all structures. Below the survey mode

detection limits, the team can only record total ion counts (TICs) relative to baseline TIC to obtain a gross representation of target compounds. In addition, the vapor entry survey has rarely assisted in identifying entry points when random surveys of cracks, wall penetrations, and crawl spaces have been performed in survey mode. Quantitative testing of ambient air has proven to be better at providing initial data that allows the HAPSite™ operator to isolate specific rooms or areas of a site for further evaluation of indoor sources and entry points.

The original Protocol should be changed so that the order of indoor air testing begins with ambient indoor air analysis (Section 9.0) and then proceeds with either indoor background source surveys (Section 7.0) based on ambient results and visual observation of source materials, or vapor entry point surveys based on ambient results and observations of potential entry points.

The regulatory agencies (EPA and UDEQ) verbally agreed to the change on February 5, 2015 and effective upon VA acceptance of the Minor Field Modification, the Protocol is modified so that ambient indoor air analysis will be conducted upon entry into a site. Ambient air samples will be collected and analyzed by the HAPSite from each occupied level of the site and from selected representative rooms or areas on each level. In addition, the operator will collect ambient samples from selected spaces (i.e., closets, utility rooms, and crawl spaces accessed via entry doors from the basement areas) where indoor source materials may be present. Rooms or spaces with notable potential entry points (i.e., large floor cracks, open sump pits, floor drains, exposed sub-slab soil) will also be tested to determine ambient air concentrations within the space.

Upon completion of ambient air sampling and analysis with the HAPSite™, the operator will evaluate the initial ambient results and, in conjunction with visual observations of potential source materials, will switch the HAPSite™ to survey mode and run short (2-3 minute) surveys at locations where indoor sources are more likely to be present, as discussed in the Protocol. TICs will be noted during each survey and the specific item provoking the response also noted, if any. If ambient quantitative data indicates target compounds were below the HAPSite™ detection limits (approximately 0.1 ppbv) and no source materials were observed, then an indoor source survey is not necessary and shall be noted on the VI field forms. If ambient quantitative data shows target compound concentrations just above detection limits from a structure level where only one or two representative samples were initially collected, additional ambient samples will be collected from other locations (at least one other location) throughout that level to verify concentrations do not increase in other portions of the level – as a result of an indoor source.

After indoor source surveys are complete or deemed un-necessary, the operator will use the ambient-results evaluation and previous visual observations of potential vapor entry points to select locations to survey for vapor entry. The HAPSite will be used in survey mode as described in the original protocol and 2-3 minute surveys at suspected entry points (typically sumps, floor drains, foundation wall penetrations, and bare soil crawl spaces). TIC response will be noted and the type of entry and location also noted. If ambient quantitative data indicates target compounds were below or just above the HAPSite™ detection limits (approximately 0.1 ppbv) and no potential entry points were observed, then a vapor entry survey is not necessary and shall be noted on the VI field forms.

Attachment 1B
Minor Field Modifications #3 - #6

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MINOR FIELD MODIFICATIONS #3 - #6
Remedial Investigation Work Plan
AOU-1: East Side Springs
700 South 1600 East Street PCE Plume
Salt Lake City, Utah
Approved July 2015

TO: D. Lynne Welsh, Department of Veteran's Affairs

FROM: Pamela Moss, EA Team (EA Engineering, Science, and Technology, Inc., PBC/ CH2M HILL)

DATE: 2 March 2016

SUBJECT: Minor Field Modifications to the Remedial Investigation Work Plan AOU-1: East Side Springs 700 South 1600 East PCE Plume Salt Lake City, Utah (July 2015)

1. Introduction

This document provides a description of minor modifications to the Remedial Investigation Work Plan (RIWP) AOU-1: East Side Springs 700 South 1600 East PCE Plume Salt Lake City, Utah (July 2015) to provide consistency for sampling methods, analytes, and other details documented in the RIWP and the Quality Assurance Project Plan (QAPP) Update Revision 1. Minor Field Modification #1 Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments and Minor Field Modification #2 Clarification of QAPP Amendment Number 1 are included in the Final RIWP as Appendices K and L. The following modifications are detailed below:

- Minor Field Modification #3 – Change of analytical method for analysis of 1,4-dioxane (EPA Crosswalk[1] items A6(a)(iii), A6(a)(vii), B1(b), B1(c), B2(a)(i), B2(b), B2(f)(ii), B2(h), B2(i), B3(a)(i), B3(b)(i), B3(d)(i), B4(b)(i), B4(c)(i), B5(a)(i), B6(b), B7(a)(i), B7(b)(i), B8(a)(ii))
- Minor Field Modification #4 – Updates to the analytical methods, parameters, and the sample media on which the analyses will be performed; updates to number of samples, sample locations and depth, analyses, collection methodology, etc. for each of the targeted media; change in use of HAPSITE gas chromatograph/mass spectrometer for field screening of groundwater and surface water samples (EPA Crosswalk[1] items A6(a)(ii), A6(a)(ix), A6(a)(x), A6(a)(xi), A6(a)(xii), B1(f)(i), B1(f)(vi))
- Minor Field Modification #5 – Update of Health and Safety Plan (HASP) (Appendix C of RIWP)
- Minor Field Modification #6 – Inclusion of isotope analysis of surface water (EPA Crosswalk[1] items A3, A4(a)(iii), A4(e), A6(a)(x), A9(a), B4(a)(ii), B4(f))

2. Minor Field Modifcation #3

The TO-15 SIM analyte list will include 1, 4-dioxane. Therefore, TO-13 sampling and analysis will not be used for any samples collected during the 2016 sampling event. This field modification is a change to sections 6.2.1.3 and 6.2.2.2 of the RIWP.

3. Minor Field Modifcation #4

The following sections and table from the RIWP have been updated for consistency with the QAPP Update Revision 1 with respect to 1) analytical methods, parameters, and the sample media on which the analyses will be performed; 2) number of samples, sample locations and depth, analyses, collection methodology, etc. for each of the targeted media; and 3) change in use of HAPSITE gas chromatograph/mass spectrometer for field screening of groundwater and surface water samples.

Section 6.2.1 Indoor Air Quality Assessment is hereby replaced with QAPP Update Revision 1 Section 2.3.1 as follows:

The indoor air characterization approach is as follows:

- *Indoor Air Screening step: Access each occupied structure within AOU-1 where the occupant/owner has granted access and complete visual inspection for potential indoor VOC sources and conduct resident interview. The indoor air will be analyzed for chlorinated volatile organic compounds (cVOCs) using the field portable GC/MS in quantitation mode. Screening will be conducted on each level (basements and living/working floors. If cVOCs are detected, the portable GC/MS will be run in survey mode to aid identification of background sources of cVOCs such as chemical products and dry-cleaned clothing. If such sources are found, the resident will be asked to relocate the materials from the occupied structure to prepare for real-time air assessment. It is estimated that as many as 300 occupied structures, including residences, schools, daycare facilities, and other businesses, are within the AOU-1 boundaries; however, participation of owners will likely be much less and reduce the actual testing locations, with 30 to 50 structures estimated to be included in the testing.*
- *Indoor Air Characterization step: Conduct real-time assessment of indoor air quality at accessible occupied structures within the AOU-1 area where permission has been obtained. The characterization of indoor air will occur in the breathing zone under both ambient conditions approximately 30 minutes after the indoor source screening step is completed and then after the structure is placed under negative differential pressurization (target differential pressure of 10 pascals, equivalent of 0.04 inches of water, a level that replicates the effects of typical cold season stack effects, between inside and outside) as measured with a portable field manometer. Each structure for which access has been granted within AOU-1will be evaluated for cVOCs, using the portable GC/MS in analyze mode, with testing occurring within the breathing zone on basements and living/working levels of the structure to identify the compounds present in the indoor air. A properly calibrated portable GC/MS in analyze mode is capable of achieving low ppbv to parts per trillion by volume detection limits for PCE and TCE in air. The portable GC/MS will also be used in analyze mode to measure ambient outdoor background concentrations concurrent with the indoor activities. To the extent practical given site access considerations and variable wind directions over the period of sampling, one outdoor air sample will be collected associated with each structure.*
- *Indoor Air Verification step: Conduct indoor air sampling using Summa canisters equipped with flow regulators to collect 24-hour time-averaged samples in structures where concentrations of the 5 PCOPCs exceed the screening levels shown in RIWP Appendix H. Concurrent measurements for differential air pressure (inside and outside) will be taken during this step to*

assure samples are representative of conditions that create vapor intrusion. Samples will be sent to a Utah Department of Health (UDOH)-certified laboratory for volatile organic compound (VOC) analysis or VOC-Selective Ion Monitoring (SIM) analysis to achieve lower reporting limits for PCOCs using the EPA Toxic Organics (TO)-15 analytical method. Laboratory testing of indoor air is estimated to occur at approximately 25 structures out of the 30 to 500 expected to be initially assessed in the AOU-1 area, and analysis of up to 40 indoor samples is expected (some structures will require multiple sample locations). Based on Minor Field Modification #1, an additional 4 structures will be sampled to aid the assessment of whether vinyl chloride is present at concentrations below the detection limit using the portable GC/MS. This is needed because the vinyl chloride reporting limit using the portable GC/MS is above the screening level, whereas, the reporting limit for laboratory samples is below the detection limit. The selected structures will be located where groundwater is within 10 to 20 feet of the ground surface and will include:

- *One sample outside the Plume where PCE, TCE, and cis-DCE in the indoor air are below the screening levels (SLs) or the detection limit of the HAPSITE® instrument.*
- *Three samples will be collected inside the area of the Plume where PCE and TCE are equal to or less than their respective SLs but above the instrument detection limits.*

At least three outdoor (upwind, downwind, and in the center of AOU-1) ambient background samples will be collected during the confirmation sampling activities for laboratory analysis for VOCs using method TO-15.

- *Additional Monitoring Activities: In addition to the initial screening, which will be conducted under cold season and low water table conditions, a second round of assessment and confirmation sampling of indoor air at up to 15 selected outdoor background and indoor air locations, based on the potential for indoor air exposure, will be conducted during Spring 2016. This phase will be conducted in the vicinity of known PCE contamination based on results from the initial sampling. The area of AOU-1 where PCE was previously detected above the screening level in indoor air samples and shallow groundwater is anticipated is known as the focus area. The re-testing will be conducted using both real-time field analyses (portable GC/MS) and confirmatory laboratory analysis using Summa canisters for sample collection and offsite laboratory analysis.*

Section 6.2.2 Near-slab Soil Gas Investigation is hereby replaced with QAPP Update Revision 1 Section 2.3.2 as follows:

The near-slab soil gas characterization approach will be implemented concurrent with the indoor air characterization to identify and characterize cVOCs present in soils adjacent to tested structures, as follows:

Near-slab Soil Gas Characterization step: Conduct soil gas characterization adjacent to structures screened and assessed for vapor intrusion where the property owner agreed to soil gas sampling and sampling is practical given site conditions. Soil vapor probes will be driven adjacent to the structure foundation to a depth approximately 6 inches below the base of the foundation or to the top of the water table, whichever occurs first. Samples will be collected with a vacuum pump and Tedlar® bags, field screened with a photoionization detector (PID) and

multigas meter, then a second sample collected in the same manner and field-screened with the portable GC/MS in analyze mode to identify and quantify any cVOCs present in soil pore space adjacent to structures. At locations where groundwater is not encountered at the base of the foundation, the probe rod will be driven another 5 feet after the initial sample is collected, if soil conditions allow, to obtain another sample for vertical delineation data for soil gas. If groundwater is encountered, the approximate depth to water will be measured and recorded. It is anticipated that up to 50 locations will be field screened for near-slab soil gas concentrations during the study.

- *Near-slab Soil Gas Characterization Verification step: Collect soil gas samples in a Summa canister and submit selected soil gas samples for full volatile organics (TO-15) analysis at a UDOH certified laboratory at any location where a near-slab characterization sample exceeds the 11.0 µg/m^3 (1.62 ppbv) SL for PCE or where soil gas vapors are found to be elevated 10 times the RSL for the detected VOC. In addition, selected locations where the field portable GC/MS did not detect VOCs in soil gas will be sampled to confirm results. Sampling for laboratory analyses will be accomplished using Summa canisters equipped with flow regulators to collect 24-hour time-averaged samples from the soil vapor probes. Based on the expected number of buildings located within the area where soil gas impact caused by the PCE plume is most likely to occur, laboratory testing of soil gas is estimated to occur at up to 15 locations.*

- *Conduct additional near-slab, soil floor and crawl space for TO-15 analysis, using a UDOH certified and EPA-approved laboratory, at structure locations identified during the indoor air field characterization and during the field investigation as having high potential for vapor intrusion into indoor air. These locations are proposed to provide additional high-quality lab data for human health risk assessment resulting from the vapor intrusion pathway.*

Near-slab testing was chosen in lieu of sub-slab testing due to the presence of extremely shallow groundwater that occurs at or very near the slabs of many residences as indicated by numerous sump pumps and discharging footer drains. The likelihood of causing groundwater to leak into the basement of a structure by penetrating the slab to install testing apparatus was deemed too risky by the project team.

The indoor air assessment/characterization and near-slab soil gas sampling will commence at the same residences or occupied structures where owners have already indicated they will allow indoor air testing, and then pending permission to access additional properties, proceed to structure locations adjacent to the previously identified springs and seeps. It is anticipated that additional property owners may need to be actively recruited by VA in some portions of AOU-1 to fill data gaps, but at least 36 owners have already indicated a willingness to allow testing. The initial locations for indoor air and soil gas sampling are shown on Figure 9.

Section 6.2.3 Open-field Soil Gas Investigation is hereby replaced with QAPP Update Revision 1 Section 2.3.3 as follows:

Open-field soil gas data will be collected to provide a means of estimating the plume impacted area and to aid in evaluation of vapor intrusion potential. Concurrent with or immediately following the initial indoor air quality characterization steps and near-slab soil gas characterization, the investigative sampling approach for open field soil gas will proceed as follows:

- *Conduct field screening of soil gas levels and vertically profile the soil gas concentrations of PCE and daughter products in the vadose zone by manually or mechanically installing unsaturated (vadose) zone soil vapor sampling points near historically cVOC-impacted seeps and*

springs and in selected locations adjacent to streets/sidewalks (open field samples) in AOU-1. The field screening will be conducted by collecting soil gas samples in Tedlar bags for subsequent analysis using the field portable GC/MS equipment or the GC/MS probe will be connected directly to the sampling point. It is anticipated that soil gas samples will be collected from locations adjacent to the six spring identified during the previous investigations that contained PCE; then at the six spring locations that did not contain PCE; and then expand the sampling program to additional spring locations within AOU-1 as they are identified during field activities, up to an expected total of 50 samples.

- *Conduct additional open field soil gas sampling for TO-15 analysis, using a UDOH certified and EPA-approved laboratory.*

The open field soil gas sampling (near seeps or springs and along public right of ways) will commence at residences or occupied structures where owners have already indicated they will allow access for indoor air testing, and then pending permission to access, proceed to structure locations adjacent to the previously identified springs or seeps, and at selected locations on public rights of way.

Section 6.2.4 Surface Water and Shallow Groundwater Investigation is hereby replaced with QAPP Update Revision 1 Section 2.3.4 as follows:

Concurrent with or immediately following the initial indoor air quality characterization steps, the general investigative sampling approach for surface water and very shallow groundwater will also take place in phases and will proceed as follows:

- *Conduct initial field sampling and preliminary field screening analysis of surface water throughout AOU-1. This will be accomplished by collecting surface water samples at all locatable seeps, springs, and small surface water bodies suspected of being in contact with groundwater; and collecting sump pump discharge and foundation drain discharge samples at residences. In addition, water samples will be collected from selected Salt Lake City stormwater sewer manholes, located in and downgradient of AOU-1, to determine if groundwater seepage and discharge from foundation drains in AOU-1 is impacting the sewer. Surface samples collected during the investigation will be sent to the EPA CLP lab for analysis of VOCs. It is expected that up to 50 surface water samples will be analyzed for VOCs at the EPA CLP laboratory in accordance with CLP method protocol. Samples from a random subset (20%) of these locations will be analyzed for SVOCs, TAL metals, anions, TDS and pH at the CLP laboratory as appropriate or by the subcontractor laboratory ALS in Salt Lake City. 10% confirmation splits of the surface water samples will be collected and shipped to a different CLP laboratory for the same analysis (VOCs, SVOCs, and TAL metals) for quality assurance. The CLP laboratories will be selected by the EPA Region 8 Sample Coordinator prior to initiation of field activities.*

- *Up to 10 surface water samples will be collected and submitted to the University of Utah Stable Isotope Ratio Facility for Environmental Research for deuterium and oxygen-18 analysis.*

    - *Conduct initial field sampling and preliminary field screening analysis of very shallow groundwater (less than 12 feet below surface). This will be accomplished by manually installing up to 25 shallow temporary groundwater sample points into the water table near ponds, seeps, or springs adjacent to residences or occupied structures. An*

additional 35 temporary shallow groundwater sampling points will be installed to depths up to 30 feet using a truck or tractor-mounted GeoProbe™ Tool (or equivalent). If the GeoProbe™ unit hits refusal before the target depth is reached then permanent monitoring points will be installed as part of the RI for OU-2 at those locations. The mechanically installed sample points will be located along public rights of way throughout and surrounding the portion of the PCE plume in AOU-1 to further determine the extent of groundwater conditions in the areas likely to have the potential for vapor intrusion into occupied buildings. Very shallow groundwater sampling will focus on areas where elevated soil gas and indoor air PCE concentrations are detected at occupied structures, whereas the shallow GeoProbe™ points will focus on identification of the extent of the PCE relative to AOU-1. Up to 10 of the shallow sample points and GeoProbe™ points will be constructed as piezometers and covered with protective surface completions for additional water level measurements and possible additional sampling and analytical testing in the future. The remaining temporary sample points will be abandoned, as soon as sampling and water level measurements are completed. Groundwater samples collected during the investigation will be sent to the EPA CLP laboratory for VOC analysis.

- *Expedited turn-around time will be requested for analysis of preliminary COPCs in groundwater from the CLP laboratory during GeoProbe™ investigation in order to select additional groundwater sampling locations to support either 1) stepping out further from the East Side Springs area if preliminary COPCs are detected or 2) stepping in if no preliminary COPCs are detected. If expedited turn-around is not possible from the CLP laboratory, then samples will be sent to ALS in Salt Lake City for CLP VOC analysis. ALS will provide fast turn data and EPA level 2 type data deliverables to include analytical results and QC sample results. Expedited analysis data used to make real time field decisions will not be validated since the data is being used to screen for preliminary COPC detections and to further delineate sampling locations.*
- *Soil lithology will be performed on all locations in the focus area and 50 percent of locations outside the focus area. Locations to be selected to provide lithologic data throughout the investigation area.*
- *Approximately 50 groundwater samples will be collected and shipped to the CLP lab for VOC analysis in accordance with CLP protocols. Samples from a random subset (10%) of the groundwater sample locations will also be analyzed for SVOCs, total and dissolved metals, and alkalinity, anions, pH, TDS at the CLP laboratory as appropriate or by the subcontractor laboratory ALS in Salt Lake City. The CLP lab will be selected by the EPA Region 8 Sample Coordinator prior to initiation of field activities. It is expected that up to five groundwater samples will be submitted for laboratory analyses of SVOCs and total and dissolved metals.*
- *Temporary monitoring points converted to short term piezometers will be used to measure water levels at least two additional times throughout the year to determine seasonal changes in shallow groundwater elevations. In addition, up to five of the piezometers may be sampled for VOCs, SVOCs, and total and dissolved metals for analysis at a CLP laboratory.*

The field investigation for surface water and very shallow groundwater will commence in the vicinity of the 11 spring and seep locations (pending owner approval for access) previously sampled in 2010 and 2011 (UDEQ/DERR, 2011a, b, c), then proceed to spring and seep locations identified, but not tested during previous investigations (pending access approval), and for groundwater continue at properties whose owners have already requested indoor air pathway evaluation. Although not an explicit objective of the AOU-1 investigation, it is anticipated that surface and groundwater sampling will generally define the southwestern downgradient and western and southern cross-gradient extents of the PCE plume in surface water and in the very shallow groundwater within AOU-1. The resultant groundwater and surface water data will be used to guide additional groundwater characterization and placement of permanent monitoring wells during the subsequent site wide PCE plume RI. Figure 10 provides the approximate initial locations for surface water and shallow groundwater samples.

Table 11 Estimated Numbers of Samples by Media is hereby replaced by the following table:

TABLE 11: Estimated Numbers of Samples by Media
700 South 1600 East PCE Plume, Salt Lake City, Utah

Media	Data Level	Analyses	Estimated Number of Samples	Minimum Number of QC Samples	Rationale	Sample Designation[(b)]
Surface Water	CLP Protocol	Target List VOCs Field Water Quality Parameters[(a)]	50	3 field duplicates; 1 trip blank per cooler; 1 rinse blank/field blank per day if necessary	Field screening of identified seeps, springs, other surface water to support vapor intrusion pathway analysis	A-0001-mmddyy-SW-001
Surface Water	CLP Protocol, EPA Lab or Subcontractor Lab	Target List VOCs, SVOCs (including 1,4-dioxane), Metals, Anions, pH Field Water Quality Parameters[(a)]	10	1 field duplicate; 1 rinse blank/field blank per day if necessary; 1 trip blank per cooler	Predictive pathway analysis and support future groundwater investigation	A-0001-mmddyy-SW-001
Surface Water	CLP Protocol	Target List VOCs, SVOCs (including 1,4-dioxane), and Metals	5	1 trip blank per cooler	Quality assurance split samples	A-0001-mmddyy-SW-001A
Surface Water and Groundwater	SIRFER Standard Operating Procedure	Hydrogen and Oxygen Stable Isotopes	10	NA	Support future groundwater investigation	A-0001-mmddyy-SW-001
Groundwater (first saturated interval)	EPA Method Protocol	PCOPCs Target List (PCE, TCE, DCE, VC) Field Water Quality Parameters[(a)]	50	1 trip blank per week	Initial groundwater plume delineation samples at proposed locations to support real-time field decisions	A-0001-mmddyy-GW-001
Groundwater (Temporary Sampling Points)	CLP Protocol, EPA Lab or Subcontractor Lab	Target List VOCs, SVOCs (including 1,4-Dioxane), Metals, Anions, Alkalinity, TDS, pH Field Water Quality Parameters[(a)]	10	1 field duplicate; 1 trip blank per cooler; 1 rinse blank/field blank per day if necessary	Predictive pathway analysis and support future groundwater investigation	A-0001-mmddyy-GW-001

TABLE 11: Estimated Numbers of Samples by Media
700 South 1600 East PCE Plume, Salt Lake City, Utah

Media	Data Level	Analyses	Estimated Number of Samples	Minimum Number of QC Samples	Rationale	Sample Designation[b]
Soil Gas (open areas)	Field Analysis	Direct Read or Tedlar® Bag VOCs - GC/MS	50	5 field duplicates 3 field blanks	Real time soil gas results for field decisions	A-0001-mmddyy-SG-001-ft
Soil Gas (open areas)	Level 4 (CLP Equivalent)	Target List TO-15/TO-15 SIM	15	2 field duplicates	Confirm field results; predictive vapor intrusion pathway analysis	A-0001-mmddyy-SG-001-ft
Soil Gas (near slab)	Field Analysis	Direct Read or Tedlar® Bag VOCs - GC/MS	50	5 field duplicates 3 field blanks	Real time field results to support indoor air pathway evaluation	A-0001-mmddyy-SG-001-ft-
Soil Gas (near slab)	CLP Equivalent (Level 4)/ Definitive	Target List TO-15/TO-15 SIM	15[d]	2 field duplicates	Confirm field results, predictive vapor intrusion pathway analysis	A-0001-mmddyy-SG-001-ft
Indoor Air	Field Analysis	Direct Read Probe VOCs - GC/MS	1100 - 1400	NA	Real Time analyses for indoor air sources, real time determination of indoor air health effects.	A-0001-mmddyy-IA-001-ABC
Indoor Air	Level 4 (CLP Equivalent)	Target List VOCs TO-15/ TO-15 SIM	55[d]	6 field duplicates[c]	Confirm field results, determine indoor health effects, evaluate vapor intrusion pathway	A-0001-mmddyy-TO-001-ABC

TABLE 11: Estimated Numbers of Samples by Media
700 South 1600 East PCE Plume, Salt Lake City, Utah

Media	Data Level	Analyses	Estimated Number of Samples	Minimum Number of QC Samples	Rationale	Sample Designation[(b)]
Soil	CLP Protocol	Target List VOCs, SVOCs, Metals	3	1 field duplicate 1 equip blank Shipped with other samples[(c)]	Data needed to support risk assessment	A-0001-mmddyy-SS-001-ft
Ambient Background Air	Field Analysis	Direct Read Probe VOCs - GC/MS	60	NA	Two samples – one upwind and one downwind of structure tested for indoor air	A-0001-mmddyy-OA-001-OUT
Ambient Background Air	Level 4 (CLP-equivalent)	Target List VOCs - TO-15/TO-15 SIM	6	1 field duplicate Shipped with other samples[(c)]	Confirm field results, determine indoor health effects, evaluate vapor intrusion pathway	A-0001-mmddyy-TO-001-OUT

Notes:

(a) DO, ORP, pH, conductivity, temperature, turbidity.
(b) See QAPP Update Revision 1 (Section 3.3.1) for sample naming convention.
(c) Confirmation sample totals include four locations selected in accordance with QAPP Amendment No. 1 and Minor Modification No. 2.

CLP – Contract Laboratory Program
DCE – cis-1,2-Dichloroethene
GC/MS – Gas chromatograph/mass spectrometer
NA – Not applicable
PCE – Tetrachloroethene
PCOPC – Preliminary contaminant of potential concern
SIM – Selective ion monitoring
SIRFER – Stable Isotopes Ratio Facility for Environmental Research, University of Utah
SVOC – Semivolatile organic compound
TCE – Trichloroethene
TDS – Total dissolved solids
VC – Vinyl chloride
VOC – Volatile organic compound

4. Minor Field Modifcation #5

The Health and Safety Plan (HASP) (Appendix C of the RIWP) has been replaced to reflect the protocols of the new contractor, EA Engineering, Science, and Technology, Inc., PBC (EA). The updated HASP is included with this minor field modification as Attachment 1.

5. Minor Field Modifcation #6

The following information is hereby included in section 6.2.4 of the RIWP for consistency with the QAPP Update Revision 1 with respect to the analysis of surface water samples for deuterium and oxygen-18 analysis (see Minor Field Modification #4):

- Up to 10 surface water samples will be collected for analysis of deuterium and oxygen-18.
- Analysis will be performed at the University of Utah Stable Isotope Ratio Facility for Environmental Research, Salt Lake City, Utah and will follow the SPATIAL/SIRFER CRDS Liquid Water Protocol (Attachment 2).
- The Project Manager for isotope analysis is Suvankhar Chakraborty of the University of Utah Stable Isotope Ratio Facility for Environmental Research.
- The data package deliverable for the stable oxygen and hydrogen isotope analysis will be an EPA Level 2 type package and will include the following information:
  - Cover letter or report title page with laboratory identification, client name and signature of person authorizing report release.
  - Summary of samples received that correlates field sample identification (ID) with the laboratory ID.
  - Chain of custody record.
  - Field ID number.
  - Date received.
  - Date prepared.
  - Date analyzed
  - Preparation and analytical methods.
  - Reference sample results
  - Case narrative that addresses the following information at a minimum:
  - Sample receipt discrepancies
  - Descriptions of all non-conformances in the sample receipt, handling, preparation, analytical and reporting processes, and the corrective action taken in each occurrence.
- The turnaround time for the isotope analysis is anticipated to be 45 days. An expedited turnaround time will likely not be required for the isotope analysis.
- Groundwater is analyzed using an autosampler and Picarro Cavity Ring-Down Spectroscopy (CRDS) system to determine $\delta^{18}O$ and $\delta^{2}H$ ratios.

Quality Control Samples (Lab) for Stable Oxygen and Hydrogen Isotope Parameters in Water
AOU-1 - 700 South 1600 East PCE Plume, Salt Lake City, Utah

QC Sample	Frequency	Method/SOP QC Acceptance Limits - δ^2H	Corrective Action	Person Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria
Field Duplicate	1 per sampling event	Standard deviation of calibrated isotopic values for 3 or more replicate injections of the unknown sample must be less than 0.2‰ ($\delta^{18}O$) and 0.75‰ (δ^2H)	Evaluate batch precision for other QC samples and flag data accordingly	Data Reviewer	Precision	RPD less than 50% for detect data
PT[1] Reference Water	Run at beginning of run and after every 8 samples	Not vary by more than 0.9‰ for δ2H and 0.12‰ for δ18O (1 standard deviation)	If monthly values exceed the thresholds, the data from individual runs should be reviewed to identify and remedy potential errors in data processing or any systematic changes in instrument performance and their cause.	Laboratory Supervisor	Precision	Not vary by more than 0.9‰ for δ2H and 0.12‰ for δ18O (1 standard deviation)
PZ[1] Reference Water	1 per sample tray run	Standard deviation should be no more than 20% of the average parameter value across the month	Review data from individual runs to identify and remedy potential error or systematic changes. Reanalyze sample and reassess if necessary	Laboratory Supervisor	Precision	Less than or equal to 20% average over the month
UT[1] Reference Water	1 per sample tray run	Standard deviation should be no more than 20% of the average parameter value across the month	Review data from individual runs to identify and remedy potential error or systematic changes. Reanalyze sample and reassess if necessary	Laboratory Supervisor	Precision	Less than or equal to 20% average over the month

6. References

EA Engineering, Science, and Technology, Inc., PBC (EA), 2016. Quality Assurance Project Plan Update Revision 1 for the Accelerated Operable Unit 1: East Side Springs, 700 South 1600 East Street PCE Plume, Salt Lake City, Utah. February.

First Environment (FE). 2015. Final Remedial Investigation Work Plan, AOU-1: East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah. July.

[1]EPA Crosswalk refers to Attachment 1 of the Quality Assurance Project Plan Update Revision 1 (EA 2016).

Attachment

1 Health and Safety Plan

2 SPATIAL/SIRFER CRDS Liquid Water Protocol

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Attachment 1C
Minor Field Modifications #7 - #13

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MINOR FIELD MODIFICATIONS #7 - #13
Sampling and Analysis Plan
AOU-1: East Side Springs
700 South 1600 East PCE Plume
Salt Lake City, Utah
Approved July 2015

TO: D. Lynne Welsh, Department of Veteran's Affairs

FROM: Pamela Moss, EA Team (EA Engineering, Science, and Technology, Inc., PBC/ CH2M HILL)

DATE: 2 March 2016

SUBJECT: Minor Field Modifications to the Sampling and Analysis Plan AOU-1: East Side Springs 700 South 1600 East PCE Plume Salt Lake City, Utah (July 2015)

1. Introduction

This document provides a description of minor modifications to the Sampling and Analysis Plan (SAP) AOU-1: East Side Springs 700 South 1600 East PCE Plume Salt Lake City, Utah (October 2014) to provide consistency for sampling methods, analytes, and other details documented in the SAP and the Quality Assurance Project Plan (QAPP). The SAP is included as Appendix A of the Remedial Investigation Work Plan (RIWP) AOU-1: East Side Springs 700 South 1600 East PCE Plume Salt Lake City, Utah (July 2015). Minor Field Modification #1 Protocol for Performing Indoor Air and Near-slab Soil Gas Assessments and Minor Field Modification #2 Clarification of QAPP Amendment Number 1 are included in the Final RIWP as Appendices K and L. Minor Field Modifications #3 - #6 are included in a separate document and detail changes to the RIWP. The following modifications are detailed below:

- Minor Field Modification #7 – Change of analytical method for analysis of 1,4-dioxane (EPA Crosswalk[1] items A6(a)(iv), A6(a)(vii), B1(b), B1(c), B2(a)(i), B2(b), B2(f)(ii), B2(h), B2(i), B3(a)(i), B3(b)(i), B3(d)(i), B4(b)(i), B4(c)(i), B5(a)(i), B6(b), B7(a)(i), B7(b)(i), B8(a)(ii))
- Minor Field Modification #8 – Updates to the analytical methods, parameters, and the sample media on which the analyses will be performed; updates to number of samples, sample locations and depth, analyses, collection methodology, etc. for each of the targeted media; change in use of HAPSITE gas chromatograph/mass spectrometer for field screening of groundwater and surface water samples (EPA Crosswalk[1] items A6(a)(ii), A6(a)(ix), A6(a)(x), A6(a)(xi), A6(a)(xii), B1(f)(i), B1(f)(vi))
- Minor Field Modification #9 – Inclusion of isotope analysis of surface water (EPA Crosswalk[1] items A3, A4(a)(iii), A4(e), A6(a)(x), B4(a)(ii), B4(f))
- Minor Field Modification #10 – Excludes installation of pressure transducers in temporary monitoring points for the 2016 field event (EPA Crosswalk[1] items A6(a)(xiv), B2(a)(ii))
- Minor Field Modification #11 – Clarifies use of the term definitive data (EPA Crosswalk[1] item B1(f)(i), B1(f)(iii), B1(f)(iv), B1(f)(v), B1(f)(vi), B1(f)(viii), B1(f)(ix))
- Minor Field Modification #12 – Updates to sample containers, preservatives, hold times and sample methods (EPA Crosswalk[1] items B2(f)(i), B2(g), B3(a)(ii))

- Minor Field Modification #13 – Removes field screening for SVOCs.

2. Minor Field Modifcation #7

The TO-15 SIM analyte list will include 1, 4-dioxane. Therefore, TO-13 sampling and analysis will not be used for any samples collected during the 2016 sampling event. This field modification is a change to sections 4.1 and 4.2 of the SAP.

3. Minor Field Modifcation #8

The following sections and table from the SAP have been updated for consistency with the QAPP Update Revision 1 with respect to 1) analytical methods, parameters, and the sample media on which the analyses will be performed; 2) number of samples, sample locations and depth, analyses, collection methodology, etc. for each of the targeted media; and 3) change in use of HAPSITE gas chromatograph/mass spectrometer for field screening of groundwater and surface water samples.

Section 4.1 Indoor Air Quality Screening, Characterization, and Verification is hereby replaced with QAPP Update Revision 1 Section 2.3.1 as follows:

The indoor air characterization approach is as follows:

- *Indoor Air Screening step: Access each occupied structure within AOU-1where the occupant/owner has granted access and complete visual inspection for potential indoor VOC sources and conduct resident interview. The indoor air will be analyzed for chlorinated volatile organic compounds (cVOCs) using the field portable GC/MS in quantitation mode. Screening will be conducted on each level (basements and living/working floors. If cVOCs are detected, the portable GC/MS will be run in survey mode to aid identification of background sources of cVOCs such as chemical products and dry-cleaned clothing. If such sources are found, the resident will be asked to relocate the materials from the occupied structure to prepare for real-time air assessment. It is estimated that as many as 300 occupied structures, including residences, schools, daycare facilities, and other businesses, are within the AOU-1 boundaries; however, participation of owners will likely be much less and reduce the actual testing locations, with 30 to 50 structures estimated to be included in the testing.*
- *Indoor Air Characterization step: Conduct real-time assessment of indoor air quality at accessible occupied structures within the AOU-1 area where permission has been obtained. The characterization of indoor air will occur in the breathing zone under both ambient conditions approximately 30 minutes after the indoor source screening step is completed and then after the structure is placed under negative differential pressurization (target differential pressure of 10 pascals, equivalent of 0.04 inches of water, a level that replicates the effects of typical cold season stack effects, between inside and outside) as measured with a portable field manometer. Each structure for which access has been granted within AOU-1will be evaluated for cVOCs, using the portable GC/MS in analyze mode, with testing occurring within the breathing zone on basements and living/working levels of the structure to identify the compounds present in the indoor air. A properly calibrated portable GC/MS in analyze mode is capable of achieving low ppbv to parts per trillion by volume detection limits for PCE and TCE in air. The portable GC/MS will also be used in analyze mode to measure ambient outdoor background concentrations concurrent with the indoor activities. To the extent practical given site access*

considerations and variable wind directions over the period of sampling, one outdoor air sample will be collected associated with each structure.

- *Indoor Air Verification step: Conduct indoor air sampling using Summa canisters equipped with flow regulators to collect 24-hour time-averaged samples in structures where concentrations of the 5 PCOPCs exceed the screening levels shown in RIWP Appendix H. Concurrent measurements for differential air pressure (inside and outside) will be taken during this step to assure samples are representative of conditions that create vapor intrusion. Samples will be sent to a Utah Department of Health (UDOH)-certified laboratory for volatile organic compound (VOC) analysis or VOC-Selective Ion Monitoring (SIM) analysis to achieve lower reporting limits for PCOCs using the EPA Toxic Organics (TO)-15 analytical method. Laboratory testing of indoor air is estimated to occur at approximately 25 structures out of the 30 to 500 expected to be initially assessed in the AOU-1 area, and analysis of up to 40 indoor samples is expected (some structures will require multiple sample locations). Based on Minor Field Modification #1, an additional 4 structures will be sampled to aid the assessment of whether vinyl chloride is present at concentrations below the detection limit using the portable GC/MS. This is needed because the vinyl chloride reporting limit using the portable GC/MS is above the screening level, whereas, the reporting limit for laboratory samples is below the detection limit. The selected structures will be located where groundwater is within 10 to 20 feet of the ground surface and will include:*

  - *One sample outside the Plume where PCE, TCE, and cis-DCE in the indoor air are below the screening levels (SLs) or the detection limit of the HAPSITE® instrument.*
  - *Three samples will be collected inside the area of the Plume where PCE and TCE are equal to or less than their respective SLs but above the instrument detection limits.*

  At least three outdoor (upwind, downwind, and in the center of AOU-1) ambient background samples will be collected during the confirmation sampling activities for laboratory analysis for VOCs using method TO-15.

- *Additional Monitoring Activities: In addition to the initial screening, which will be conducted under cold season and low water table conditions, a second round of assessment and confirmation sampling of indoor air at up to 15 selected outdoor background and indoor air locations, based on the potential for indoor air exposure, will be conducted during Spring 2016. This phase will be conducted in the vicinity of known PCE contamination based on results from the initial sampling. The area of AOU-1 where PCE was previously detected above the screening level in indoor air samples and shallow groundwater is anticipated is known as the focus area. The re-testing will be conducted using both real-time field analyses (portable GC/MS) and confirmatory laboratory analysis using Summa canisters for sample collection and offsite laboratory analysis.*

Section 4.2 Near-slab Soil Gas Investigation is hereby replaced with QAPP Update Revision 1 Section

2.3.2 as follows:

The near-slab soil gas characterization approach will be implemented concurrent with the indoor air characterization to identify and characterize cVOCs present in soils adjacent to tested structures, as follows:

> *Near-slab Soil Gas Characterization step: Conduct soil gas characterization adjacent to structures screened and assessed for vapor intrusion where the property owner agreed to soil gas sampling and sampling is practical given site conditions. Soil vapor probes will be driven adjacent to the structure foundation to a depth approximately 6 inches below the base of the foundation or to the top of the water table, whichever occurs first. Samples will be collected with a vacuum pump and Tedlar® bags, field screened with a photoionization detector (PID) and multigas meter, then a second sample collected in the same manner and field-screened with the portable GC/MS in analyze mode to identify and quantify any cVOCs present in soil pore space adjacent to structures. At locations where groundwater is not encountered at the base of the foundation, the probe rod will be driven another 5 feet after the initial sample is collected, if soil conditions allow, to obtain another sample for vertical delineation data for soil gas. If groundwater is encountered, the approximate depth to water will be measured and recorded. It is anticipated that up to 50 locations will be field screened for near-slab soil gas concentrations during the study.*

- *Near-slab Soil Gas Characterization Verification step: Collect soil gas samples in a Summa canister and submit selected soil gas samples for full volatile organics (TO-15) analysis at a UDOH certified laboratory at any location where a near-slab characterization sample exceeds the 11.0 µg/m^3 (1.62 ppbv) SL for PCE or where soil gas vapors are found to be elevated 10 times the RSL for the detected VOC. In addition, selected locations where the field portable GC/MS did not detect VOCs in soil gas will be sampled to confirm results. Sampling for laboratory analyses will be accomplished using Summa canisters equipped with flow regulators to collect 24-hour time-averaged samples from the soil vapor probes. Based on the expected number of buildings located within the area where soil gas impact caused by the PCE plume is most likely to occur, laboratory testing of soil gas is estimated to occur at up to 15 locations.*

- *Conduct additional near-slab, soil floor and crawl space for TO-15 analysis, using a UDOH certified and EPA-approved laboratory, at structure locations identified during the indoor air field characterization and during the field investigation as having high potential for vapor intrusion into indoor air. These locations are proposed to provide additional high-quality lab data for human health risk assessment resulting from the vapor intrusion pathway.*

Near-slab testing was chosen in lieu of sub-slab testing due to the presence of extremely shallow groundwater that occurs at or very near the slabs of many residences as indicated by numerous sump pumps and discharging footer drains. The likelihood of causing groundwater to leak into the basement of a structure by penetrating the slab to install testing apparatus was deemed too risky by the project team.

The indoor air assessment/characterization and near-slab soil gas sampling will commence at the same residences or occupied structures where owners have already indicated they will allow indoor air testing, and then pending permission to access additional properties, proceed to structure locations adjacent to the previously identified springs and seeps. It is anticipated that additional property owners may need to be actively recruited by VA in some portions of AOU-1 to fill data gaps, but at least 36 owners have already indicated a willingness to allow testing. The initial locations for indoor air and soil gas sampling are shown on Figure 4.

Section 4.3 Open-field Soil Gas Investigation is hereby replaced with QAPP Update Revision 1 Section

2.3.3 as follows:

Open-field soil gas data will be collected to provide a means of estimating the plume impacted area and to aid in evaluation of vapor intrusion potential. Concurrent with or immediately following the initial indoor air quality characterization steps and near-slab soil gas characterization, the investigative sampling approach for open field soil gas will proceed as follows:

- *Conduct field screening of soil gas levels and vertically profile the soil gas concentrations of PCE and daughter products in the vadose zone by manually or mechanically installing unsaturated (vadose) zone soil vapor sampling points near historically cVOC-impacted seeps and springs and in selected locations adjacent to streets/sidewalks (open field samples) in AOU-1. The field screening will be conducted by collecting soil gas samples in Tedlar bags for subsequent analysis using the field portable GC/MS equipment or the GC/MS probe will be connected directly to the sampling point. It is anticipated that soil gas samples will be collected from locations adjacent to the six spring identified during the previous investigations that contained PCE; then at the six spring locations that did not contain PCE; and then expand the sampling program to additional spring locations within AOU-1 as they are identified during field activities, up to an expected total of 50 samples.*
- *Conduct additional open field soil gas sampling for TO-15 analysis, using a UDOH certified and EPA-approved laboratory.*

The open field soil gas sampling (near seeps or springs and along public right of ways) will commence at residences or occupied structures where owners have already indicated they will allow access for indoor air testing, and then pending permission to access, proceed to structure locations adjacent to the previously identified springs or seeps, and at selected locations on public rights of way.

Section 4.4 Surface Water and Shallow Groundwater Investigation is hereby replaced with QAPP Update Revision 1 Section 2.3.4 as follows:

Concurrent with or immediately following the initial indoor air quality characterization steps, the general investigative sampling approach for surface water and very shallow groundwater will also take place in phases and will proceed as follows:

- *Conduct initial field sampling and preliminary field screening analysis of surface water throughout AOU-1. This will be accomplished by collecting surface water samples at all locatable seeps, springs, and small surface water bodies suspected of being in contact with groundwater; and collecting sump pump discharge and foundation drain discharge samples at residences. In addition, water samples will be collected from selected Salt Lake City stormwater sewer manholes, located in and downgradient of AOU-1, to determine if groundwater seepage and discharge from foundation drains in AOU-1 is impacting the sewer. Surface samples collected during the investigation will be sent to the EPA CLP lab for analysis of VOCs. It is expected that up to 50 surface water samples will be analyzed for VOCs at the EPA CLP laboratory in accordance with CLP method protocol. Samples from a random subset (20%) of these locations will be analyzed for SVOCs, TAL metals, anions, TDS and pH at the CLP laboratory as appropriate or by the subcontractor laboratory ALS in Salt Lake City. 10% confirmation splits of the surface water samples will be collected and shipped to a different CLP laboratory for the same analysis (VOCs, SVOCs, and TAL metals) for quality assurance. The*

CLP laboratories will be selected by the EPA Region 8 Sample Coordinator prior to initiation of field activities.

- *Up to 10 surface water samples will be collected and submitted to the University of Utah Stable Isotope Ratio Facility for Environmental Research for deuterium and oxygen-18 analysis.*
    - *Conduct initial field sampling and preliminary field screening analysis of very shallow groundwater (less than 12 feet below surface). This will be accomplished by manually installing up to 25 shallow temporary groundwater sample points into the water table near ponds, seeps, or springs adjacent to residences or occupied structures. An additional 35 temporary shallow groundwater sampling points will be installed to depths up to 30 feet using a truck or tractor-mounted GeoProbe™ Tool (or equivalent). If the GeoProbe™ unit hits refusal before the target depth is reached then permanent monitoring points will be installed as part of the RI for OU-2 at those locations. The mechanically installed sample points will be located along public rights of way throughout and surrounding the portion of the PCE plume in AOU-1 to further determine the extent of groundwater conditions in the areas likely to have the potential for vapor intrusion into occupied buildings. Very shallow groundwater sampling will focus on areas where elevated soil gas and indoor air PCE concentrations are detected at occupied structures, whereas the shallow GeoProbe™ points will focus on identification of the extent of the PCE relative to AOU-1. Up to 10 of the shallow sample points and GeoProbe™ points will be constructed as piezometers and covered with protective surface completions for additional water level measurements and possible additional sampling and analytical testing in the future. The remaining temporary sample points will be abandoned, as soon as sampling and water level measurements are completed. Groundwater samples collected during the investigation will be sent to the EPA CLP laboratory for VOC analysis.*
- *Expedited turn-around time will be requested for analysis of preliminary COPCs in groundwater from the CLP laboratory during GeoProbe™ investigation in order to select additional groundwater sampling locations to support either 1) stepping out further from the East Side Springs area if preliminary COPCs are detected or 2) stepping in if no preliminary COPCs are detected. If expedited turn-around is not possible from the CLP laboratory, then samples will be sent to ALS in Salt Lake City for CLP VOC analysis. ALS will provide fast turn data and EPA level 2 type data deliverables to include analytical results and QC sample results. Expedited analysis data used to make real time field decisions will not be validated since the data is being used to screen for preliminary COPC detections and to further delineate sampling locations.*
- *Soil lithology will be performed on all locations in the focus area and 50 percent of locations outside the focus area. Locations to be selected to provide lithologic data throughout the investigation area.*
- *Approximately 50 groundwater samples will be collected and shipped to the CLP lab for VOC analysis in accordance with CLP protocols. Samples from a random subset (10%) of the groundwater sample locations will also be analyzed for SVOCs, total and dissolved metals, and alkalinity, anions, pH, TDS at the CLP laboratory as appropriate or by the subcontractor laboratory ALS in Salt Lake City. The CLP lab will be selected by the EPA Region 8 Sample*

Coordinator prior to initiation of field activities. It is expected that up to five groundwater samples will be submitted for laboratory analyses of SVOCs and total and dissolved metals.

- *Temporary monitoring points converted to short term piezometers will be used to measure water levels at least two additional times throughout the year to determine seasonal changes in shallow groundwater elevations. In addition, up to five of the piezometers may be sampled for VOCs, SVOCs, and total and dissolved metals for analysis at a CLP laboratory.*

The field investigation for surface water and very shallow groundwater will commence in the vicinity of the 11 spring and seep locations (pending owner approval for access) previously sampled in 2010 and 2011 (UDEQ/DERR, 2011a, b, c), then proceed to spring and seep locations identified, but not tested during previous investigations (pending access approval), and for groundwater continue at properties whose owners have already requested indoor air pathway evaluation. Although not an explicit objective of the AOU-1 investigation, it is anticipated that surface and groundwater sampling will generally define the southwestern downgradient and western and southern cross-gradient extents of the PCE plume in surface water and in the very shallow groundwater within AOU-1. The resultant groundwater and surface water data will be used to guide additional groundwater characterization and placement of permanent monitoring wells during the subsequent site wide PCE plume RI. Figure 10 provides the approximate initial locations for surface water and shallow groundwater samples.

Table 1 Estimated Numbers of Samples by Media is hereby replaced by the following table:

TABLE 1: Estimated Numbers of Samples by Media
700 South 1600 East PCE Plume, Salt Lake City, Utah

Media	Data Level	Analyses	Estimated Number of Samples	Minimum Number of QC Samples	Rationale	Sample Designation[(b)]
Surface Water	CLP Protocol	Target List VOCs Field Water Quality Parameters[(a)]	50	3 field duplicates; 1 trip blank per cooler; 1 rinse blank/field blank per day if necessary	Field screening of identified seeps, springs, other surface water to support vapor intrusion pathway analysis	A-0001-mmddyy-SW-001
Surface Water	CLP Protocol, EPA Lab or Subcontractor Lab	Target List VOCs, SVOCs (including 1,4-dioxane), Metals, Anions, pH Field Water Quality Parameters[(a)]	10	1 field duplicate; 1 rinse blank/field blank per day if necessary; 1 trip blank per cooler	Predictive pathway analysis and support future groundwater investigation	A-0001-mmddyy-SW-001
Surface Water	CLP Protocol	Target List VOCs, SVOCs (including 1,4-dioxane), and Metals	5	1 trip blank per cooler	Quality assurance split samples	A-0001-mmddyy-SW-001A
Surface Water and Groundwater	SIRFER Standard Operating Procedure	Hydrogen and Oxygen Stable Isotopes	10	NA	Support future groundwater investigation	A-0001-mmddyy-SW-001
Groundwater (first saturated interval)	EPA Method Protocol	PCOPCs Target List (PCE, TCE, DCE, VC) Field Water Quality Parameters[(a)]	50	1 trip blank per week	Initial groundwater plume delineation samples at proposed locations to support real-time field decisions	A-0001-mmddyy-GW-001
Groundwater (Temporary Sampling Points)	CLP Protocol, EPA Lab or Subcontractor Lab	Target List VOCs, SVOCs (including 1,4-Dioxane), Metals, Anions, Alkalinity, TDS, pH Field Water Quality Parameters[(a)]	10	1 field duplicate; 1 trip blank per cooler; 1 rinse blank/field blank per day if necessary	Predictive pathway analysis and support future groundwater investigation	A-0001-mmddyy-GW-001

TABLE 1: Estimated Numbers of Samples by Media
700 South 1600 East PCE Plume, Salt Lake City, Utah

Media	Data Level	Analyses	Estimated Number of Samples	Minimum Number of QC Samples	Rationale	Sample Designation[b]
Soil Gas (open areas)	Field Analysis	Direct Read or Tedlar® Bag VOCs - GC/MS	50	5 field duplicates 3 field blanks	Real time soil gas results for field decisions	A-0001-mmddyy-SG-001-ft
Soil Gas (open areas)	Level 4 (CLP Equivalent)	Target List TO-15/TO-15 SIM	15	2 field duplicates	Confirm field results; predictive vapor intrusion pathway analysis	A-0001-mmddyy-SG-001-ft
Soil Gas (near slab)	Field Analysis	Direct Read or Tedlar® Bag VOCs - GC/MS	50	5 field duplicates 3 field blanks	Real time field results to support indoor air pathway evaluation	A-0001-mmddyy-SG-001-ft-
Soil Gas (near slab)	CLP Equivalent (Level 4)/ Definitive	Target List TO-15/TO-15 SIM	15[d]	2 field duplicates	Confirm field results, predictive vapor intrusion pathway analysis	A-0001-mmddyy-SG-001-ft
Indoor Air	Field Analysis	Direct Read Probe VOCs - GC/MS	1100 - 1400	NA	Real Time analyses for indoor air sources, real time determination of indoor air health effects.	A-0001-mmddyy-IA-001-ABC
Indoor Air	Level 4 (CLP Equivalent)	Target List VOCs TO-15/ TO-15 SIM	55[d]	6 field duplicates[c]	Confirm field results, determine indoor health effects, evaluate vapor intrusion pathway	A-0001-mmddyy-TO-001-ABC

TABLE 1: Estimated Numbers of Samples by Media
700 South 1600 East PCE Plume, Salt Lake City, Utah

Media	Data Level	Analyses	Estimated Number of Samples	Minimum Number of QC Samples	Rationale	Sample Designation[(b)]
Soil	CLP Protocol	Target List VOCs, SVOCs, Metals	3	1 field duplicate 1 equip blank Shipped with other samples[(c)]	Data needed to support risk assessment	A-0001-mmddyy-SS-001-ft
Ambient Background Air	Field Analysis	Direct Read Probe VOCs - GC/MS	60	NA	Two samples – one upwind and one downwind of structure tested for indoor air	A-0001-mmddyy-OA-001-OUT
Ambient Background Air	Level 4 (CLP-equivalent)	Target List VOCs - TO-15/TO-15 SIM	6	1 field duplicate Shipped with other samples[(c)]	Confirm field results, determine indoor health effects, evaluate vapor intrusion pathway	A-0001-mmddyy-TO-001-OUT

Notes:

(a) DO, ORP, pH, conductivity, temperature, turbidity.
(b) See QAPP Update Revision 1 (Section 3.3.1) for sample naming convention.
(c) Confirmation sample totals include four locations selected in accordance with QAPP Amendment No. 1 and Minor Modification No. 2.

CLP – Contract Laboratory Program
DCE – cis-1,2-Dichloroethene
GC/MS – Gas chromatograph/mass spectrometer
NA – Not applicable
PCE – Tetrachloroethene
PCOPC – Preliminary contaminant of potential concern
SIM – Selective ion monitoring
SIRFER – Stable Isotopes Ratio Facility for Environmental Research, University of Utah
SVOC – Semivolatile organic compound
TCE – Trichloroethene
TDS – Total dissolved solids
VC – Vinyl chloride
VOC – Volatile organic compound

4. Minor Field Modifcation #9

The following information is hereby included in the SAP for consistency with the QAPP Update Revision 1 with respect to the analysis of surface water samples for deuterium and oxygen-18 analysis (see Minor Field Modification #8):

- Up to 10 surface water samples will be collected for analysis of deuterium and oxygen-18.
- Analysis will be performed at the University of Utah Stable Isotope Ratio Facility for Environmental Research, Salt Lake City, Utah and will follow the SPATIAL/SIRFER CRDS Liquid Water Protocol (Attachment 1).
- The Project Manager for isotope analysis is Suvankhar Chakraborty of the University of Utah Stable Isotope Ratio Facility for Environmental Research. Mr. Chakraborty is hereby included in the SAP distribution list.
- The data package deliverable for the stable oxygen and hydrogen isotope analysis will be an EPA Level 2 type package and will include the following information:
  - Cover letter or report title page with laboratory identification, client name and signature of person authorizing report release.
  - Summary of samples received that correlates field sample identification (ID) with the laboratory ID.
  - Chain of custody record.
  - Field ID number.
  - Date received.
  - Date prepared.
  - Date analyzed
  - Preparation and analytical methods.
  - Reference sample results
  - Case narrative that addresses the following information at a minimum:
  - Sample receipt discrepancies
  - Descriptions of all non-conformances in the sample receipt, handling, preparation, analytical and reporting processes, and the corrective action taken in each occurrence.
- The turnaround time for the isotope analysis is anticipated to be 45 days. An expedited turnaround time will likely not be required for the isotope analysis.
- Groundwater is analyzed using an autosampler and Picarro Cavity Ring-Down Spectroscopy (CRDS) system to determine $\delta^{18}O$ and $\delta^{2}H$ ratios.

5. Minor Field Modifcation #10

Pressure transducers will not be installed in temporary monitoring wells per the QAPP Update Revision 1. This will affect Section 5.1.5 and 5.9 of the SAP.

6. Minor Field Modifcation #11

Updates to the SAP for the clarification of the term definitive data are documented in the errata sheet (General Erratum #3) which states that the terms “screening” and “definitive” are hereby removed throughout the document to be consistent with the use of these terms in the QAPP Update Revision 1.

7. Minor Field Modification #12

Table 4 Sample Collection Summary: Aqueous/Liquid (CLP Methods) and Table 5 Sample Collection Summary: Vapor/Gases are hereby replaced by QAPP Update Revision 1 Table 16 (Attachment 2).

8. Minor Field Modifcation #13

Analysis of field samples will be performed for VOCs but not for SVOCs for the 2016 field event. The PCOPC 1,4-dioxane will be analyzed using the VOC TO-15 SIM method. This change has been addressed by Minor Field Modification #7.

9. References

EA Engineering, Science, and Technology, Inc., PBC (EA), 2016. Quality Assurance Project Plan Update Revision 1 for the Accelerated Operable Unit 1: East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah. February.

First Environment (FE). 2015. Final Remedial Investigation Work Plan, AOU-1: East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah. July.

[1]EPA Crosswalk refers to Attachment 1 of the Quality Assurance Project Plan Update Revision 1 (EA 2016).

Attachment

1 SPATIAL/SIRFER CRDS Liquid Water Protocol

2 QAPP Update Revision 1 Table 16: Recommended Sample Container, Preservation and Holding Time

Attachment 1

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CRDS Water Isotope Analyzer Operation

Created 2014 by Crystal Tulley-Cordova

Revised 3/10/2015 by Kali Blevins

Part 1 – Sample Preparation

1. Fill standard and sample vials
    a. Pipette samples
        i. Pipette 0.5 mL from sample container into 2mL crimp-top vial. Use a separate, clean pipette tip for each sample. Discard used tips into a beaker for washing and re-use.
        ii. Use crimper to seal lid. Check to make sure the lid is tight (i.e. does not rotate on the top of the vial) and cleanly crimped. If the crimper is not creating a tight seal, you can adjust it with an Allen wrench.
        iii. Pipette samples 8 at a time, writing each sample name or a unique abbreviation of each sample name on each 2 mL vial with a sharpie.
        iv. Place samples in the sample tray leaving the first four plate locations empty and leaving one plate location blank between each group of eight samples. Empty locations will be used for reference waters. A maximum of 56 samples should be run at a time.
    b. Pipette reference water
        i. In order to limit evaporation, minimize the amount of time the reference waters are out of the refrigerator and the amount of time the cap is off of the reference water bottles. After pipetting reference waters, immediately replace the cap securely on the bottle and parafilm tightly around the cap.
        ii. Pipette 0.5 mL from container into 2mL crimp-top vial. Use a separate, clean pipette tip for each reference water. Discard used tips into a beaker for washing and re-use.
        iii. Use crimper to seal lid. Check to make sure the lid is tight (i.e. does not rotate on the top of the vial) and cleanly crimped.
        iv. Fill 1 vial with reference water PZ and 1 with reference water UT. These primary references are used to calibrate each run.
        v. Fill 1 vial with PT to put at the beginning of the run, 1 additional vial to run before every 8 samples, and 1 to be run in the last plate location. This secondary reference water is used to quality check the accuracy of the calibration regression and to generate a drift correction in each run. An example plate map is shown below.

Table 1. Example plate map with maximum plate locations filled

64	Sample54	65	Sample55	66	Sample56	67	PT	68		69		70	
57	Sample48	58	PT	59	Sample49	60	Sample50	61	Sample51	62	Sample52	63	Sample53
50	Sample41	51	Sample42	52	Sample43	53	Sample44	54	Sample45	55	Sample46	56	Sample47
43	Sample35	44	Sample36	45	Sample37	46	Sample38	47	Sample39	48	Sample40	49	PT
36	Sample29	37	Sample30	38	Sample31	39	Sample32	40	PT	41	Sample33	42	Sample34
29	Sample23	30	Sample24	31	PT	32	Sample25	33	Sample26	34	Sample27	35	Sample28
22	PT	23	Sample17	24	Sample18	25	Sample19	26	Sample20	27	Sample21	28	Sample22
15	Sample10	16	Sample11	17	Sample12	18	Sample13	19	Sample14	20	Sample15	21	Sample16
8	Sample4	9	Sample5	10	Sample6	11	Sample7	12	Sample8	13	PT	14	Sample9
1	PT	2	PZ	3	UT	4	PT	5	Sample1	6	Sample2	7	Sample3

Part 2 – Instrument Preparation

2. Clean syringe
    a. Unplug Autosampler and carefully remove syringe
    b. Don gloves (latex or nitrile), a lab coat, and safety goggles
    c. Open chemical fume hood sash, turn on light, and ensure that it is functioning properly with adequate air flow
    d. Lay down 2 Kimwipes; one to lay syringe on and another for ejecting solvent onto
    e. Use solvent (1-methyl-2-pyrrolidinone) from cabinet below hood to clean the syringe
        i. Insert syringe through the septum on solvent bottle, preferably targeting a previously punctured location. Be careful not to bend the syringe tip.
        ii. Extract solvent with syringe to capacity by moving plunger slowly until it comes out of the syringe. Rotate the plunger as you remove it to thoroughly clean the syringe. Rotating may also help to free the plunger if it becomes stuck.
        iii. Remove syringe from solvent bottle and eject solvent from syringe onto Kimwipe by replacing the plunger in the syringe and fully depressing it.
        iv. Repeat process at least three times or as many times as necessary until the plunger moves smoothly and easily in the syringe. If you cannot get the plunger to move freely it might need to be replaced. Note that broken syringes must be discarded in the sharps container.
        v. Once complete, re-cap the solvent bottle and return to storage under hood. Leave the Kimwipe with the ejected solvent in the fume hood until the solvent has completely evaporated before discarding.
    f. Use deionized water to rinse the syringe three times, fully filling and emptying the syringe each time
    g. Dry syringe
        i. Remove the plunger from the syringe, wiping it with a Kimwipe
        ii. Insert tip of syringe into the piece of blue tubing near the compressed air station, preferably locating a pre-existing hole and being careful not to bend the syringe
        iii. Place the opening of the tubing loosely against the air nozzle (do not try to force tubing over the nozzle)
        iv. Turn the air on and let it run until any water has been blown out of the syringe

v. Check the syringe to ensure that no water droplets remain and then replace the plunger. This eliminates the possibility of air bubbles that might affect the fill volume of the syringe.

h. Replace Syringe
   i. Plug the power supply to the autosampler back in
   ii. On the CRDS computer desktop, open the Autosampler Controller and press Chg Syringe button and wait for the syringe holder to move into position
   iii. Place syringe in syringe holder, making sure body and plunger are in holding locations
   iv. Press Swap Done button on Autosampler Controller

3. Fill out instrument log
   a. Open the sample log file on the desktop of the CRDS instrument computer
   b. Input the following information: date, time, initials, project name, number of samples, number of injections, N_2 pressure from the primary regulator on the N_2 tank
      i. N_2 pressure on the primary regulator should be > 150 psi. If the value is lower do not start the run. Wait for all instruments to finish their runs and then replace the tank will a full one. If no full spare tanks remain on the rack alert the SPATIAL facility manager who will order replacements.
      ii. N_2 pressure on the red, secondary regulator (on the bench top near the tanks) should be 2 (+/- 0.3) psi. If outside this range alert the SPATIAL facility manger. This value does not need to be recorded in the log.
   c. Look at the previous row to determine whether the septum should be changed – the septum should be changed every 300 injections. See section 5 for instructions on changing the septum. Indicate with an "X" if you have changed the septum or syringe.
4. Fill out sample ID file
   a. Open "Sample_list_template.csv" from desktop
   b. In the runfiles folder, save as "YYMMDD_project_HIDS20XX"
   c. Fill out template with sample IDs and project identifiers
5. Change septum
   a. The septum needs to be changed every 300 injections. Check run log to see if it needs to be replaced.
   b. Unscrew the injection port of the vaporizer, using fingers or tool that sits on top of the injection port to grasp and turn the ceramic top of the port. Caution: ceramic surface is warm, but metal parts at base of injection port will be hot.
   c. Remove old septum, replace with new septum. Check to see that new septum is centered.
   d. Replace injection port and hand-tighten
6. Check glass wool
   a. Make sure the glass wool container remains dry and no condensation is apparent in the vial. Check to make sure that the aquarium pump is working correctly and air is being forced through the opening at the top of the vial.

7. Check that background H_2O concentration reported in the data viewer window is below 100 ppm. If not, check that the N_2 tank regulator valve is open and the primary and secondary regulator pressures are correct (see #3).
8. Open Coordinator Launcher
    a. Don't press launch yet
    b. Make sure High Precision program ("AI High Precision" on some instruments) is selected
9. Open Autosampler Control
    a. Check that the following settings are correct:
        i. Row 1 is set for samples 1-4 and ten injections
        ii. Row 2 is set for samples 5-67 and four injections
        iii. If running less than 67 vials, update number in row 2 to match the position of the final sample in the autosampler tray
        iv. Method should be set as 'GJB rinse' (see Appendix)
    b. Click the Run button
10. After clicking Run in Autosampler Control, click the Launch button in Coordinator Launcher
11. Watch first few samples before leaving lab to ensure no problems at start of analysis
12. **Do not open OpenOffice files while run in progress, otherwise raw data will be lost and not saved to .csv file**

Part 3 – Data Processing

13. Run ChemCorrect
    a. After analysis has completed, close the Coordinator Launcher and Autosampler Control and open ChemCorrect from the desktop of the Picarro computer
    b. Click the Source button and navigate to the file with the correct date
    c. Click the 'OK' button to run ChemCorrect
    d. Examine the results to ensure that no samples show evidence for contamination, as indicated by red highlighting in the results window. Any samples flagged for contamination should be treated with activated charcoal and re-run.
        i. Uncap sample vial, add 0.5 mg activated charcoal, recap, and invert 3 times.
        ii. Allow treated sample to rest for 12 or more hours before re-analyzing.
        iii. If the same sample is flagged for contamination by ChemCorrect a second time, the sample should be transferred to the SIRFER lab for analysis by IRMS.
14. Process data
    a. Ensure that the data has been synced to the Dropbox folder and can be accessed from a computer with R installed on it.
    b. Open R and open the R script 'CRDS_liquid_3.R'
    c. Following the instructions in the R script, process the data and write an excel workbook with the data and quality assurance information. Also see the information in CRDS Data Processing R Scripts protocol.
    d. Examine the quality control and final sample data by running the appropriate functions in R and/or examining the information written to the excel workbook.

i. Quality control metrics for the run are compared against the criteria stored in the file "CRDS_liquid_parameters.csv". If any of the quality metrics have been violated, as indicated by the 'Ignore_Run' flag, troubleshooting will be necessary to determine why and all of the samples should be rerun. Examine the memory correction terms, the raw and memory-corrected values for the primary reference waters, the raw, memory-corrected, and drift-corrected values for the secondary reference water to determine what may have caused the quality parameter to be violated and correct for this before running samples again.

ii. Raw data for any individual samples that have violated the quality parameters, as indicated by an 'Ignore' flag, but was not flagged by ChemCorrect, should be reviewed manually.

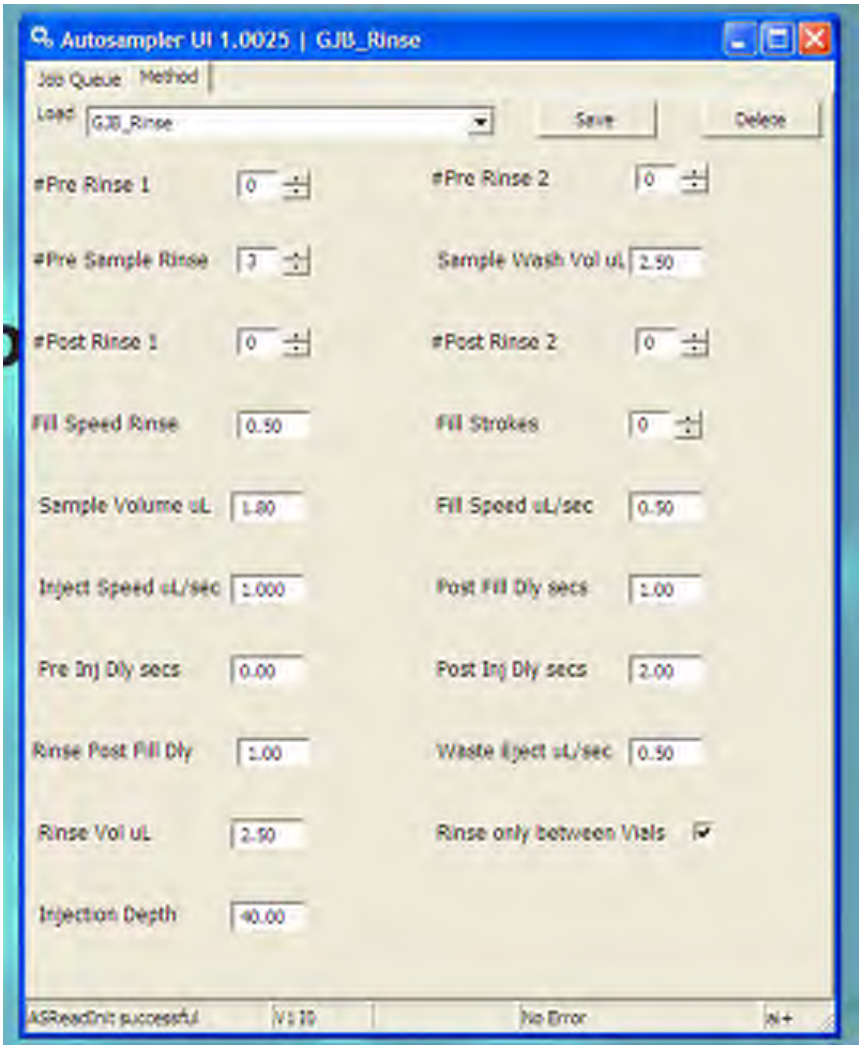
1. Open the .csv instrument output file for the run and identify the analysis results for the four injections of the problem sample.
2. If one of the four injections is a clear outlier (> 3 standard deviations different from the other 3 in terms of H_2O concentration or either isotope ratio) the results for this injection can be deleted from the file. Highlight column "F" and all columns to the right for the row representing the outlier injection and delete the contents. Save the results file as a copy, appending "toAnalyze" at the end of the file name. No more than injection can be deleted for any given sample. Re-process the data file using the R scripts before exporting the results to the database and excel file.
3. If there is no clear outlier or if more than one injection appears to be an outlier the sample should be re-analyzed. If the sample has already been re-run twice, it should be transferred to SIRFER to be analyzed by IRMS.

e. After examining the data, run the appropriate functions in R to upload the data to the database and export an Excel results file.

Part 4 – Sample Disposal

15. Keep 2 mL sample vials in fridge for two weeks after returning data in case some need to be re-run. After this window, discard used sample vials in Broken Glass box.

Appendix – GJB_rinse autosampler method



Attachment 2

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containers in which they were received from the laboratory. The chain-or-custody record will be placed in one of the boxes.

Commercial carriers are not required to sign the chain-of-custody record if it is sealed inside the shipping cooler and the custody seals remain intact. The laboratories are responsible for storing the samples in a secure location and following chain-of-custody procedures.

Soil and water samples will be collected in certified clean containers provided by the project laboratory. Air samples for TO-15 and TO-15 SIM analysis will be collected in individually clean certified Summa canisters with certified clean flow controllers. The requirements for sample volumes, sampling containers, preservation, and holding times are summarized in Table 16 below.

Samplers are responsible for shipping samples to the appropriate non-CLP and CLP-assigned laboratory for analysis. Samplers may contact their RSCC to obtain their laboratory assignment notification.

TABLE 16: Recommended Sample Container, Preservation, and Holding Time

AOU-1 - 700 South 1600 East PCE Plume, Salt Lake City, Utah

Parameter	Method	Matrix	Holding Time (From Date Sampled)	Container	Preservative
Organics					
VOCs	SOM02.2	Soil	48 hours to preservation, Encore samplers 14 days from sample collection	4 x 5g Encore[2]	4ºC (± 2ºC)
				1 x 4 oz glass jar for moisture content	
VOCs	SOM02.2	Water	14 days	3 x 40 ml glass VOA Vial[1,2]	4ºC (± 2ºC), HCl to pH < 2
SVOCs	SOM02.2	Soil	14 days to extraction, 40 days to analysis	150 grams minimum in one 8-ounce wide mouth glass jar[2]	4ºC (± 2ºC)
SVOCs	SOM02.2	Water	7 days to extraction, 40 days to analysis	1 x one liter wide mouth glass bottle	4ºC (± 2ºC)
VOCs	TO-15/ TO-15 SIM	Air	30 days	1L or 6L Summa Canister	NA
SVOCs	TO-13	Air	30 days	Polyurethane Foam (PUF cartridge or XAD-2 resin cartridge	N/A
Inorganic					
Metals (except Mercury)	ISM02.2	Water	180 days	1L polyethylene bottle [2]	4ºC (± 2ºC)), HNO_3 to pH < 2
Metals (except Mercury)	ISM02.2	Soil	180 days	Fill one 8-ounce wide mouth glass jar	4ºC (± 2ºC)
Mercury	ISM02.2	Water	28 days	1L polyethylene bottle [2]	4ºC (± 2ºC)), HNO_3 to pH < 2
Mercury	ISM02.2	Soil	28 days	Fill one 8-ounce wide mouth glass jar	4ºC (± 2ºC)

TABLE 16: Recommended Sample Container, Preservation, and Holding Time

AOU-1 - 700 South 1600 East PCE Plume, Salt Lake City, Utah

Parameter	Method	Matrix	Holding Time (From Date Sampled)	Container	Preservative
General Chemistry					
Chloride, Nitrate Sulfate	E300.0	Water	28 days, Nitrate 48 hours	1L polyethylene bottle	4ºC (± 2ºC)
pH	E 150.1	Water	Upon receipt at lab or within 24 hours	250 ml polyethylene bottle	4ºC (± 2ºC)
TDS	SM2540C	Water	7 days	1L polyethylene bottle	4ºC (± 2ºC)
Alkalinity	SM2320B	Water	14 days	1L polyethylene bottle	4ºC (± 2ºC)
Stable Oxygen and Hydrogen Isotopes	CRDS	Water	180 days	2 x 20 ml glass vial	4ºC (± 2ºC)

Notes:
1 = additional sample volume required for selective ion matrix analysis.
2 = additional sample volume required for MS/MSD analysis
°C = degrees Celsius.
CRDS = Cavity Ring-Down Spectroscopy (Stable Isotopes Research Lab proprietary method)
E – EPA Methods for Chemical Analysis of Water and Wastes, 1983 and Updates.
g = grams
HNO_3 = nitric acid
HCl = hydrochloric acid
L = liter
ml = milliliter
ISM – EPA CLP Statement of Work for Inorganic Superfund Methods, 2014.
SM – Standard Methods for the Examination of Water and Wastewater, 22nd Edition.
SOM – EPA CLP Statement of Work for Organic Superfund Methods, 2014.
TO-15 – EPA Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition.

3.3.3 *Chain-of-Custody*

A chain-of-custody record (Attachment 5) establishes the documentation necessary to trace sample possession from time of collection through sample analysis and final disposition and serves to document the specific analyses requested from the laboratory. A sample is in the custody of a person if any of the following criteria are met:

- the sample is in a person's physical possession;
- the sample is in a person's view after being in his or her physical possession;
- the sample was in a person's physical possession and was then locked up or sealed to prevent tampering; and/or
- the sample is kept in a secured area.

The chain-of-custody in Attachment 5 is included as an example form. For samples being submitted to the CLP laboratory, a custody tracking software called Scribe will be used. An electronic chain-of-custody record created using the Scribe software contains basic header

Attachment 2
Quality Assurance Checklist

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VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT: **DATE:** _____

700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: VA259-15-F-3886

PERSONNEL PRESENT:

Name	Position	Company/Government

LOCATION/RESIDENCE: _____

Circle correct response for all items:

PROTOCOL: **LIMITED** **FULL**

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?

2. **YES or NO:** Reviewed completed residential questionnaire?

3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?

4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?

5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?

6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?

7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?

8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?

9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?

10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample Identification number recorded on the SUMMA field form?

11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?

2. **YES or NO:** Reviewed completed residential questionnaire?

3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?

4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?

5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?

6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?

7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?

8. **YES or NO:** Was the structure's air volume calculated?

9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?

10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?

11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?

12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?

13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?

14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?

15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?

16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?

17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample Identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. YES or NO: Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I ,_____, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on _____.

QA Reviewer

Name_____

Signature_____ Date_____

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Appendix B
Quality Control Summary Report

F I N A L

Quality Control Summary Report
2017 Indoor Air Sampling
Veteran Affairs CERCLA Investigation
Accelerated Operable Unit 1
700 South 1600 East PCE Plume,
Salt Lake City, Utah
Contract No. W912DQ-15-D-3014 Task Order 0005

Prepared for

U.S. Army Corps of Engineers
Kansas City District
601 East 12th Street
CENWK-PM-ES
Kansas City, MO 64106-2824

Department of Veterans Affairs
Veterans Health Administration Salt Lake City Health Care System
500 Foothill Drive
Salt Lake City, UT 84148

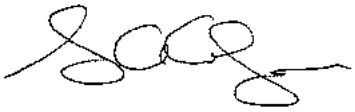
July 2017

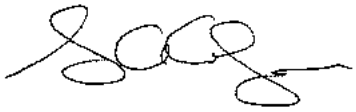
CH2M HILL, Inc.
4246 South Riverboat Road, Suite 210
Taylorsville, Utah 84123

STATEMENT OF TECHNICAL REVIEW

AOU-1 Remedial Investigation for 700 South 1600 East PCE Plume, Salt Lake City, UT
Final Quality Control Summary Report, 2017 Indoor Air Sampling

The CH2M HILL, Inc. team has completed the technical review of the submittal of the Final Quality Control Summary Report. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project, as defined in the Contractor Quality Control Plan. During the independent technical review, compliance with established policy principles and procedures, using justified and valid assumptions, was verified. This included review of assumptions; methods, procedures, and material used in analyses; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with the law and existing U.S. Army Corps of Engineers policy.

Technical Reviewer	Signature	Date of Review
Gary Colgan		6/12/17
	Signature	Date

Quality Control System Manager or Project Manager		Independent Technical Reviewer	
David Waite		Gary Colgan for Peter Lawson	
	7/5/17		6/12/17
Signature	Date	Signature	Date

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A Analytical Data Packages/Data Package Completeness Checklists
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3-1 Data Qualification Summary

Acronyms and Abbreviations

AOU	Accelerated Operable Unit
CH2M	CH2M HILL, Inc.
EPA	U.S. Environmental Protection Agency
FD	field duplicate
ID	identification
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
PCE	tetrachloroethene
QAPP	Quality Assurance Project Plan
QC	quality control
QCSR	Quality Control Summary Report
RPD	relative percent difference
SAP	Sampling and Analysis Plan
SDG	sample delivery group
SIM	selected ion monitoring
UCL	upper control limit
VOC	volatile organic compound

SECTION 1

Introduction

Indoor air samples were collected and analyzed during the spring 2017 Veterans Affairs Comprehensive Environmental Response, Compensation, and Liability Act Investigation in support of the Department of Veterans Affairs remedial investigation of Accelerated Operable Unit 1 (AOU-1), part of the 700 South 1600 East tetrachloroethene (PCE) Plume in Salt Lake City, Utah. Samples were collected in accordance with the sampling and analysis plan (SAP) (FE, 2014), the Quality Assurance Project Plan (QAPP) (EA, 2016), and subsequent minor field modifications to the QAPP. Analytical data were evaluated by CH2M HILL, Inc. (CH2M) as described in the QAPP. This quality control summary report (QCSR) summarizes the chemical data quality review for the samples collected by CH2M.

This QCSR covers 11 indoor air samples and 3 indoor air field duplicate (FD) samples. These samples were reported under three sample delivery groups (SDGs) by the laboratory. Samples were collected between March 10 and April 14, 2017, and were analyzed for volatile organic compounds (VOCs) using the methods shown in Table 1-1. The analyses were performed by ALS Environmental Laboratory in Salt Lake City, Utah.

The analytical data packages are included in Appendix A, along with the corresponding data package completeness checklist that verifies all quality control (QC) elements were provided in the analytical data package by the laboratory. The data validation reports associated with each SDG are provided in Appendix B.

SECTION 2

Sampling Activities

Sampling was conducted in accordance with the SAP. Table 2-1 presents a list of sample locations planned for collection as identified in the SAP. Samples were collected and delivered by CH2M to the laboratory. No deviations from the SAP occurred during the sampling event. Table 2-2 provides the following information sorted by field sample:

- Field sample identification (ID)
- Dates of sample collection and sample receipt by the laboratory
- Laboratory SDG number/sample ID
- Analytical method

Field QC samples collected during the sampling event are presented in Table 2-3.

SECTION 3

Data Quality Evaluation Procedures

Ninety percent of all samples were evaluated on an SDG-by-SDG basis by CH2M chemists for data quality using Tier 2B validation review, and 10 percent of the samples for each analysis were evaluated using Tier 4 validation review as described in the QAPP. The data evaluation for Tier 2B included reviewing: (1) chain-of-custody documentation, (2) holding-time compliance, (3) required QC samples at the specified frequencies, (4) flagging for analytical blanks, (5) laboratory control sample/laboratory control sample duplicates (LCS/LCSD), (6) surrogate spike recoveries, (7) initial and continuing calibration information, and (8) other method-specific criteria as defined by the QAPP. In addition to the data evaluation listed for Tier 2B above, the Tier 4 data evaluation included sample result and instrument response re-calculation and review of instrument outputs (e.g., chromatograms and mass spectra) to verify correct peak identification for a selected, subset of the data.

Field samples were also reviewed to ascertain field compliance and data quality issues, including reviewing FDs.

Data validation flags were assigned in accordance with *CLP National Functional Guidelines for Review of Organic Data* (EPA, 2013). These flags, as well as the reason for each flag, are uploaded into the project electronic database and are included in the data validation reports (Appendix B). Multiple flags may be routinely applied to specific sample method/matrix/analyte combinations, but there will be only one final flag. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes blank sample impacts. The data flags are defined below.

- J = Analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample (estimated).
- R = Data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.
- U = Analyte was analyzed for but not detected above the reported method detection limit, or this analyte was considered not detected due to laboratory or field blank contamination.
- UJ = Analyte was analyzed for but not detected above the reported method detection limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

The overall summaries of the data quality evaluation procedures are outlined in the following subsections. Specific analyte results and samples that were qualified are discussed in the data validation reports (Appendix B) and are summarized in Table 3-1.

3.1 Sample Receipt and Chain-of-Custody Documentation

All samples met the custodial possession and transfer requirements. No discrepancies were noted during sample receipt. Chain-of-custody documentation is provided in the analytical data packages (Appendix A).

3.2 Holding Times

Analytical holding times were evaluated against the criteria listed in Table 16 of the QAPP (EA, 2016). For methods requiring both sample preparation and analysis, the preparation/extraction holding time will be calculated from the time of sampling to the initiation of preparation/extraction. The analysis holding

time will be calculated from the time of completion of preparation/extraction to the time of completion of the analysis, including any required dilutions, confirmation analysis, and reanalysis. For methods requiring analysis only, the holding time is calculated from the time of sampling to completion of the analysis, including any required dilutions, confirmation analysis, and reanalysis. All holding times were met.

3.3 Tuning and Calibration

Instrument tuning and calibration was evaluated in accordance with the calibration criteria specified in the method. Tuning and calibration criteria were generally met, with the following exceptions:

- The initial calibration exceeded the relative standard deviation criteria of not greater than 40 percent for 1,2,4-trichlorobenzene and benzyl chloride for U.S. Environmental Protection Agency (EPA) Method TO-15. The exceedances were in the range of 43 to 48 percent difference. Six non-detected results were qualified as estimated and flagged UJ.
- During one analytical run, the continuing calibration verification standard exceeded the upper control limit (UCL) of 30 percent from the expected value for carbon tetrachloride for EPA Method TO-15. The exceedance was +38 percent difference. Four detected results were qualified as estimated concentrations and flagged J.
- Two sample results were reported for acetone that exceeded the upper calibration range for EPA Method TO-15. The samples were not re-analyzed on a diluted basis. The detected results were qualified as estimated concentrations and flagged J.

3.4 Method Blanks

Method blanks are used to monitor each analytical batch for interference and/or contamination from hardware, reagents, and other potential contaminant sources within the laboratory. A method blank is an analyte-free matrix (humidified ultra-high purity nitrogen) to which all reagents are added in the same amount or proportions as are added to samples. It is processed through the entire analytical procedure along with the samples in the batch. At least 1 method blank is prepared for each analytical batch of 20 samples or fewer. Method blanks were analyzed at the required frequency and were free of contamination that would affect the sample results.

3.5 Field Duplicates

An FD or collocated sample, is an independent sample collected as close as possible to the original sample from the same source under identical conditions. FDs for indoor air samples are to be collected and analyzed on a 10 percent basis for EPA Methods TO-15 and TO-15 selective ion monitoring (SIM) analyses or a minimum of 1 per sampling event if fewer than 10 air samples are submitted at a time, and are used to document sampling and analytical precision and representativeness. Precision is expressed in terms of the relative percent difference (RPD) between the native and FD sample results. The RPD criterion for FDs is less than 40 percent. Qualification is performed on the native sample and associated FD results. FDs were collected and analyzed at the required frequency and precision criteria were met.

3.6 Surrogates

Surrogates are organic analytes that behave similar to analytes of interest, or have been chemically altered (that is, chemically deuterated), but are not expected to occur naturally in samples. They are spiked into the standards, field samples, and laboratory QC samples before sample analysis. The results of surrogate spikes provide additional information about the possible influence of the matrix on the

accuracy of the measurements for organic analyses only. Accuracy criteria are listed in Table 22 of the QAPP (EA, 2016), and all criteria were met.

3.7 Laboratory Control Samples

LCSs are used to monitor method performance for a given analyte in each matrix. An LCS is an analyte-free matrix (humidified ultra-high purity nitrogen) spiked with known amounts of analytes that come from a source different than that used for calibration standards. Target analytes specified in the QAPP will be spiked into the LCS. The LCS is processed through the entire analytical procedure along with the samples in the batch. At least 1 LCS is prepared for each analytical batch of 20 samples or less. Accuracy and precision criteria are listed in Table 22 of the QAPP (EA, 2016). LCSs and LCSDs were analyzed at the required frequency and criteria were generally met, with the following exception:

- The percent recovery of carbon tetrachloride exceeded the UCL in one LCS/LCSD for EPA Method TO-15. Two detected results were qualified as estimated concentrations and flagged J.

3.8 Internal Standards

Internal standards are compounds that are spiked into the standards, field samples, and laboratory QC samples before sample analysis. They are used to quantify the target analytes. Internal standards provide for stable sensitivity and response during every analytical run. An internal standard is used to evaluate the efficiency of the sample introduction process and monitor the efficiency of the analytical procedure for each sample matrix encountered. Internal standard acceptance criteria are listed in Table 22 of the QAPP (EA, 2016) and criteria were generally met, with the following exception:

- The internal standard area responses for all internal standards for Sample A0064H-041417-TO-001-LIV exceeded the UCL for EPA Method TO-15 SIM. The sample was re-analyzed with similar results. One detected result was qualified as an estimated concentration and flagged J and four non-detected results were qualified as estimated and flagged UJ.

3.9 Low Level Detects

Sample results between the method detection limit and the reporting limit have been flagged “J”. These qualified results represent values determined at levels where the true value of the measured chemical could not be quantified with a high degree of confidence. The laboratory met the QAPP-specified reporting limits. All data flagged for low-level imprecision were the result of the sample concentrations and not laboratory related.

3.10 Overall Assessment

The final activity in the data quality evaluation is an assessment of whether the data meet the data quality objectives. The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected, and the resulting analytical data can be used to support the decision-making process. The following subsections present the field completeness, analytical data completeness, and project completeness for this sampling event.

3.10.1 Field Completeness

Field completeness for sample collection was assessed by comparing the number of samples properly collected to the number of samples planned for collection. As shown in Table 2-1, 11 samples were planned for VOC sample collection, and all samples were collected. The appropriate QC samples were also collected. Therefore, the field completeness for VOCs was 100 percent.

3.10.2 Analytical Data Completeness

Acceptable analytical data are a measure of laboratory contract compliance. Acceptable data include all data that have completed the review or validation process and have not been rejected. The acceptable data completeness percentage for VOCs is 100 percent for all SDGs.

3.10.3 Project Completeness

Project completeness combines both sampling and analytical protocols to assess the expectations of the project as a whole. Project completeness is calculated using the field and analytical completeness percentages. Overall project completeness for this event is 100 percent.

SECTION 4

Conclusions

The overall project completeness was 100 percent. The data are acceptable for use as qualified.

SECTION 5

References

EA Engineering, Science, and Technology, Inc., PBC (EA). 2016. *Quality Assurance Project Plan 700 South 1600 East PCE Plume AOU-1: East Side Springs, Revision 1.* Salt Lake City, Utah. February.

First Environment, Inc. (FE). 2014. *Sampling and Analysis Plan 700 South 1600 East PCE Plume AOU-1: East Side Springs, Revision 0.* Salt Lake City, Utah. October.

U.S. Environmental Protection Agency (EPA). 2013. *National Functional Guidelines for Review of Organic Data.* OSWER No. 9200-2.134, EPA 540-R-014-002. Office of Superfund Remediation and Technology Innovation, Washington, DC. October.

Tables

Table 1-1. Analytical Parameters by Laboratory

Parameter	Method	Laboratory
VOCs (1,4-Dioxane, VC, cis-1,2-DCE, TCE, and PCE)	EPA TO-15 SIM	ALS
VOCs	EPA TO-15	ALS

Notes:
ALS = ALS Environmental Laboratory, Salt Lake City, Utah
DCE = dichloroethene
EPA = U.S. Environmental Protection Agency
PCE = tetrachloroethene
SIM = selective ion monitoring
TCE = trichloroethene
VC = vinyl chloride
VOC = volatile organic compound

Table 2-1. Planned Sample Event Summary

Field Sample ID	Sample Type
A-0001H-032317-TO-001-BAS	N
A-0001H-032317-TO-002-BAS	FD
A-0002H-032317-TO-001-BAS	N
A-0004H-031417-TO-001-BAS	N
A-0012H-031417-TO-001-BAS	N
A-0013H-031017-TO-001-BAS	N
A-0025H-031417-TO-001-BAS	N
A-0026H-031617-TO-001-LIV	N
A-0027H-031017-TO-001-BAS	N
A-0027H-031017-TO-002-BAS	FD
A-0029H-033117-TO-001-BAS	N
A-0038H-041117-TO-001-BAS	N
A-0038H-041117-TO-002-BAS	FD
A-0064H-041417-TO-001-LIV	N

Notes:
FD = field duplicate
ID = identification
N = native sample

Table 2-2. Sample Details Summary

Field Sample ID	Date Sampled	Laboratory Receipt	Laboratory SDG/ID	Analytical Method
A-0001H-032317-TO-001-BAS	23-Mar-17	3/31/2017	1709321001	EPA TO-15/TO-15 SIM
A-0001H-032317-TO-002-BAS	23-Mar-17	3/31/2017	1709321002	EPA TO-15/TO-15 SIM
A-0002H-032317-TO-001-BAS	23-Mar-17	3/31/2017	1709321003	EPA TO-15/TO-15 SIM
A-0004H-031417-TO-001-BAS	14-Mar-17	3/17/2017	1707721005	EPA TO-15/TO-15 SIM
A-0012H-031417-TO-001-BAS	14-Mar-17	3/17/2017	1707721006	EPA TO-15/TO-15 SIM
A-0013H-031017-TO-001-BAS	10-Mar-17	3/17/2017	1707721003	EPA TO-15/TO-15 SIM
A-0025H-031417-TO-001-BAS	14-Mar-17	3/17/2017	1707721004	EPA TO-15/TO-15 SIM
A-0026H-031617-TO-001-LIV	16-Mar-17	3/17/2017	1707721007	EPA TO-15/TO-15 SIM
A-0027H-031017-TO-001-BAS	10-Mar-17	3/17/2017	1707721001	EPA TO-15/TO-15 SIM
A-0027H-031017-TO-002-BAS	10-Mar-17	3/17/2017	1707721002	EPA TO-15/TO-15 SIM
A-0029H-033117-TO-001-BAS	31-Mar-17	3/31/2017	1709321004	EPA TO-15/TO-15 SIM
A-0038H-041117-TO-001-BAS	11-Apr-17	4/14/2017	1710499001	EPA TO-15/TO-15 SIM
A-0038H-041117-TO-002-BAS	11-Apr-17	4/14/2017	1710499002	EPA TO-15/TO-15 SIM
A-0064H-041417-TO-001-LIV	14-Apr-17	4/14/2017	1710499003	EPA TO-15/TO-15 SIM

Notes:
EPA = U.S. Environmental Protection Agency
ID = identification
SDG = sample delivery group
SIM = selective ion monitoring

Table 2-3. Field Quality Control Sample Summary

Field Sample ID	QC Type	Notes
A-0001H-032317-TO-002-BAS	Field Duplicate	Duplicate of A-0001H-032317-TO-001-BAS
A-0027H-031017-TO-002-BAS	Field Duplicate	Duplicate of A-0027H-031017-TO-001-BAS
A-0038H-041117-TO-002-BAS	Field Duplicate	Duplicate of A-0038H-041117-TO-001-BAS

Notes:
ID = identification
QC = quality control

Table 3-1. Data Qualification Summary

Field Sample ID	Analytical Method	Analyte	Final Result	Units	Final Flag	Validation Reason[a]
A-0001H-032317-TO-001-BAS	EPA TO-15	Acetone	150	µg/m^3	J	>ICLinearRange
A-0001H-032317-TO-001-BAS	EPA TO-15	Carbon tetrachloride	1.1	µg/m^3	J	LCS>UCL
A-0001H-032317-TO-001-BAS	EPA TO-15	Carbon tetrachloride	1.1	µg/m^3	J	CCV>UCL
A-0001H-032317-TO-001-BAS	EPA TO-15	Carbon tetrachloride	1.1	µg/m^3	J	LCSD>UCL
A-0001H-032317-TO-002-BAS	EPA TO-15	Acetone	150	µg/m^3	J	>ICLinearRange
A-0001H-032317-TO-002-BAS	EPA TO-15	Carbon tetrachloride	1.1	µg/m^3	J	LCSD>UCL
A-0001H-032317-TO-002-BAS	EPA TO-15	Carbon tetrachloride	1.1	µg/m^3	J	CCV>UCL
A-0001H-032317-TO-002-BAS	EPA TO-15	Carbon tetrachloride	1.1	µg/m^3	J	LCS>UCL
A-0038H-041117-TO-001-BAS	EPA TO-15	1,2,4-Trichlorobenzene	3.1	µg/m^3	UJ	IC%RSD
A-0038H-041117-TO-001-BAS	EPA TO-15	Benzyl chloride	1.9	µg/m^3	UJ	IC%RSD
A-0038H-041117-TO-002-BAS	EPA TO-15	1,2,4-Trichlorobenzene	3.1	µg/m^3	UJ	IC%RSD
A-0038H-041117-TO-002-BAS	EPA TO-15	Benzyl chloride	1.9	µg/m^3	UJ	IC%RSD
A-0064H-041417-TO-001-LIV	EPA TO-15	1,2,4-Trichlorobenzene	3.1	µg/m^3	UJ	IC%RSD
A-0064H-041417-TO-001-LIV	EPA TO-15	Benzyl chloride	1.9	µg/m^3	UJ	IC%RSD
A-0064H-041417-TO-001-LIV	EPA TO-15 SIM	1,4-Dioxane	0.18	µg/m^3	UJ	IS>UCL
A-0064H-041417-TO-001-LIV	EPA TO-15 SIM	cis-1,2-Dichloroethene	0.2	µg/m^3	UJ	IS>UCL
A-0064H-041417-TO-001-LIV	EPA TO-15 SIM	Tetrachloroethene	1.9	µg/m^3	J	IS>UCL
A-0064H-041417-TO-001-LIV	EPA TO-15 SIM	Trichloroethene	0.27	µg/m^3	UJ	IS>UCL
A-0064H-041417-TO-001-LIV	EPA TO-15 SIM	Vinyl chloride	0.13	µg/m^3	UJ	IS>UCL

[a]Sample results flagged "J" to note detection between the method detection limit and the reporting limit have not been included in this table.

Notes:
µg/m^3 = microgram(s) per cubic meter
EPA = U.S. Environmental Protection Agency
J = Estimated value. The analyte was present, but the reported value may not be precise.
SIM = selective ion monitoring
U = Not detected. The analyte was analyzed for, but not detected above the method detection limit.

Validation Reasons:
>ICLinearRange = Result exceeded the linear calibration range of the method
CCV>UCL = The continuing calibration verification standard recovery was greater than the upper control limit
IC%RSD = The percent relative standard deviation of the initial calibration exceeded criteria
IS>UCL = The internal standard recovery was greater than the upper control limit
LCS>UCL = The laboratory control sample recovery was greater than the upper control limit
LCSD>UCL = The laboratory control sample duplicate recovery was greater than the upper control limit

Appendix A
Analytical Data Packages/Data Package Completeness Checklists

VA SLC AOU-1 (700 South 1600 East PCE Plume)

Data Package Completeness Review Checklist

SDG: 1707721

Date Received: 03/31/17

Required Documentation	Yes	No	Comments
1. Cover letter complete with the following information:	x		Cover is Case Narrative.
• Title of report and laboratory unique report identification (sample delivery group number)	x		Title of report and project name are absent. SDG ID present.
• Project name, site location		X	
• Name and location of laboratory and second-site or subcontracted laboratory	X		
• Client name and address	X		Client name was included. No address was present for the client on the cover letter.
• Statement of authenticity and official signature and title of person authorizing report release	X		Electronic signature at the end of "Analytical Results" section
2. Summary of samples received that correlates field sample IDs with the laboratory IDs	X		
3. Laboratory qualifier flags and definitions	X		
4. Preparation and/or analytical methods	X		
5. Sample results for each analyte (dry weight basis for soils)			
• Date received	X		
• Date analyzed (and time of analysis if the holding time is less than or equal to 48 hours)	X		
• Percent solids results for soil samples			N/A
• Dilution factor (provide both diluted and undiluted results when available)	X		
• Sample-specific reporting limit adjusted for sample size, dilution/concentration	X		
• Sample-specific MDL adjusted for sample size, dilution/concentration	X		MDL and RL only in ppb
• Units	X		
6. Case Narrative that addresses the following information at a minimum:		X	See comment for Item 1 above
• Sample receipt discrepancies	X		See Sample Acceptance Check Form for any noted discrepancies
• Descriptions of all non conformances in the sample receipt, handling, preparation, analytical and reporting processes and the corrective action taken in each occurrence	X		
• Identification and justification for sample dilution	X		No dilutions.
• Sample cooler temperature at time of receipt			N/A

Required Documentation	Yes	No	Comments
• Final residual vacuum of each sample canister immediately prior to analysis, or upon receipt (Air analyses only)	X		On "Sample Acceptance Check Form".
7. Surrogate percent recoveries (surrogate result, target concentration, percent recovery)	X		
8. MS/MSD and LCS spike concentrations, native sample results, spiked sample results, percent recoveries, and RPDs between the MS and MSD results (associated QC limits must also be provided)	X		*MS/MSDs not applicable to Air analyses.*
9. Method blank results	X		
10. Analytical batch reference number that cross references samples to QC sample analyses	X		Batch ID present.
11. Executed COC and sample receipt checklist	X		
12. Analytical sequence or laboratory run log that contains sufficient information to correlate samples reported in the summary results to the associated method QC information, such as initial and continuing calibration analyses	X		
13. Calibration blank results for inorganic analyses (required in hardcopy format only)			N/A
14. Inductively coupled plasma (ICP) interference check sample for inorganic analyses, true and measured concentrations and percent recoveries (required in hardcopy format only)			N/A
15. Reporting Limit Check Standard for inorganic analyses, true and measured concentrations and percent recoveries (if applicable, required in hardcopy format only)			N/A
16. Post-digestion spike recoveries for inorganic analyses, (if applicable; required in hardcopy format only)			N/A
17. Internal Standard recovery and retention time information, as applicable.	X		
18. Initial calibration summary, including standard concentrations, response factors, average response factors, RSDs or correlation coefficients, and calibration plots or equations, if applicable (required in hardcopy format only)	X		
19. Continuing calibration verification summary, including expected and recovered concentrations and percent differences (required in hardcopy format only)	X		
20. Instrument tuning and mass calibration information for ICP/mass spectrometry analyses	X		
21. All associated instrument printouts for all samples, standards, and QC samples (e.g., raw data) necessary to re-calculate results as well as all manual integrations (if performed)	X		
22. Sample preparation logs that include the following information			*Not applicable to Air analyses*
• Preparation start and end times			N/A
• Beginning and ending temperatures of water baths and digestion blocks			N/A

Data package complete and ready for Validation *Shannon Fitzsimmons* Date: 5/3/17

signature

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

Case Narrative

Method:	**TO15**	**Client:**	CH2M Hill
Analysis:	**VOA**		
Preparation SOP #:	**IH-AN-014**	**Matrix:**	**Air**
Work Order:	**1707721**		

Analysis / Method: Method TO15 is an EPA method used in the analysis of air samples for volatile organics by GC/MS, which have been sampled in a silonized canister.

General Set Information: ALS received seven summa canisters for VOA analysis. The samples were analyzed within thirty days of sampling. Recoveries of target analytes are reported on the Sample Analysis Data Sheet in units of ppb v/v and μg/m³.

Sample Preparation: This method has no extraction procedure for air samples. The sample preparation date is the same as the date of analysis. Two hundred milliliters of air sample and 100 milliliters of Internal Standard were trapped using an Entech 7100 microscale purge and trap concentrator.

Instrument Calibration: The GC/MS was hardware tuned to meet the criteria for 4-Bromofluorobenzene as specified in the SOP. This tune check is valid for 24 hours.

Initial and Continuing Calibration Verification: The initial calibration curve, which was analyzed prior to sample analysis, met the specified criteria of the SOP. For the initial calibration curve, the %RSD of the response factors for the TO-15 analytes were checked.

A continuing calibration standard (CCS) was analyzed prior to sample analysis. The CCS met the criteria as specified in the SOP.

Method Blank Analysis: A laboratory method blank was prepared using 200 milliliters of humidified ultra high purity nitrogen and 100 milliliters of Internal Standards and analyzed prior to sample analysis. The blank was free of volatile organic contaminants.

Data Qualifier Codes: A "J" qualifier indicates that the result is greater than the MDL but less than the PQL. Analytes found in field samples, which also appear in the method blank above the PQL are reported with a "B" qualifier in the flag column. The "E" qualifier indicates a reported value above the analytical linear range.

LCS/LCSD: An LCS and LCSD pair was analyzed for the analytical batch.

Dilutions: None.

NC/CAR: None.

Miscellaneous Comments: Instrument designation is HP5972-L. Field samples were analyzed using auto sampler positions that were free from volatile contaminants. The "E" qualifier indicates a reported value above the analytical linear range.

Sample Calculations: Target Compounds

Relative Response Factor: $$\mathbf{RRF} = \left[\frac{\mathbf{A_x}}{\mathbf{A_{is}}}\right]\left[\frac{\mathbf{C_{is}}}{\mathbf{C_x}}\right]$$

Where $\mathbf{A_x}$ is the area of the characteristic ion for the compound to be measured, $\mathbf{A_{is}}$ is the area of the characteristic ion for the internal standard , $\mathbf{C_{is}}$ is the concentration of the internal standard, and $\mathbf{C_x}$ is the concentration of the compound to be measured.

Concentration in ppb v/v: $$C = \left[\frac{\mathbf{(A_x)\,(I_s)\,(Df)}}{\mathbf{(A_{is})\,(RRF)}}\right]$$

Concentration in ug/m^3 : $C =$ **ppb v/v (MW/24.45)**

Where $\mathbf{I_s}$ is the amount of internal standard spiked in ppb, **Df** is a dilution factor (1 if no dilutions are made), **RRF** is the relative response factor (assumed to be 1 for non target analytes) and **MW** is the molecular weight of the compound of interest.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

Case Narrative

Method:	**TO15**	**Client:**	CH2M
Analysis:	**VOA**		
Preparation SOP #:	**IH-AN-014 (SIM)**	**Matrix:**	**Air**
Work Order:	**1707721 (SIM)**		

Analysis / Method: Method TO15 is an EPA method used in the analysis of air samples for volatile organics by GC/MS, which have been sampled in a silonized canister.

General Set Information: ALS received seven summa canisters for VOA analysis. The samples were analyzed within thirty days of sampling. Recoveries of target analytes are reported on the Sample Analysis Data Sheet in units of ppb v/v and μg/m³.

Sample Preparation: This method has no extraction procedure for air samples. The sample preparation date is the same as the date of analysis. Two hundred milliliters of air sample and 50 milliliters of Internal Standard were trapped using an Entech 7100 microscale purge and trap concentrator.

Instrument Calibration: 4-Bromofluorobenzene calibration is not required for SIM analysis.

Initial and Continuing Calibration Verification: The initial calibration curve, which was analyzed prior to sample analysis, met the specified criteria of the SOP. For the initial calibration curve, the %RSD of the response factors for the TO-15 analytes were checked.

A continuing calibration standard (CCS) was analyzed prior to sample analysis. The CCS met the criteria as specified in the SOP.

Method Blank Analysis: A laboratory method blank was prepared using 200 milliliters of humidified ultra high purity nitrogen and 50 milliliters of Internal Standards and analyzed prior to sample analysis. The blank was free of volatile organic contaminants.

Data Qualifier Codes: Analytes found in field samples, which also appear in the method blank above the PQL are reported with a "B" qualifier in the flag column. The "E" qualifier indicates a reported value above the analytical linear range.

LCS/LCSD: An LCS and LCSD pair was analyzed for the analytical batch.

Dilutions: None

NC/CAR: None.

Miscellaneous Comments: Instrument designation is HP5972-L. Field samples were analyzed using auto sampler positions that were free from volatile contaminants. The "E" qualifier indicates a reported value above the analytical linear range.

Sample Calculations: Target Compounds

Relative Response Factor: $$\mathbf{RRF} = \left[\frac{\mathbf{A_x}}{\mathbf{A_{is}}}\right]\left[\frac{\mathbf{C_{is}}}{\mathbf{C_x}}\right]$$

Where $\mathbf{A_x}$ is the area of the characteristic ion for the compound to be measured, $\mathbf{A_{is}}$ is the area of the characteristic ion for the internal standard , $\mathbf{C_{is}}$ is the concentration of the internal standard, and $\mathbf{C_x}$ is the concentration of the compound to be measured.

Concentration in ppb v/v: $$C = \left[\frac{\mathbf{(A_x)\ (I_s)\ (Df)}}{\mathbf{(A_{is})\ (RRF)}}\right]$$

Concentration in ug/m^3 : $$C = \mathbf{ppb\ v/v\ (MW/24.45)}$$

Where $\mathbf{I_s}$ is the amount of internal standard spiked in ppb, **Df** is a dilution factor (1 if no dilutions are made), **RRF** is the relative response factor (assumed to be 1 for non target analytes) and **MW** is the molecular weight of the compound of interest.

ANALYTICAL REPORT

Report Date: March 31, 2017

Mark Cichy
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Workorder: **34-1707721**
Project ID: VA AOU-1 (SLC,UT)
Purchase Order: 10006-7-107234
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
A-0027H-031017-TO-001-BAS	1707721001	03/10/17	03/17/17	VA AOU-1 (SLC,UT)
A-0027H-031017-TO-002-BAS	1707721002	03/10/17	03/17/17	VA AOU-1 (SLC,UT)
A-0013H-031017-TO-001-BAS	1707721003	03/10/17	03/17/17	VA AOU-1 (SLC,UT)
A-0025H-031417-TO-001-BAS	1707721004	03/14/17	03/17/17	VA AOU-1 (SLC,UT)
A-0004H-031417-TO-001-BAS	1707721005	03/14/17	03/17/17	VA AOU-1 (SLC,UT)
A-0012H-031417-TO-001-BAS	1707721006	03/14/17	03/17/17	VA AOU-1 (SLC,UT)
A-0026H-031617-TO-001-LIV	1707721007	03/16/17	03/17/17	VA AOU-1 (SLC,UT)

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0027H-031017-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/10/2017
Lab ID: 1707721001 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 14:16 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.59**	**2.9**	0.15	0.50	1	
Chloromethane	**0.74**	**1.5**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.32	1.8	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**12**	**28**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	0.36	1.2	0.15	0.50	1	J
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**0.64**	**1.9**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	0.3	1.1	0.30	1.0	1	J
Hexane	0.3	1.1	0.15	0.50	1	J
Chloroform	ND	<0.73	0.15	0.50	1	U
Tetrahydrofuran	ND	<0.44	0.15	0.50	1	U
1,2-Dichloroethane	**0.77**	**3.1**	0.15	0.50	1	
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.23	0.73	0.15	0.50	1	J
Cyclohexane	ND	<0.52	0.15	0.50	1	U
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	0.22	0.89	0.15	0.50	1	J
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**0.69**	**2.6**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0027H-031017-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/10/2017
Lab ID: 1707721001 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 14:16 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	ND	<0.65	0.15	0.50	1	U
m,p-Xylene	0.31	1.3	0.15	0.50	1	J
o-Xylene	ND	<0.65	0.15	0.50	1	U
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	0.57	3.4	0.30	1.0	1	J
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3539 (HBN: 187783) | **Percent Solid:** NA
Analyzed: 03/27/2017 20:07 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	ND	<0.34	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0027H-031017-TO-002-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/10/2017
Lab ID: 1707721002 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 15:07 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.55**	**2.7**	0.15	0.50	1	
Chloromethane	**0.69**	**1.4**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.3	1.7	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**11**	**26**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	0.34	1.2	0.15	0.50	1	J
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**0.62**	**1.8**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	ND	<1.1	0.30	1.0	1	U
Hexane	0.28	0.98	0.15	0.50	1	J
Chloroform	ND	<0.73	0.15	0.50	1	U
Tetrahydrofuran	ND	<0.44	0.15	0.50	1	U
1,2-Dichloroethane	**0.81**	**3.3**	0.15	0.50	1	
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.17	0.55	0.15	0.50	1	J
Cyclohexane	ND	<0.52	0.15	0.50	1	U
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	0.21	0.87	0.15	0.50	1	J
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**0.74**	**2.8**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0027H-031017-TO-002-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/10/2017
Lab ID: 1707721002 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 15:07 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	ND	<0.65	0.15	0.50	1	U
m,p-Xylene	0.3	1.3	0.15	0.50	1	J
o-Xylene	ND	<0.65	0.15	0.50	1	U
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	0.67	4.0	0.30	1.0	1	J
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3539 (HBN: 187783) | **Percent Solid:** NA
Analyzed: 03/27/2017 20:57 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	ND	<0.34	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0013H-031017-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/10/2017
Lab ID: 1707721003 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 15:57 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.65**	**3.2**	0.15	0.50	1	
Chloromethane	**0.73**	**1.5**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.29	1.6	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**9.0**	**21**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	**0.62**	**2.1**	0.15	0.50	1	
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	**0.85**	**3.0**	0.20	0.50	1	
2-Butanone	**1.1**	**3.3**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	ND	<1.1	0.30	1.0	1	U
Hexane	0.39	1.4	0.15	0.50	1	J
Chloroform	ND	<0.73	0.15	0.50	1	U
Tetrahydrofuran	**0.52**	**1.5**	0.15	0.50	1	
1,2-Dichloroethane	ND	<0.61	0.15	0.50	1	U
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.19	0.62	0.15	0.50	1	J
Cyclohexane	0.21	0.72	0.15	0.50	1	J
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	0.19	0.78	0.15	0.50	1	J
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**0.53**	**2.0**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0013H-031017-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/10/2017
Lab ID: 1707721003 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 15:57 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	ND	<0.65	0.15	0.50	1	U
m,p-Xylene	0.35	1.5	0.15	0.50	1	J
o-Xylene	ND	<0.65	0.15	0.50	1	U
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3539 (HBN: 187783) | **Percent Solid:** NA
Analyzed: 03/27/2017 21:47 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	ND	<0.34	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0025H-031417-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/14/2017
Lab ID: 1707721004 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 16:48 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.55**	**2.7**	0.15	0.50	1	
Chloromethane	**0.92**	**1.9**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.3	1.7	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**9.2**	**22**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	**0.96**	**3.3**	0.15	0.50	1	
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**1.9**	**5.7**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	ND	<1.1	0.30	1.0	1	U
Hexane	0.2	0.69	0.15	0.50	1	J
Chloroform	0.33	1.6	0.15	0.50	1	J
Tetrahydrofuran	**2.6**	**7.6**	0.15	0.50	1	
1,2-Dichloroethane	ND	<0.61	0.15	0.50	1	U
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.18	0.57	0.15	0.50	1	J
Cyclohexane	ND	<0.52	0.15	0.50	1	U
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	ND	<0.61	0.15	0.50	1	U
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**0.58**	**2.2**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0025H-031417-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/14/2017
Lab ID: 1707721004 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 16:48 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	ND	<0.65	0.15	0.50	1	U
m,p-Xylene	0.3	1.3	0.15	0.50	1	J
o-Xylene	ND	<0.65	0.15	0.50	1	U
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	0.34	2.1	0.30	1.0	1	J
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3539 (HBN: 187783) | **Percent Solid:** NA
Analyzed: 03/27/2017 22:36 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	**0.055**	**0.37**	0.050	1	
1,4-Dioxane	**0.65**	**2.3**	0.050	1	

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0004H-031417-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/14/2017
Lab ID: 1707721005 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 17:38 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.58**	**2.8**	0.15	0.50	1	
Chloromethane	**0.76**	**1.6**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.28	1.6	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**9.2**	**22**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	**0.60**	**2.1**	0.15	0.50	1	
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**0.53**	**1.6**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	0.44	1.6	0.30	1.0	1	J
Hexane	0.44	1.6	0.15	0.50	1	J
Chloroform	0.17	0.85	0.15	0.50	1	J
Tetrahydrofuran	ND	<0.44	0.15	0.50	1	U
1,2-Dichloroethane	ND	<0.61	0.15	0.50	1	U
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.21	0.66	0.15	0.50	1	J
Cyclohexane	ND	<0.52	0.15	0.50	1	U
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	0.18	0.73	0.15	0.50	1	J
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**0.97**	**3.7**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

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ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0004H-031417-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/14/2017
Lab ID: 1707721005 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 17:38 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	ND	<0.65	0.15	0.50	1	U
m,p-Xylene	0.23	0.98	0.15	0.50	1	J
o-Xylene	ND	<0.65	0.15	0.50	1	U
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3539 (HBN: 187783) | **Percent Solid:** NA
Analyzed: 03/27/2017 23:26 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	ND	<0.34	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0012H-031417-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/14/2017
Lab ID: 1707721006 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 18:29 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.51**	**2.5**	0.15	0.50	1	
Chloromethane	**1.3**	**2.7**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.24	1.4	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**28**	**67**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	0.32	1.1	0.15	0.50	1	J
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**0.92**	**2.7**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	**1.8**	**6.4**	0.30	1.0	1	
Hexane	0.25	0.89	0.15	0.50	1	J
Chloroform	0.31	1.5	0.15	0.50	1	J
Tetrahydrofuran	ND	<0.44	0.15	0.50	1	U
1,2-Dichloroethane	ND	<0.61	0.15	0.50	1	U
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.2	0.63	0.15	0.50	1	J
Cyclohexane	ND	<0.52	0.15	0.50	1	U
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	ND	<0.61	0.15	0.50	1	U
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**2.3**	**8.5**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

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ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0012H-031417-TO-001-BAS** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/14/2017
Lab ID: 1707721006 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 18:29 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	0.26	1.1	0.15	0.50	1	J
m,p-Xylene	**0.86**	**3.7**	0.15	0.50	1	
o-Xylene	0.23	0.98	0.15	0.50	1	J
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3539 (HBN: 187783) | **Percent Solid:** NA
Analyzed: 03/28/2017 00:16 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	**0.34**	**2.3**	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0026H-031617-TO-001-LIV** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/16/2017
Lab ID: 1707721007 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 19:20 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.68**	**3.4**	0.15	0.50	1	
Chloromethane	**0.76**	**1.6**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.27	1.5	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**28**	**67**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	0.33	1.1	0.15	0.50	1	J
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**2.1**	**6.2**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	0.34	1.2	0.30	1.0	1	J
Hexane	**0.69**	**2.4**	0.15	0.50	1	
Chloroform	0.25	1.2	0.15	0.50	1	J
Tetrahydrofuran	**0.54**	**1.6**	0.15	0.50	1	
1,2-Dichloroethane	**0.62**	**2.5**	0.15	0.50	1	
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.23	0.75	0.15	0.50	1	J
Cyclohexane	0.31	1.1	0.15	0.50	1	J
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	**3.3**	**13**	0.15	0.50	1	
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	0.16	0.88	0.15	0.50	1	J
Toluene	**1.4**	**5.3**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

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ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0026H-031617-TO-001-LIV** | Sampling Site: VA AOU-1 (SLC,UT) | Collected: 03/16/2017
Lab ID: 1707721007 | Media: Summa 6 Liter Canister | Received: 03/17/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3536 (HBN: 187449) | **Percent Solid:** NA
Analyzed: 03/23/2017 19:20 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	**0.53**	**2.3**	0.15	0.50	1	
m,p-Xylene	**2.1**	**8.9**	0.15	0.50	1	
o-Xylene	0.48	2.1	0.15	0.50	1	J
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	0.32	1.6	0.30	1.0	1	J
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3539 (HBN: 187783) | **Percent Solid:** NA
Analyzed: 03/28/2017 01:06 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	**0.29**	**2.0**	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
EPA TO-15	/S/ Jorden Baum 03/24/2017 11:29	/S/ Lisa M. Reid 03/31/2017 11:09
EPA TO-15 SIM	/S/ Lisa M. Reid 03/30/2017 10:46	/S/ Jorden Baum 03/30/2017 11:04

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Laboratory Contact Information

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General Lab Comments

The results provided in this report relate only to the items tested.
Samples were received in acceptable condition unless otherwise noted.
Samples have not been blank corrected unless otherwise noted.
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ANAB (DoD ELAP)	ADE-1420	http://www.anab.org/accredited-organizations/
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdw/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
	Kansas	E-10416	http://www.kdheks.gov/lipo/index.html
Industrial Hygiene	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
Lead Testing:			
CPSC	ANAB (ISO 17025, CPSC)	ADE-1420	http://www.anab.org/accredited-organizations/
Soil, Dust, Paint ,Air	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	http://www.aclasscorp.com

ANALYTICAL REPORT

Workorder: 34-1707721
Client: CH2M
Project Manager: Kevin W. Griffiths

Result Symbol Definitions

MDL = Method Detection Limit, a statistical estimate of method/media/instrument sensitivity.
RL = Reporting Limit, a verified value of method/media/instrument sensitivity.
CRDL = Contract Required Detection Limit
Reg. Limit = Regulatory Limit.
ND = Not Detected, testing result not detected above the MDL or RL.
< This testing result is less than the numerical value.
** No result could be reported, see sample comments for details.

Qualifier Symbol Definitions

U = Qualifier indicates that the analyte was not detected above the MDL.
J = Qualifier Indicates that the analyte value is between the MDL and the RL. It is also used to indicate an estimated value for tentatively identified compounds in mass spectrometry where a 1:1 response is assumed.
B = Qualifier indicates that the analyte was detected in the blank.
E = Qualifier indicates that the analyte result exceeds calibration range.
P = Qualifier indicates that the RPD between the two columns is greater than 40%.

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1707721

Limits: Historical/Performance
Basis: ALS Laboratory Group

Preparation: NA
Batch: NA
Prepared By: NA

Analysis: EPA TO-15
Batch: IVOA/3536 (HBN: 187449)
Analyzed By: Jorden Baum

Blank

MB: 541788
Analyzed: 03/23/2017 13:21

Units: ppb

Analyte	Result	MDL	RL
Dichlorodifluoromethane	ND	0.15	0.500
Chloromethane	ND	0.15	0.500
Freon 114	ND	0.15	0.500
1,3-Butadiene	ND	0.15	0.500
Bromomethane	ND	0.15	0.500
Chloroethane	ND	0.15	0.500
Freon 11	ND	0.15	0.500
Freon 113	ND	0.15	0.500
1,1-Dichloroethene	ND	0.15	0.500
Acetone	ND	0.3	1.00
Carbon disulfide	ND	0.15	0.500
Methylene chloride	ND	0.15	0.500
trans-1,2-Dichloroethene	ND	0.15	0.500
Methyl t-butyl ether	ND	0.15	0.500
Vinyl acetate	ND	0.2	0.500
2-Butanone	ND	0.15	0.500
1,1-Dichloroethane	ND	0.15	0.500
Ethyl acetate	ND	0.3	1.00
Hexane	ND	0.15	0.500
Chloroform	ND	0.15	0.500
Tetrahydrofuran	ND	0.15	0.500
1,2-Dichloroethane	ND	0.15	0.500
1,1,1-Trichloroethane	ND	0.15	0.500
Carbon tetrachloride	ND	0.15	0.500
Benzene	ND	0.15	0.500
Cyclohexane	ND	0.15	0.500
1,2-Dichloropropane	ND	0.15	0.500
Bromodichloromethane	ND	0.15	0.500
Heptane	ND	0.15	0.500
cis-1,3-Dichloropropene	ND	0.15	0.500
4-Methyl-2-pentanone	ND	0.15	0.500
trans-1,3-Dichloropropene	ND	0.15	0.500
1,1,2-Trichloroethane	ND	0.15	0.500
Toluene	ND	0.15	0.500
2-Hexanone	ND	0.32	1.00
Dibromochloromethane	ND	0.15	0.500
1,2-Dibromoethane	ND	0.15	0.500

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1707721

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3536 (HBN: 187449)
		Prepared By:	NA	**Analyzed By:**	Jorden Baum

Blank

MB: 541788
Analyzed: 03/23/2017 13:21
Units: ppb

Analyte	Result	MDL	RL
Chlorobenzene	ND	0.15	0.500
Ethyl benzene	ND	0.15	0.500
m,p-Xylene	ND	0.15	0.500
o-Xylene	ND	0.15	0.500
Styrene	ND	0.3	1.00
Bromoform	ND	0.3	1.00
1,1,2,2-Tetrachloroethane	ND	0.15	0.500
4-Ethyl toluene	ND	0.3	1.00
1,3,5-Trimethylbenzene	ND	0.3	1.00
1,2,4-Trimethylbenzene	ND	0.3	1.00
1,3-Dichlorobenzene	ND	0.3	1.00
1,4-Dichlorobenzene	ND	0.3	1.00
Benzyl chloride	ND	0.37	1.00
1,2-Dichlorobenzene	ND	0.3	1.00
1,2,4-Trichlorobenzene	ND	0.42	1.00
Hexachlorobutadiene	ND	0.3	1.00

Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS: 541789
Analyzed: 03/23/2017 10:54
Dilution: 1
Units: ppb

LCSD: 541790
Analyzed: 03/23/2017 11:43
Dilution: 1
Units: ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Dichlorodifluoromethane	11.2	10.0	112	44.8	152.0	11.3	113	1.18	0.0	25.0
Chloromethane	10.8	10.0	108	37.3	153.2	10.6	106	1.57	0.0	25.0
Freon 114	11.5	10.0	115	54.2	145.9	11.4	114	0.540	0.0	25.0
1,3-Butadiene	10.7	10.0	107	49.0	147.5	10.8	108	1.01	0.0	25.0
Bromomethane	10.9	10.0	109	51.7	149.4	11.1	111	2.36	0.0	25.0
Chloroethane	9.84	10.0	98.4	51.1	144.9	10.1	101	2.76	0.0	25.0
Freon 11	11.7	10.0	117	47.8	148.9	11.7	117	0.0601	0.0	25.0
Freon 113	11.5	10.0	115	69.0	133.4	11.6	116	0.913	0.0	25.0
1,1-Dichloroethene	10.7	10.0	107	53.6	144.6	10.8	108	1.68	0.0	25.0
Acetone	10.2	10.0	102	30.7	150.8	10.0	100	1.37	0.0	25.0
Carbon disulfide	10.3	10.0	103	60.9	136.3	10.4	104	1.06	0.0	25.0
Methylene chloride	10.4	10.0	104	59.2	132.9	10.5	105	0.163	0.0	25.0
trans-1,2-Dichloroethene	11.1	10.0	111	62.5	139.3	11.2	112	0.852	0.0	25.0
Methyl t-butyl ether	11.3	10.0	113	66.1	138.6	11.3	113	0.265	0.0	25.0
Vinyl acetate	11.4	10.0	114	53.4	155.7	11.7	117	2.62	0.0	25.0

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1707721

Limits:	Historical/Performance	**Preparation:**	NA
Basis:	ALS Laboratory Group	**Batch:**	NA
		Prepared By:	NA
Analysis:	EPA TO-15		
Batch:	IVOA/3536 (HBN: 187449)		
Analyzed By:	Jorden Baum		

Laboratory Control Sample - Laboratory Control Sample Duplicate

	LCS: 541789	LCSD: 541790
Analyzed:	03/23/2017 10:54	03/23/2017 11:43
Dilution:	1	1
Units:	ppb	ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
2-Butanone	10.5	10.0	105	57.2	147.8	10.6	106	0.939	0.0	25.0
1,1-Dichloroethane	10.6	10.0	106	62.2	134.2	10.7	107	0.807	0.0	25.0
Ethyl acetate	10.5	10.0	105	54.4	150.1	11.4	114	8.26	0.0	25.0
Hexane	10.1	10.0	101	60.2	142.1	10.1	101	0.0497	0.0	25.0
Chloroform	11.2	10.0	112	64.6	131.2	11.0	110	1.15	0.0	25.0
Tetrahydrofuran	9.95	10.0	99.5	64.2	147.0	9.84	98.4	1.10	0.0	25.0
1,2-Dichloroethane	10.9	10.0	109	52.7	143.7	10.8	108	0.470	0.0	25.0
1,1,1-Trichloroethane	10.9	10.0	109	61.5	137.3	10.9	109	0.0549	0.0	25.0
Carbon tetrachloride	11.5	10.0	115	57.9	143.2	11.5	115	0.113	0.0	25.0
Benzene	10.5	10.0	105	56.5	143.5	10.5	105	0.400	0.0	25.0
Cyclohexane	11.0	10.0	110	61.8	131.9	11.1	111	0.435	0.0	25.0
1,2-Dichloropropane	10.0	10.0	100	59.7	139.7	10.1	101	0.169	0.0	25.0
Bromodichloromethane	10.8	10.0	108	63.3	136.4	10.7	107	0.819	0.0	25.0
Heptane	10.8	10.0	108	59.0	148.1	10.7	107	0.754	0.0	25.0
cis-1,3-Dichloropropene	10.5	10.0	105	65.9	142.6	10.6	106	0.675	0.0	25.0
4-Methyl-2-pentanone	10.2	10.0	102	62.1	149.0	10.1	101	0.452	0.0	25.0
trans-1,3-Dichloropropene	10.8	10.0	108	64.7	145.3	10.9	109	0.959	0.0	25.0
1,1,2-Trichloroethane	10.6	10.0	106	68.3	134.4	10.5	105	0.521	0.0	25.0
Toluene	10.9	10.0	109	66.1	146.5	10.9	109	0.404	0.0	25.0
2-Hexanone	11.1	10.0	111	58.5	162.0	11.0	110	1.45	0.0	25.0
Dibromochloromethane	11.4	10.0	114	68.0	141.8	11.3	113	0.308	0.0	25.0
1,2-Dibromoethane	10.9	10.0	109	72.6	136.7	10.8	108	1.13	0.0	25.0
Chlorobenzene	9.19	10.0	91.9	67.4	134.7	9.20	92.0	0.0097	0.0	25.0
Ethyl benzene	8.71	10.0	87.1	64.2	147.4	8.99	89.9	3.16	0.0	25.0
m,p-Xylene	15.5	20.0	77.6	62.3	145.6	15.6	77.9	0.379	0.0	25.0
o-Xylene	8.35	10.0	83.5	60.8	147.6	8.24	82.4	1.32	0.0	25.0
Styrene	8.26	10.0	82.6	60.9	160.8	8.29	82.9	0.274	0.0	25.0
Bromoform	8.61	10.0	86.1	50.0	155.2	8.56	85.6	0.611	0.0	25.0
1,1,2,2-Tetrachloroethane	8.55	10.0	85.5	49.5	150.8	8.38	83.8	2.06	0.0	25.0
4-Ethyl toluene	10.3	10.0	103	57.1	161.2	10.2	102	1.11	0.0	25.0
1,3,5-Trimethylbenzene	7.95	10.0	79.5	54.1	155.1	7.79	77.9	2.11	0.0	25.0
1,2,4-Trimethylbenzene	9.95	10.0	99.5	50.4	163.6	9.88	98.8	0.697	0.0	25.0
1,3-Dichlorobenzene	8.55	10.0	85.5	53.9	158.0	8.42	84.2	1.52	0.0	25.0
1,4-Dichlorobenzene	8.51	10.0	85.1	52.0	161.4	8.36	83.6	1.79	0.0	25.0
Benzyl chloride	9.63	10.0	96.3	30.4	196.3	9.58	95.8	0.509	0.0	25.0
1,2-Dichlorobenzene	9.55	10.0	95.5	49.3	164.0	9.34	93.4	2.20	0.0	25.0
1,2,4-Trichlorobenzene	8.19	10.0	81.9	76.7	167.6	8.26	82.6	0.813	0.0	25.0

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1707721

Limits:	Historical/Performance	**Preparation:**	NA
Basis:	ALS Laboratory Group	**Batch:**	NA
		Prepared By:	NA
Analysis:	EPA TO-15		
Batch:	IVOA/3536 (HBN: 187449)		
Analyzed By:	Jorden Baum		

Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS:	541789	**LCSD:**	541790
Analyzed:	03/23/2017 10:54	**Analyzed:**	03/23/2017 11:43
Dilution:	1	**Dilution:**	1
Units:	ppb	**Units:**	ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Hexachlorobutadiene	7.84	10.0	78.4	72.9	153.7	7.60	76.0	3.11	0.0	25.0

Surrogate Recoveries

Surrogate	4-Bromofluorobenzene	
QC Limits	67.7	129.9
Units	ppb	

Lab ID	Result	Target	% Recovery
541789-LCS	21.0	20.0	105
541790-LCSD	20.8	20.0	104
541788-MB	21.1	20.0	105
1707721001	20.5	20.0	103
1707721002	20.9	20.0	104
1707721003	20.6	20.0	103
1707721004	21.0	20.0	105
1707721005	21.0	20.0	105
1707721006	21.4	20.0	107
1707721007	21.3	20.0	107

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Jorden Baum	/S/ Lisa M. Reid
03/24/2017 11:29	03/31/2017 11:08

Symbols and Definitions

- * - Analyte above reporting limit or outside of control limits
- ▲ - Sample result is greater than 4 times the spike added
- ◓ - Sample and Matrix Duplicate less than 5 times the reporting limit
- ● - Result is above the calibration range
- # - The Matrix Spike, Matrix Spike duplicate or Matrix Duplicate is reported for your information only. The sample matrix may be inappropriate for the method selected.

RPD - Relative % Difference (Spike / Spike Duplicate)
ND - Not Detected (U - Qualifier also flags analyte as not detected)
NA - Not Applicable
QC results are not adjusted for moisture correction, where applicable

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1707721

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15 SIM
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3539 (HBN: 187783)
		Prepared By:	NA	**Analyzed By:**	Lisa M. Reid

Blank

MB: 542504
Analyzed: 03/27/2017 19:16
Units: ppb

Analyte	Result	MDL	RL
Vinyl chloride	ND	NA	0.0500
cis-1,2-Dichloroethene	ND	NA	0.0500
Trichloroethene	ND	NA	0.0500
Tetrachloroethene	ND	NA	0.0500
1,4-Dioxane	ND	NA	0.0500

Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS: 542505
Analyzed: 03/27/2017 17:40
Dilution: 1
Units: ppb

LCSD: 542506
Analyzed: 03/27/2017 18:28
Dilution: 1
Units: ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Vinyl chloride	0.462	0.500	92.3	66.9	144.4	0.467	93.3	1.10	0.0	25.0
cis-1,2-Dichloroethene	0.484	0.500	96.8	52.2	167.4	0.491	98.1	1.38	0.0	25.0
Trichloroethene	0.474	0.500	94.9	33.8	166.6	0.467	93.4	1.55	0.0	25.0
Tetrachloroethene	0.479	0.500	95.8	63.6	150.7	0.466	93.1	2.86	0.0	25.0
1,4-Dioxane	0.494	0.500	98.7	70.0	130.0	0.485	97.1	1.67	0.0	25.0

Surrogate Recoveries

Surrogate	4-Bromofluorobenzene	
QC Limits	48.8	151.8
Units	ppb	

Lab ID	Result	Target	% Recovery
542505-LCS	1.04	1.00	104
542506-LCSD	1.01	1.00	101
542504-MB	0.717	1.00	71.7
1707721001	1.12	1.00	112
1707721002	1.11	1.00	111
1707721003	1.04	1.00	104
1707721004	1.05	1.00	105
1707721005	1.01	1.00	101
1707721006	1.06	1.00	106
1707721007	1.16	1.00	116
1708400001	0.958	1.00	95.8
1708400002	0.922	1.00	92.2
1708400003	0.937	1.00	93.7
1708400004	0.916	1.00	91.6

Quality Control Sample
Batch Report

Analysis Information

Workorder: **1707721**

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15 SIM
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3539 (HBN: 187783)
		Prepared By:	NA	**Analyzed By:**	Lisa M. Reid

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Lisa M. Reid	/S/ Jorden Baum
03/30/2017 10:46	03/30/2017 11:04

Symbols and Definitions

* - Analyte above reporting limit or outside of control limits
▲ - Sample result is greater than 4 times the spike added
◆ - Sample and Matrix Duplicate less than 5 times the reporting limit
● - Result is above the calibration range
- The Matrix Spike, Matrix Spike duplicate or Matrix Duplicate is reported for your information only. The sample matrix may be inappropriate for the method selected.

RPD - Relative % Difference (Spike / Spike Duplicate)
ND - Not Detected (U - Qualifier also flags analyte as not detected)
NA - Not Applicable
QC results are not adjusted for moisture correction, where applicable

1707721

ANALYTICAL REQUEST FORM

1707721
1701684

1. ☑ REGULAR Status [14-Day TAT]

☐ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____ DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 3/17/17 Purchase Order No. 10006-7-107234

3. Company Name CH2M HILL
Address 4246 S. Riverboat Rd, Suite 210
Taylorsville, UT 84123
Person to Contact Mark Cicky
Telephone (510) 229-3274
Fax Telephone ( )
E-mail Address Mark.cicky@ch2m.com
Billing Address (if different from above)

4. Quote No. BOQ20655-12.17-0003
ALS Project Manager Kevin Griffith

5. Sample Collection
Sampling Site AA AOU-1 (SLC, UT)
Industrial Process Residential Indoor Air
Date of Collection 3/10/17 – 3/16/17
Time Collected
Date of Shipment dropped @ Lab
Chain of Custody No. 001

6. How did you first learn about ALS?

7. REQUEST FOR ANALYSES

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
~~0026H-031017-TO-002-BAS~~	~~SUBSLAB Indoor Air~~		~~SIM TO-15 (VOCs)*~~	~~5+6~~	
0027H-031017-TO-001-BAS	"		SIM TO-15 (VOCs)*	5+6	
0022H-031017-TO-002-BAS	"		SIM TO-15 (VOCs)*	5+6	
0013H-031017-TO-001-BAS	"		SIM TO-15 (VOCs)*	5+6	
5025H-031417-TO-001-BAS	"		SIM TO-15 (VOCs)*	5+6	
0009H-031417-TO-001-BAS	"		SIM TO-15 (VOCs)*	5+6	
0012H-031417-TO-001-BAS	"		SIM TO-15 (VOCs)*	5+6	
0028H-031617-TO-001-LAB	"		SIM TO-15 (VOCs)*	5+6	

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % (5.) µg/m³ (6.) ppb (other) Please indicate one or more units in the column entitled Units**

Comments EDD type: Lasspec 7 Data Deliverable: Level 4

* PCE, cis-1,2-DCE, TCE, PCE by ~~TO-15~~ and 1,4-Dioxane by TO-15 SIM

Possible Contamination and/or Chemical Hazards None

7. Chain of Custody (Optional)

Relinquished by		Date/Time	3/17/17 10:35
Received by		Date/Time	3/17/17 1035
Relinquished by		Date/Time	
Received by		Date/Time	

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
ALS Environmental

ALS Environmental
Field Chain-of-Custody Record

CoC #: 001

Page 1 of 1

Client Name & Address: CH2M HILL, 4246 S Riverboat Rd Ste 210, Taylorsville, UT 84123	Project Name & No.: AOU-1, 700 S 1600 E PCE PLUME
	ALS Quote No: RFP # 8QQ20655 - R17 - 0003
	Report to: Mark Cichy
Phone: 385-474-5505	Report to e-mail: mark.cichy@ch2m.com
e-mail: Qun.bingham@ch2m.com	Bill to: PO # 10006-7-107234

Matrix Codes: W) Water, B) Bulk, L) Liquid, F) Filter, S) Soil, G) Wipe, C) Solid, M) Media

Preservation Codes: 1) Cool to 4°C; 2) HCl to pH<2, 4°C; 3) H_2SO_4 to pH<2, 4°C; 4) HNO_3 to pH<2, 4°C; 5) NaOH to pH>12, 4°C; 6) ZnOAc/NaOH to pH>9, 4°C

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: TO-15 [5 in 1]	Preservation Code	Sample Matrix Code	Remarks
~~A-0026H-031017-TO-002-BAS~~	A-0026H	/	~~3/10/17 / 0925~~	1		1		A	~~Final P= -0.05 in Hg~~
A-0027H-031017-TO-001-BAS	A-0027H	/	3/10/17 / 1114	1		1 Canister: 0686		A	Final P= -3.58 in Hg
A-0027H-031017-TO-002-BAS	A-0027H	/	3/10/17 / 1114	1		1 Canister: 0731		A	Final P= ~~-3.58~~ -2.94 in Hg
A-0013H-031017-TO-001-BAS	A-0013H	/	3/10/17 / 1423	1		1 Canister: 0445		A	Final P= -0.06 in Hg
A-0025H-031417-TO-001-BAS	A-0025H	/	3/14/17 / 0910	1		1 Canister: 0475		A	Final P= -1.00 in Hg
A-0004H-031417-TO-001-BAS	A-0004H	/	3/14/17 / 1104	1		1 Canister: 0727		A	Final P= -2.79 in Hg
A-0012H-031417-TO-001-BAS	A-0012H	/	3/14/17 / 1432	1		1 Canister: 0691		A	Final P= -2.36 in Hg
A-0026H-031617-TO-001-LIB	A-0026H	/	3/16/17 / 1508	1		1 Canister: 0740		A	Final P= -3.22 in Hg

Possible Hazard Identification
☒ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Archive _____ Months
☒ Disposal by Lab
(fees assessed for samples retained > 3 months)

Data Deliverable:
☐ Level 1 ☐ Level 3
☐ Level 2 ☑ Level 4
EDD Type: LABSPEC 7

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days (Rush)
☐ 3 Days (Rush) ☒ 14 Days
(Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Jeremy Ey	3/17/17 ~~3/21/14~~	10:35 ~~14:30~~	Lulu Wallette	3/17/17	1035
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Shipped to:
ALS Environmental
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
WEB:www.alsglobal.com

ALS Environmental
Sample Acceptance Check Form

Client: CH2MHill Work order:

Project: AOU1 700 S 1600E PCE Plume

Sample(s) received on: 3/17/2017 Date opened: 3/17/2017 by: Julie Warath/Kevin Gr

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☒	☐	
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Client Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
A-0027H-031017-TO-001-BAS	Summa Can					Pressure on Receipt -4.2
A-0027H-031017-TO-002-BAS	Summa Can					Pressure on Receipt -3.5
A-0013H-031017-TO-001-BAS	Summa Can					Pressure on Receipt -.8
A-0025H-031014-TO-001-BAS	Summa Can					Pressure on Receipt -1.8
A-0004H-031417-TO-001-BAS	Summa Can					Pressure on Receipt -3
A-0012H-031417-TO-001-BAS	Summa Can					Pressure on Receipt -3
A-0026H-031617-TO-001-BAS	Summa Can					Pressure on Receipt -3.5

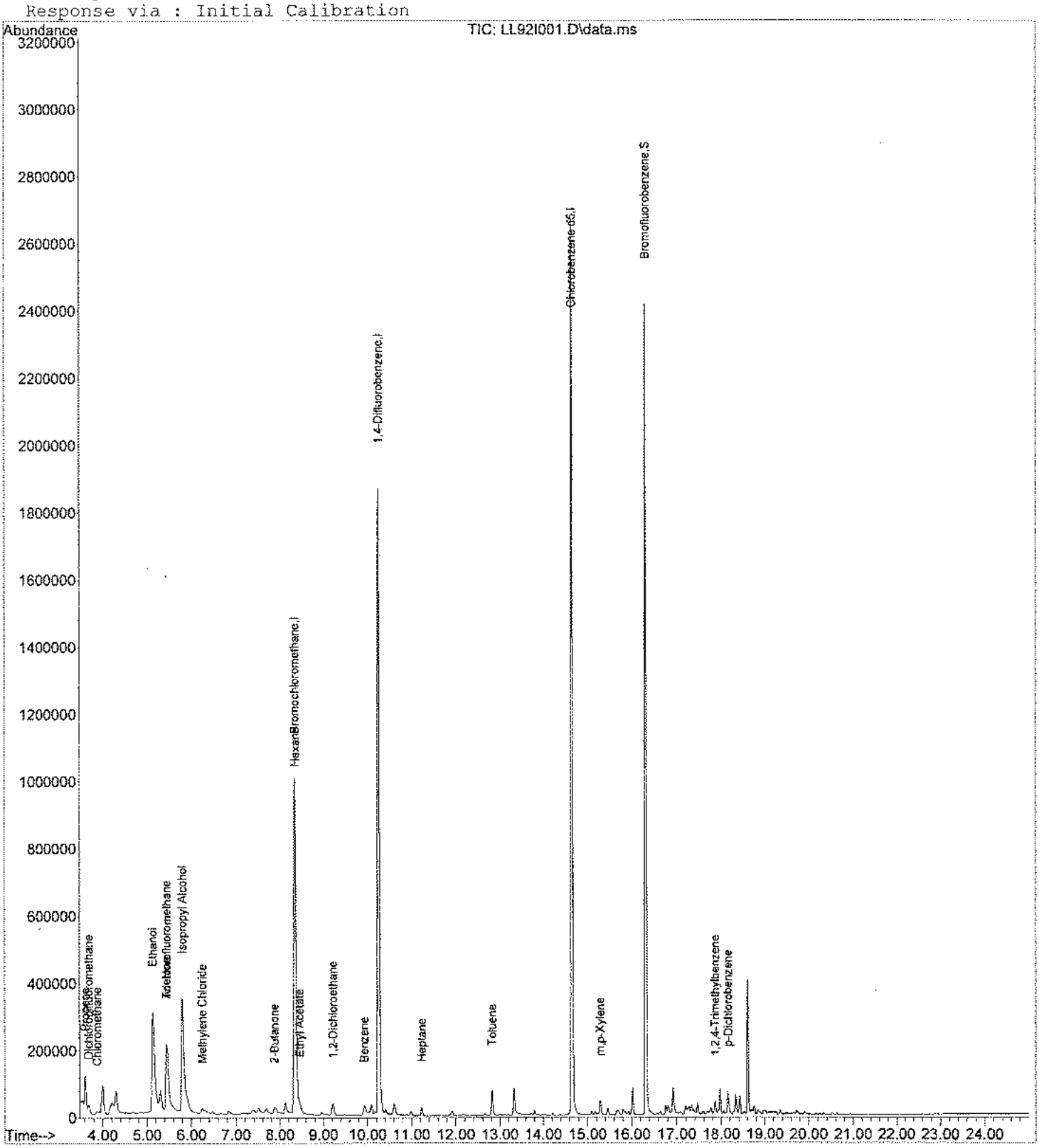
Explain any discrepancies: (include lab sample ID numbers): _____

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL92I001.D Vial: 4
Acq Time : 03/23/2017 14:16 Operator: LMR
Sample : 1707721001 Inst : 5975-L
Misc : A-0027H-031017-TO-001-BAS (4in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:10:54 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL92I001.D Vial: 4
Acq Time : 03/23/2017 14:16 Operator: LMR
Sample : 1707721001 Inst : 5975-L
Misc : A-0027H-031017-TO-001-BAS (4in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:10:54 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.35	130	177754	20.0000 ppb	94.09
25) 1,4-Difluorobenzene	10.25	114	2273482	20.0000 ppb	99.21
50) Chlorobenzene d5	14.66	117	1839182	20.0000 ppb	92.09
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.32	95	988933	20.4998 ppb	102.50%
Target Compounds					Qvalue
2) Propene	3.61	41	36463	1.5258 ppb #	58
3) Dichlorodifluoromethane	3.69	85	42683	0.5899 ppb	100
4) Chloromethane	3.88	50	20415	0.7359 ppb	95
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.44	43	547779	11.7228 ppb	96
12) Trichlorofluoromethane	5.45	101	27727	0.3214 ppb	95
13) Ethanol	5.13	45	798066	90.0818 ppb #	80
14) Isopropyl Alcohol	5.80	45	789702	15.7386 ppb #	88
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.24	84	9089	0.3573 ppb #	40
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.87	43	38277	0.6401 ppb #	60
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	8.46	61	2789	0.2994 ppb #	1
27) Hexane	8.36	57	16721	0.3026 ppb #	84
28) Chloroform	0.00	83		Not Detected	
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	9.22	62	36155	0.7717 ppb #	90
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.92	78	19458	0.2293 ppb #	85
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	11.24	71	6325	0.2182 ppb #	29
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

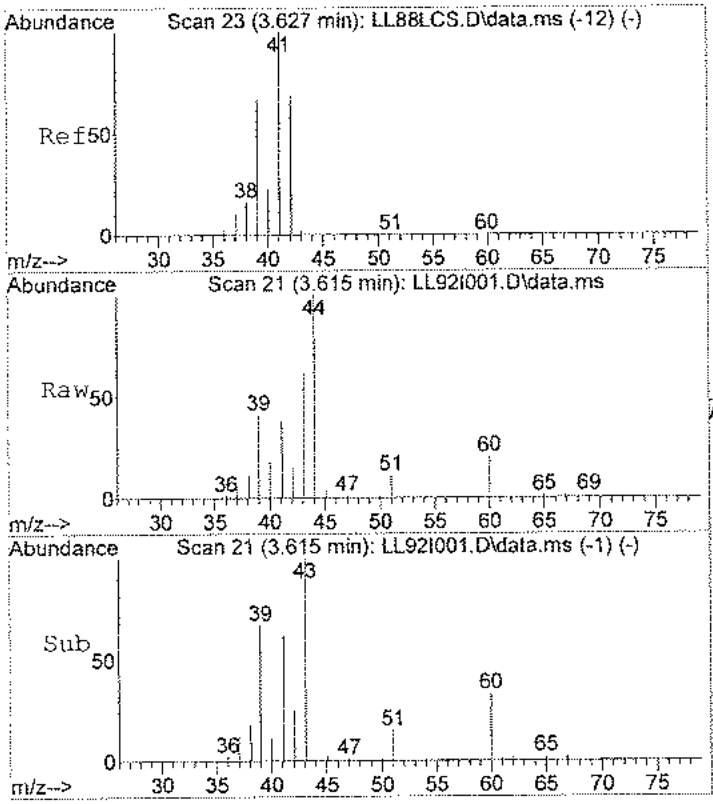
Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL92I001.D Vial: 4
Acq Time : 03/23/2017 14:16 Operator: LMR
Sample : 1707721001 Inst : 5975-L
Misc : A-0027H-031017-TO-001-BAS (4in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:10:54 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45) Toluene	12.82	91	71778	0.6881 ppb	98
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	0.00	91		Not Detected	
53) m,p-Xylene	15.28	91	25952	0.3069 ppb	96
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	0.00	91		Not Detected	
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	17.86	105	16755	0.1898 ppb	94
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	18.15	146	34954	0.5685 ppb #	94
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

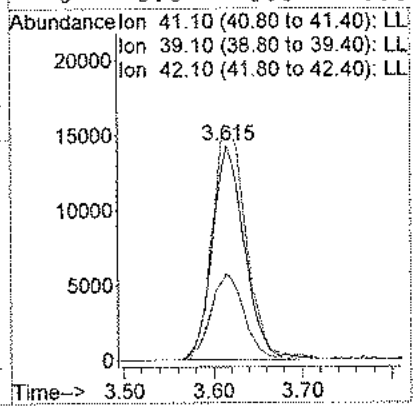
(#) = qualifier out of range (m) = manual integration

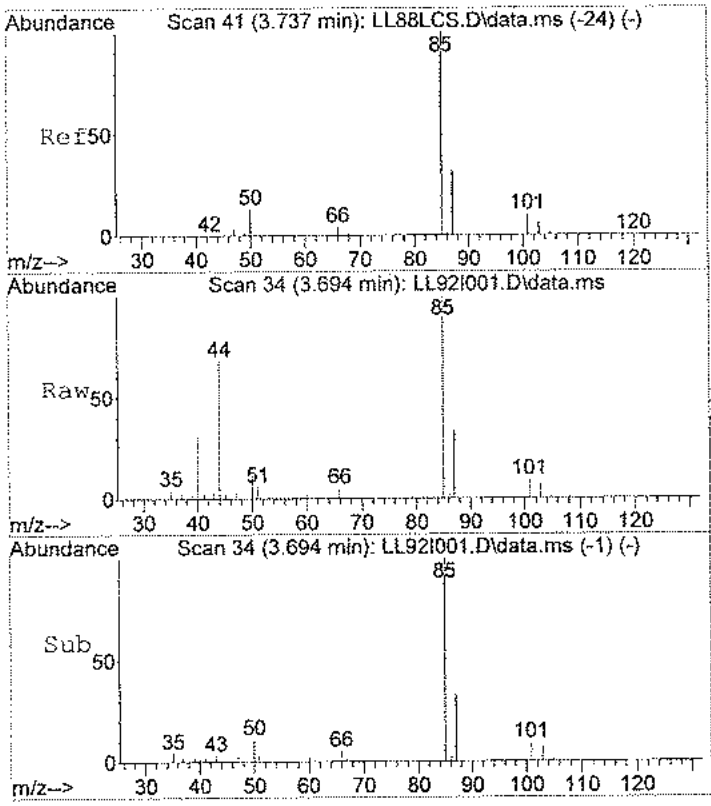


#2
Propene
Concen: 1.53 ppb
RT: 3.61 min Scan# 21
Delta R.T. 0.00 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:41.1 Resp: 36463

Ion	Ratio	Lower	Upper
41	100		
39	112.8	56.2	84.4#
42	41.2	53.8	80.6#
0	0.0	0.0	0.0

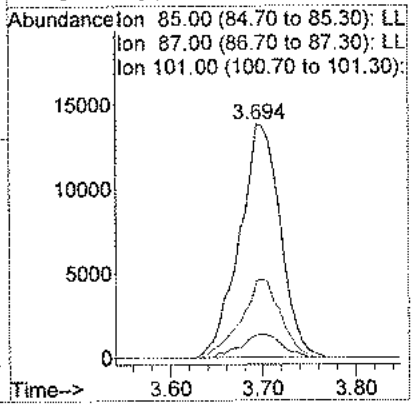


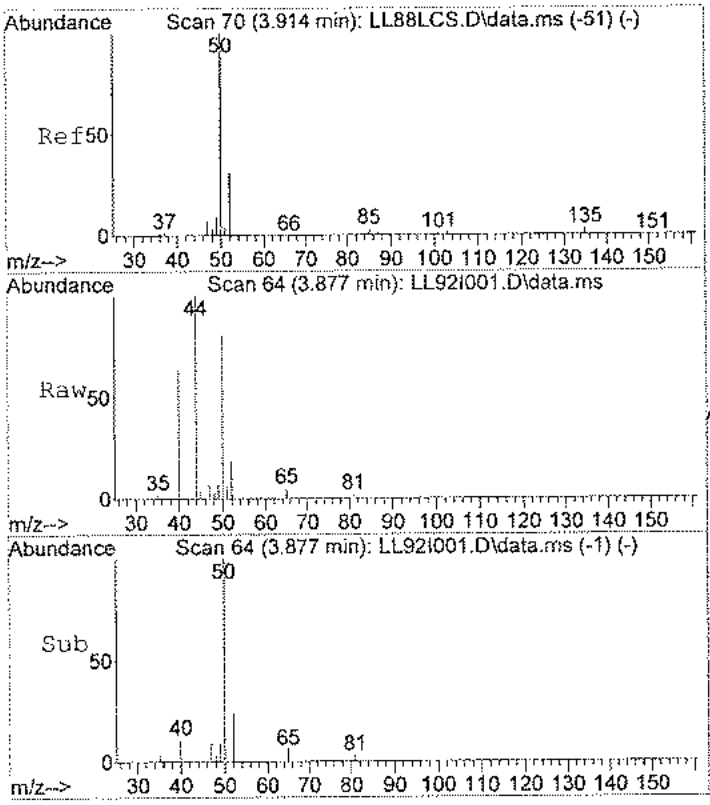


#3
Dichlorodifluoromethane
Concen: 0.59 ppb
RT: 3.69 min Scan# 34
Delta R.T. -0.03 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:85 Resp: 42683

Ion	Ratio	Lower	Upper
85	100		
87	32.5	26.1	39.1
101	9.8	8.0	12.0
0	0.0	0.0	0.0

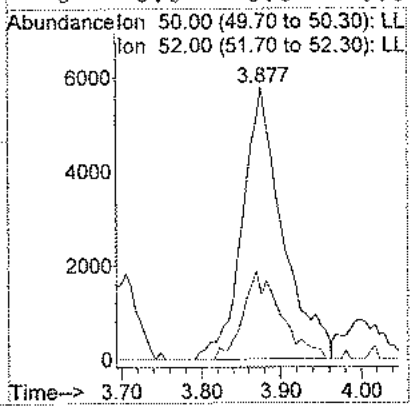


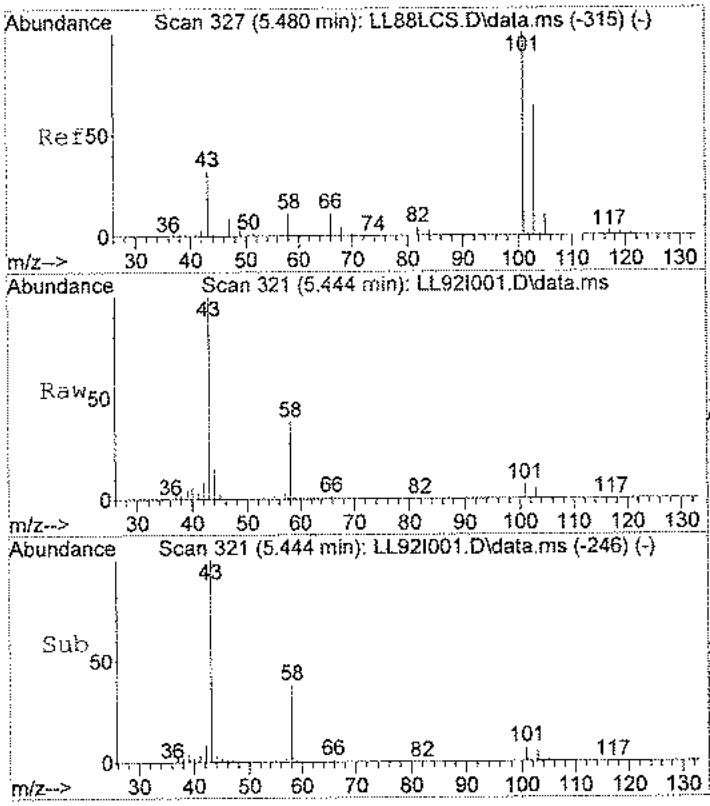


#4
Chloromethane
Concen: 0.74 ppb
RT: 3.88 min Scan# 64
Delta R.T. -0.02 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:50 Resp: 20415

Ion	Ratio	Lower	Upper
50	100		
52	30.4	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

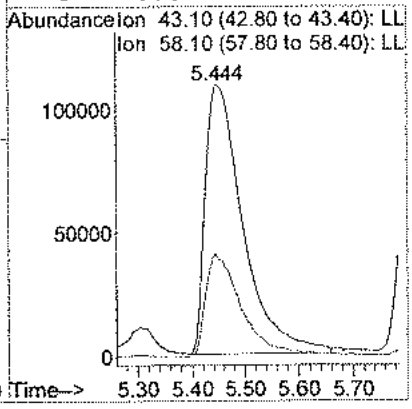


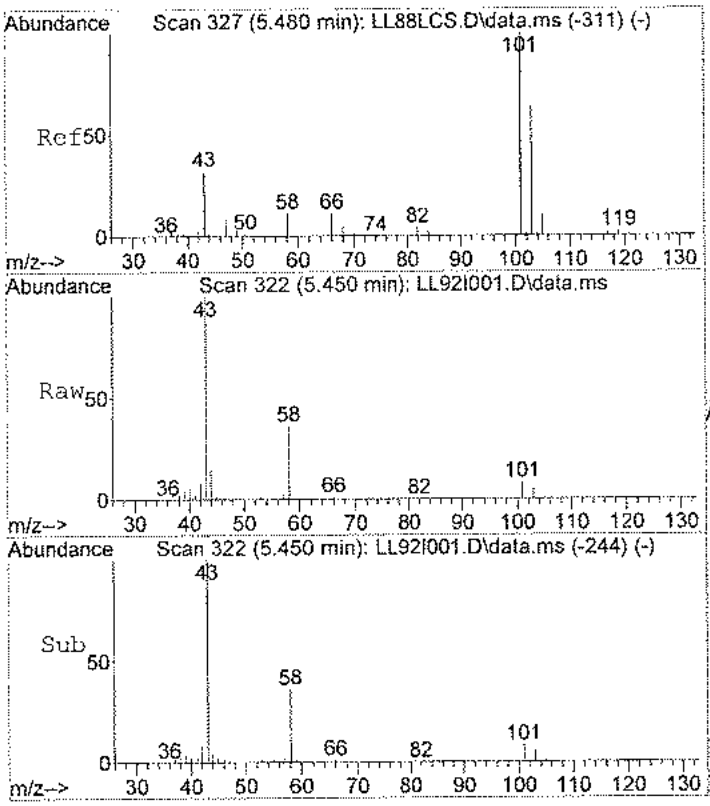


#11
Acetone
Concen: 11.72 ppb
RT: 5.44 min Scan# 321
Delta R.T. -0.04 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:43.1 Resp: 547779

Ion	Ratio	Lower	Upper
43	100		
58	36.0	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

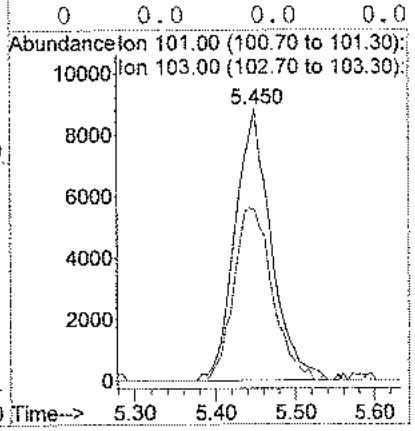


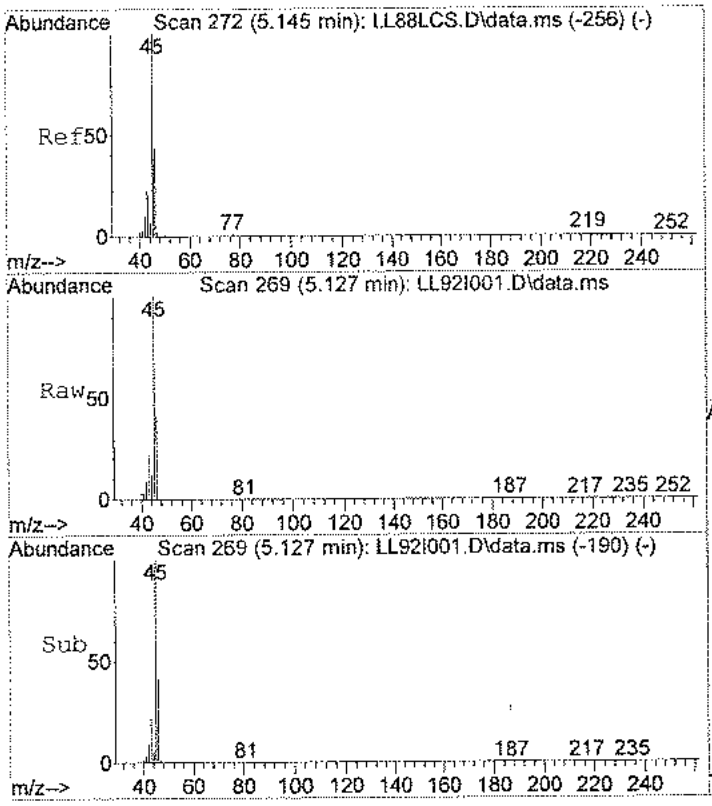


#12
Trichlorofluoromethane
Concen: 0.32 ppb
RT: 5.45 min Scan# 322
Delta R.T. -0.03 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:101 Resp: 27727

Ion	Ratio	Lower	Upper
101	100		
103	68.1	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

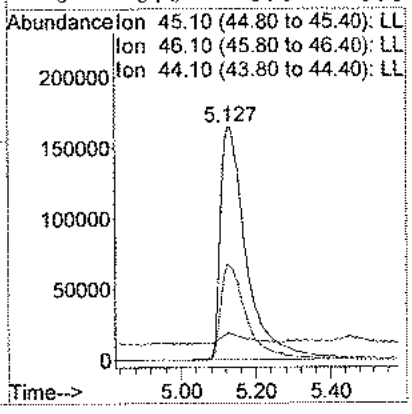


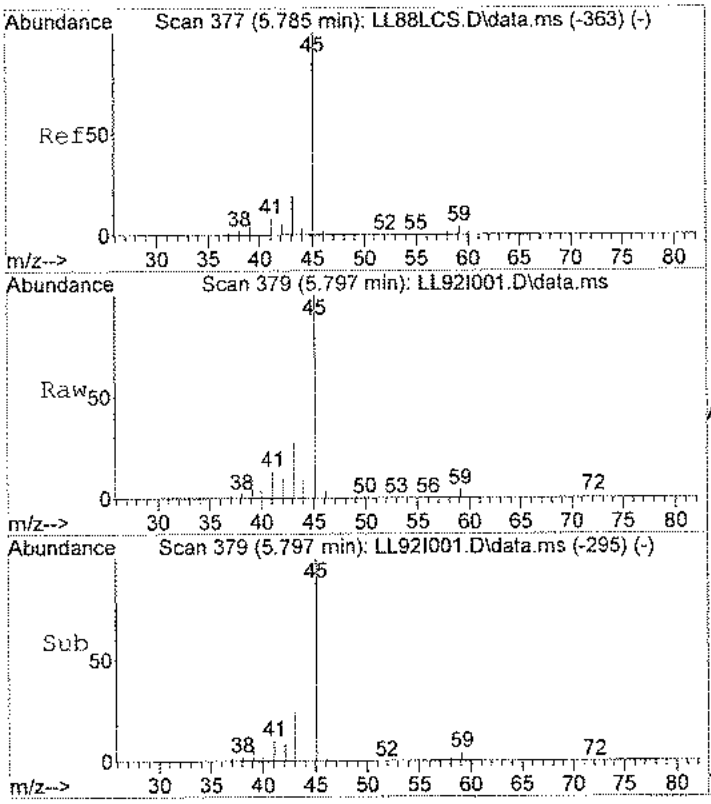


#13
Ethanol
Concen: 90.08 ppb
RT: 5.13 min Scan# 269
Delta R.T. -0.02 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:45.1 Resp: 798066

Ion	Ratio	Lower	Upper
45	100		
46	39.9	32.4	48.6
44	4.4	23.4	35.2#
0	0.0	0.0	0.0

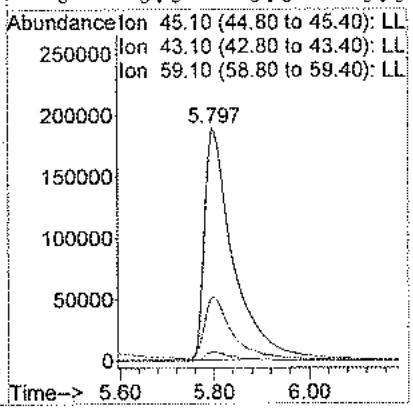


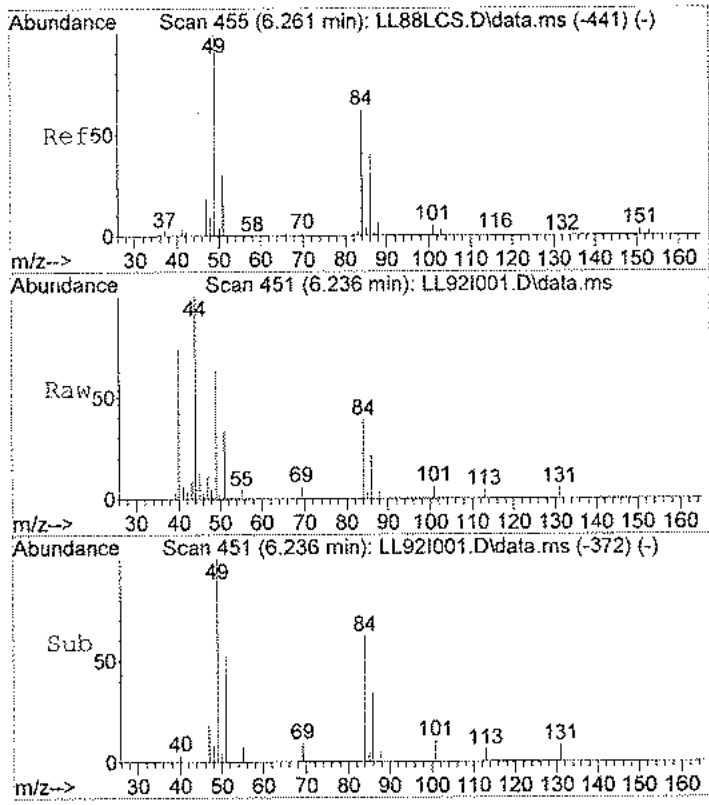


#14
Isopropyl Alcohol
Concen: 15.74 ppb
RT: 5.80 min Scan# 379
Delta R.T. 0.01 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:45.1 Resp: 789702

Ion	Ratio	Lower	Upper
45	100		
43	26.2	15.8	23.6#
59	4.0	3.2	4.8
0	0.0	0.0	0.0

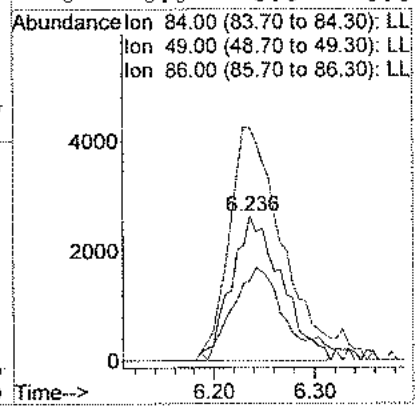


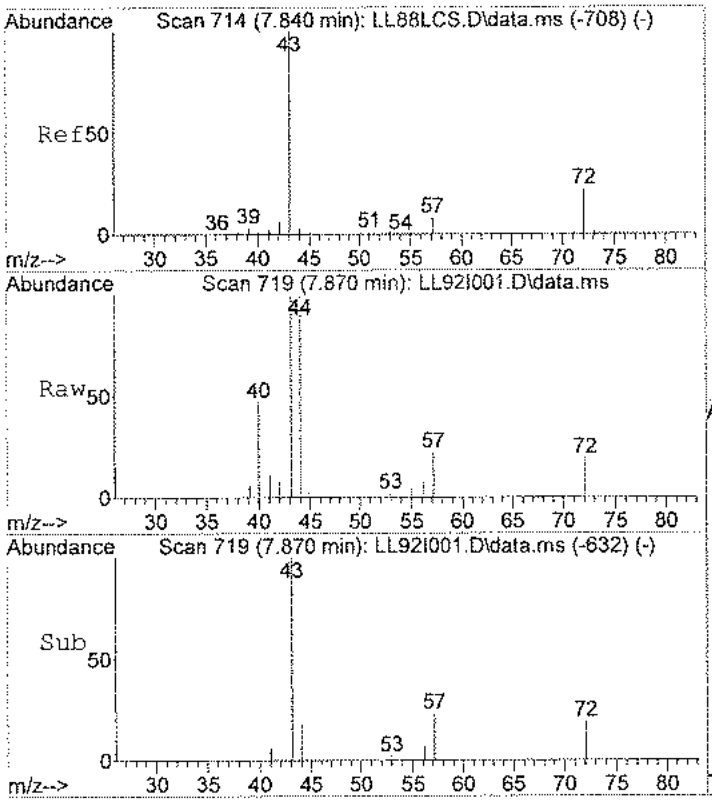


#16
Methylene Chloride
Concen: 0.36 ppb
RT: 6.24 min Scan# 451
Delta R.T. -0.02 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:84 Resp: 9089

Ion	Ratio	Lower	Upper
84	100		
49	176.0	66.6	100.0#
86	68.4	51.6	77.4
0	0.0	0.0	0.0

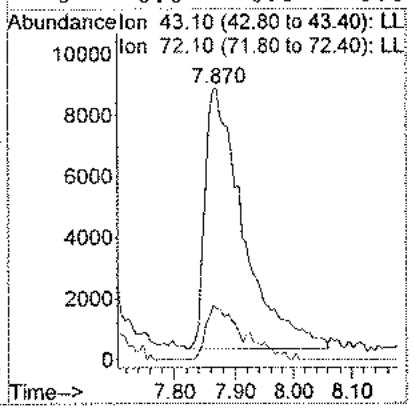


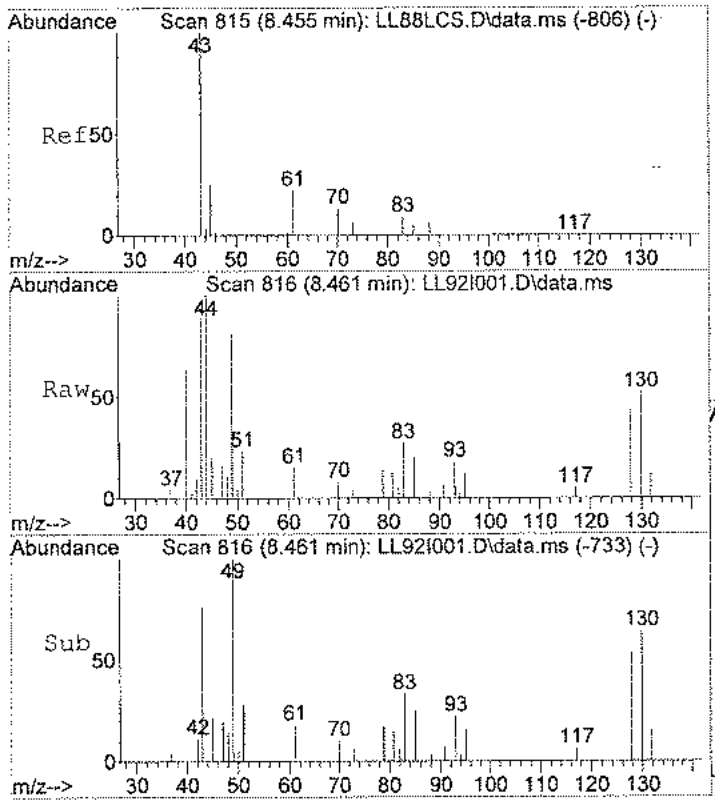


#23
2-Butanone
Concen: 0.64 ppb
RT: 7.87 min Scan# 719
Delta R.T. 0.03 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:43.1 Resp: 38277

Ion	Ratio	Lower	Upper
43	100		
72	14.3	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

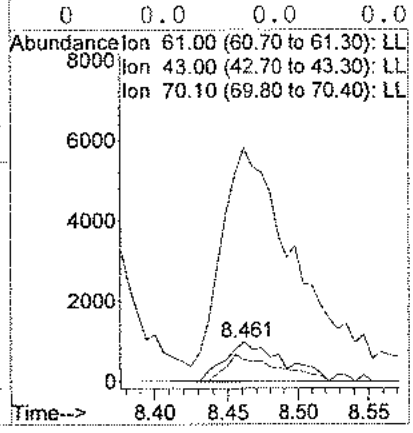


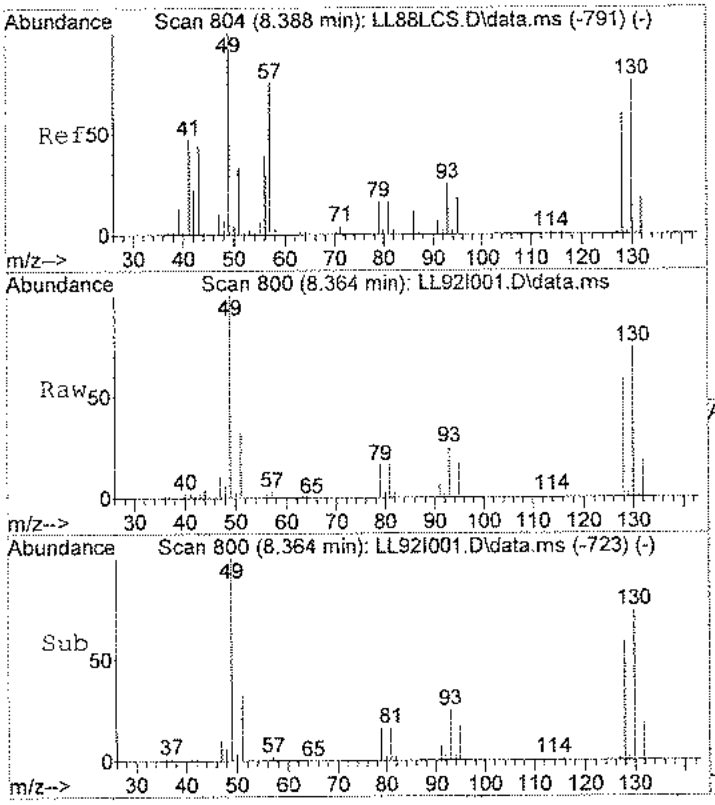


#26
Ethyl Acetate
Concen: 0.30 ppb
RT: 8.46 min Scan# 816
Delta R.T. 0.00 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:61 Resp: 2789

Ion	Ratio	Lower	Upper
61	100		
43	688.0	144.0	216.0#
70	59.6	13.6	20.4#
0	0.0	0.0	0.0

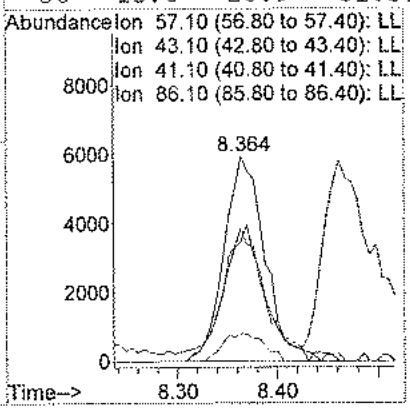


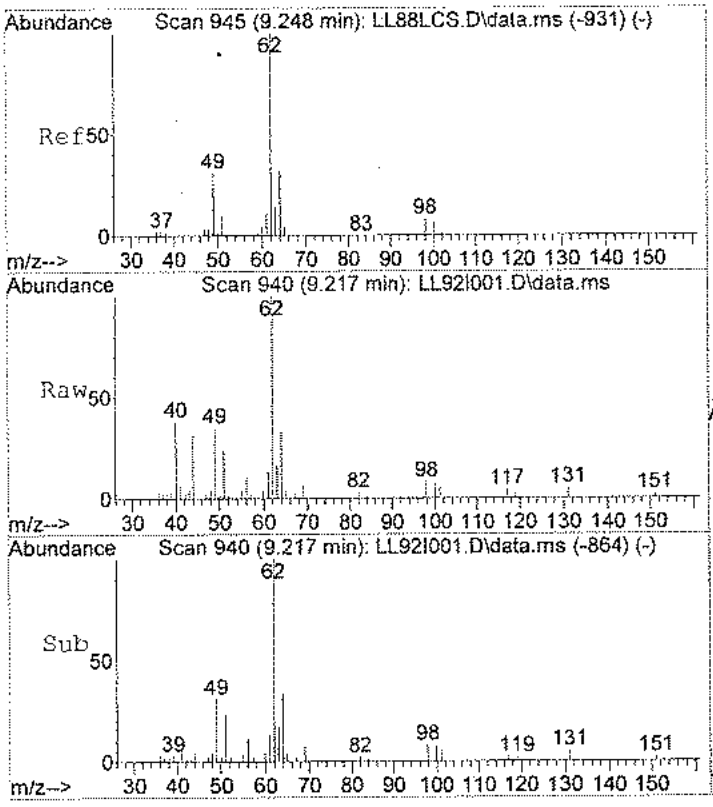


#27
Hexane
Concen: 0.30 ppb
RT: 8.36 min Scan# 800
Delta R.T. -0.03 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:57.1 Resp: 16721

Ion	Ratio	Lower	Upper
57	100		
43	56.3	57.3	85.9#
41	66.2	47.0	70.4
86	13.6	20.9	31.3#

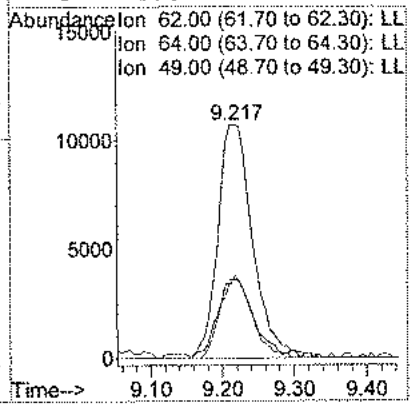


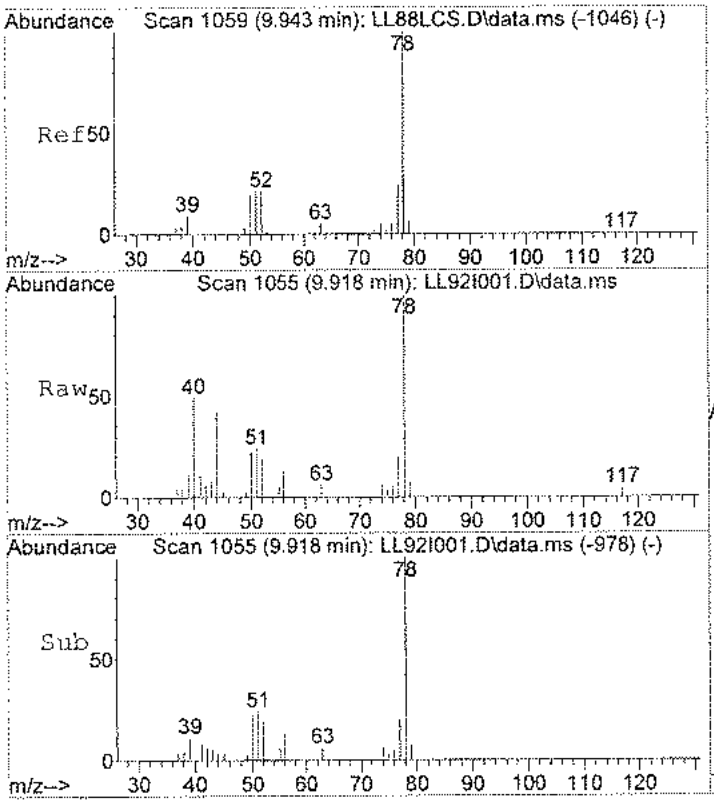


#30
1,2-Dichloroethane
Concen: 0.77 ppb
RT: 9.22 min Scan# 940
Delta R.T. -0.04 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:62 Resp: 36155

Ion	Ratio	Lower	Upper
62	100		
64	32.2	26.0	39.0
49	35.0	18.5	27.7#
0	0.0	0.0	0.0

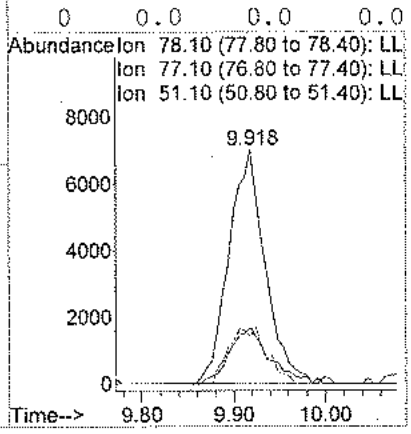


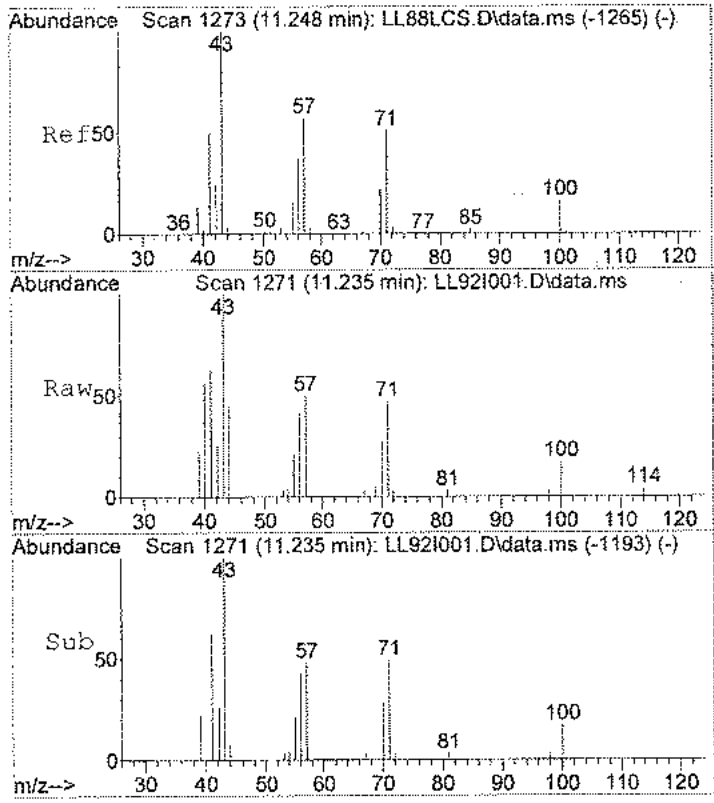


#32
Benzene
Concen: 0.23 ppb
RT: 9.92 min Scan# 1055
Delta R.T. -0.03 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:78.1 Resp: 19458

Ion	Ratio	Lower	Upper
78	100		
77	25.1	18.2	27.4
51	25.8	9.5	14.3#
0	0.0	0.0	0.0

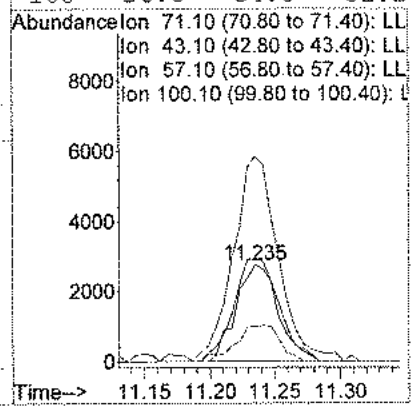


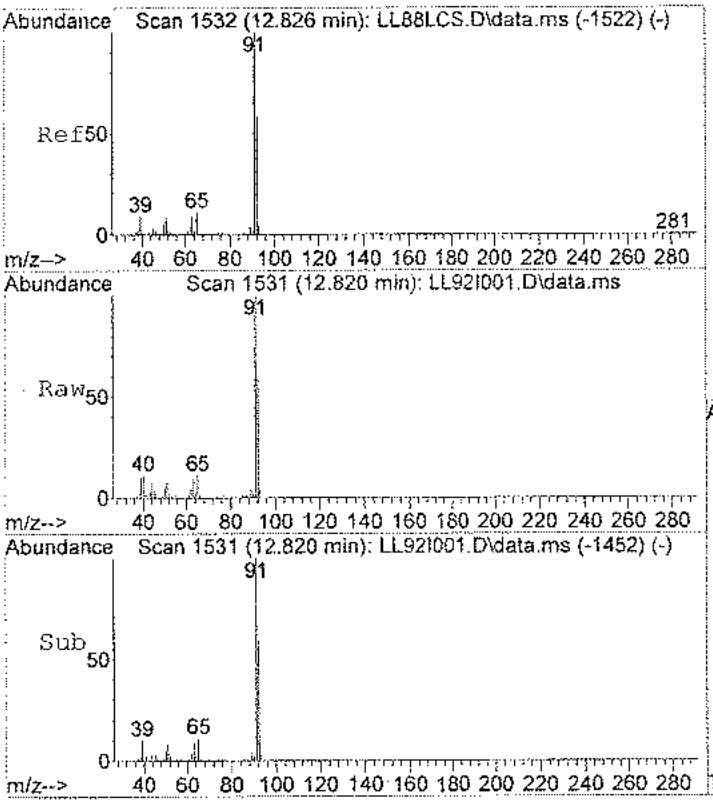


#40
Heptane
Concen: 0.22 ppb
RT: 11.24 min Scan# 1271
Delta R.T. -0.03 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:71.1 Resp: 6325

Ion	Ratio	Lower	Upper
71	100		
43	223.4	87.3	130.9#
57	113.6	57.8	86.6#
100	36.8	34.8	52.2

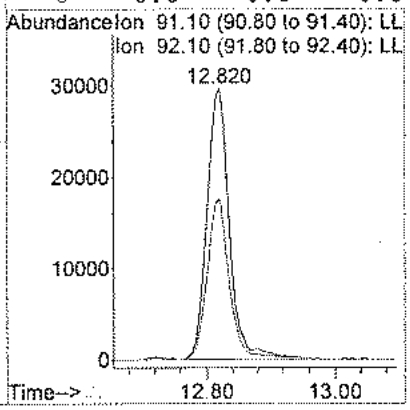


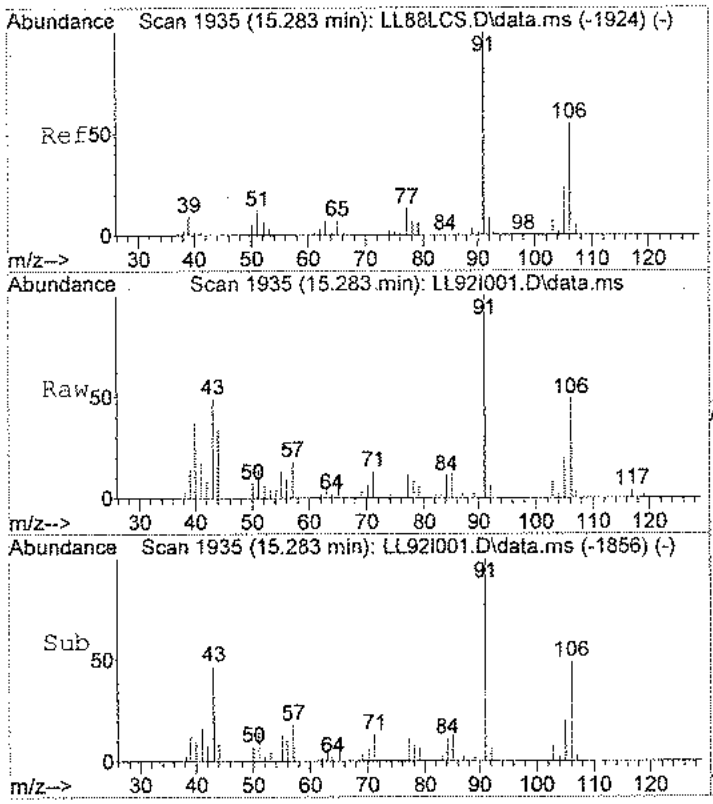


#45
Toluene
Concen: 0.69 ppb
RT: 12.82 min Scan# 1531
Delta R.T. -0.02 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:91.1 Resp: 71778

Ion	Ratio	Lower	Upper
91	100		
92	58.3	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

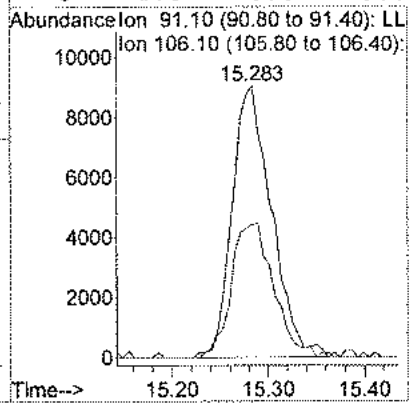


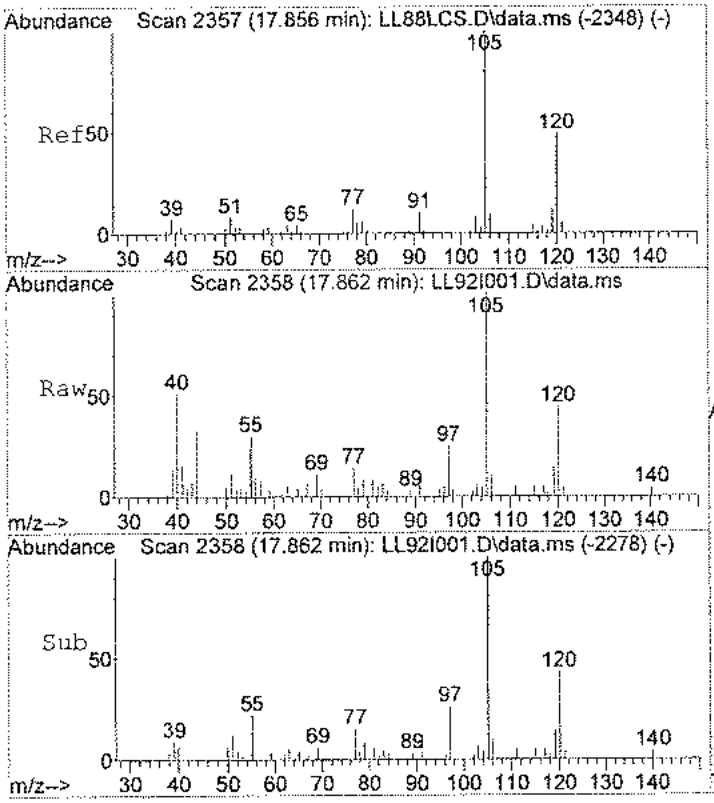


#53
m,p-Xylene
Concen: 0.31 ppb
RT: 15.28 min Scan# 1935
Delta R.T. -0.02 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:91.1 Resp: 25952

Ion	Ratio	Lower	Upper
91	100		
106	53.0	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

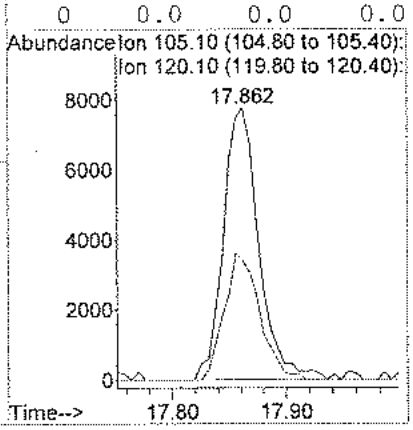


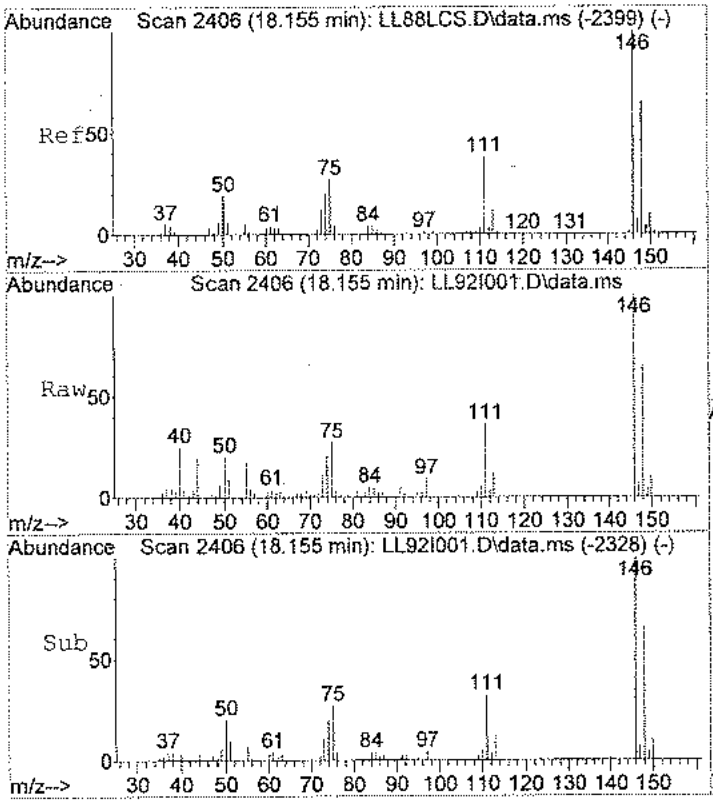


#61
1,2,4-Trimethylbenzene
Concen: 0.19 ppb
RT: 17.86 min Scan# 2358
Delta R.T. -0.01 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:105.1 Resp: 16755

Ion	Ratio	Lower	Upper
105	100		
120	46.5	40.7	61.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

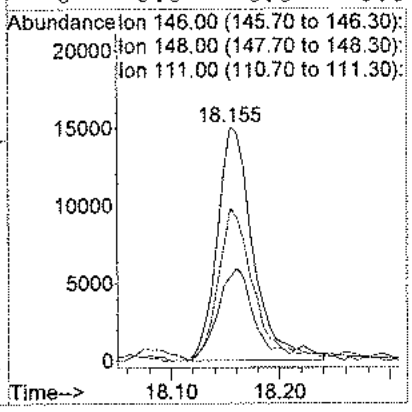




#64
p-Dichlorobenzene
Concen: 0.57 ppb
RT: 18.15 min Scan# 2406
Delta R.T. -0.03 min
Lab File: LL92I001.D
Acq: 03/23/2017 14:16

Tgt Ion:146 Resp: 34954

Ion	Ratio	Lower	Upper
146	100		
148	63.8	51.7	77.5
111	39.5	24.6	36.8#
0	0.0	0.0	0.0



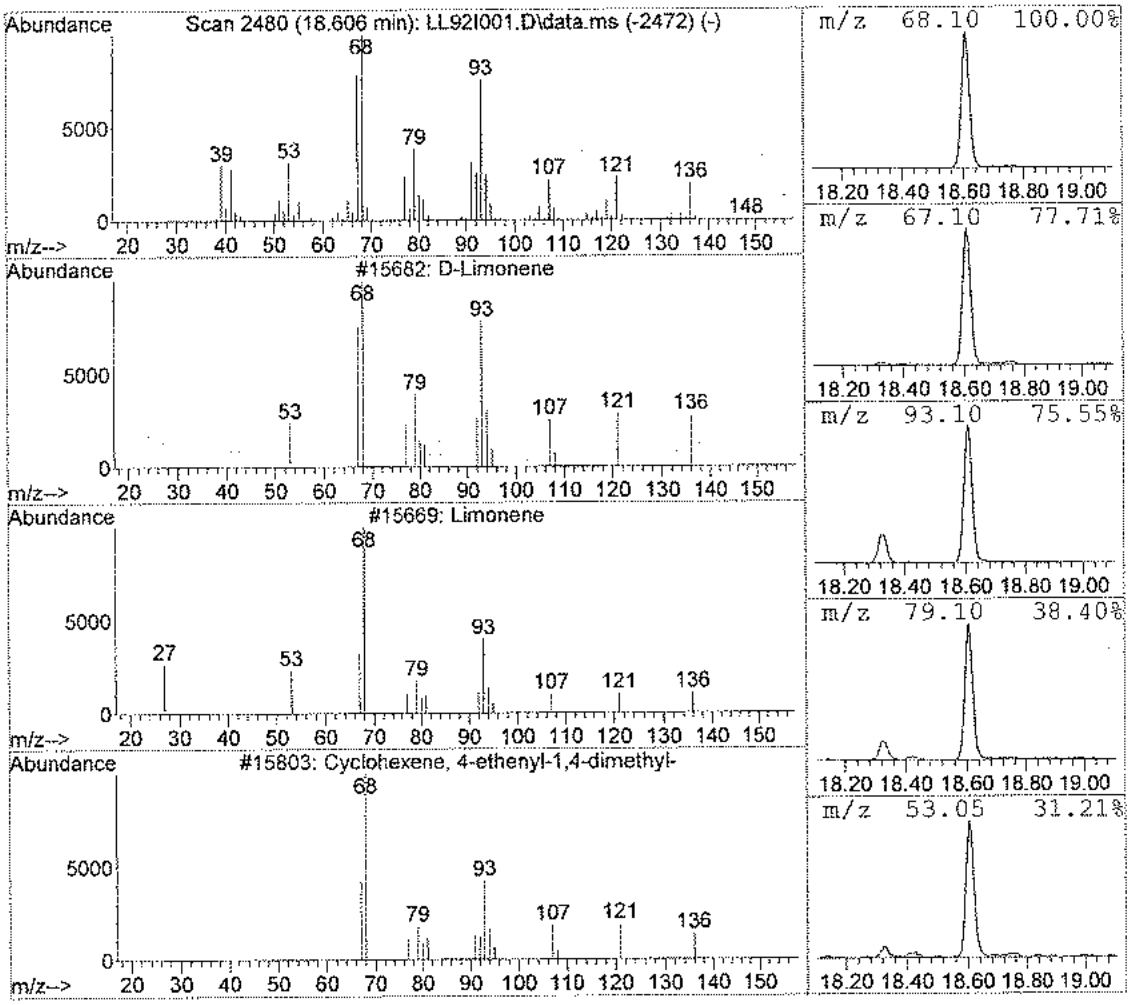
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL92I001.D Vial: 4
Acq Time : 03/23/2017 14:16 Operator: LMR
Sample : 1707721001 Inst : 5975-L
Misc : A-0027H-031017-TO-001-BAS (4in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
18.61	2.76 ppb	764765	Chlorobenzene d5	5538511

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	D-Limonene	15682	005989-27-5	98.00
2	Limonene	15669	000138-86-3	89.00
3	Cyclohexene, 4-ethenyl-1,4-dimethyl	15803	001743-61-9	70.00
4	Bicyclo[2.2.1]heptane, 7,7-dimethyl	15886	000471-84-1	64.00
5	Cyclohexene, 1-methyl-4-(1-methylet	15879	005989-54-8	62.00

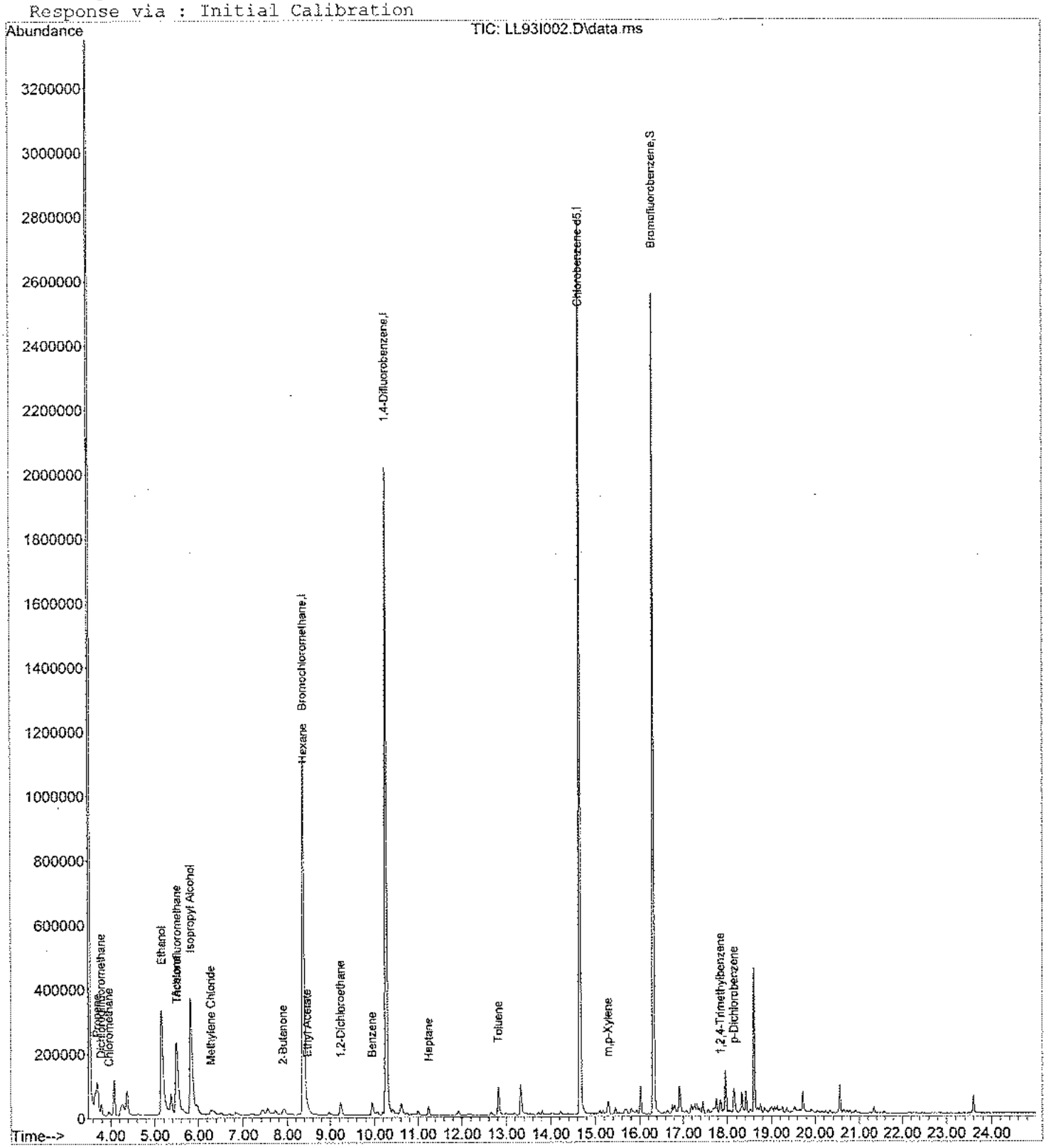


Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL93I002.D Vial: 5
Acq Time : 03/23/2017 15:07 Operator: LMR
Sample : 1707721002 Inst : 5975-L
Misc : A-0027H-031017-TO-002-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:12:53 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL93I002.D Vial: 5
Acq Time : 03/23/2017 15:07 Operator: LMR
Sample : 1707721002 Inst : 5975-L
Misc : A-0027H-031017-TO-002-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:12:53 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	8.38	130	202176	20.0000 ppb		107.01
25) 1,4-Difluorobenzene	10.27	114	2342735	20.0000 ppb		102.24
50) Chlorobenzene d5	14.66	117	1880217	20.0000 ppb		94.14
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	16.32	95	1028342	20.8515 ppb		104.26%
Target Compounds						Qvalue
2) Propene	3.70	41	42165	1.5513 ppb	#TLL10	59
3) Dichlorodifluoromethane	3.79	85	45434	0.5521 ppb		98
4) Chloromethane	3.96	50	21690	0.6874 ppb		92
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	0.00	54		Not Detected		
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	0.00	56		Not Detected		
11) Acetone	5.49	43	591411	11.1277 ppb		97
12) Trichlorofluoromethane	5.51	101	29078	0.2963 ppb		99
13) Ethanol	5.15	45	816244	81.0043 ppb	#TIC	80
14) Isopropyl Alcohol	5.82	45	872731	15.2923 ppb	#TIC	89
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	6.29	84	9860	0.3408 ppb	#	50
17) Freon 113	0.00	151		Not Detected		
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	0.00	86		Not Detected		
23) 2-Butanone	7.89	43	42221	0.6208 ppb	#	66
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	8.47	61	2668	0.2779 ppb	#	1
27) Hexane	8.39	57	15851	0.2784 ppb	#	86
28) Chloroform	0.00	83		Not Detected		
29) Tetrahydrofuran	0.00	42		Not Detected		
30) 1,2-Dichloroethane	9.24	62	39195	0.8119 ppb	#	88
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	9.94	78	15001	0.1715 ppb	#	87
33) Carbon Tetrachloride	0.00	117		Not Detected		
34) Cyclohexane	0.00	84		Not Detected		
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	0.00	83		Not Detected		
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	0.00	130		Not Detected		
39) Methyl Methacrylate	0.00	69		Not Detected		
40) Heptane	11.25	71	6331	0.2120 ppb	#	24
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected		
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	0.00	97		Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

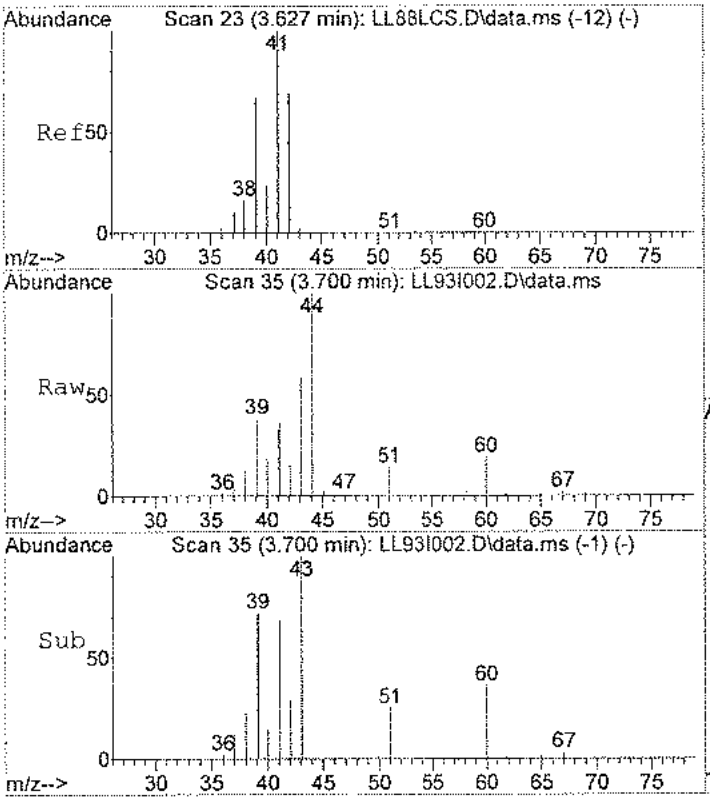
Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL93I002.D Vial: 5
Acq Time : 03/23/2017 15:07 Operator: LMR
Sample : 1707721002 Inst : 5975-L
Misc : A-0027H-031017-TO-002-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:12:53 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45) Toluene	12.83	91	79313	0.7379 ppb	97
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	0.00	91		Not Detected	
53) m,p-Xylene	15.28	91	26110	0.3020 ppb	94
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	0.00	91		Not Detected	
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	17.86	105	21386	0.2370 ppb	96
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	18.16	146	41817	0.6653 ppb #	91
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

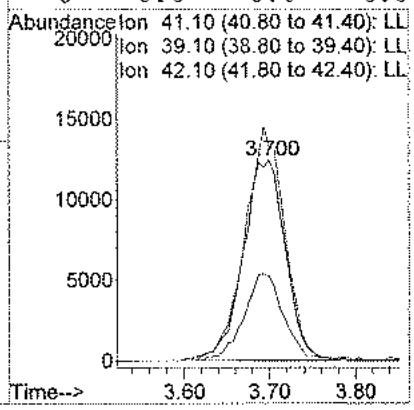
(#) = qualifier out of range (m) = manual integration

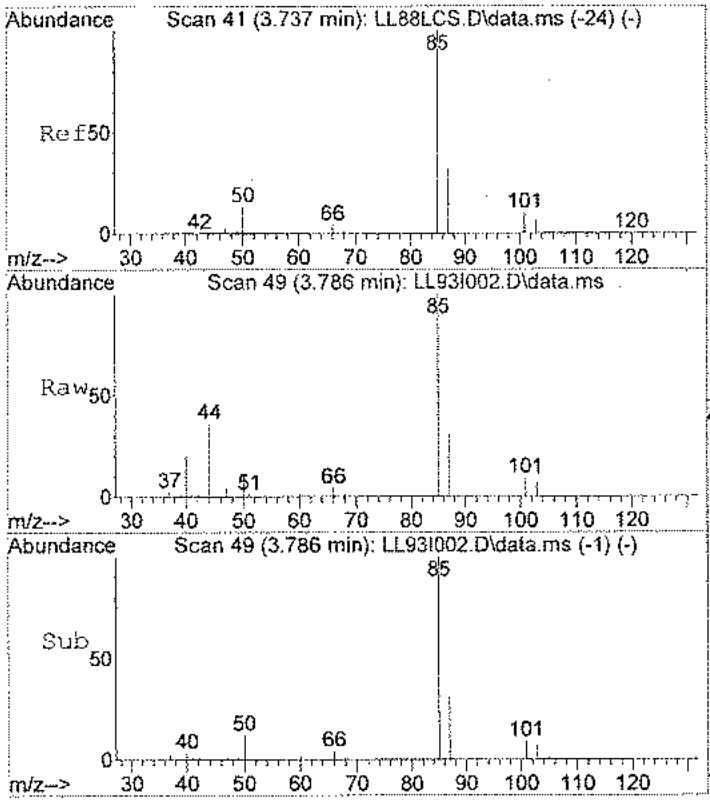


#2
Propene
Concen: 1.55 ppb
RT: 3.70 min Scan# 35
Delta R.T. 0.09 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:41.1 Resp: 42165

Ion	Ratio	Lower	Upper
41	100		
39	110.7	56.2	84.4#
42	40.3	53.8	80.6#
0	0.0	0.0	0.0

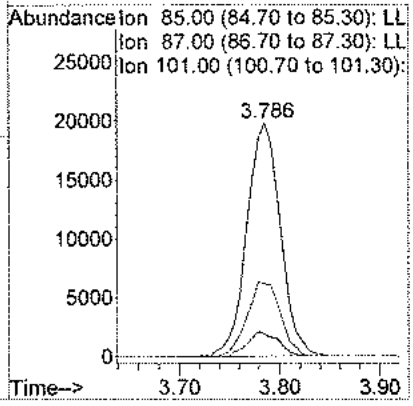


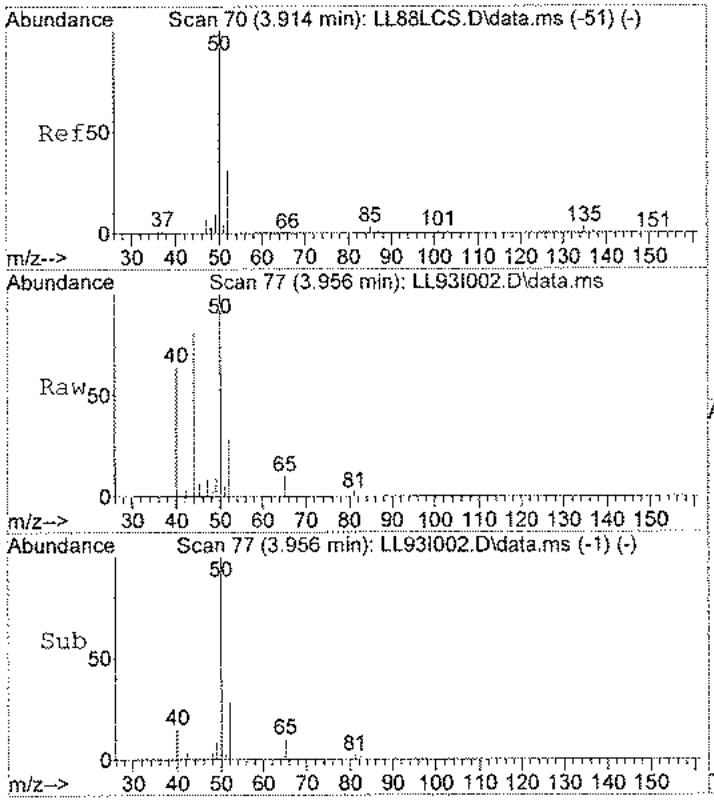


#3
Dichlorodifluoromethane
Concen: 0.55 ppb
Rt: 3.79 min Scan# 49
Delta R.T. 0.07 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:85 Resp: 45434

Ion	Ratio	Lower	Upper
85	100		
87	31.5	26.1	39.1
101	9.6	8.0	12.0
0	0.0	0.0	0.0

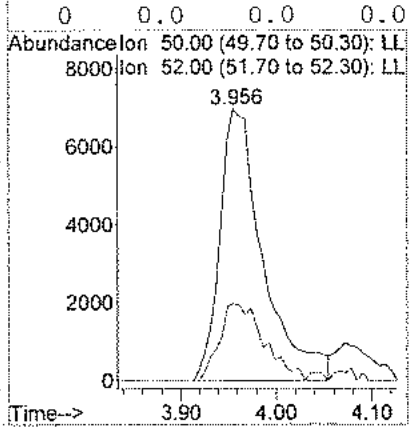


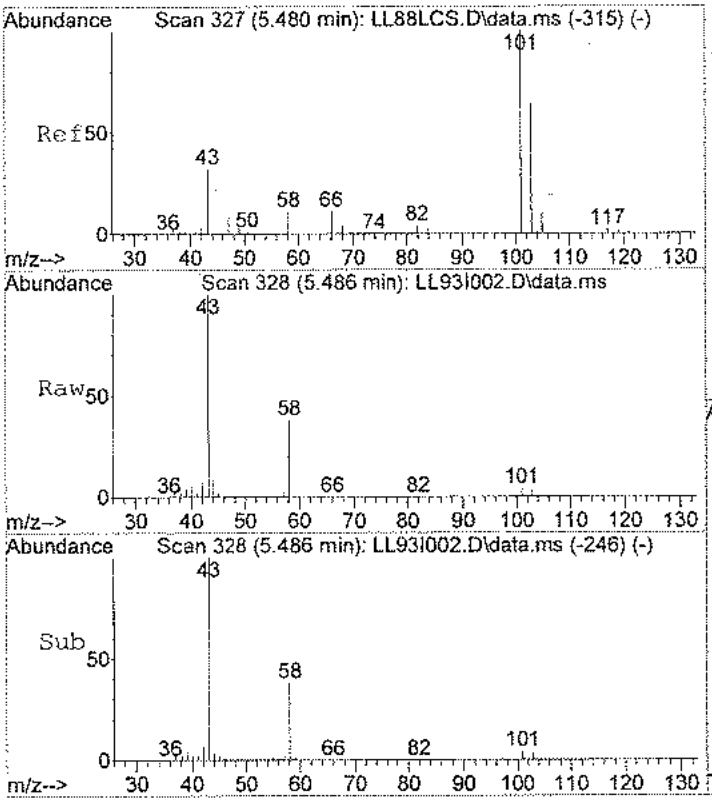


#4
Chloromethane
Concen: 0.69 ppb
RT: 3.96 min Scan# 77
Delta R.T. 0.06 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:50 Resp: 21690

Ion	Ratio	Lower	Upper
50	100		
52	29.0	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

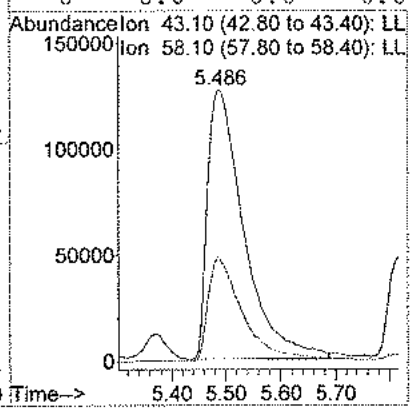


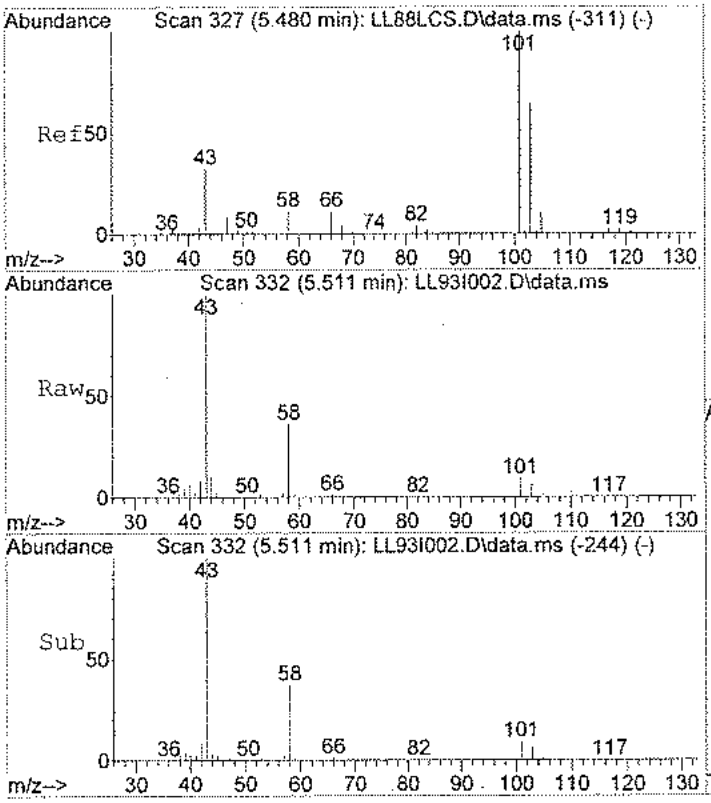


#11
Acetone
Concen: 11.13 ppb
RT: 5.49 min Scan# 328
Delta R.T. -0.00 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:43.1 Resp: 591411

Ion	Ratio	Lower	Upper
43	100		
58	36.8	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

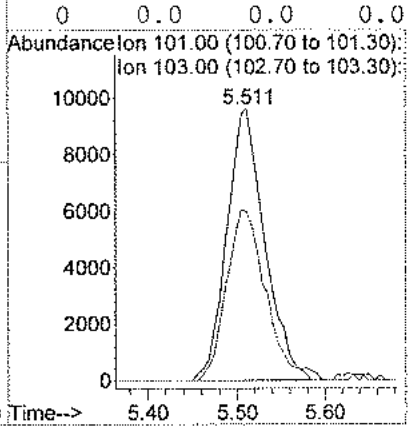


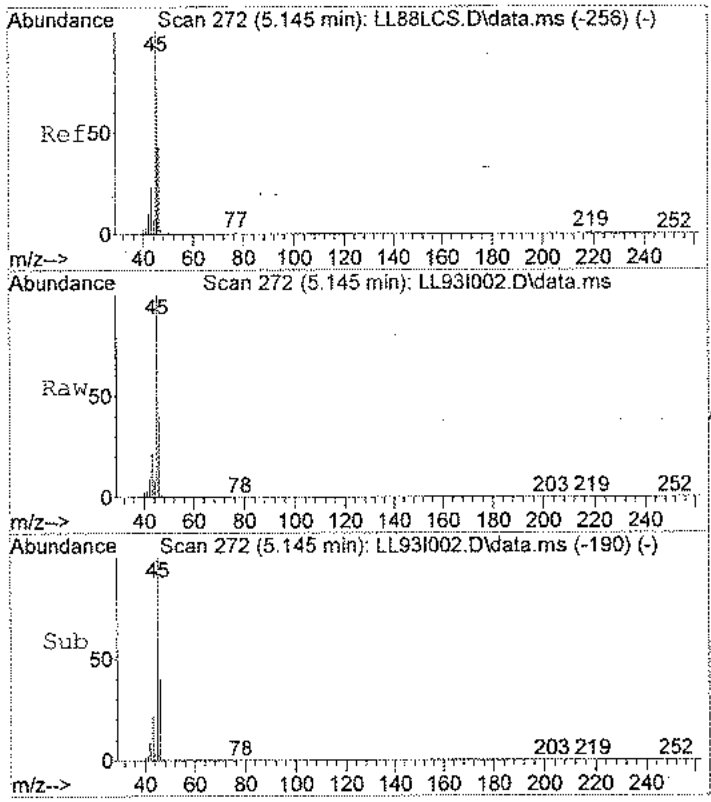


#12
Trichlorofluoromethane
Concen: 0.30 ppb
RT: 5.51 min Scan# 332
Delta R.T. 0.03 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:101 Resp: 29078

Ion	Ratio	Lower	Upper
101	100		
103	63.7	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

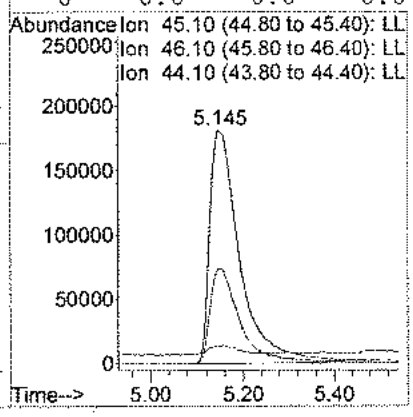


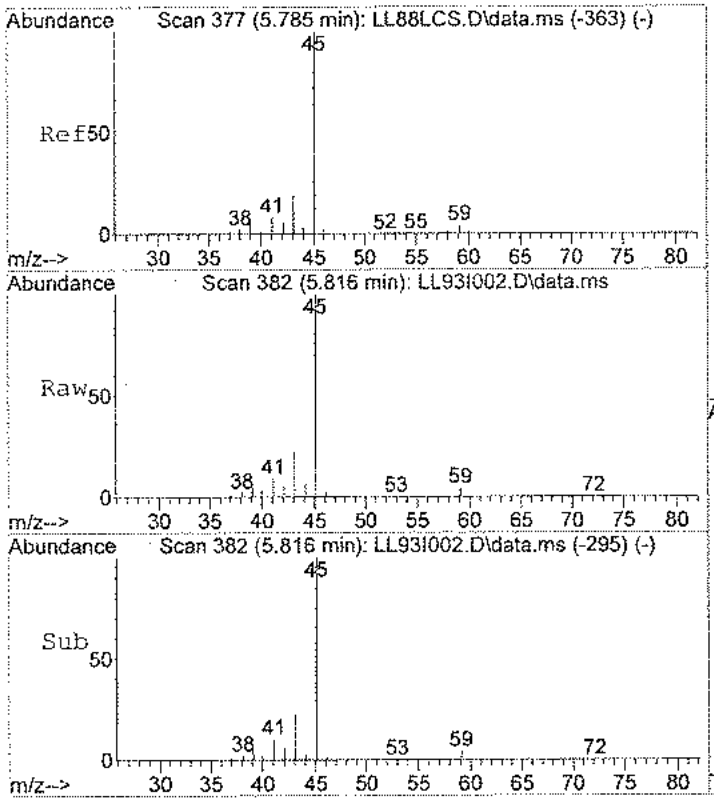


#13
Ethanol
Concen: 81.00 ppb
RT: 5.15 min Scan# 272
Delta R.T. -0.00 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:45.1 Resp: 816244

Ion	Ratio	Lower	Upper
45	100		
46	40.1	32.4	48.6
44	4.0	23.4	35.2#
0	0.0	0.0	0.0

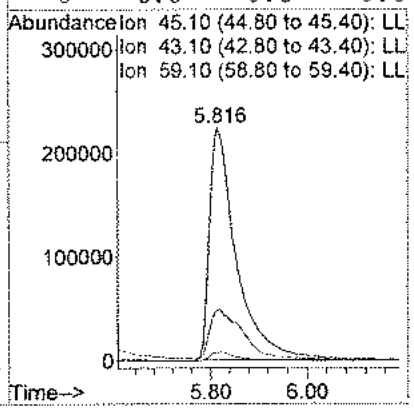


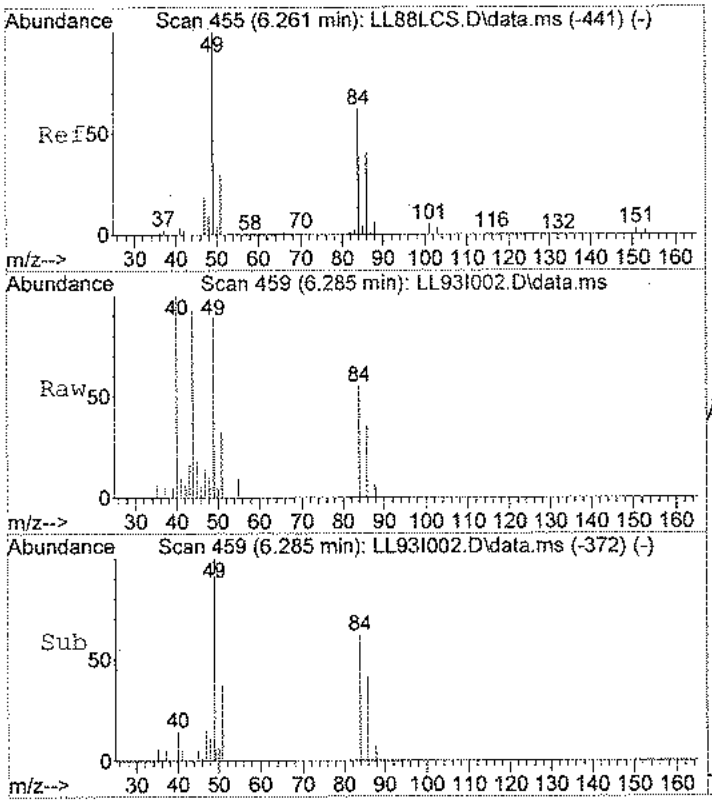


#14
Isopropyl Alcohol
Concen: 15.29 ppb
RT: 5.82 min Scan# 382
Delta R.T. 0.03 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:45.1 Resp: 872731

Ion	Ratio	Lower	Upper
45	100		
43	25.6	15.8	23.6#
59	3.8	3.2	4.8
0	0.0	0.0	0.0

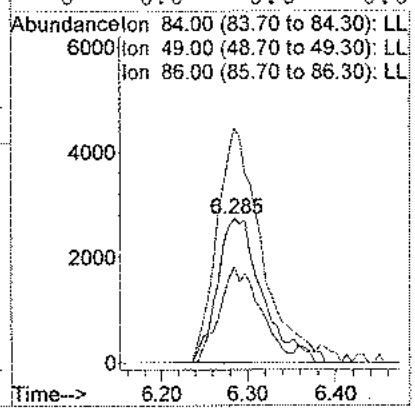


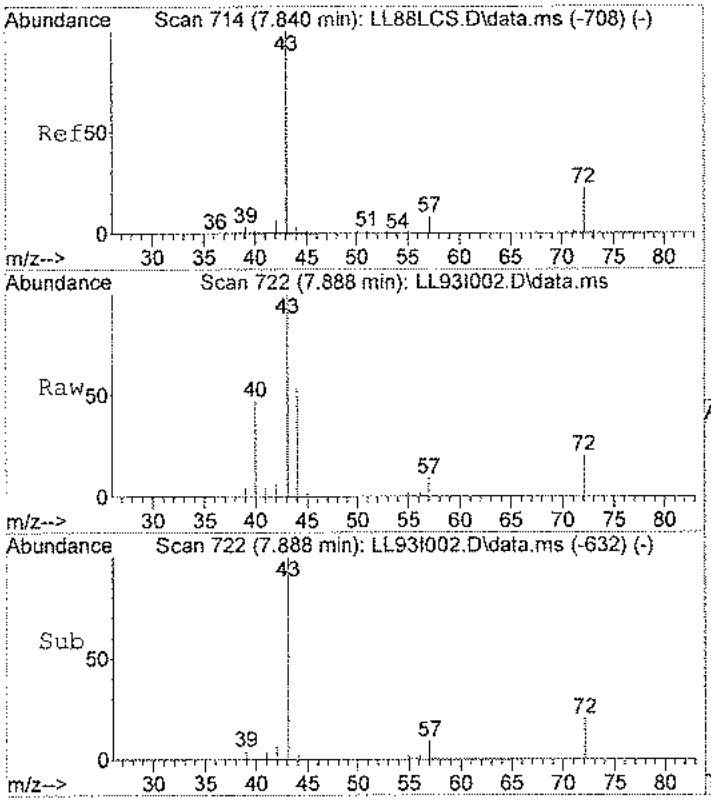


#16
Methylene Chloride
Concen: 0.34 ppb
RT: 6.29 min Scan# 459
Delta R.T. 0.03 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:84 Resp: 9860

Ion	Ratio	Lower	Upper
84	100		
49	158.2	66.6	100.0#
86	59.6	51.6	77.4
0	0.0	0.0	0.0

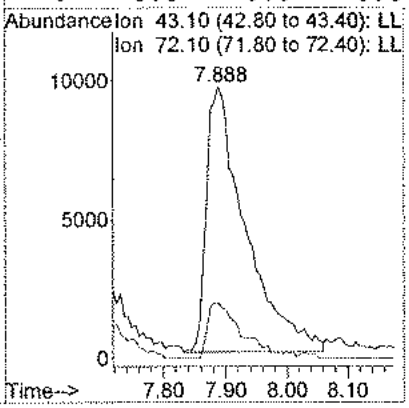


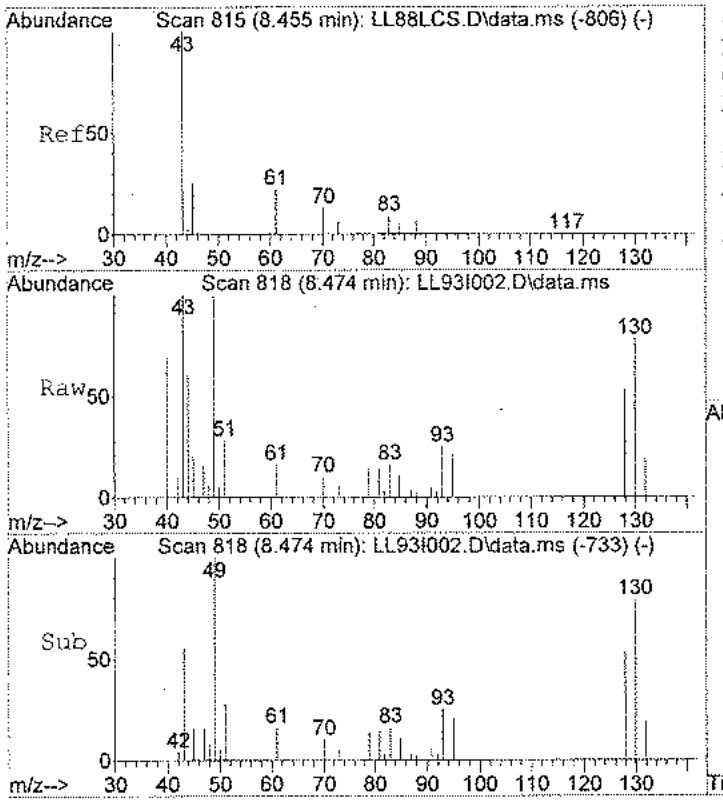


#23
2-Butanone
Concen: 0.62 ppb
RT: 7.89 min Scan# 722
Delta R.T. 0.05 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:43.1 Resp: 42221

Ion	Ratio	Lower	Upper
43	100		
72	18.1	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

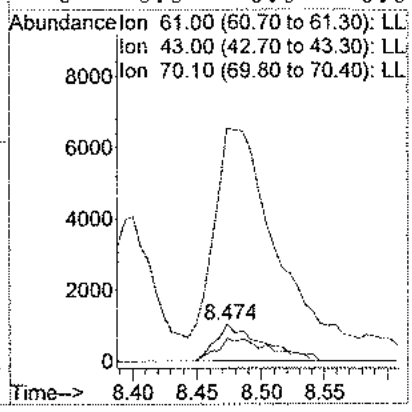


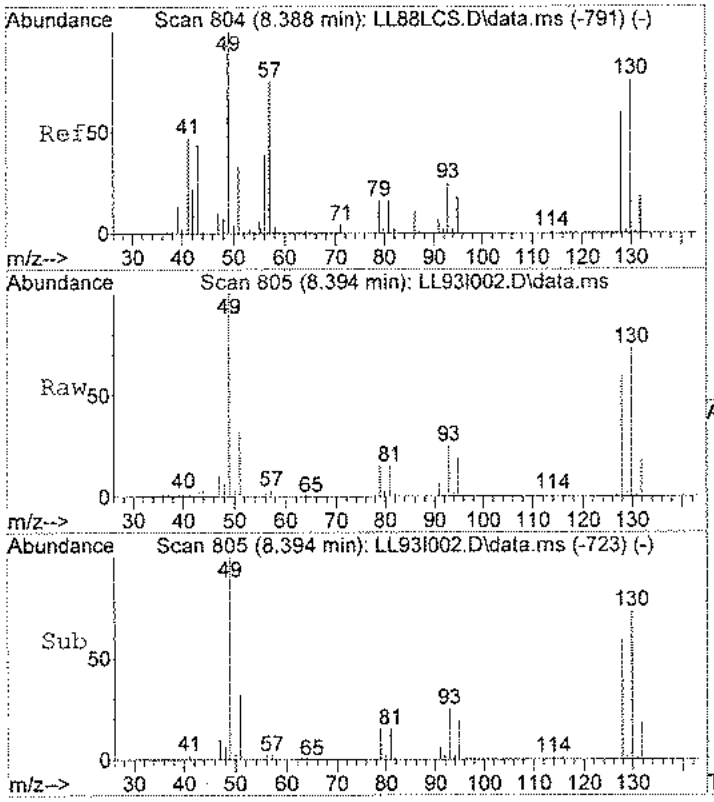


#26
Ethyl Acetate
Concen: 0.28 ppb
RT: 8.47 min Scan# 818
Delta R.T. 0.02 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:61 Resp: 2668

Ion	Ratio	Lower	Upper
61	100		
43	718.6	144.0	216.0#
70	69.9	13.6	20.4#
0	0.0	0.0	0.0

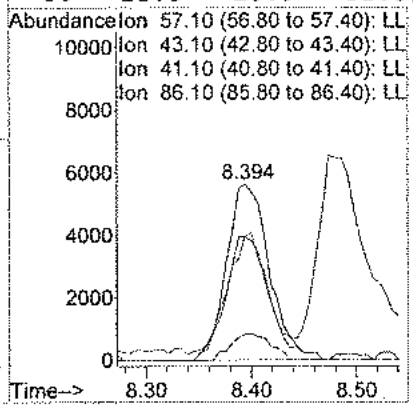


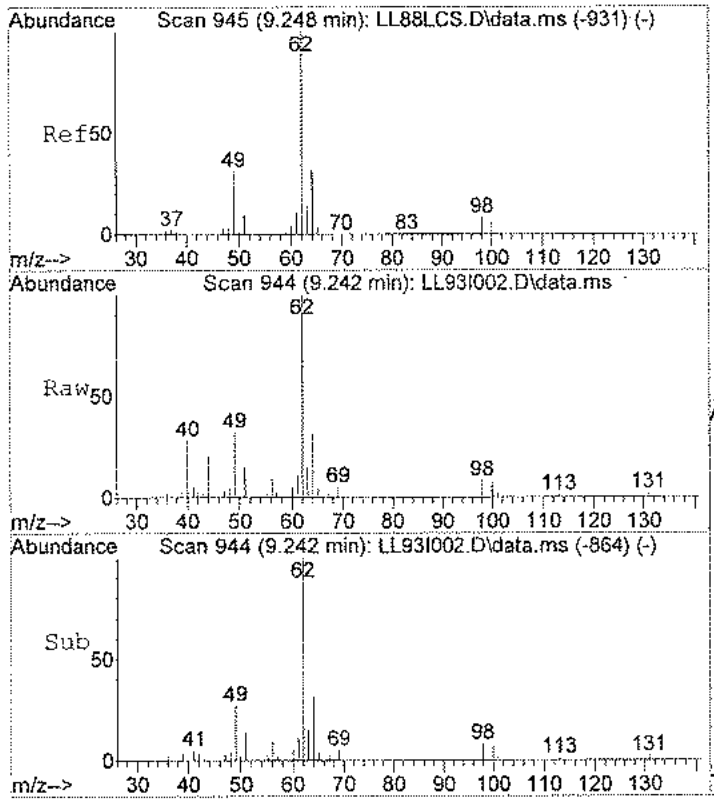


#27
Hexane
Concen: 0.28 ppb
RT: 8.39 min Scan# 805
Delta R.T. -0.00 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:57.1 Resp: 15851

Ion	Ratio	Lower	Upper
57	100		
43	65.1	57.3	85.9
41	71.3	47.0	70.4#
86	13.9	20.9	31.3#

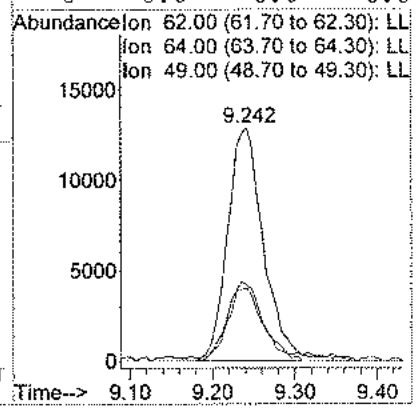


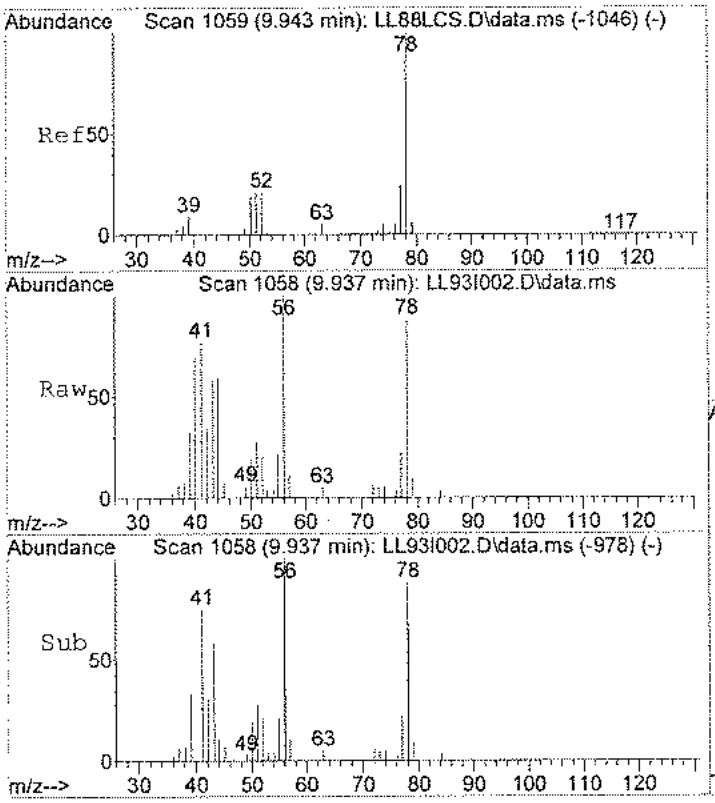


#30
1,2-Dichloroethane
Concen: 0.81 ppb
RT: 9.24 min Scan# 944
Delta R.T. -0.01 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:62 Resp: 39195

Ion	Ratio	Lower	Upper
62	100		
64	30.6	26.0	39.0
49	35.3	18.5	27.7#
0	0.0	0.0	0.0

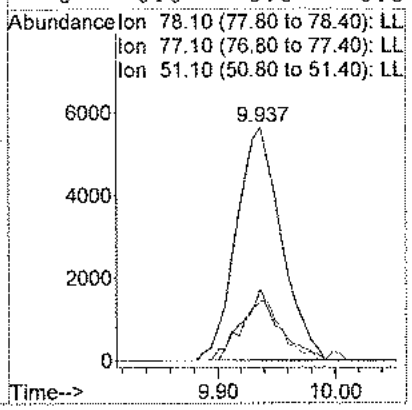


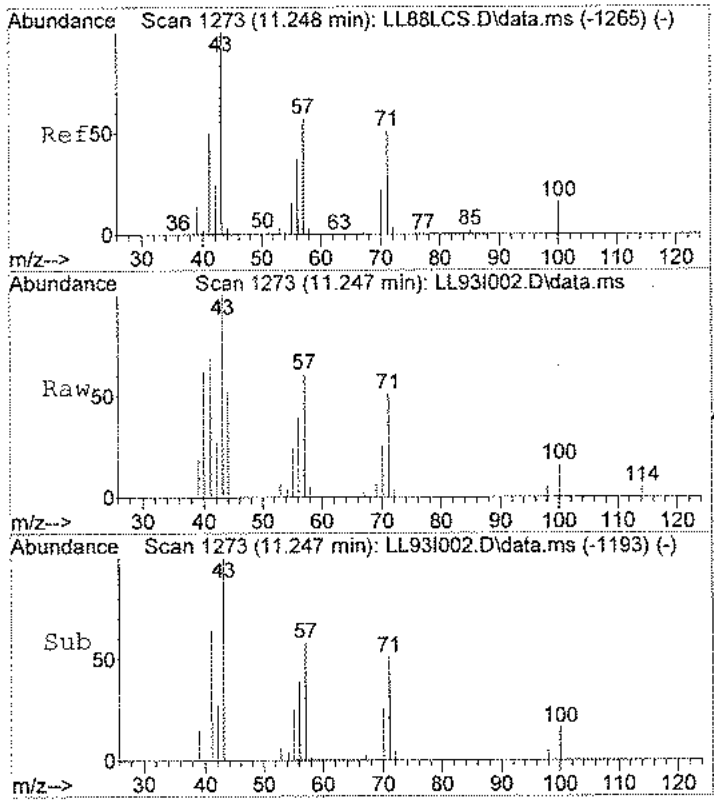


#32
Benzene
Concen: 0.17 ppb
RT: 9.94 min Scan# 1058
Delta R.T. -0.01 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:78.1 Resp: 15001

Ion	Ratio	Lower	Upper
78	100		
77	23.8	18.2	27.4
51	24.8	9.5	14.3#
0	0.0	0.0	0.0

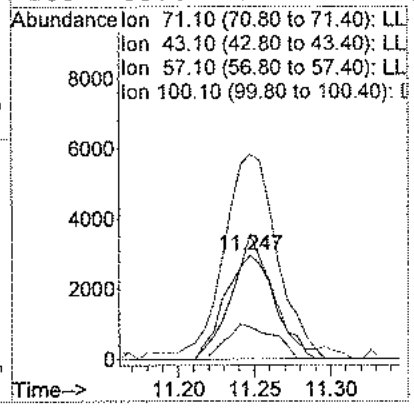


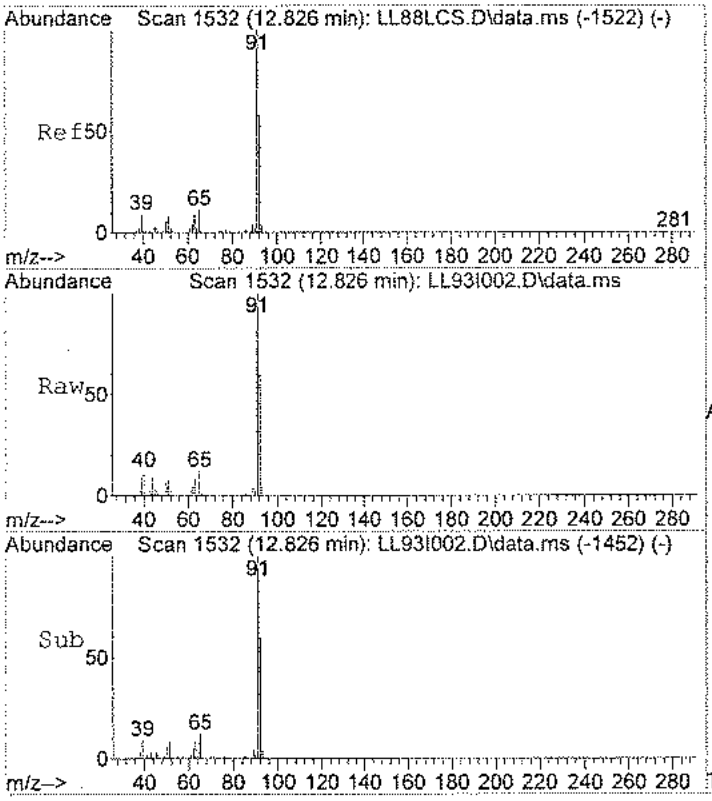


#40
Heptane
Concen: 0.21 ppb
RT: 11.25 min Scan# 1273
Delta R.T. -0.01 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:71.1 Resp: 6331

Ion	Ratio	Lower	Upper
71	100		
43	232.0	87.3	130.9#
57	113.9	57.8	86.6#
100	33.6	34.8	52.2#

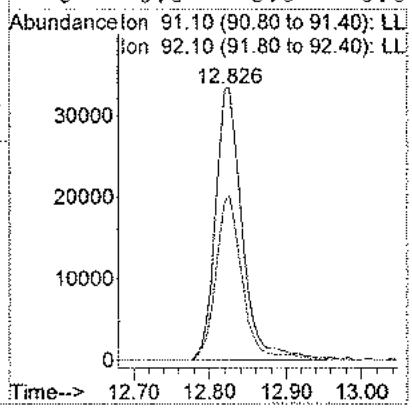


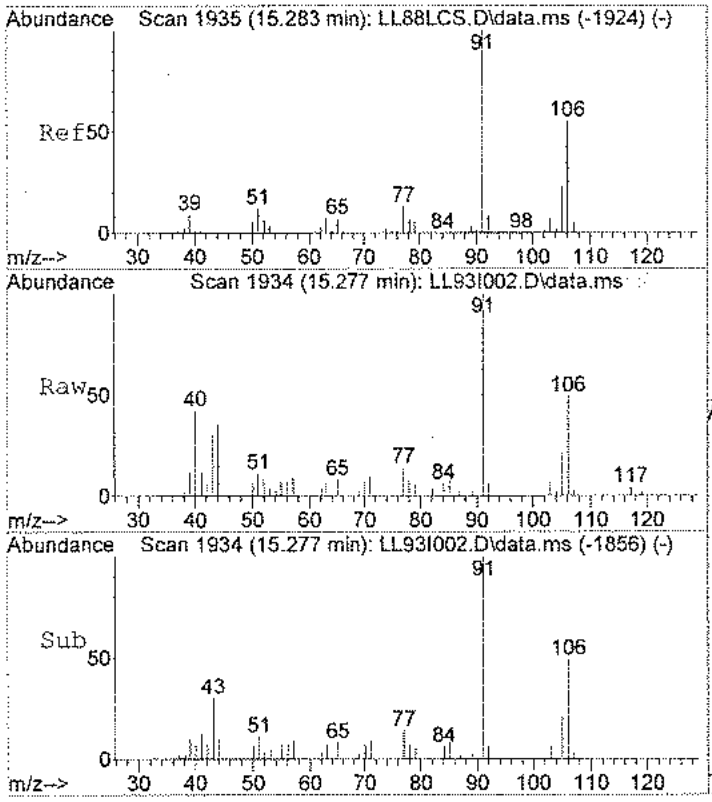


#45
Toluene
Concen: 0.74 ppb
RT: 12.83 min Scan# 1532
Delta R.T. -0.01 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:91.1 Resp: 79313

Ion	Ratio	Lower	Upper
91	100		
92	57.7	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

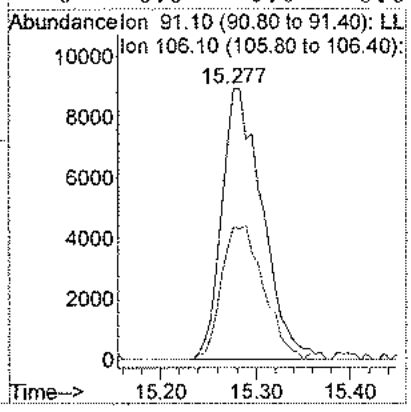


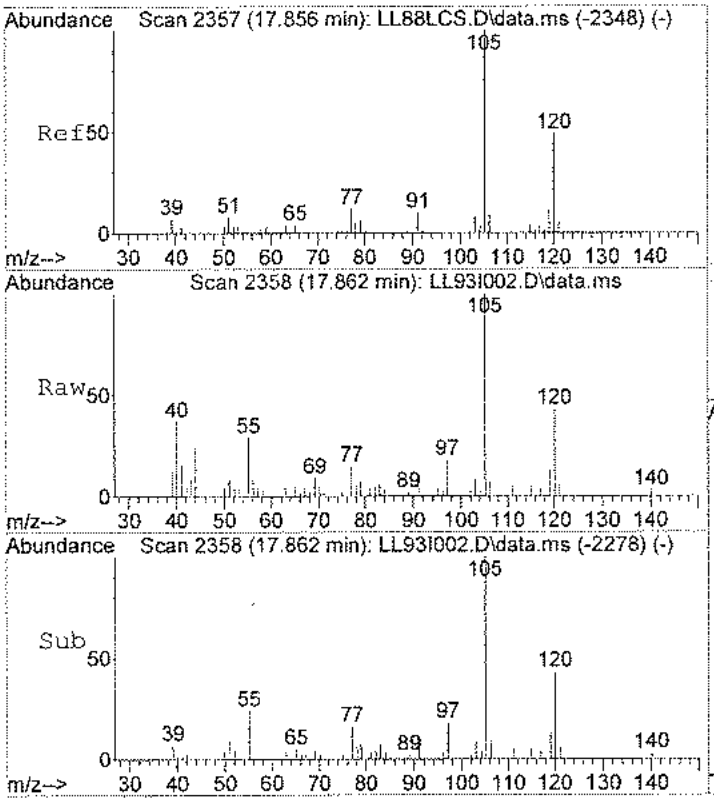


#53
m,p-Xylene
Concen: 0.30 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.03 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:91.1 Resp: 26110

Ion	Ratio	Lower	Upper
91	100		
106	51.1	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

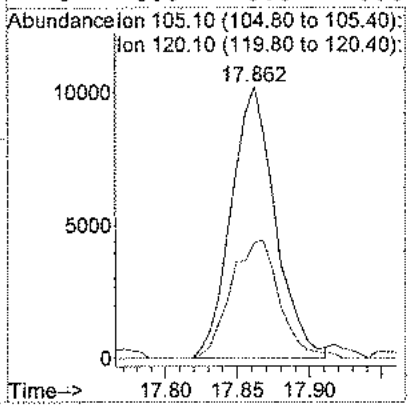


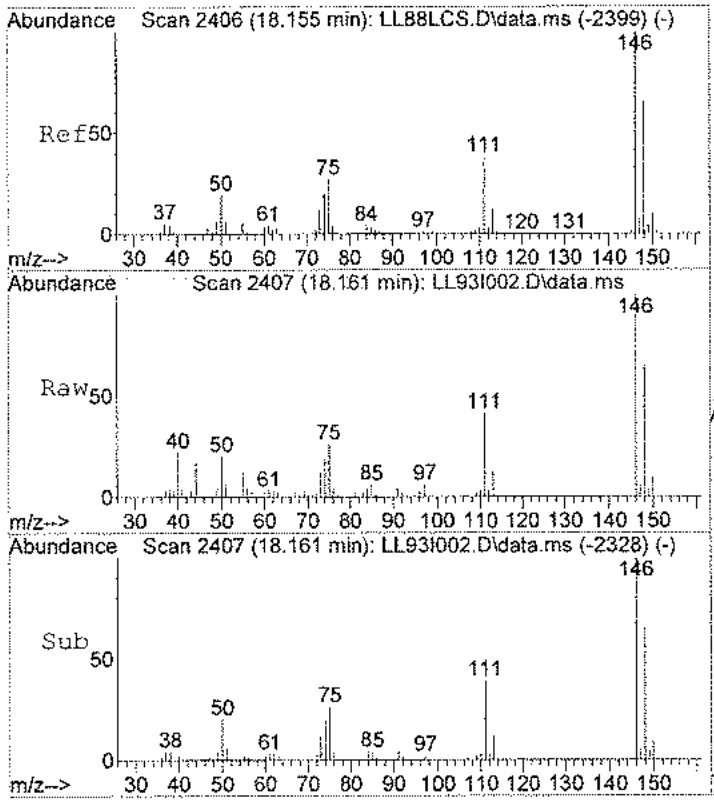


#61
1,2,4-Trimethylbenzene
Concen: 0.24 ppb
RT: 17.86 min Scan# 2358
Delta R.T. -0.01 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:105.1 Resp: 21386

Ion	Ratio	Lower	Upper
105	100		
120	47.8	40.7	61.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

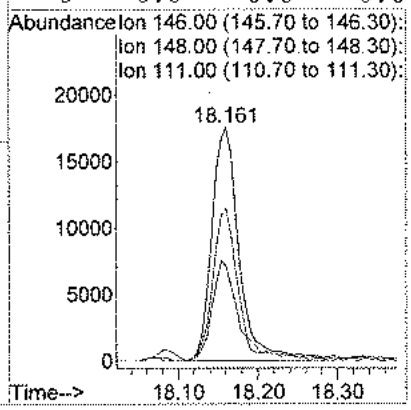




#64
p-Dichlorobenzene
Concen: 0.67 ppb
RT: 18.16 min Scan# 2407
Delta R.T. -0.02 min
Lab File: LL93I002.D
Acq: 03/23/2017 15:07

Tgt Ion:146 Resp: 41817

Ion	Ratio	Lower	Upper
146	100		
148	61.2	51.7	77.5
111	40.2	24.6	36.8#
0	0.0	0.0	0.0



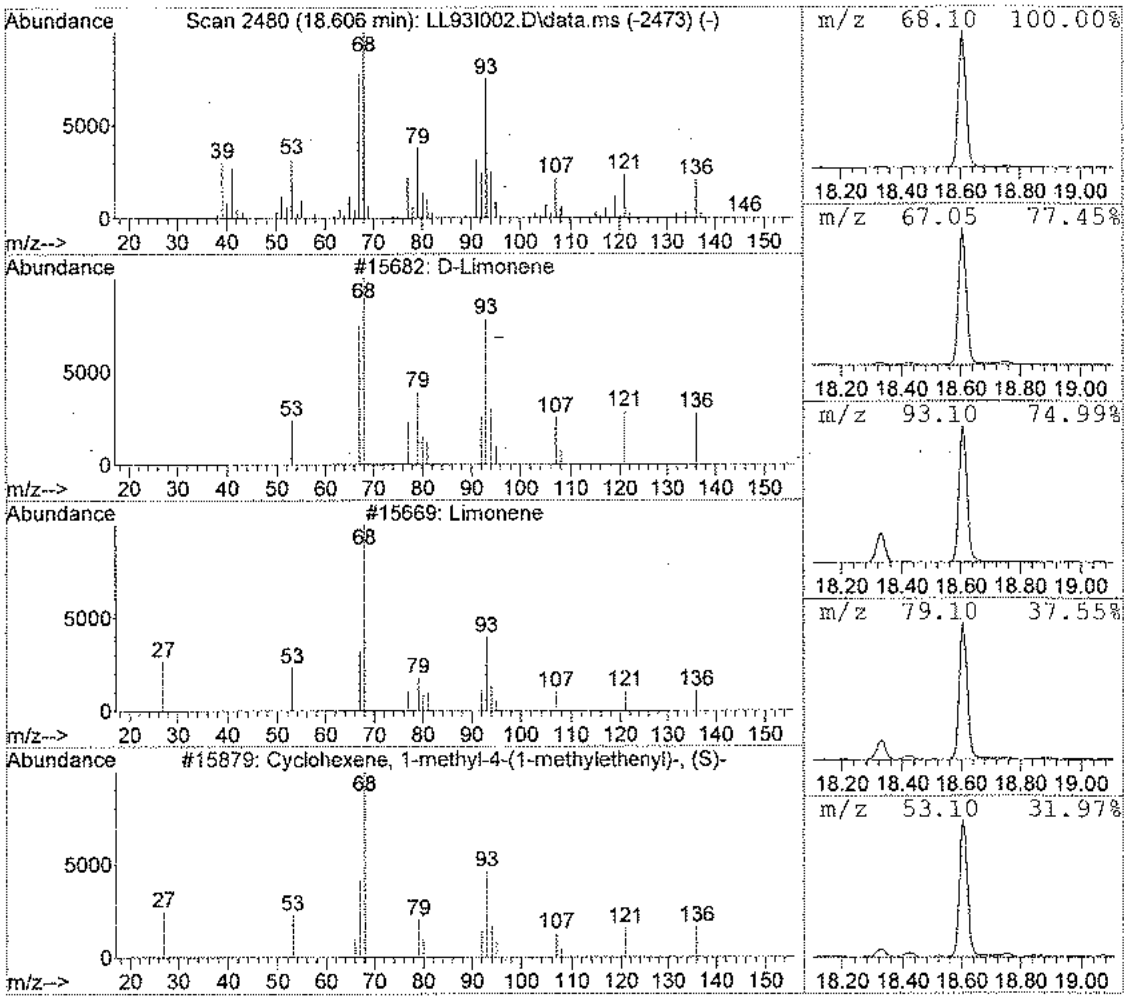
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL93I002.D Vial: 5
Acq Time : 03/23/2017 15:07 Operator: LMR
Sample : 1707721002 Inst : 5975-L
Misc : A-0027H-031017-TO-002-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
18.61	3.00 ppb	855222	Chlorobenzene d5	5708431

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	D-Limonene	15682	005989-27-5	98.00
2	Limonene	15669	000138-86-3	89.00
3	Cyclohexene, 1-methyl-4-(1-methylet	15879	005989-54-8	86.00
4	Bicyclo[2.2.1]heptane, 7,7-dimethyl	15886	000471-84-1	62.00
5	Cyclohexene, 4-ethenyl-1,4-dimethyl	15803	001743-61-9	52.00

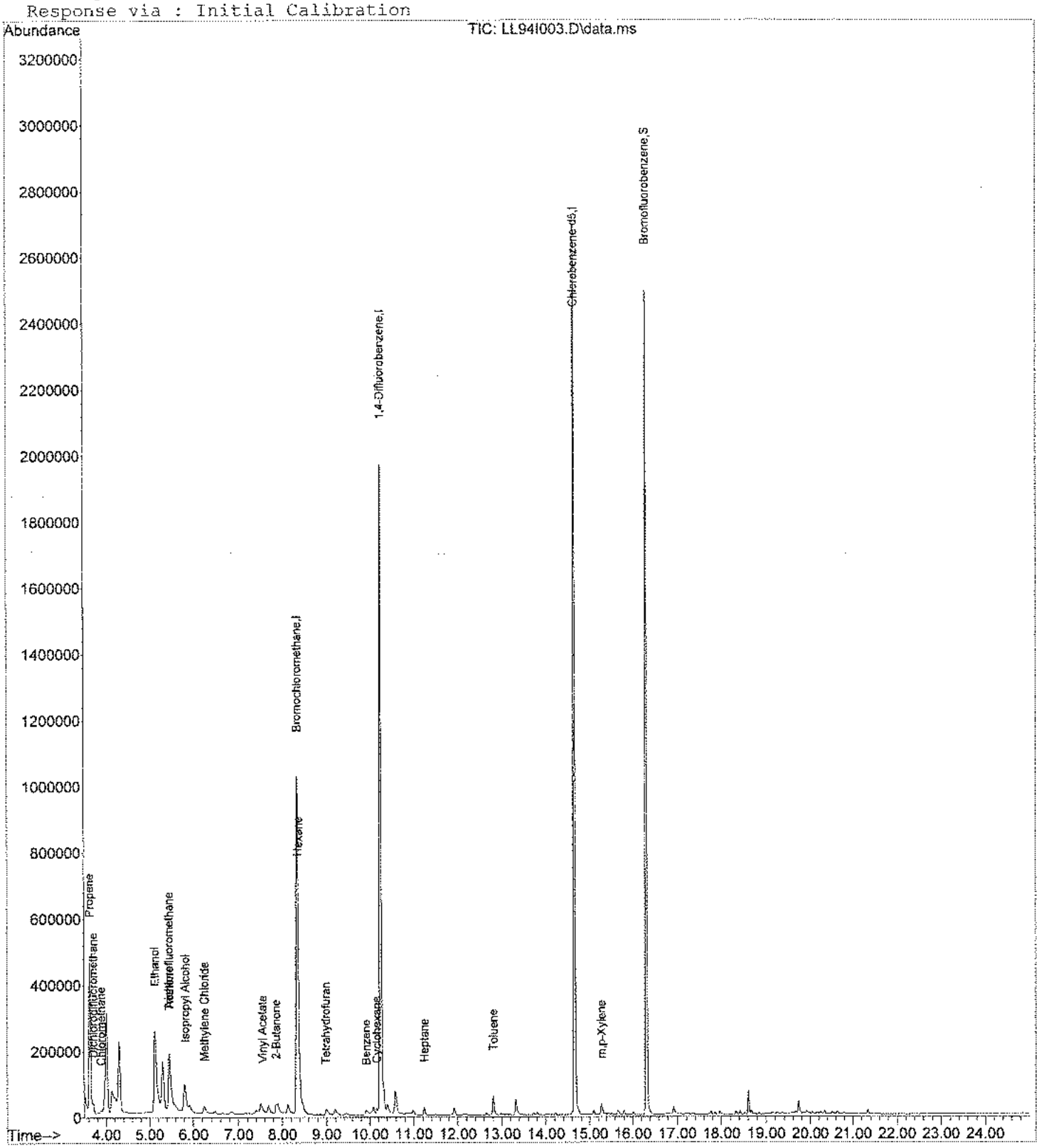


Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL94I003.D Vial: 6
Acq Time : 03/23/2017 15:57 Operator: LMR
Sample : 1707721003 Inst : 5975-L
Misc : A-0013H-031017-TO-001-BAS (lin Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:13:06 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL94I003.D Vial: 6
Acq Time : 03/23/2017 15:57 Operator: LMR
Sample : 1707721003 Inst : 5975-L
Misc : A-0013H-031017-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:13:06 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.35	130	182388	20.0000 ppb	96.54
25) 1,4-Difluorobenzene	10.25	114	2326793	20.0000 ppb	101.54
50) Chlorobenzene d5	14.65	117	1868775	20.0000 ppb	93.57
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.31	95	1012112	20.6481 ppb	103.24%
Target Compounds					Qvalue
2) Propene	3.63	41	163468	6.6666 ppb	#TIC 51
3) Dichlorodifluoromethane	3.71	85	48015	0.6468 ppb	97
4) Chloromethane	3.88	50	20745	0.7288 ppb	99
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.46	43	431117	8.9918 ppb	100
12) Trichlorofluoromethane	5.44	101	25956	0.2932 ppb	100
13) Ethanol	5.12	45	663178	72.9544 ppb	#TIC 79
14) Isopropyl Alcohol	5.83	45	64401	1.2509 ppb	#TIC 63
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.25	84	16080	0.6161 ppb #	48
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	7.55	86	5738	0.8484 ppb #	1
23) 2-Butanone	7.85	43	69140	1.1269 ppb #	71
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	0.00	61		Not Detected	
27) Hexane	8.38	57	22045	0.3898 ppb #	81
28) Chloroform	0.00	83		Not Detected	
29) Tetrahydrofuran	8.99	42	20835	0.5236 ppb #	58
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.91	78	16826	0.1937 ppb #	86
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	10.17	84	8135	0.2080 ppb #	45
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	11.24	71	5664	0.1909 ppb #	20
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

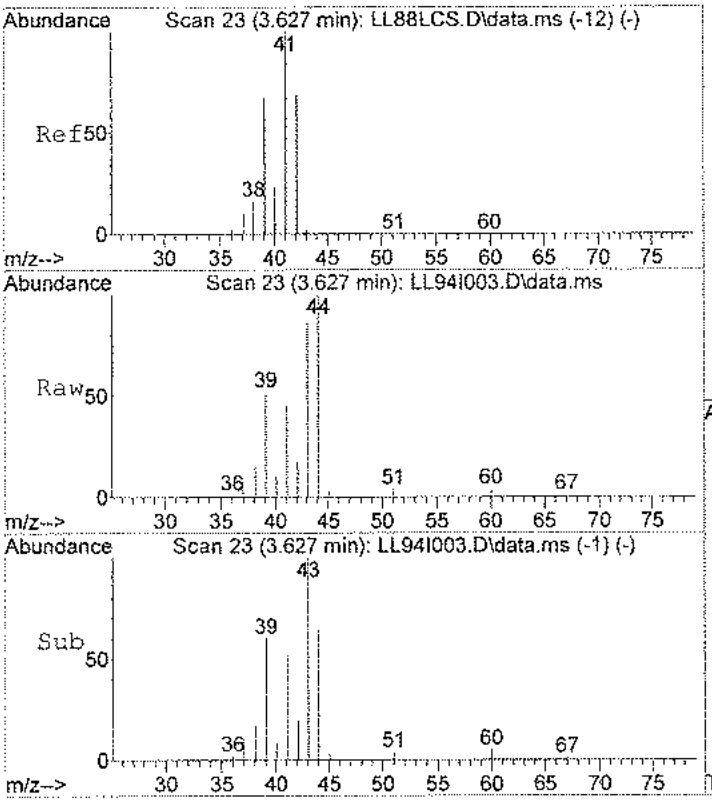
Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL94I003.D Vial: 6
Acq Time : 03/23/2017 15:57 Operator: LMR
Sample : 1707721003 Inst : 5975-L
Misc : A-0013H-031017-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:13:06 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45) Toluene	12.81	91	56139	0.5259 ppb	96
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	0.00	91		Not Detected	
53) m,p-Xylene	15.28	91	29706	0.3457 ppb	95
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	0.00	91		Not Detected	
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

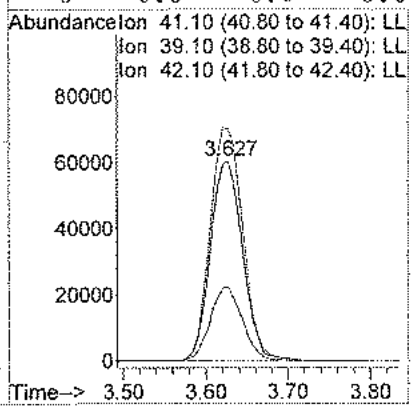
(#) = qualifier out of range (m) = manual integration

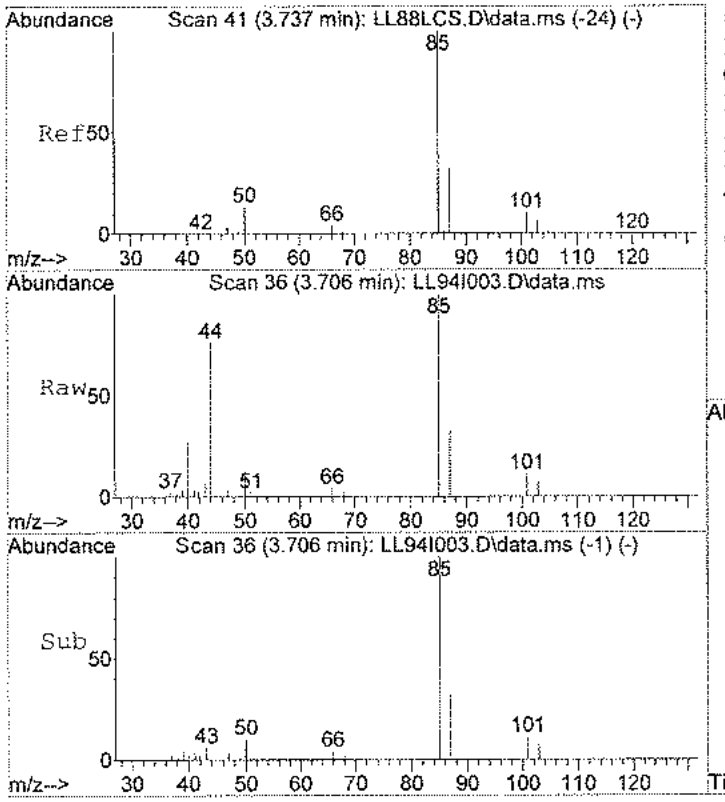


#2
Propene
Concen: 6.67 ppb
RT: 3.63 min Scan# 23
Delta R.T. 0.02 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:41.1 Resp: 163468

Ion	Ratio	Lower	Upper
41	100		
39	118.4	56.2	84.4#
42	36.5	53.8	80.6#
0	0.0	0.0	0.0

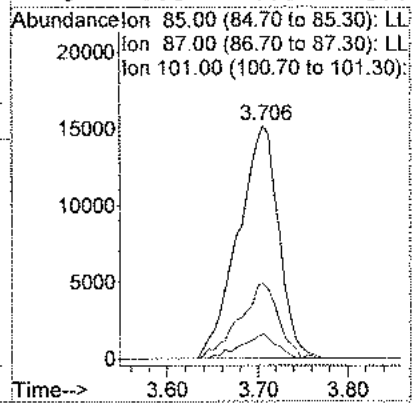


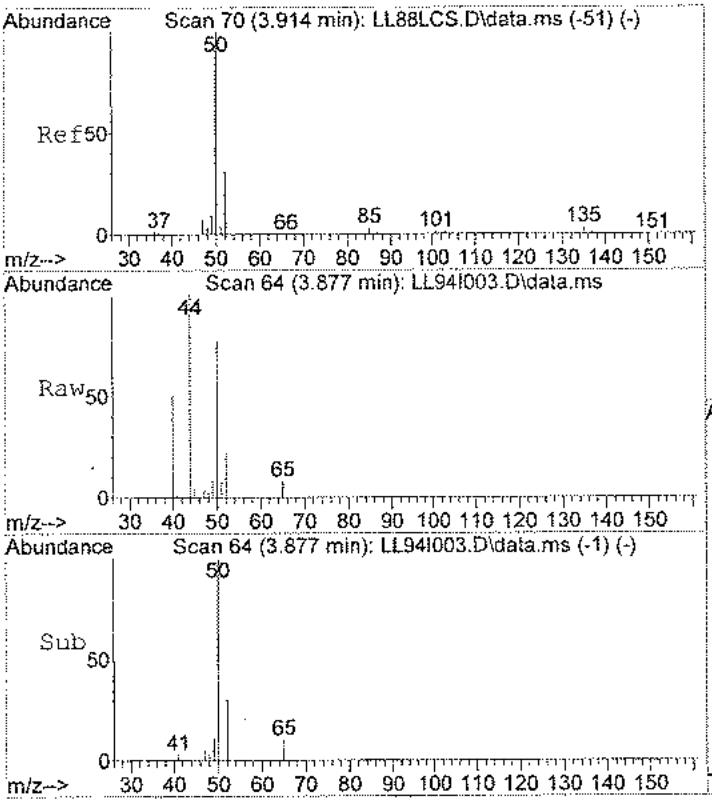


#3
Dichlorodifluoromethane
Concen: 0.65 ppb
RT: 3.71 min Scan# 36
Delta R.T. -0.01 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:85 Resp: 48015

Ion	Ratio	Lower	Upper
85	100		
87	31.1	26.1	39.1
101	9.3	8.0	12.0
0	0.0	0.0	0.0

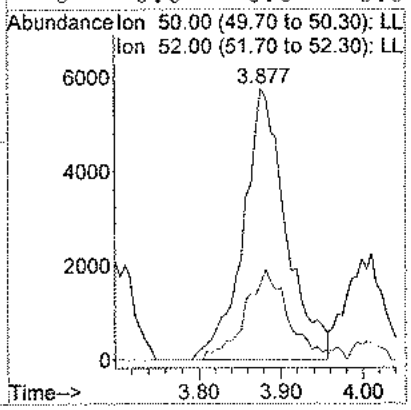


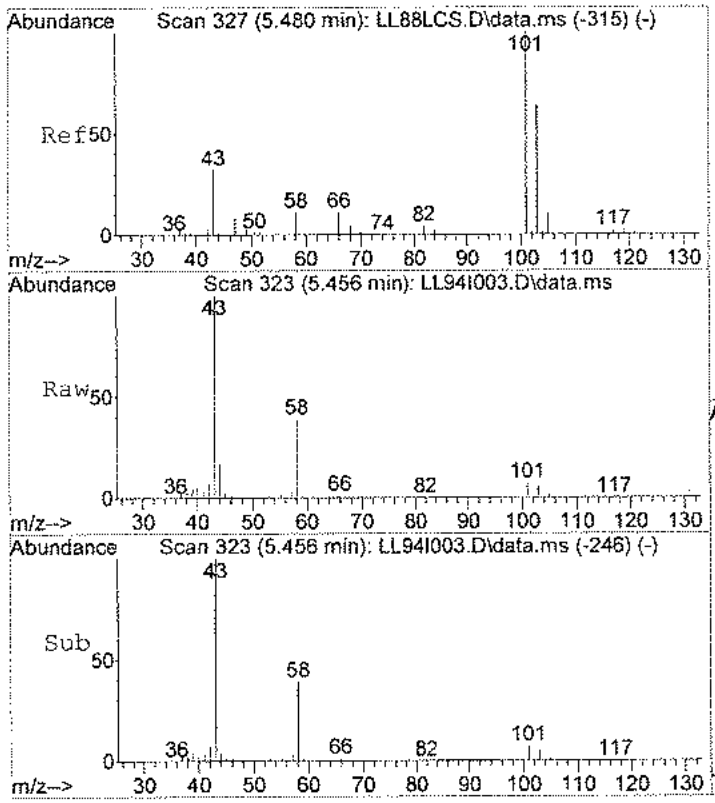


#4
Chloromethane
Concen: 0.73 ppb
RT: 3.88 min Scan# 64
Delta R.T. -0.02 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:50 Resp: 20745

Ion	Ratio	Lower	Upper
50	100		
52	32.8	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

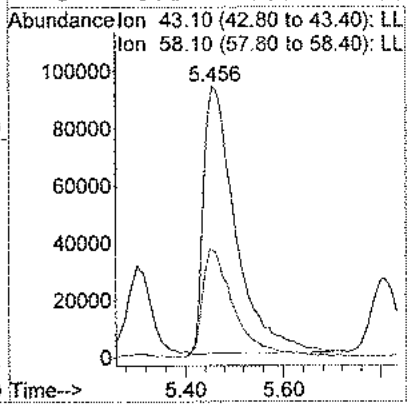


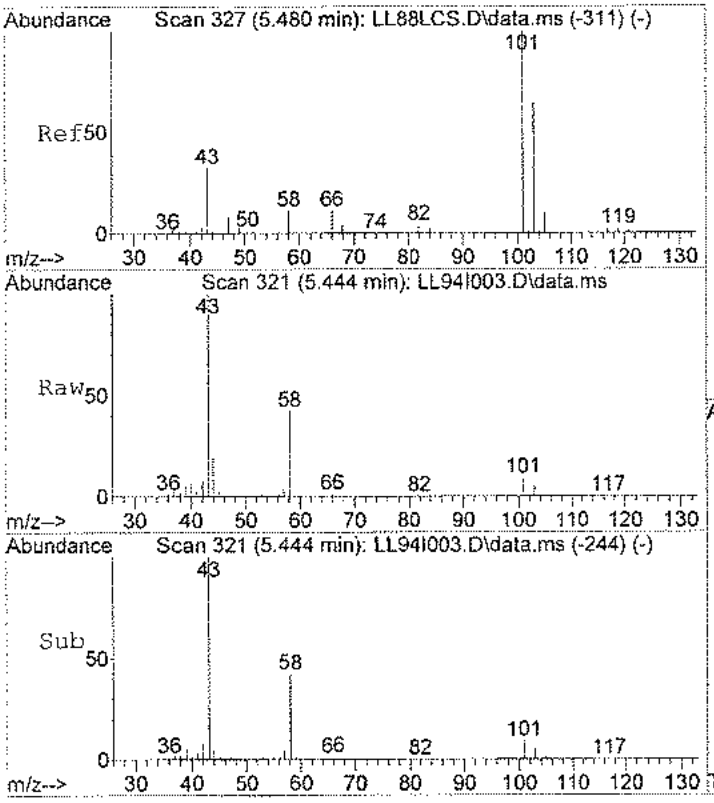


#11
Acetone
Concen: 8.99 ppb
RT: 5.46 min Scan# 323
Delta R.T. -0.03 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:43.1 Resp: 431117

Ion	Ratio	Lower	Upper
43	100		
58	38.3	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

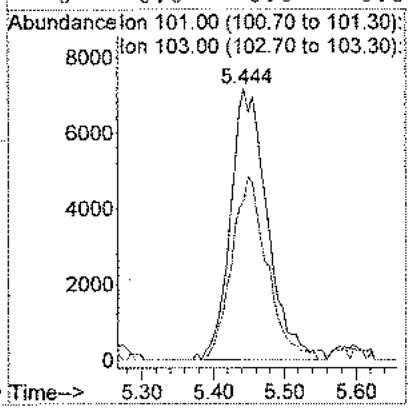


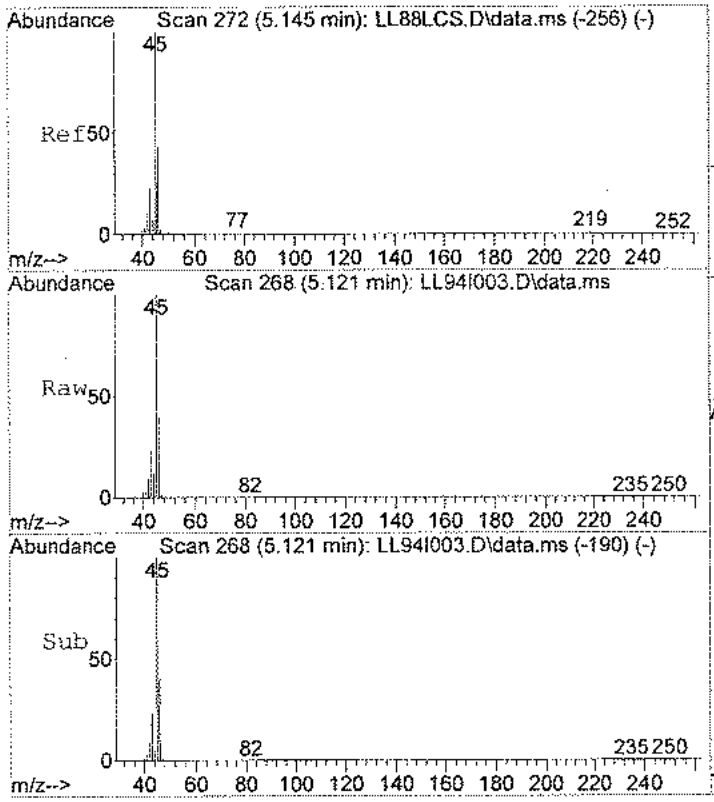


#12
Trichlorofluoromethane
Concen: 0.29 ppb
RT: 5.44 min Scan# 321
Delta R.T. -0.03 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:101 Resp: 25956

Ion	Ratio	Lower	Upper
101	100		
103	64.6	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

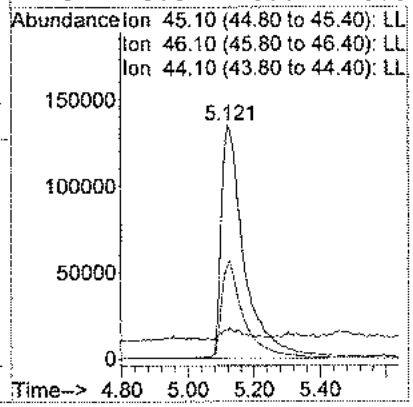


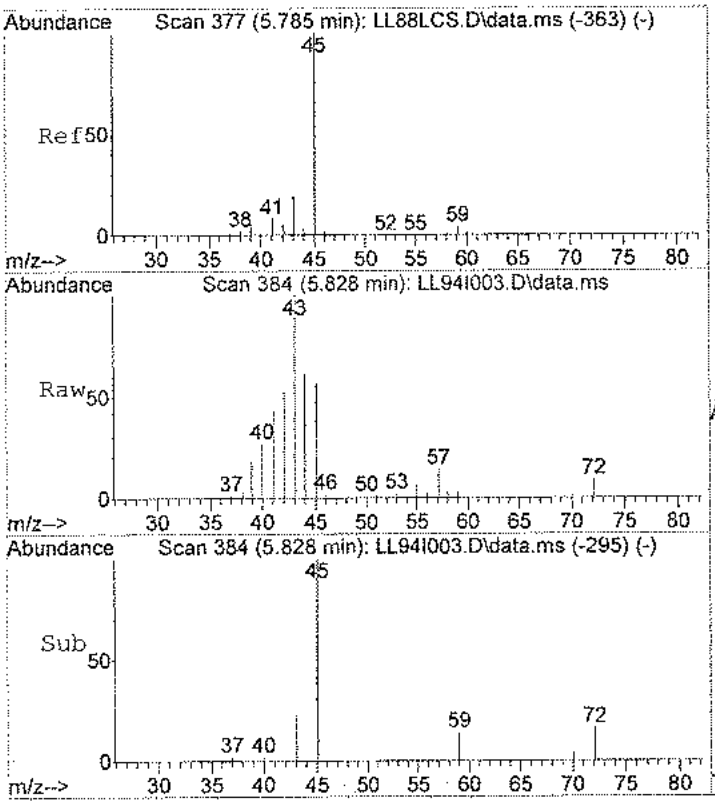


#13
Ethanol
Concen: 72.95 ppb
RT: 5.12 min Scan# 268
Delta R.T. -0.03 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:45.1 Resp: 663178

Ion	Ratio	Lower	Upper
45	100		
46	40.1	32.4	48.6
44	2.8	23.4	35.2#
0	0.0	0.0	0.0

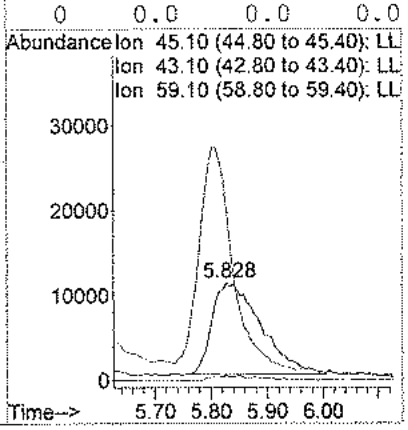


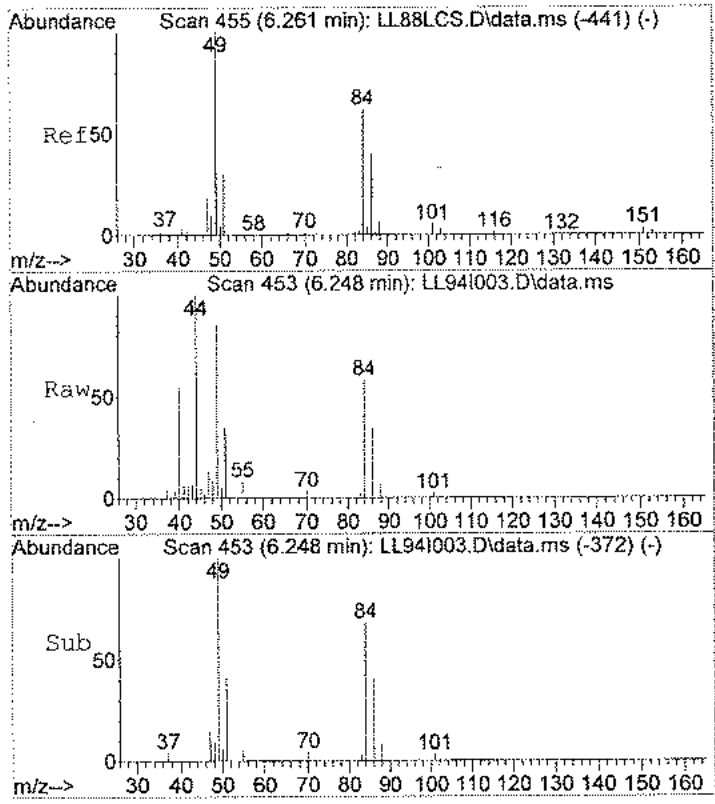


#14
Isopropyl Alcohol
Concen: 1.25 ppb
RT: 5.83 min Scan# 384
Delta R.T. 0.04 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:45.1 Resp: 64401

Ion	Ratio	Lower	Upper
45	100		
43	0.0	15.8	23.6#
59	2.2	3.2	4.8#
0	0.0	0.0	0.0

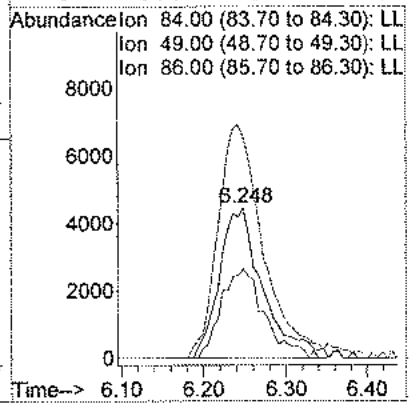


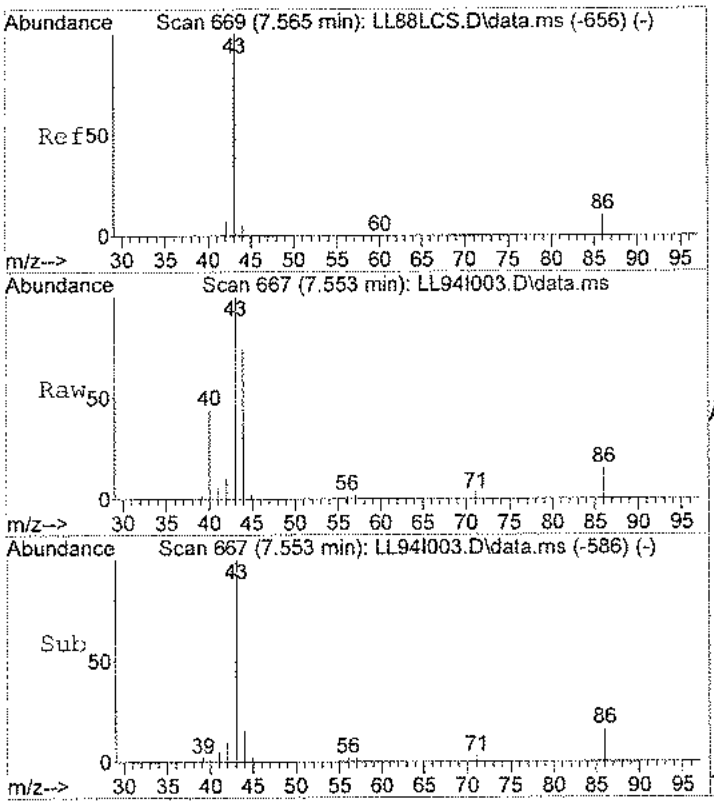


#16
Methylene Chloride
Concen: 0.62 ppb
RT: 6.25 min Scan# 453
Delta R.T. -0.01 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:84 Resp: 16080

Ion	Ratio	Lower	Upper
84	100		
49	161.9	66.6	100.0#
86	59.3	51.6	77.4
0	0.0	0.0	0.0

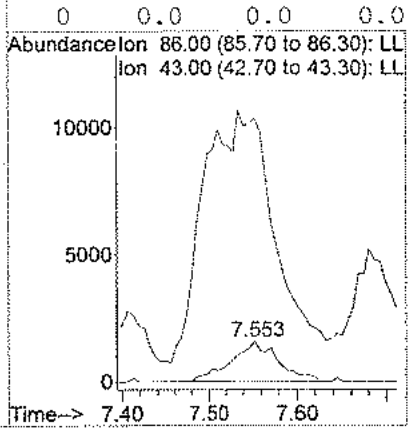


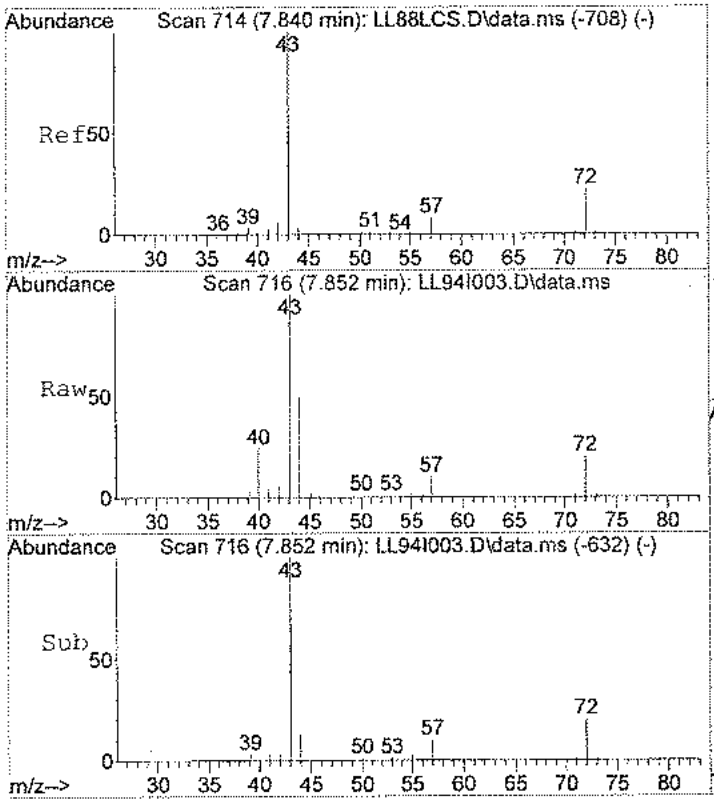


#22
Vinyl Acetate
Concen: 0.85 ppb
RT: 7.55 min Scan# 667
Delta R.T. -0.01 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:86 Resp: 5738

Ion	Ratio	Lower	Upper
86	100		
43	0.0	144.0	216.0#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

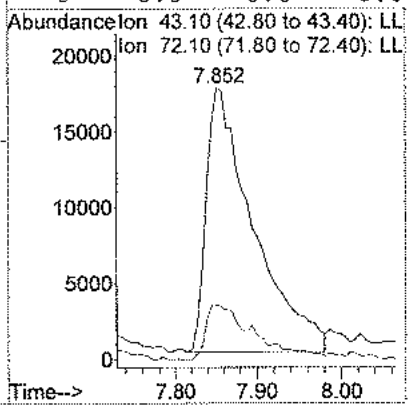


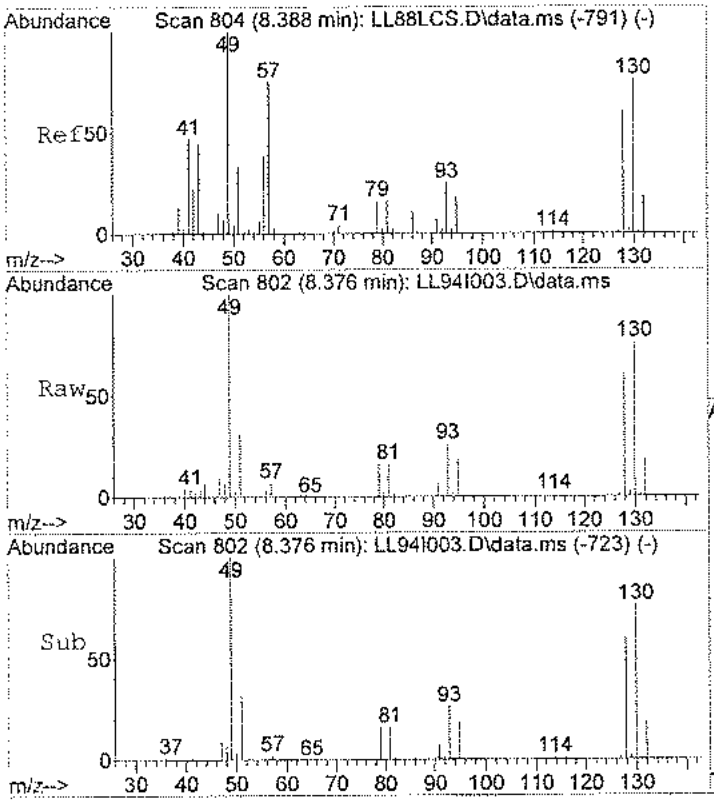


#23
2-Butanone
Concen: 1.13 ppb
RT: 7.85 min Scan# 716
Delta R.T. 0.01 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:43.1 Resp: 69140

Ion	Ratio	Lower	Upper
43	100		
72	20.9	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

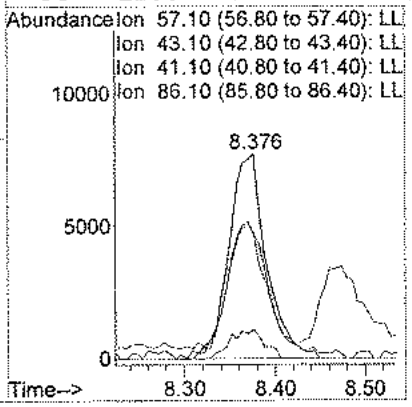


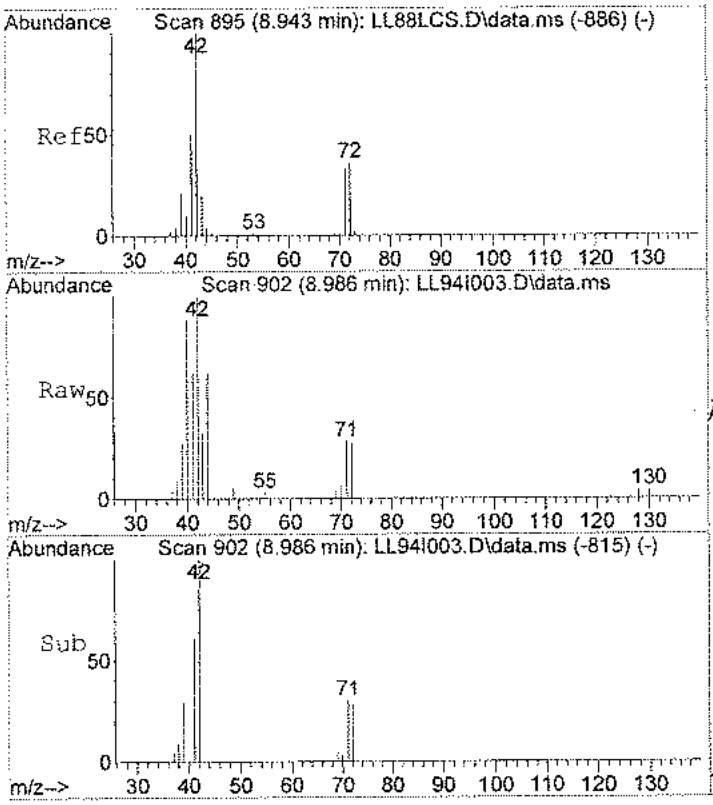


#27
Hexane
Concen: 0.39 ppb
RT: 8.38 min Scan# 802
Delta R.T. -0.02 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:57.1 Resp: 22045

Ion	Ratio	Lower	Upper
57	100		
43	60.9	57.3	85.9
41	75.7	47.0	70.4#
86	12.8	20.9	31.3#

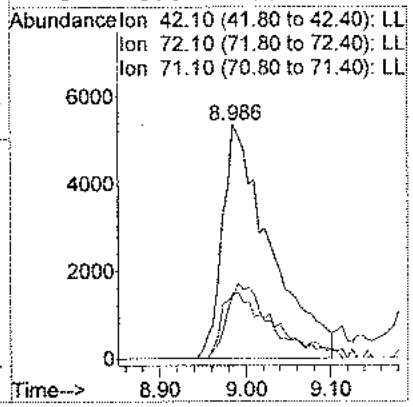


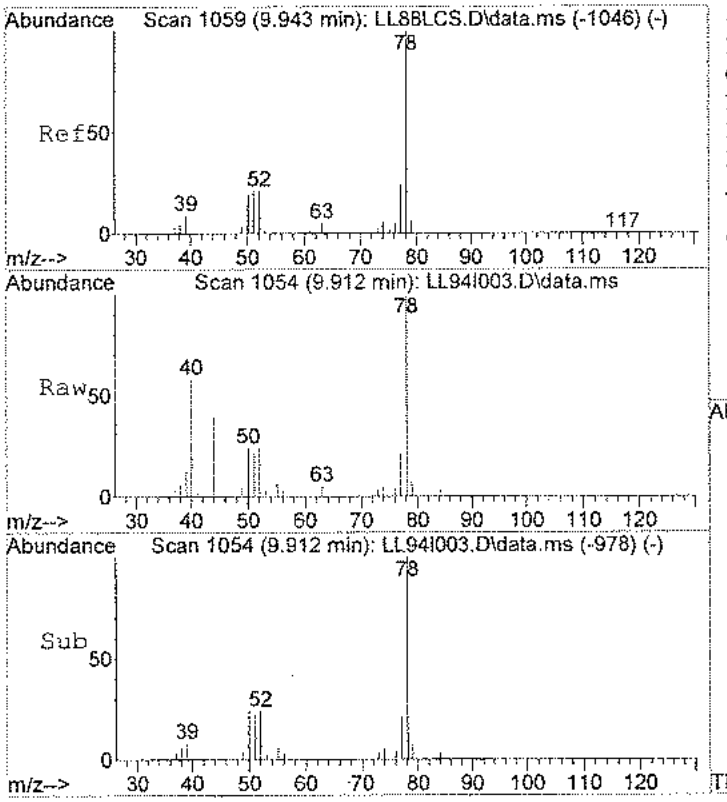


#29
Tetrahydrofuran
Concen: 0.52 ppb
RT: 8.99 min Scan# 902
Delta R.T. 0.03 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:42.1 Resp: 20835

Ion	Ratio	Lower	Upper
42	100		
72	32.8	51.5	77.3#
71	25.9	47.5	71.3#
0	0.0	0.0	0.0

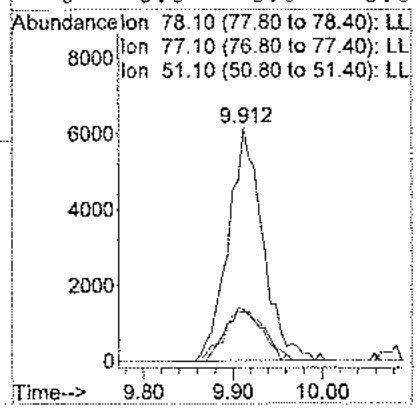


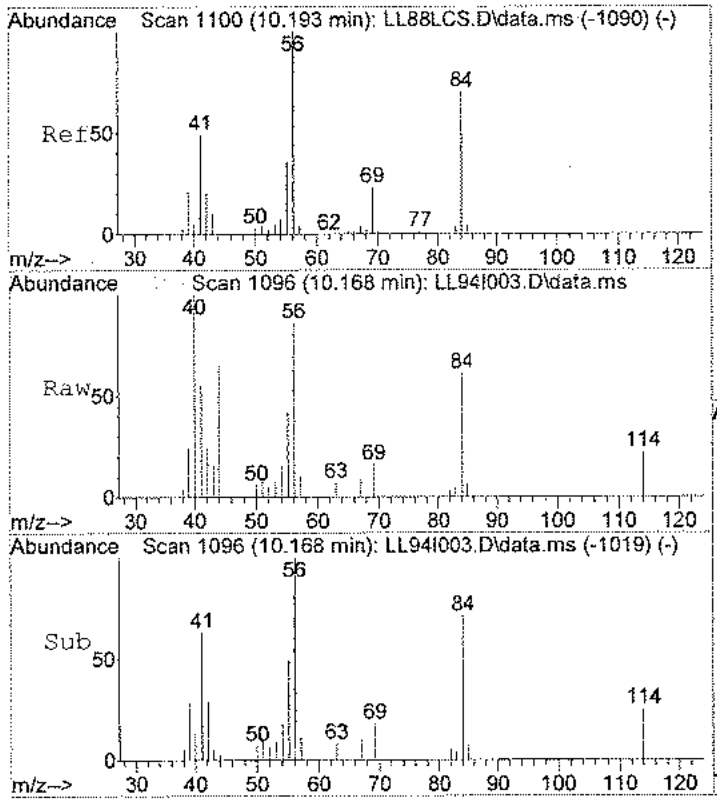


#32
Benzene
Concen: 0.19 ppb
RT: 9.91 min Scan# 1054
Delta R.T. -0.04 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:78.1 Resp: 16826

Ion	Ratio	Lower	Upper
78	100		
77	25.1	18.2	27.4
51	24.3	9.5	14.3#
0	0.0	0.0	0.0

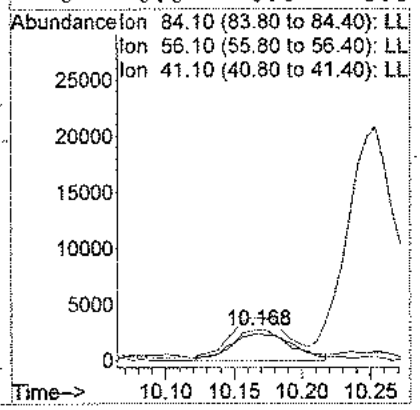


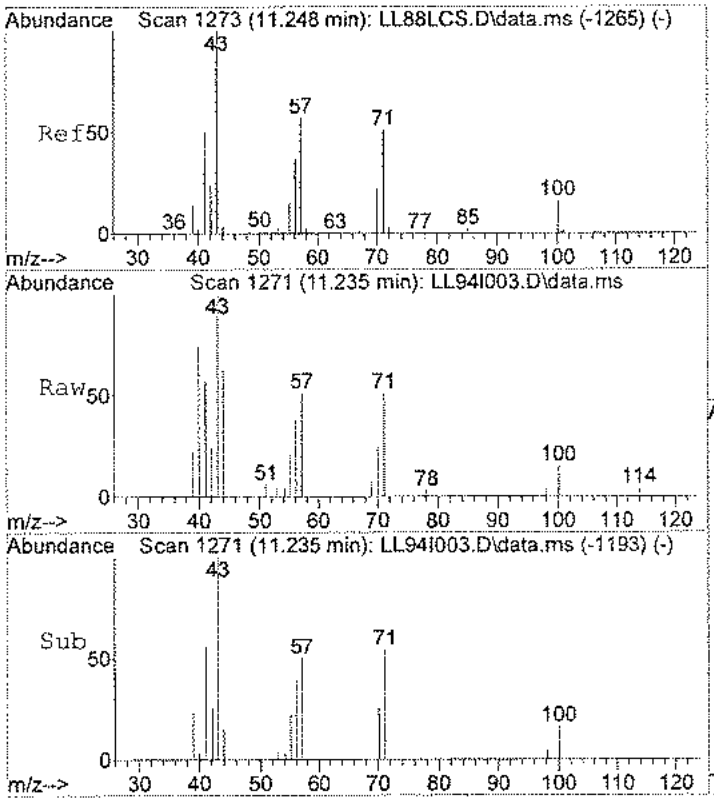


#34
Cyclohexane
Concen: 0.21 ppb
RT: 10.17 min Scan# 1096
Delta R.T. -0.03 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:84.1 Resp: 8135

Ion	Ratio	Lower	Upper
84	100		
56	129.7	67.3	100.9#
41	78.2	30.2	45.4#
0	0.0	0.0	0.0

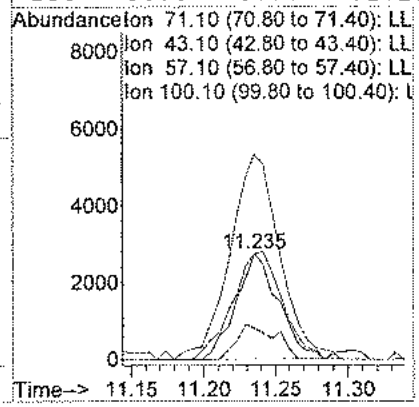


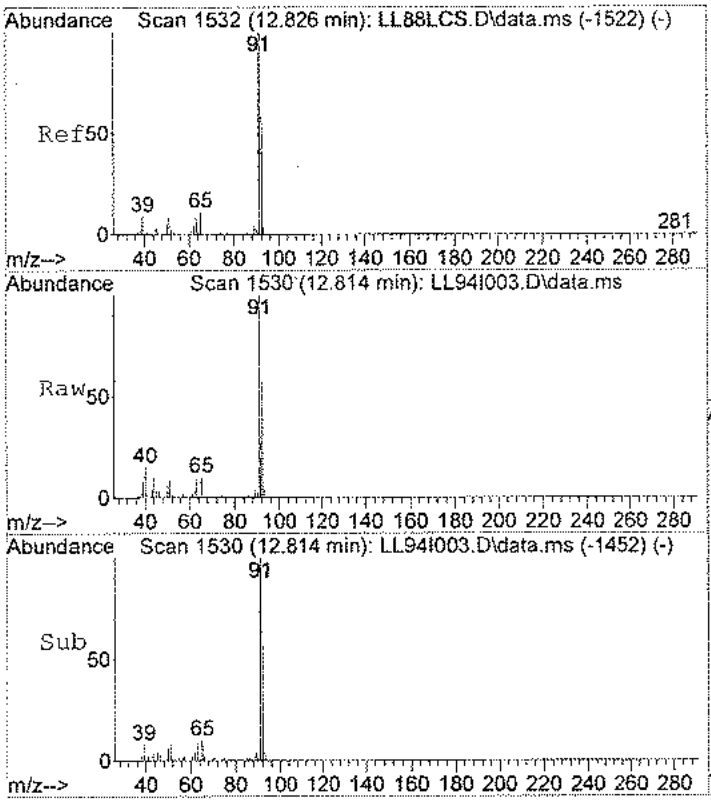


#40
Heptane
Concen: 0.19 ppb
RT: 11.24 min Scan# 1271
Delta R.T. -0.03 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:71.1 Resp: 5664

Ion	Ratio	Lower	Upper
71	100		
43	232.7	87.3	130.9#
57	120.0	57.8	86.6#
100	30.0	34.8	52.2#

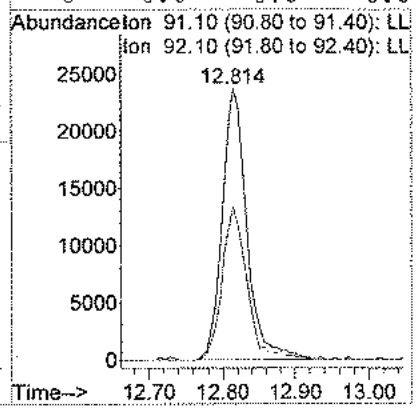


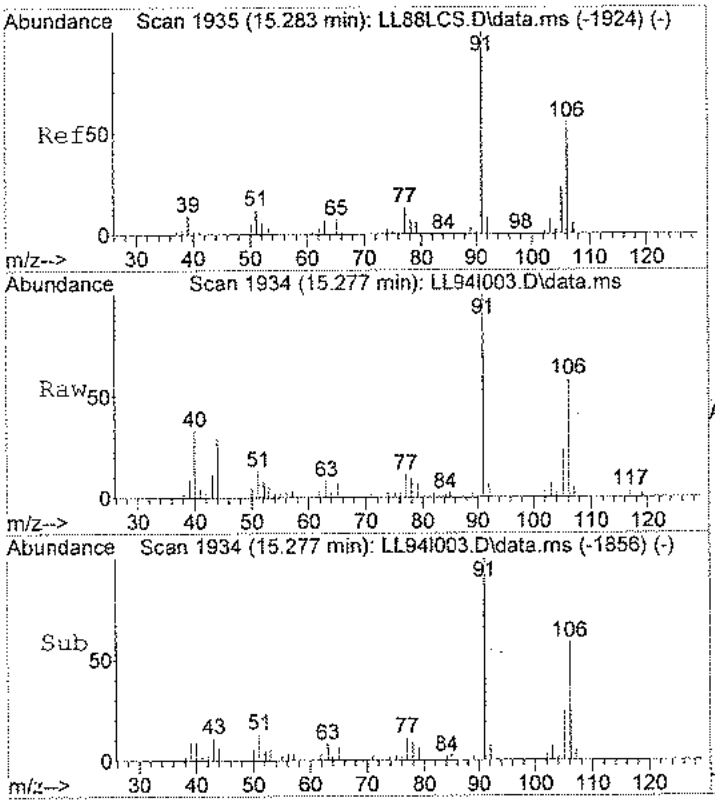


#45
Toluene
Concen: 0.53 ppb
RT: 12.81 min Scan# 1530
Delta R.T. -0.03 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:91.1 Resp: 56139

Ion	Ratio	Lower	Upper
91	100		
92	56.7	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

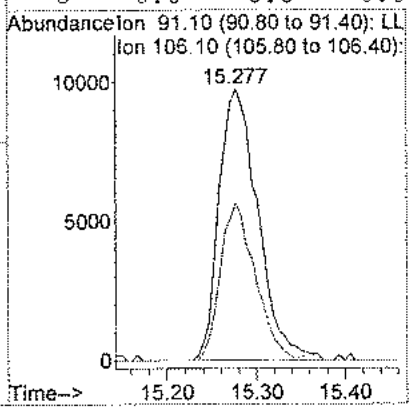




#53
m,p-Xylene
Concen: 0.35 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.03 min
Lab File: LL94I003.D
Acq: 03/23/2017 15:57

Tgt Ion:91.1 Resp: 29706

Ion	Ratio	Lower	Upper
91	100		
106	52.0	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0



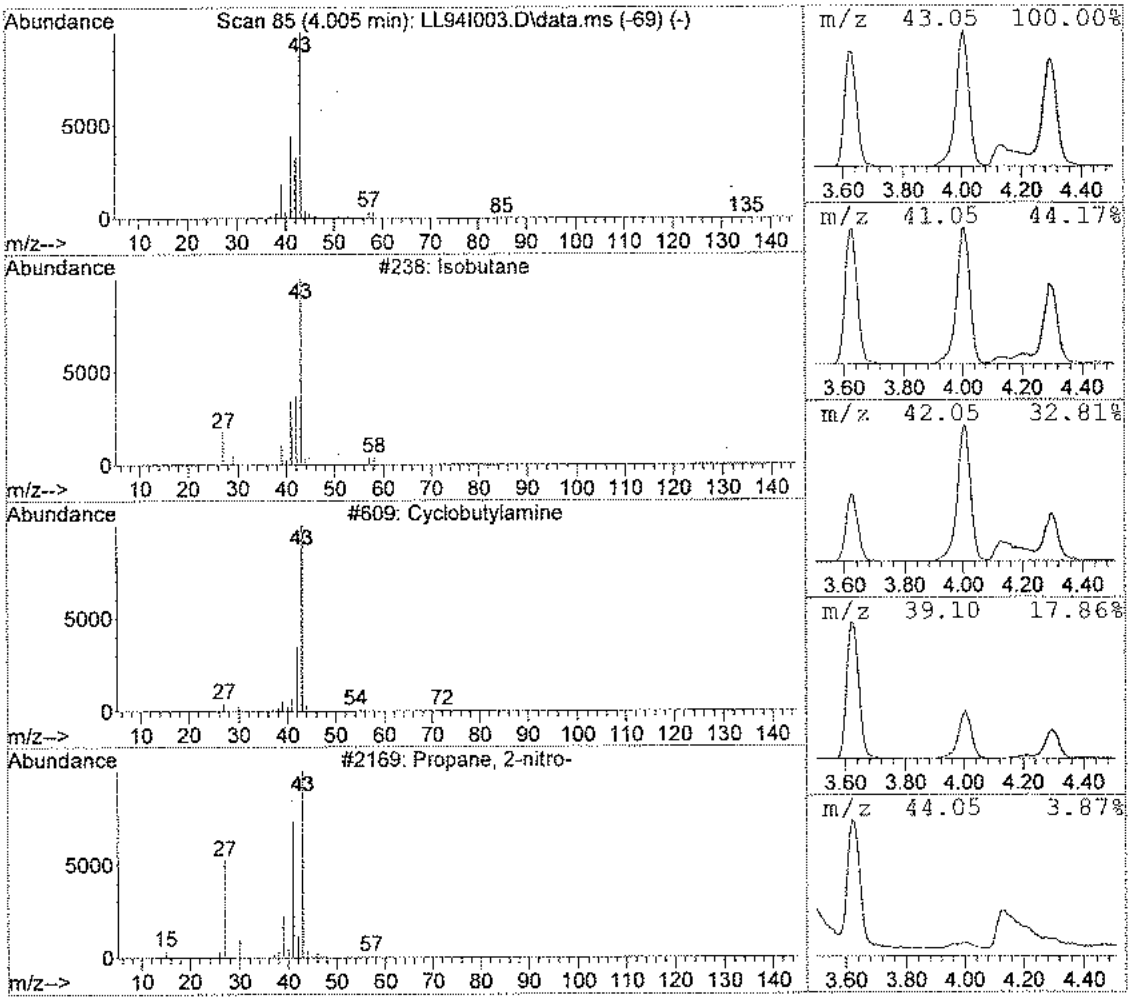
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL94I003.D Vial: 6
Acq Time : 03/23/2017 15:57 Operator: LMR
Sample : 1707721003 Inst : 5975-L
Misc : A-0013H-031017-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.01	5.49 ppb	992683	Bromochloromethane	3613977

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	238	000075-28-5	86.00
2	Cyclobutylamine	609	002516-34-9	42.00
3	Propane, 2-nitro-	2169	000079-46-9	9.00
4	Isopropylsulfonyl chloride	19275	010147-37-2	9.00
5	Pent-4-enylamine	1570	022537-07-1	4.00



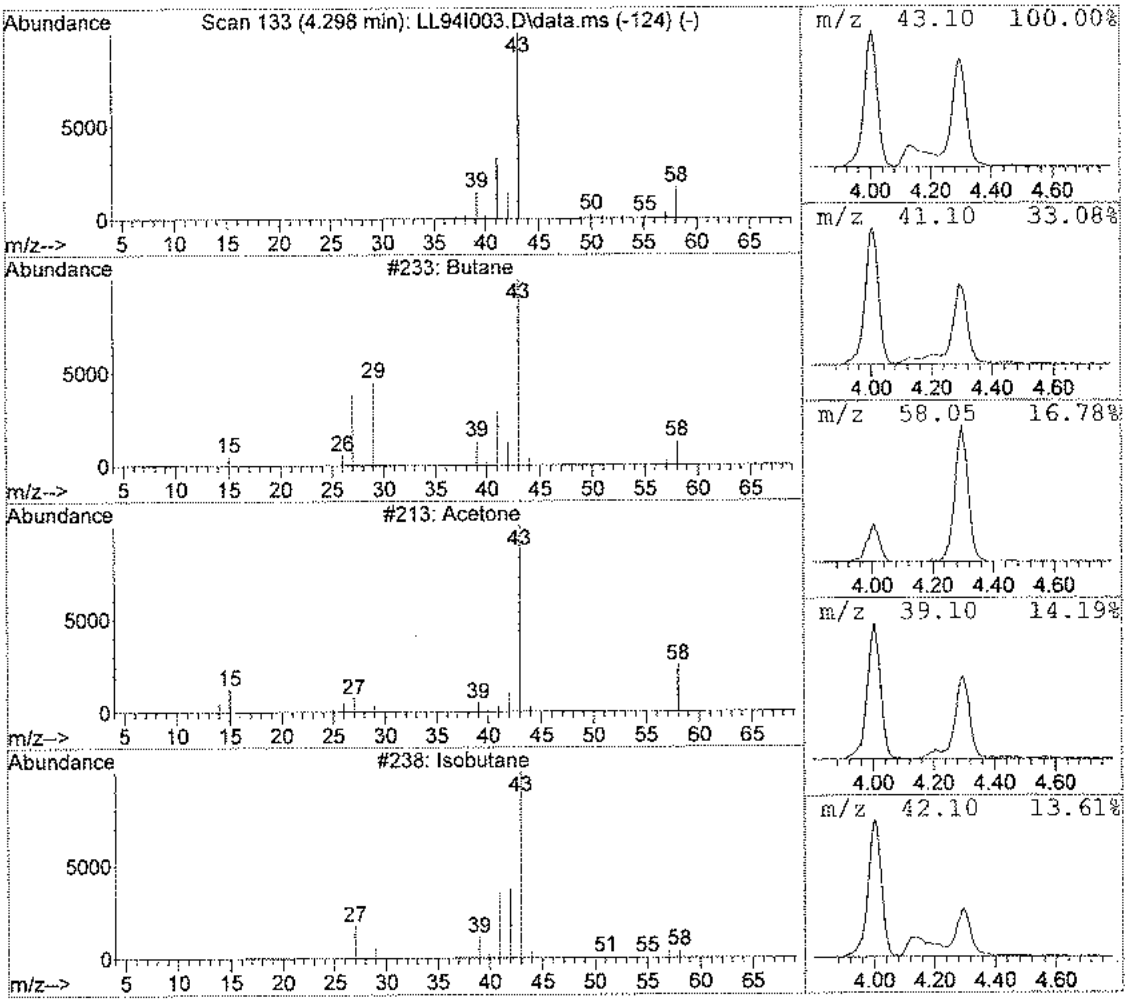
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL94I003.D Vial: 6
Acq Time : 03/23/2017 15:57 Operator: LMR
Sample : 1707721003 Inst : 5975-L
Misc : A-0013H-031017-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.30	3.92 ppb	708067	Bromochloromethane	3613977

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane	233	000106-97-8	64.00
2	Acetone	213	000067-64-1	9.00
3	Isobutane	238	000075-28-5	4.00
4	Propylene oxide	225	000075-56-9	4.00
5	Propane, 1-nitro-	2164	000108-03-2	4.00

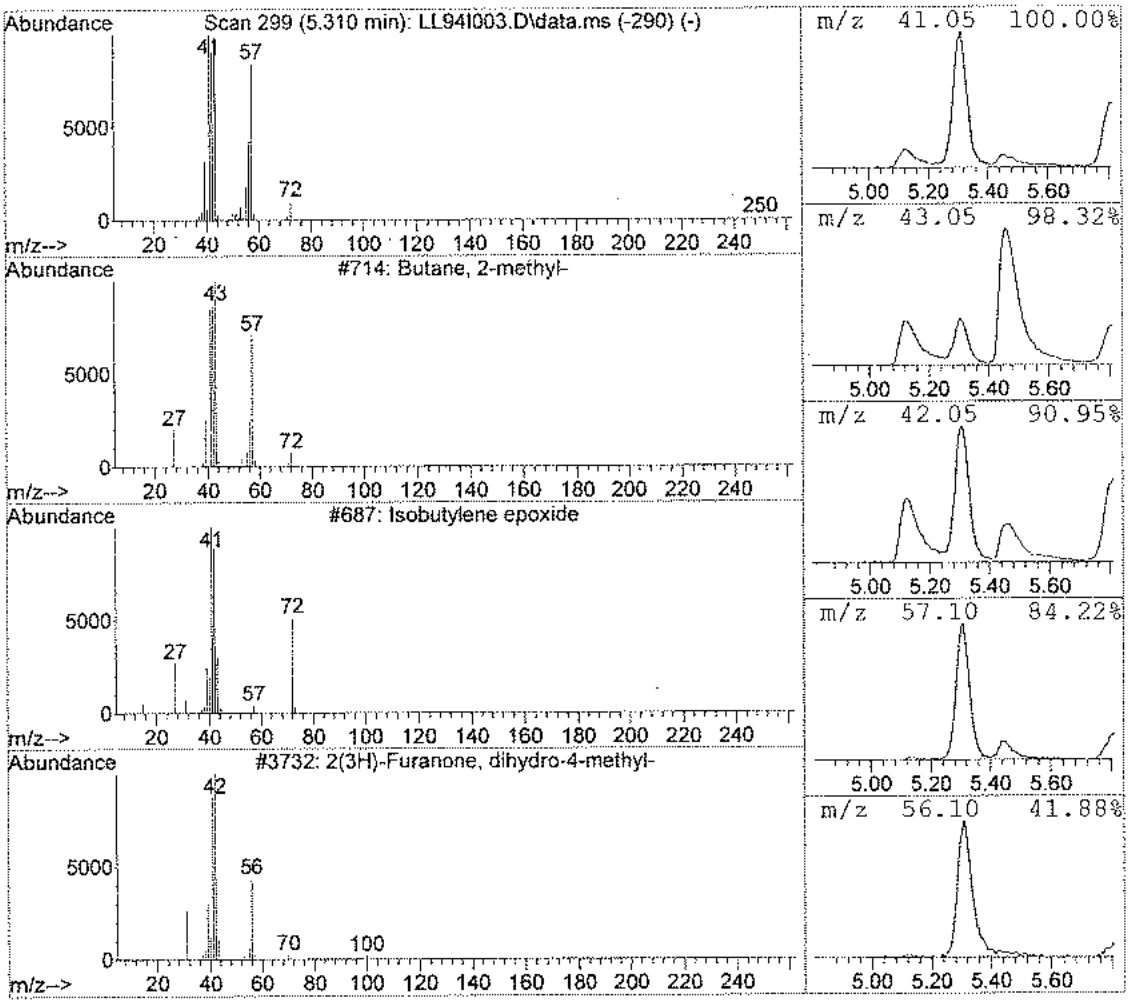


Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL94I003.D Vial: 6
Acq Time : 03/23/2017 15:57 Operator: LMR
Sample : 1707721003 Inst : 5975-L
Misc : A-0013H-031017-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
5.31	2.69 ppb	485931	Bromochloromethane	3613977

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane, 2-methyl-	714	000078-78-4	87.00
2	Isobutylene epoxide	687	000558-30-5	43.00
3	2(3H)-Furanone, dihydro-4-methyl-	3732	001679-49-8	42.00
4	3-Buten-1-ol	654	000627-27-0	38.00
5	Butane, 1-isocyano-	1295	002769-64-4	27.00

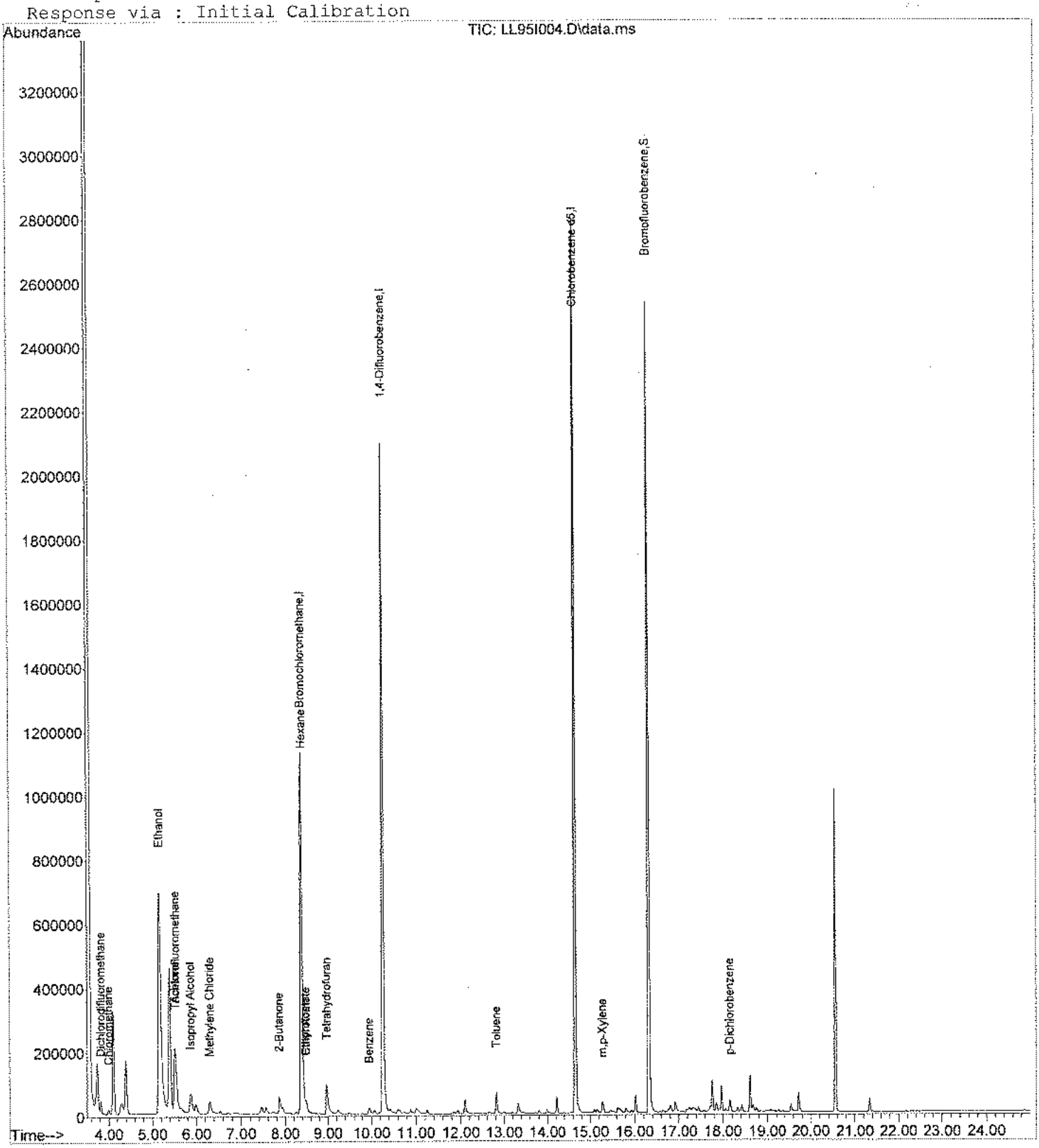


Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL95I004.D Vial: 7
Acq Time : 03/23/2017 16:48 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:15:46 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL95I004.D Vial: 7
Acq Time : 03/23/2017 16:48 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:15:46 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.38	130	201920	20.0000 ppb	106.88
25) 1,4-Difluorobenzene	10.27	114	2352217	20.0000 ppb	102.65
50) Chlorobenzene d5	14.66	117	1898445	20.0000 ppb	95.05
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.32	95	1047056	21.0271 ppb	105.14%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	3.82	85	45577	0.5545 ppb m	0
4) Chloromethane	3.99	50	29063	0.9223 ppb m	41
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.50	43	488695	9.2067 ppb	95
12) Trichlorofluoromethane	5.53	101	29559	0.3016 ppb	98
13) Ethanol	5.16	45	1803168	179.1739 ppb #TC	80
14) Isopropyl Alcohol	5.86	45	91919	1.6127 ppb #TC	3
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.31	84	27679	0.9580 ppb #	45
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.86	43	130295	1.9182 ppb #	69
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	8.49	61	1853	0.1922 ppb #	1
27) Hexane	8.40	57	11192	0.1957 ppb #	83
28) Chloroform	8.50	83	21810	0.3259 ppb	99
29) Tetrahydrofuran	8.97	42	103333	2.5685 ppb #	63
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.94	78	15768	0.1796 ppb #	89
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	0.00	71		Not Detected	
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL95I004.D Vial: 7
Acq Time : 03/23/2017 16:48 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:15:46 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

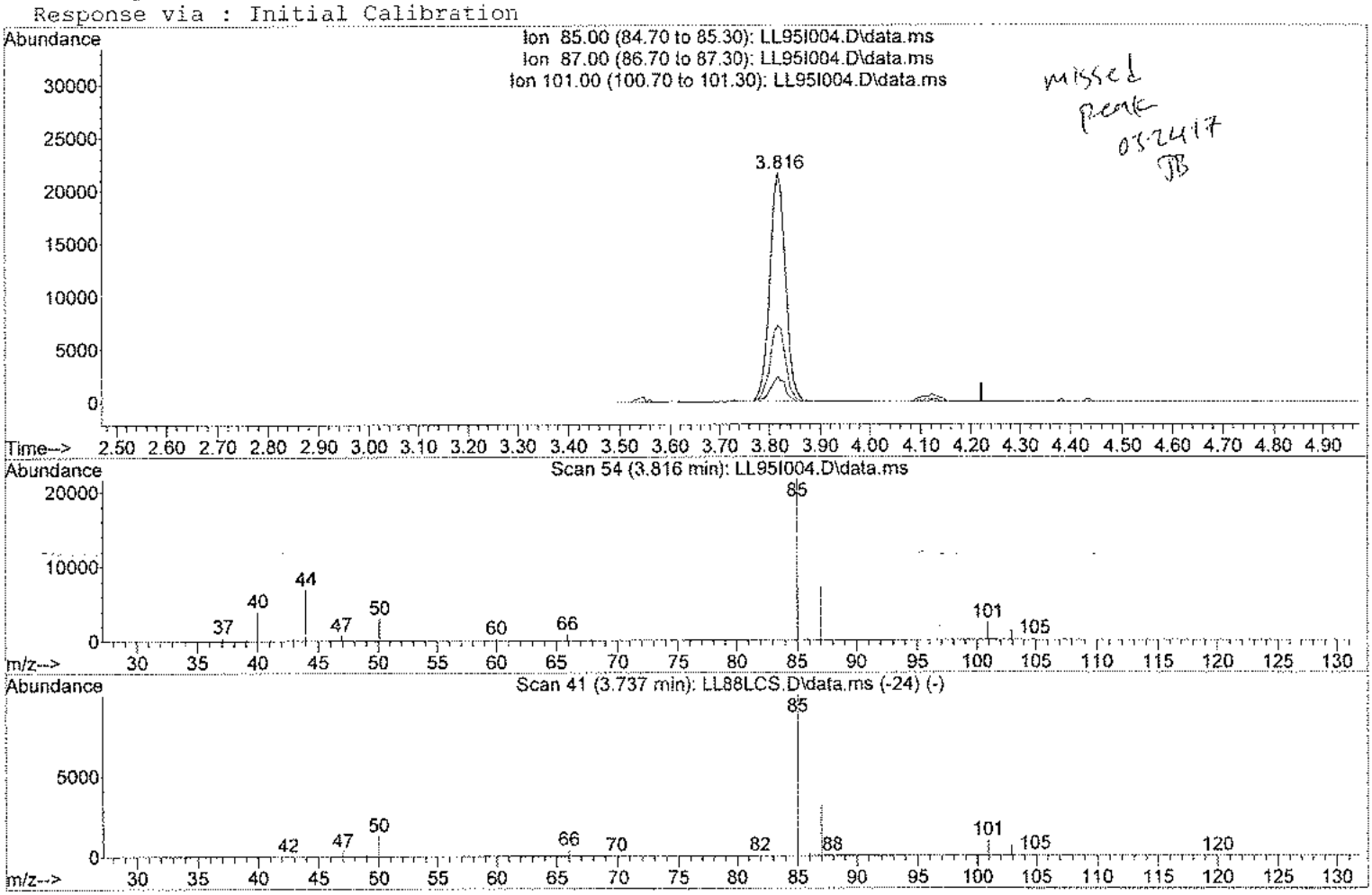
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45) Toluene	12.82	91	62223	0.5766 ppb	93
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	0.00	91		Not Detected	
53) m,p-Xylene	15.28	91	26307	0.3014 ppb	95
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	0.00	91		Not Detected	
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	18.16	146	21696	0.3419 ppb #	91
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\23MAR17L\
Data File : LL95I004.D
Acq On : 03/23/2017 16:48
Operator : LMR
Sample : 1707721004
Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS (1in Hg)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 24 11:06:33 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m
Quant Title : TO-15
QLast Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



TIC: LL95I004.D\data.ms

(3) Dichlorodifluoromethane

3.816min (+ 0.096) 0.55 ppb m

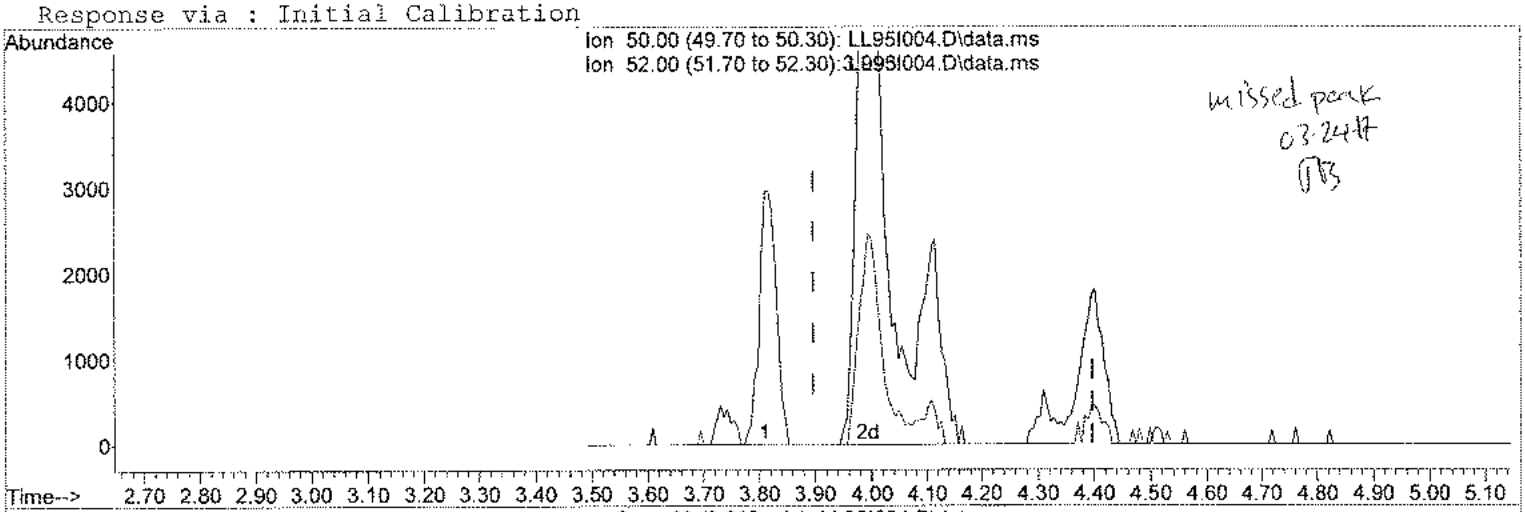
response 45577

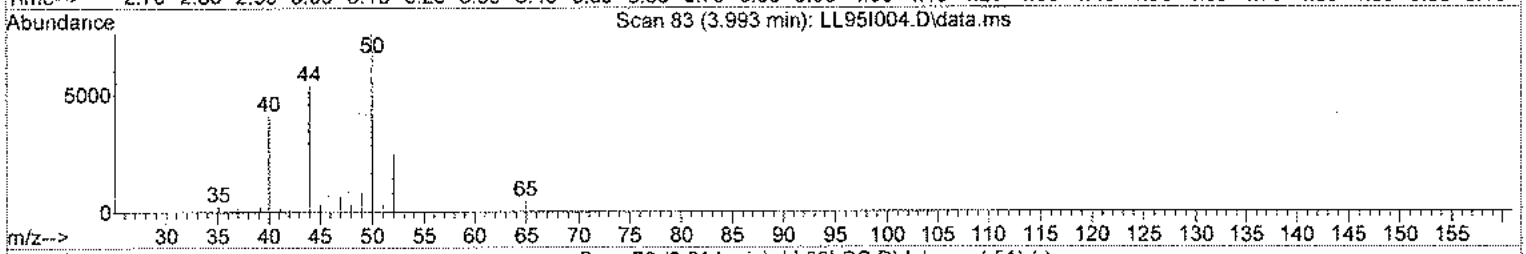
Ion	Exp%	Act%
85.00	100.00	100.00
87.00	32.60	0.00#
101.00	10.00	0.00#
0.00	0.00	0.00

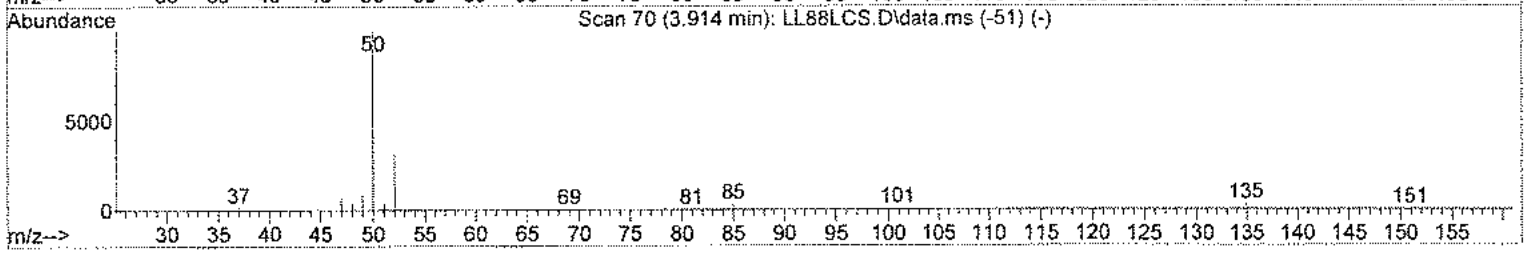
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\23MAR17L\
Data File : LL95I004.D
Acq On : 03/23/2017 16:48
Operator : LMR
Sample : 1707721004
Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS (1in Hg)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 24 11:06:33 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m
Quant Title : TO-15
QLast Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration







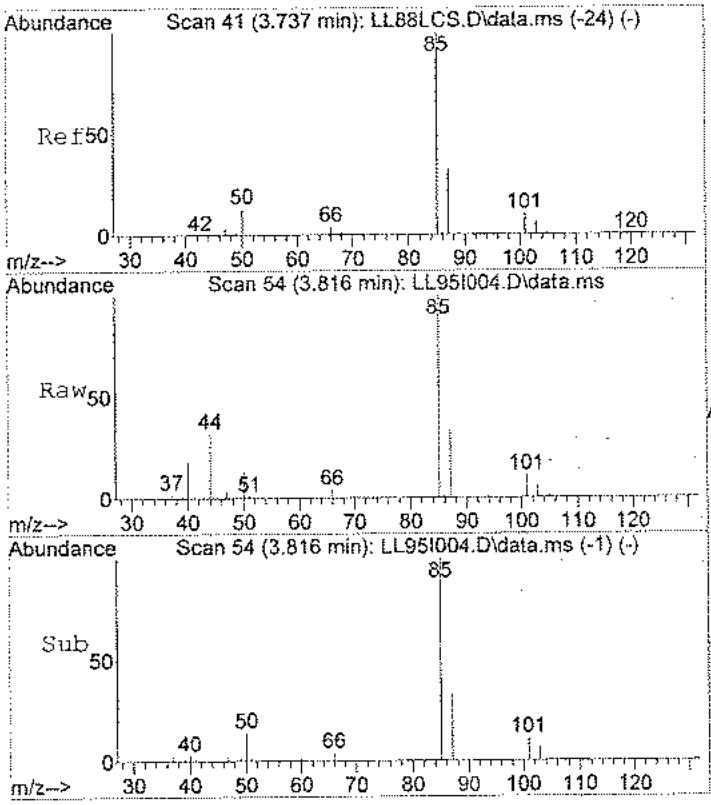
TIC: LL95I004.D\data.ms

(4) Chloromethane

3.993min (+ 0.096) 0.92 ppb m

response 29063

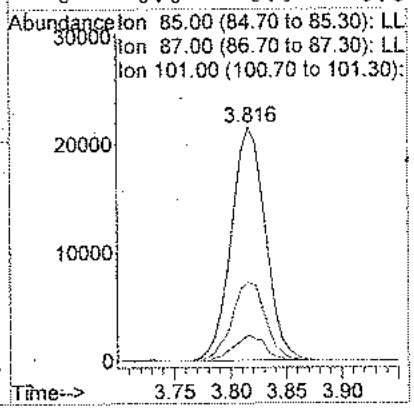
Ion	Exp%	Act%
50.00	100.00	100.00
52.00	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

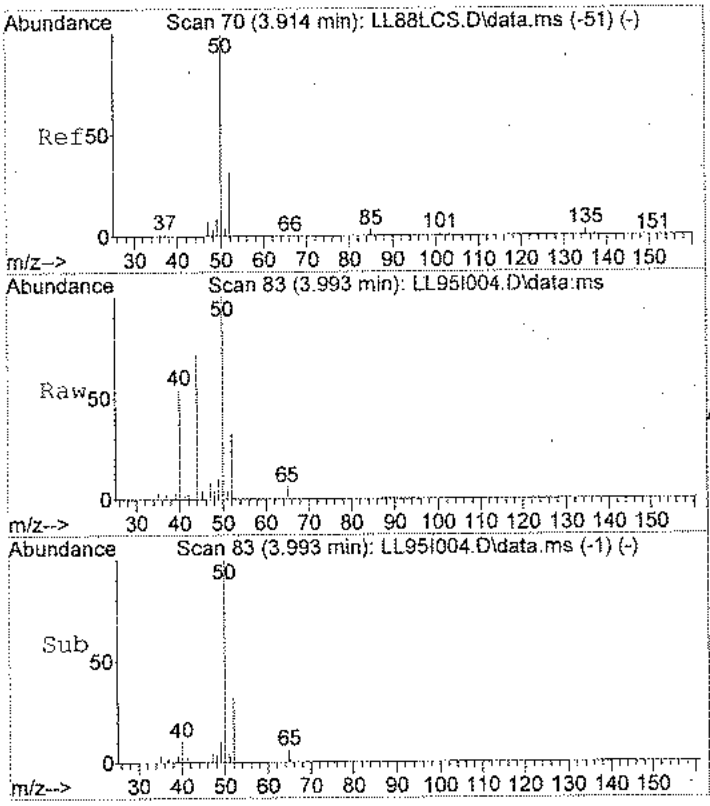


#3
Dichlorodifluoromethane
Concen: 0.55 ppb m
RT: 3.82 min Scan# 54
Delta R.T. 0.10 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:85 Resp: 45577

Ion	Ratio	Lower	Upper
85	100		
87	0.0	26.1	39.1#
101	0.0	8.0	12.0#
0	0.0	0.0	0.0

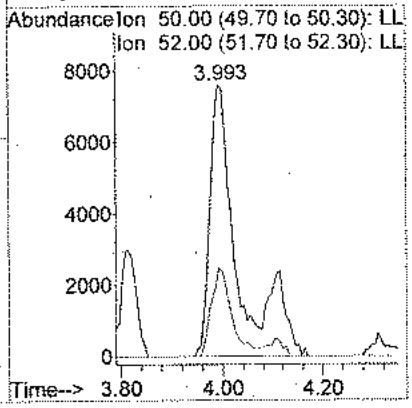


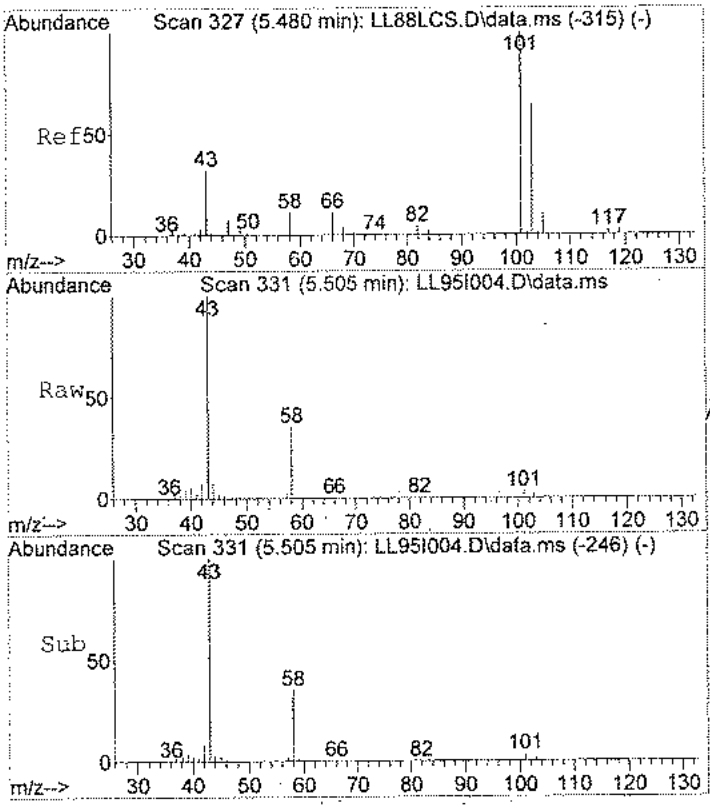


#4
Chloromethane
Concen: 0.92 ppb m
RT: 3.99 min Scan# 83
Delta R.T. 0.10 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:50 Resp: 29063

Ion	Ratio	Lower	Upper
50	100		
52	0.0	26.6	40.0#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

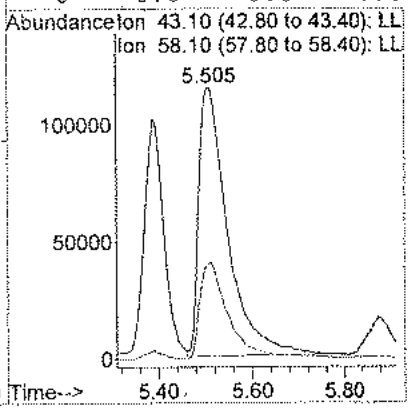


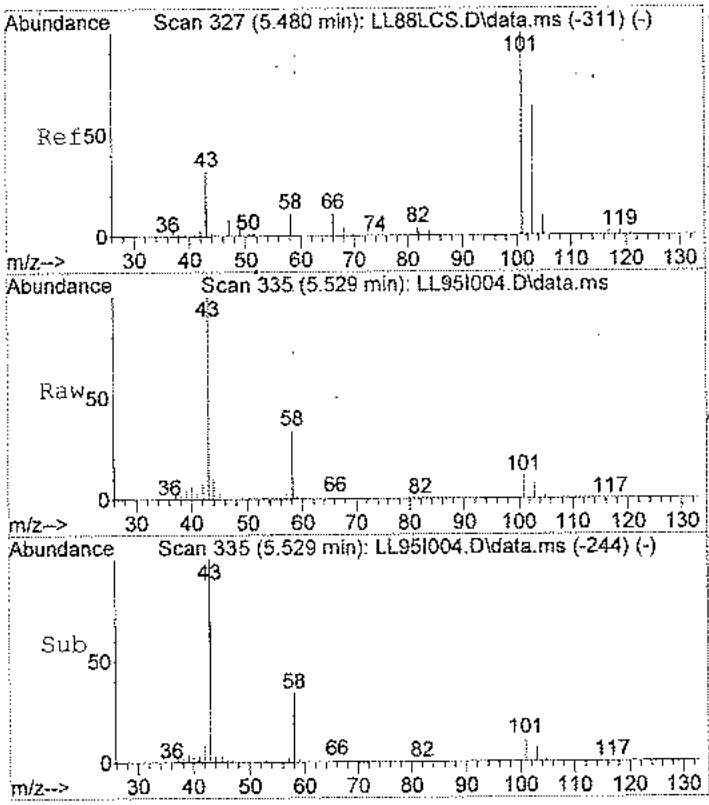


#11
Acetone
Concen: 9.21 ppb
RT: 5.50 min Scan# 331
Delta R.T. 0.02 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:43.1 Resp: 488695

Ion	Ratio	Lower	Upper
43	100		
58	35.4	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

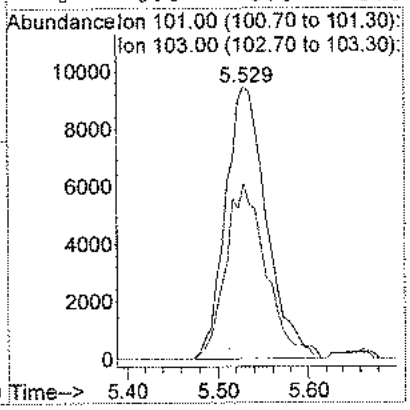


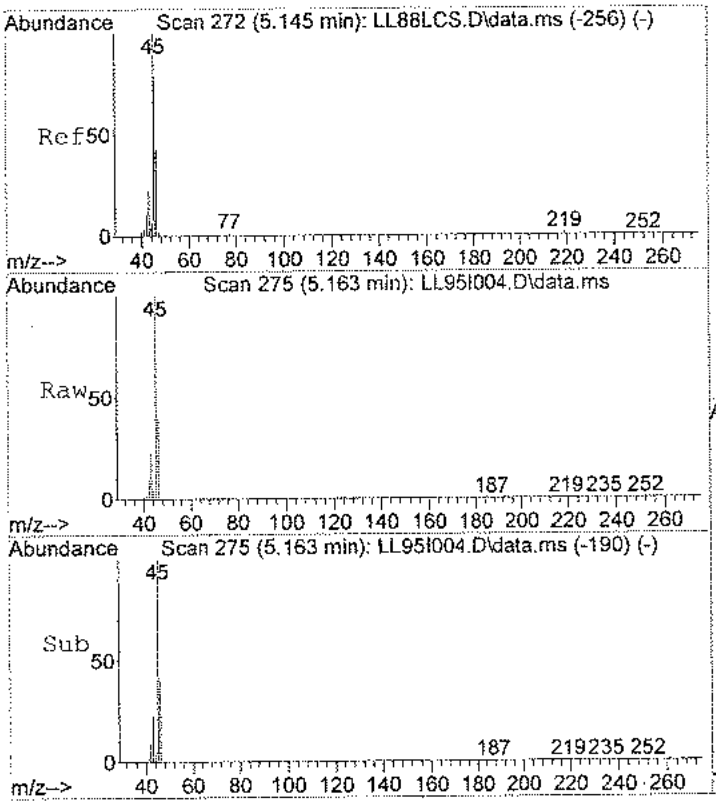


#12
Trichlorofluoromethane
Concen: 0.30 ppb
RT: 5.53 min Scan# 335
Delta R.T. 0.05 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:101 Resp: 29559

Ion	Ratio	Lower	Upper
101	100		
103	62.8	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

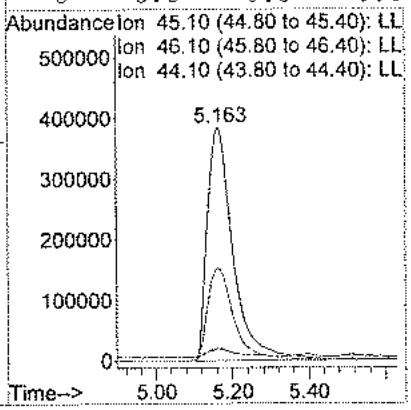


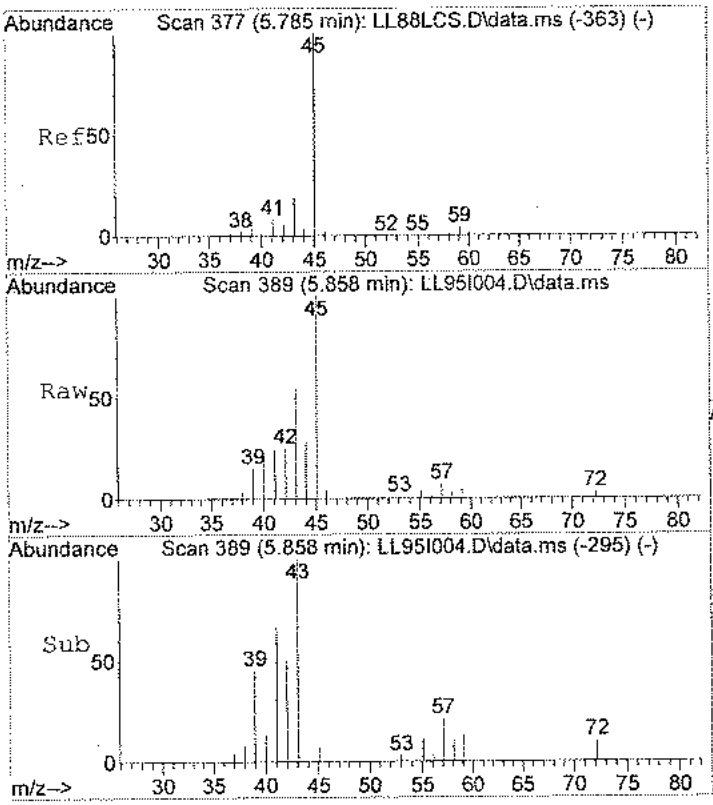


#13
Ethanol
Concen: 179.17 ppb
RT: 5.16 min Scan# 275
Delta R.T. 0.02 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:45.1 Resp: 1803168

Ion	Ratio	Lower	Upper
45	100		
46	40.2	32.4	48.6
44	3.5	23.4	35.2#
0	0.0	0.0	0.0

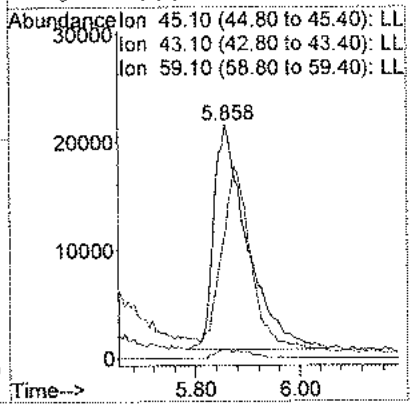


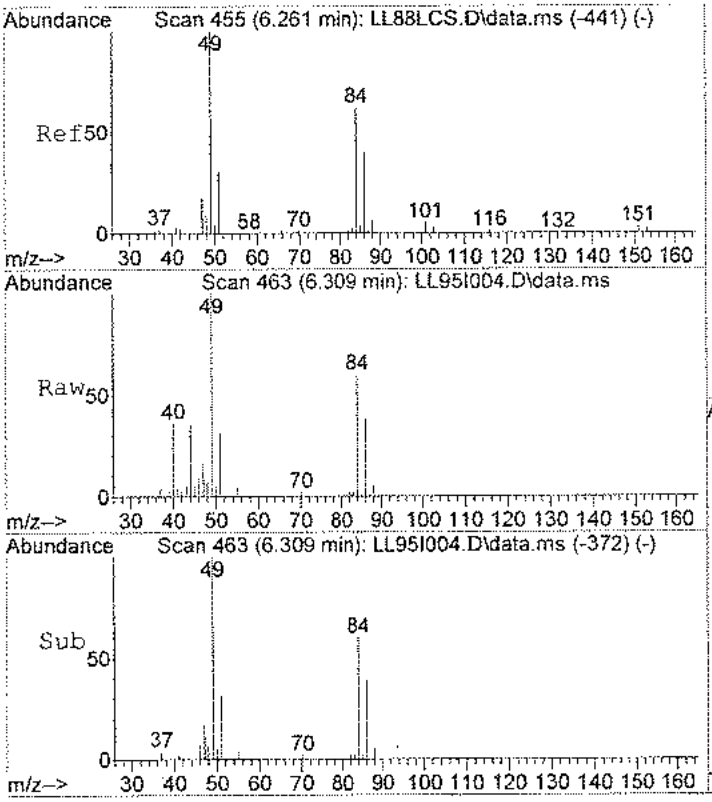


#14
Isopropyl Alcohol
Concen: 1.61 ppb
RT: 5.86 min Scan# 389
Delta R.T. 0.07 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:45.1 Resp: 91919

Ion	Ratio	Lower	Upper
45	100		
43	73.0	15.8	23.6#
59	3.8	3.2	4.8
0	0.0	0.0	0.0

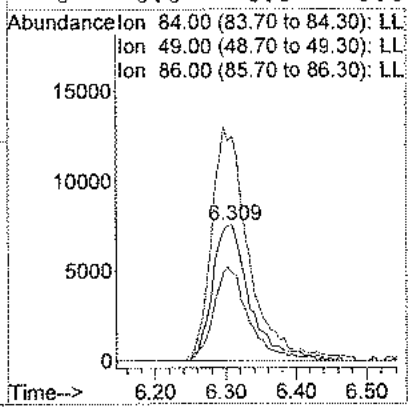


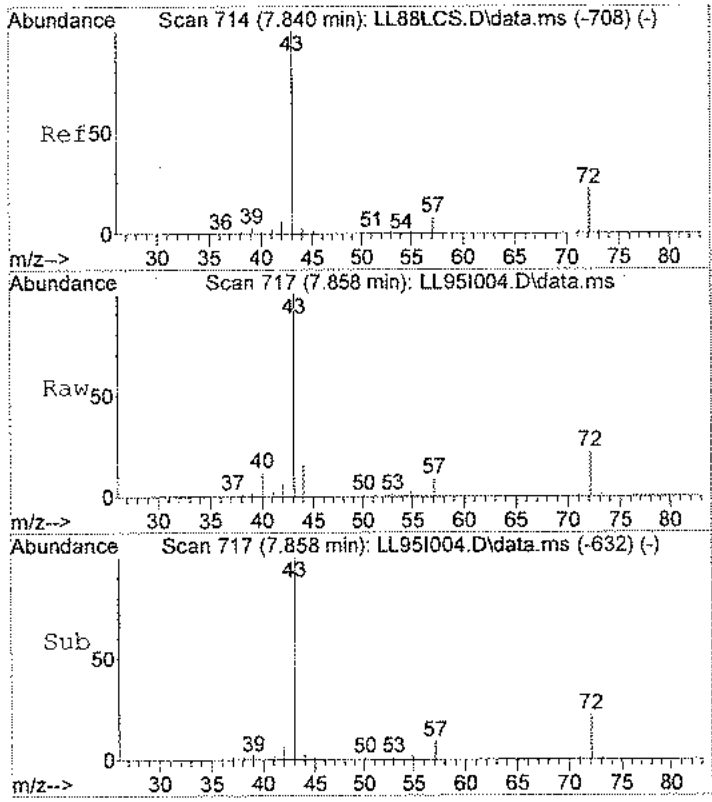


#16
Methylene Chloride
Concen: 0.96 ppb
RT: 6.31 min Scan# 463
Delta R.T. 0.05 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:84 Resp: 27679

Ion	Ratio	Lower	Upper
84	100		
49	170.5	66.6	100.0#
86	64.3	51.6	77.4
0	0.0	0.0	0.0

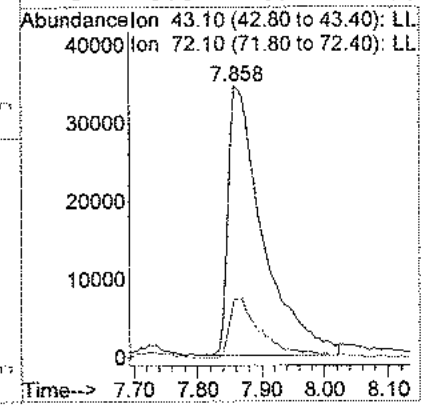


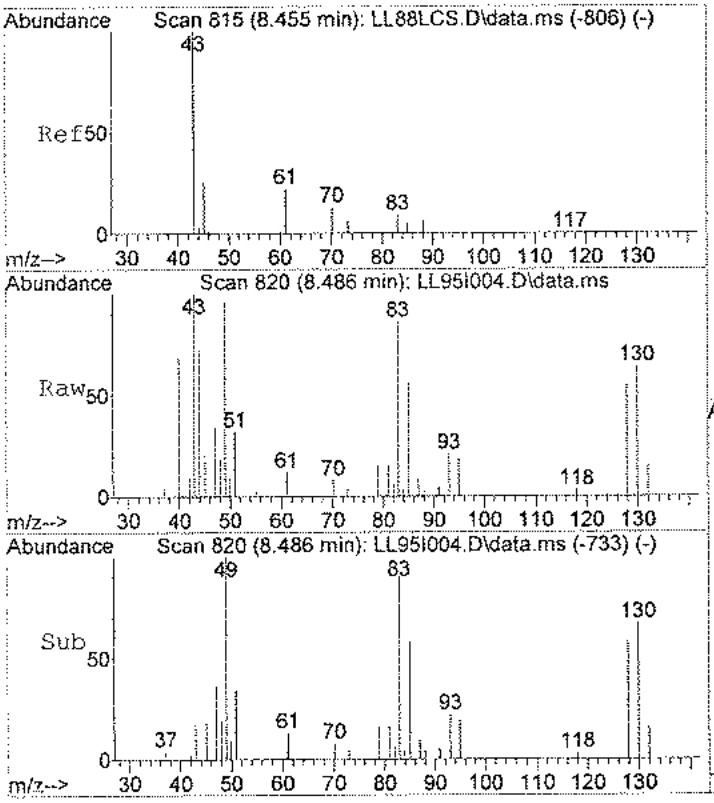


#23
2-Butanone
Concen: 1.92 ppb
RT: 7.86 min Scan# 717
Delta R.T. 0.02 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:43.1 Resp: 130295

Ion	Ratio	Lower	Upper
43	100		
72	20.1	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

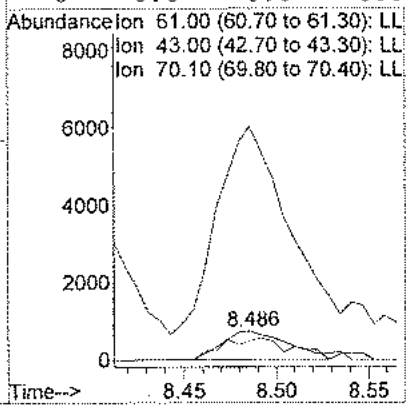


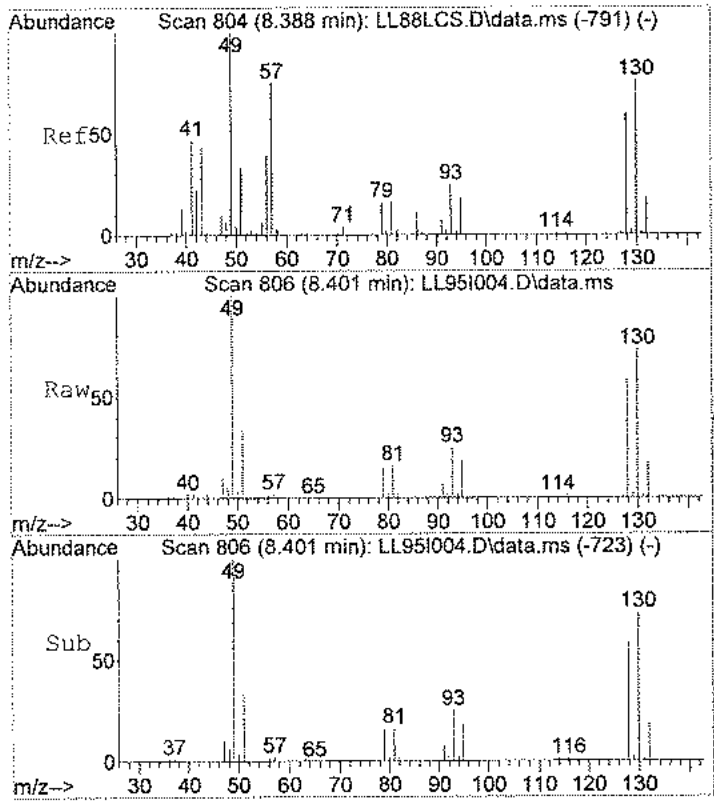


#26
Ethyl Acetate
Concen: 0.19 ppb
RT: 8.49 min Scan# 820
Delta R.T. 0.03 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:61 Resp: 1853

Ion	Ratio	Lower	Upper
61	100		
43	1032.4	144.0	216.0#
70	83.6	13.6	20.4#
0	0.0	0.0	0.0

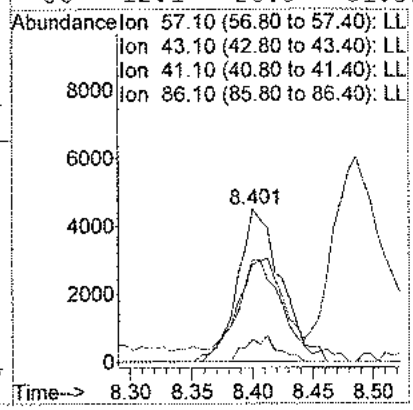


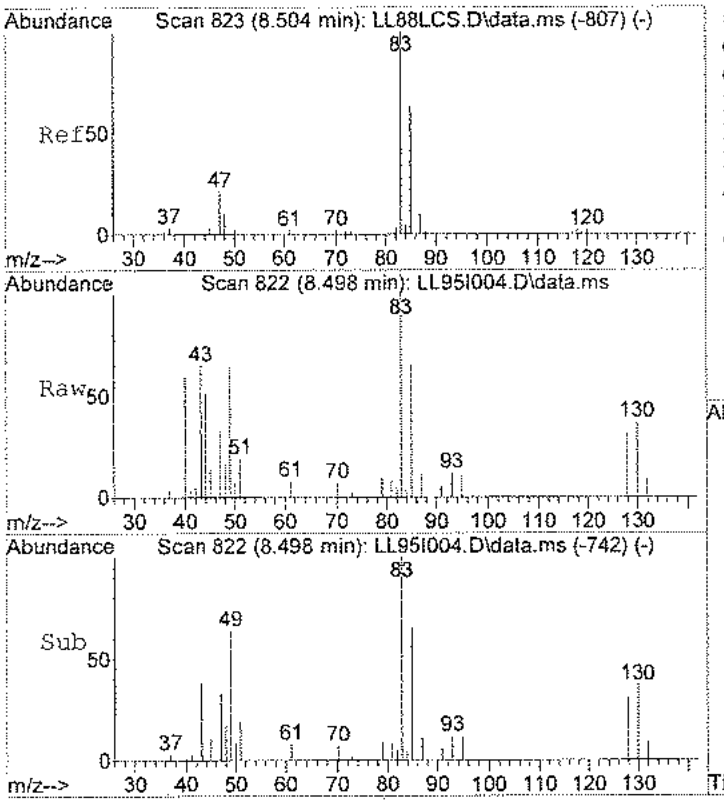


#27
Hexane
Concen: 0.20 ppb
RT: 8.40 min Scan# 806
Delta R.T. 0.00 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:57.1 Resp: 11192

Ion	Ratio	Lower	Upper
57	100		
43	58.2	57.3	85.9
41	69.7	47.0	70.4
86	12.1	20.9	31.3#

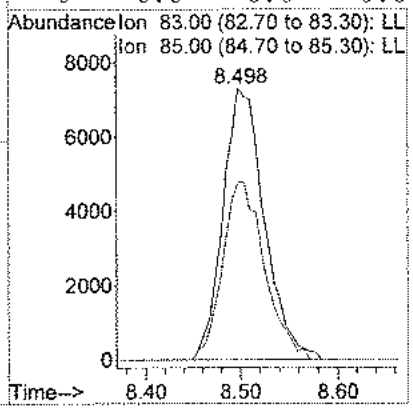


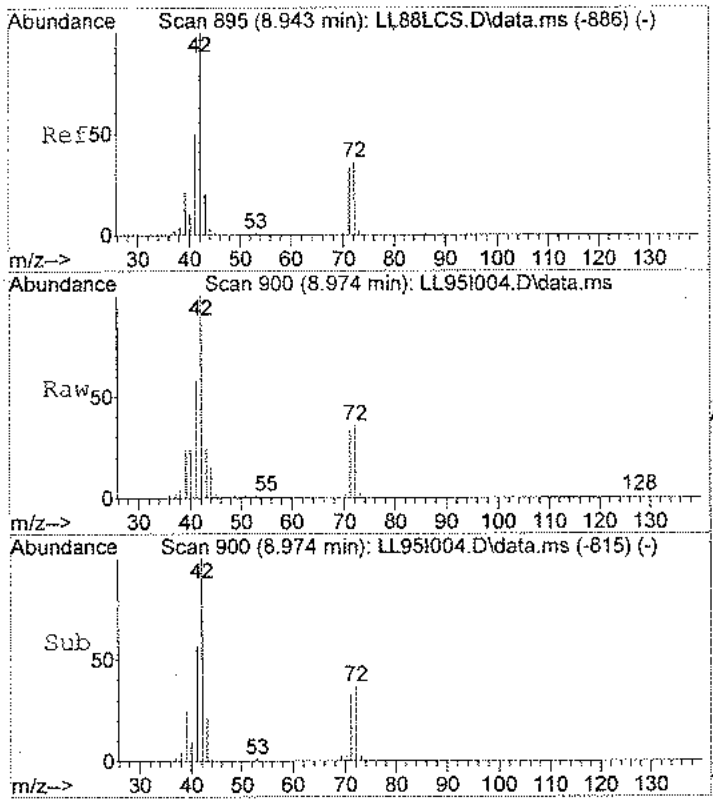


#28
Chloroform
Concen: 0.33 ppb
RT: 8.50 min Scan# 822
Delta R.T. -0.01 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:83 Resp: 21810

Ion	Ratio	Lower	Upper
83	100		
85	66.2	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

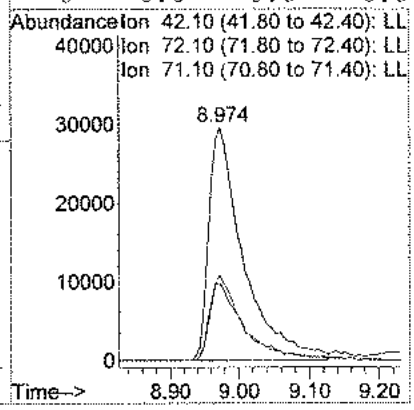


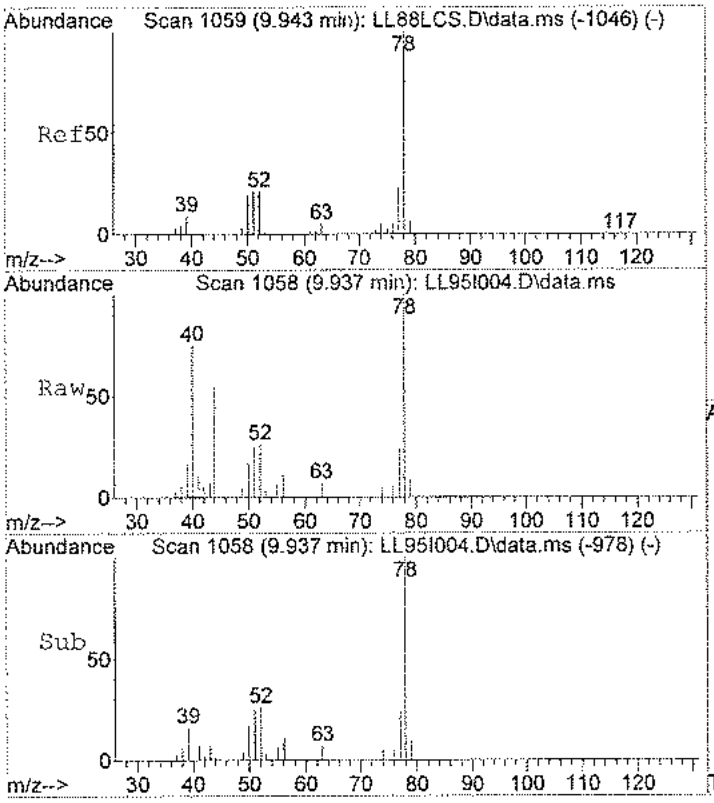


#29
Tetrahydrofuran
Concen: 2.57 ppb
RT: 8.97 min Scan# 900
Delta R.T. 0.02 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:42.1 Resp: 103333

Ion	Ratio	Lower	Upper
42	100		
72	34.5	51.5	77.3#
71	33.0	47.5	71.3#
0	0.0	0.0	0.0

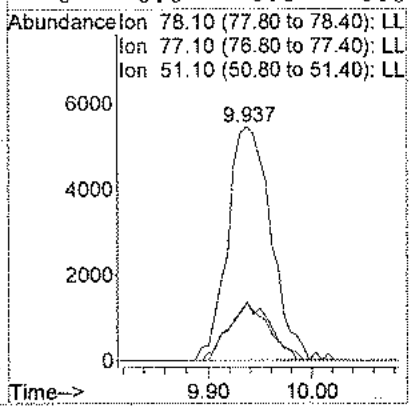


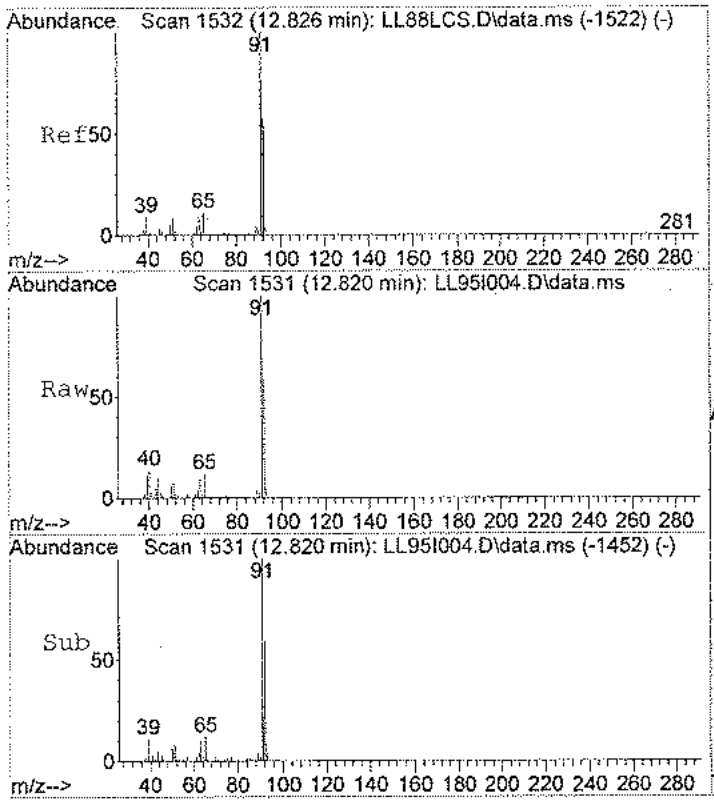


#32
Benzene
Concen: 0.18 ppb
RT: 9.94 min Scan# 1058
Delta R.T. -0.01 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:78.1 Resp: 15768

Ion	Ratio	Lower	Upper
78	100		
77	23.1	18.2	27.4
51	23.5	9.5	14.3#
0	0.0	0.0	0.0

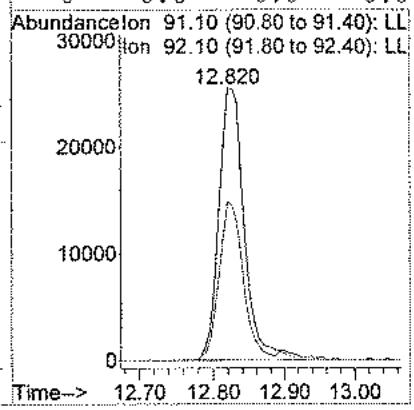


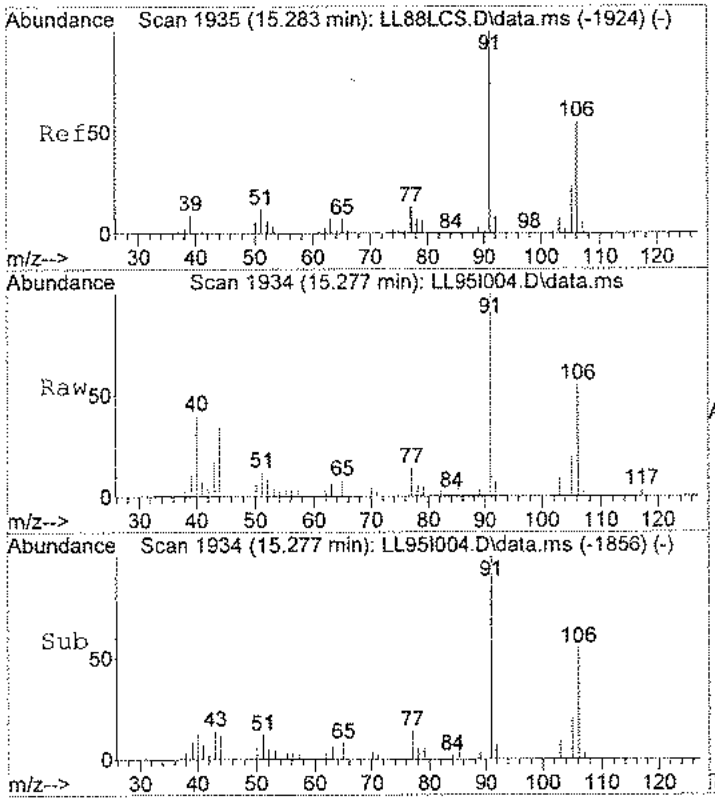


#45
Toluene
Concen: 0.58 ppb
RT: 12.82 min Scan# 1531
Delta R.T. -0.02 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:91.1 Resp: 62223

Ion	Ratio	Lower	Upper
91	100		
92	54.9	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

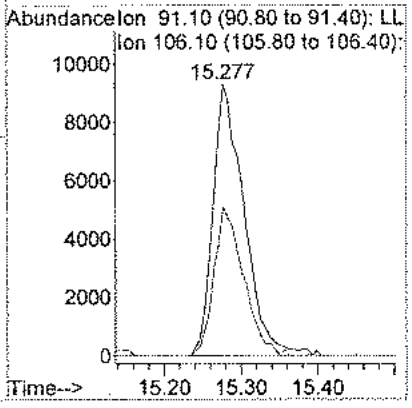


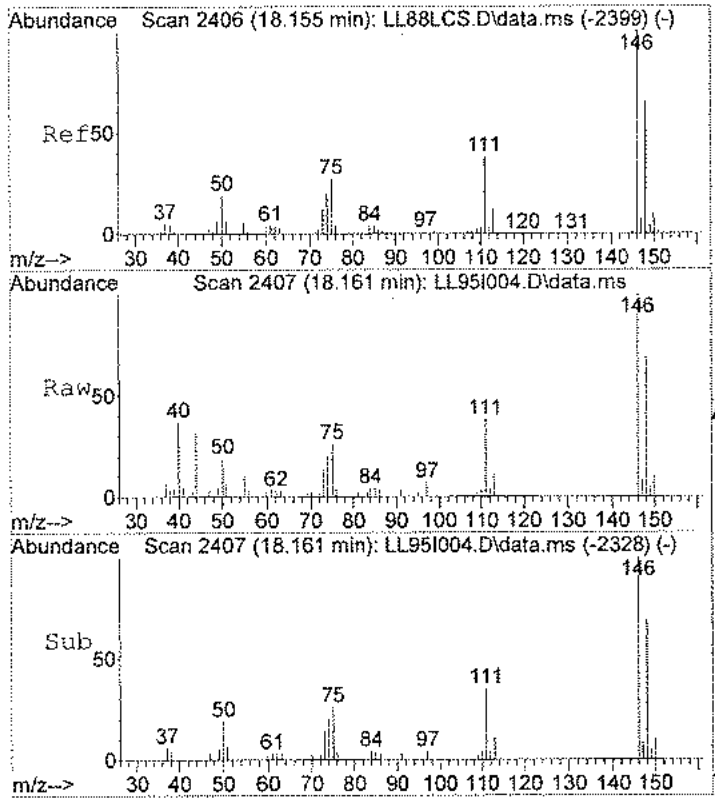


#53
m,p-Xylene
Concen: 0.30 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.03 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:91.1 Resp: 26307

Ion	Ratio	Lower	Upper
91	100		
106	52.0	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

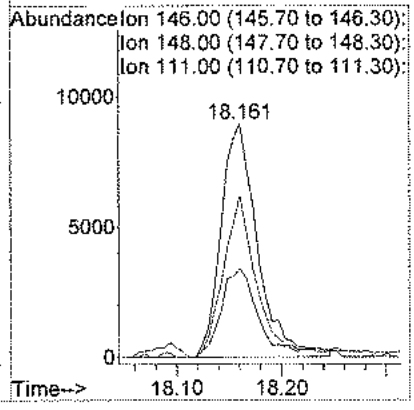




#64
p-Dichlorobenzene
Concen: 0.34 ppb
RT: 18.16 min Scan# 2407
Delta R.T. -0.02 min
Lab File: LL95I004.D
Acq: 03/23/2017 16:48

Tgt Ion:146 Resp: 21696

Ion	Ratio	Lower	Upper
146	100		
148	60.6	51.7	77.5
111	40.5	24.6	36.8#
0	0.0	0.0	0.0



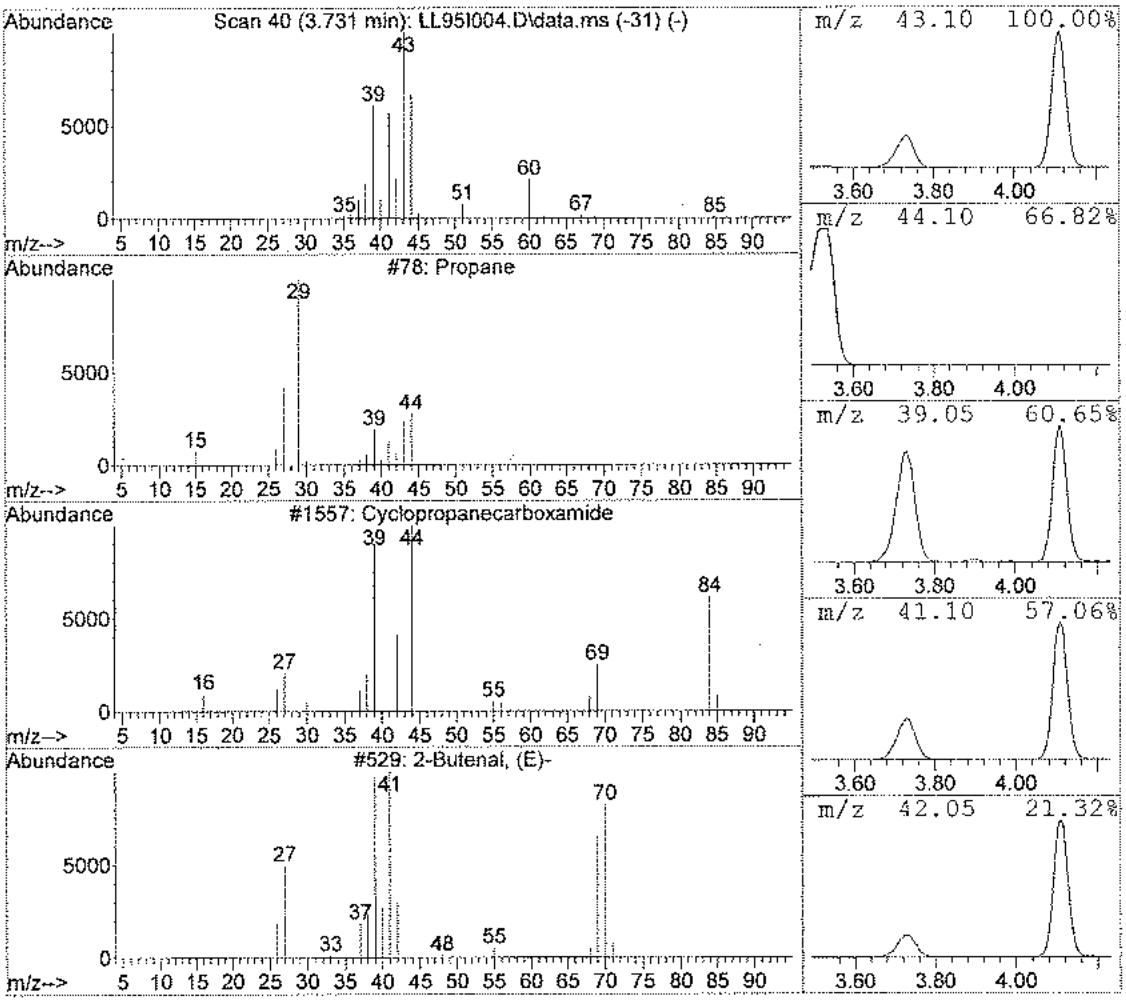
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL95I004.D Vial: 7
Acq Time : 03/23/2017 16:48 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
3.73	2.41 ppb	453765	Bromochloromethane	3761274

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Propane	78	000074-98-6	50.00
2	Cyclopropanecarboxamide	1557	006228-73-5	38.00
3	2-Butenal, (E)-	529	000123-73-9	25.00
4	2-Butenal	506	004170-30-3	23.00
5	Methylacrylonitrile	396	000126-98-7	9.00



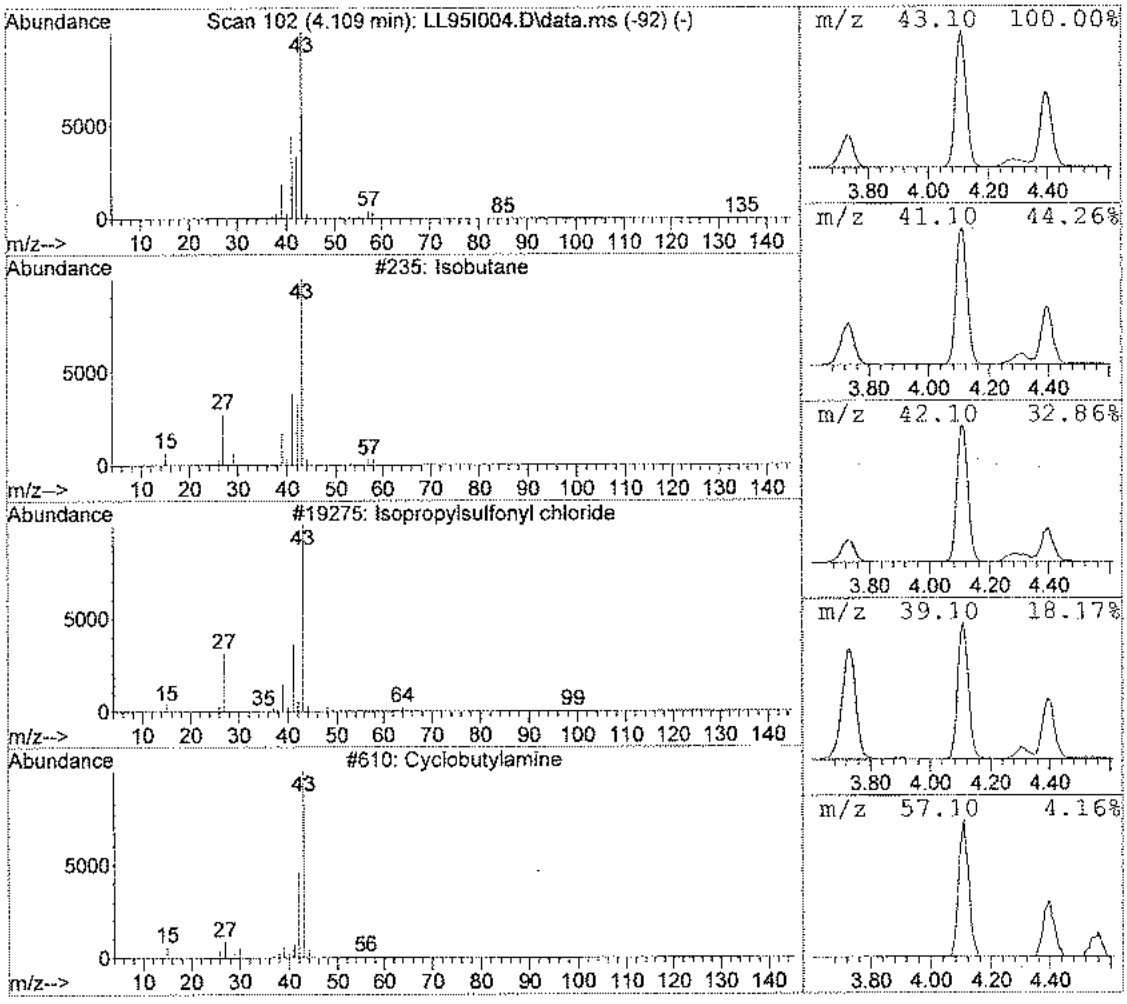
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL95I004.D Vial: 7
Acq Time : 03/23/2017 16:48 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column 1D: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.11	4.22 ppb	793934	Bromochloromethane	3761274

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	235	000075-28-5	72.00
2	Isopropylsulfonyl chloride	19275	010147-37-2	9.00
3	Cyclobutylamine	610	002516-34-9	9.00
4	1-Propanol, 2-methyl-	853	000078-83-1	9.00
5	Butane, 2-methyl-	714	000078-78-4	4.00



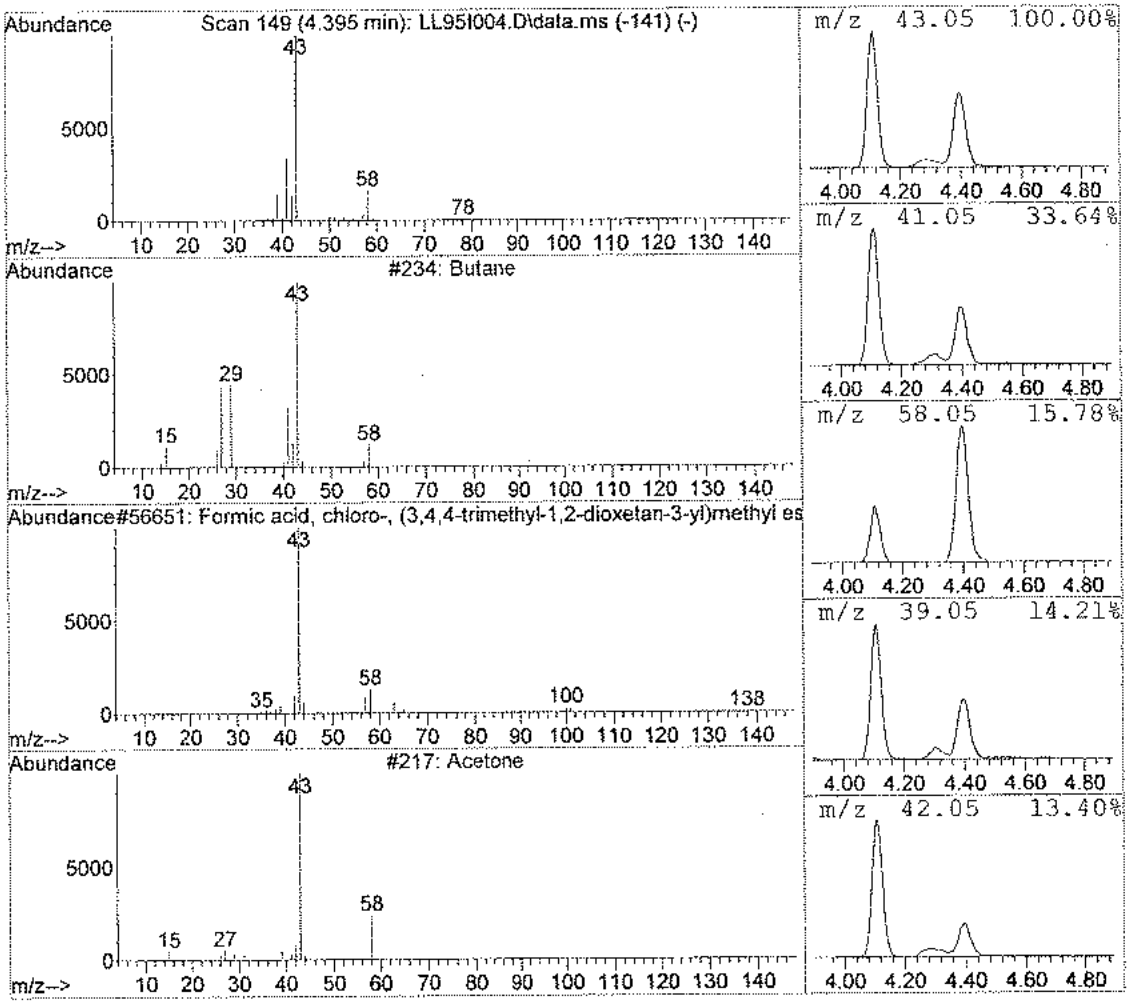
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL95I004.D Vial: 7
Acq Time : 03/23/2017 16:48 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.40	2.49 ppb	469014	Bromochloromethane	3761274

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane	234	000106-97-8	64.00
2	Formic acid, chloro-, (3,4,4-trimet	56651	107323-92-2	9.00
3	Acetone	217	000067-64-1	4.00
4	Hydroperoxide, 1-methylethyl	947	003031-75-2	4.00
5	Allyl acetate	3664	000591-87-7	4.00



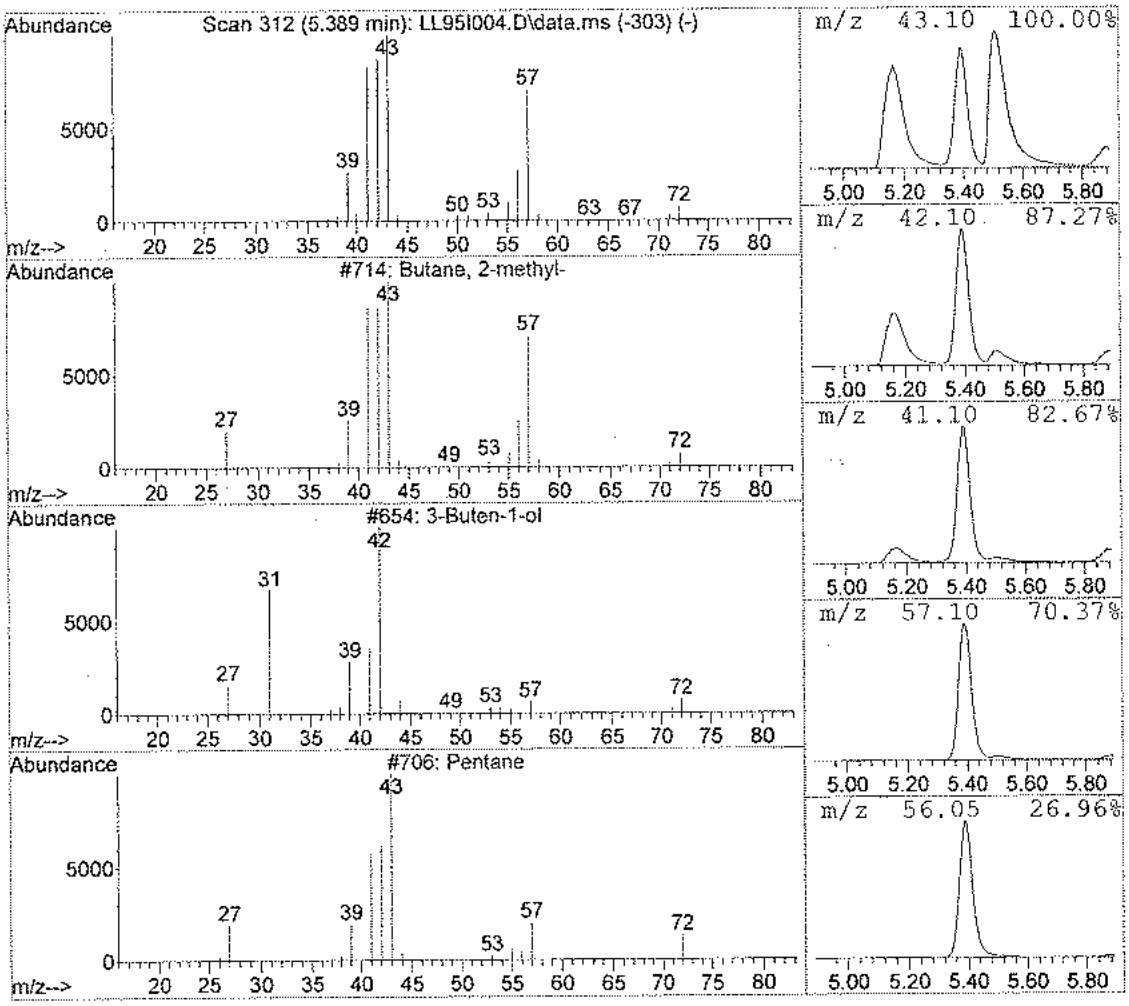
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL95I004.D Vial: 7
Acq Time : 03/23/2017 16:48 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS (1in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
5.39	7.13 ppb	1340579	Bromochloromethane	3761274

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane, 2-methyl-	714	000078-78-4	94.00
2	3-Buten-1-ol	654	000627-27-0	47.00
3	Pentane	706	000109-66-0	42.00
4	1-Butene	176	000106-98-9	10.00
5	1-Butanesulfonyl chloride	28581	002386-60-9	10.00

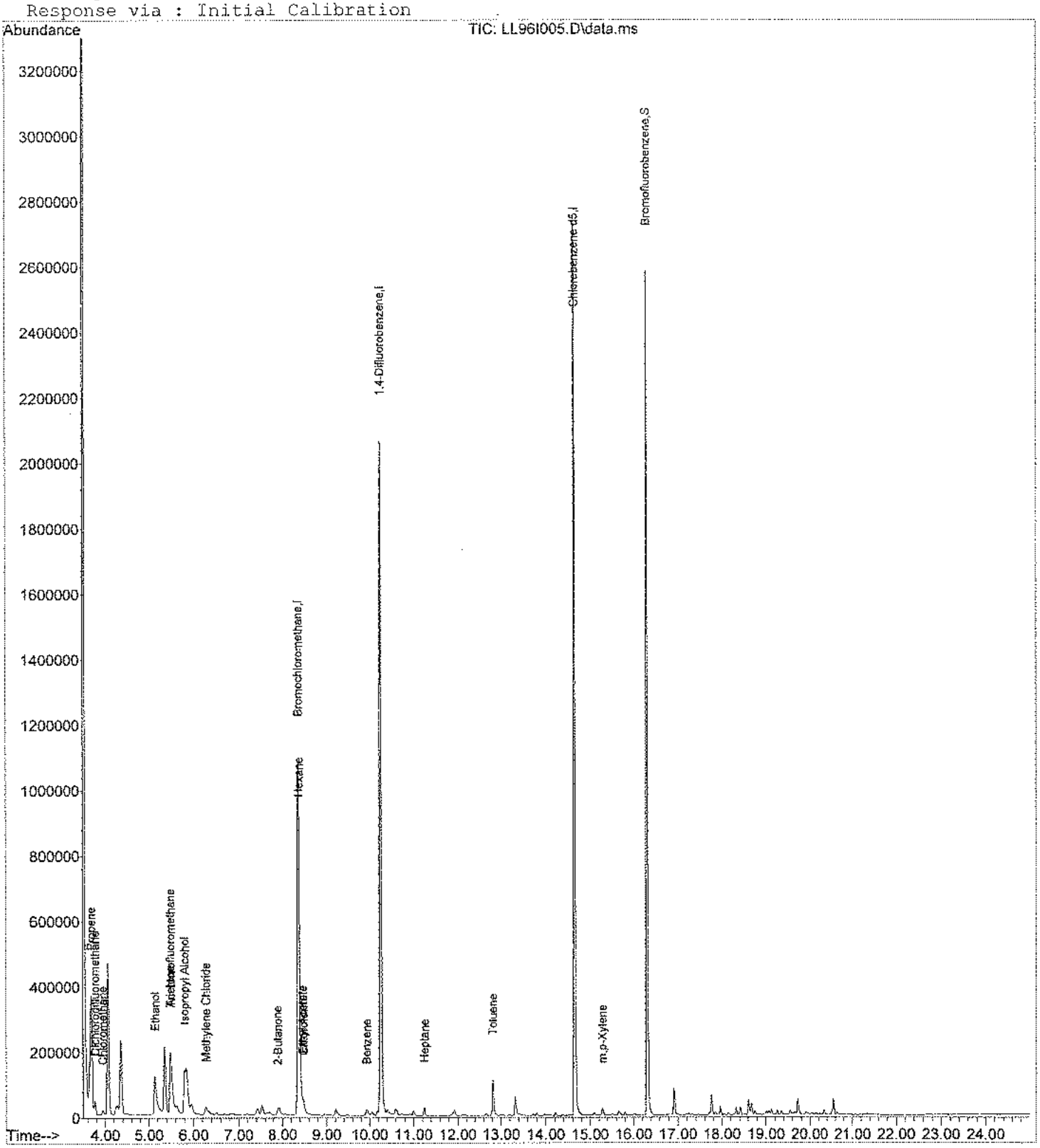


Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL96I005.D Vial: 8
Acq Time : 03/23/2017 17:38 Operator: LMR
Sample : 1707721005 Inst : 5975-L
Misc : A-0004H-031417-TO-001-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:16:19 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL96I005.D Vial: 8
Acq Time : 03/23/2017 17:38 Operator: LMR
Sample : 1707721005 Inst : 5975-L
Misc : A-0004H-031417-TO-001-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:16:19 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.37	130	193024	20.0000 ppb	102.17
25) 1,4-Difluorobenzene	10.26	114	2309619	20.0000 ppb	100.79
50) Chlorobenzene d5	14.66	117	1858387	20.0000 ppb	93.05
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.31	95	1022508	20.9768 ppb	104.88%
Target Compounds					Qvalue
2) Propene	3.68	41	163342	6.2944 ppb #ГЦ	53
3) Dichlorodifluoromethane	3.77	85	45178	0.5750 ppb	100
4) Chloromethane	3.94	50	22855	0.7587 ppb	95
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.49	43	464530	9.1548 ppb	97
12) Trichlorofluoromethane	5.49	101	26394	0.2817 ppb	98
13) Ethanol	5.13	45	312927	32.5274 ppb #ГЦ	77
14) Isopropyl Alcohol	5.80	45	390733	7.1712 ppb #ГЦ	64
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.29	84	16706	0.6049 ppb #	48
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.89	43	34417	0.5300 ppb #	66
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	8.46	61	4119	0.4352 ppb #	1
27) Hexane	8.39	57	24967	0.4447 ppb #	85
28) Chloroform	8.49	83	11400	0.1735 ppb	97
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.93	78	17817	0.2066 ppb #	88
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	11.24	71	5254	0.1784 ppb #	15
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

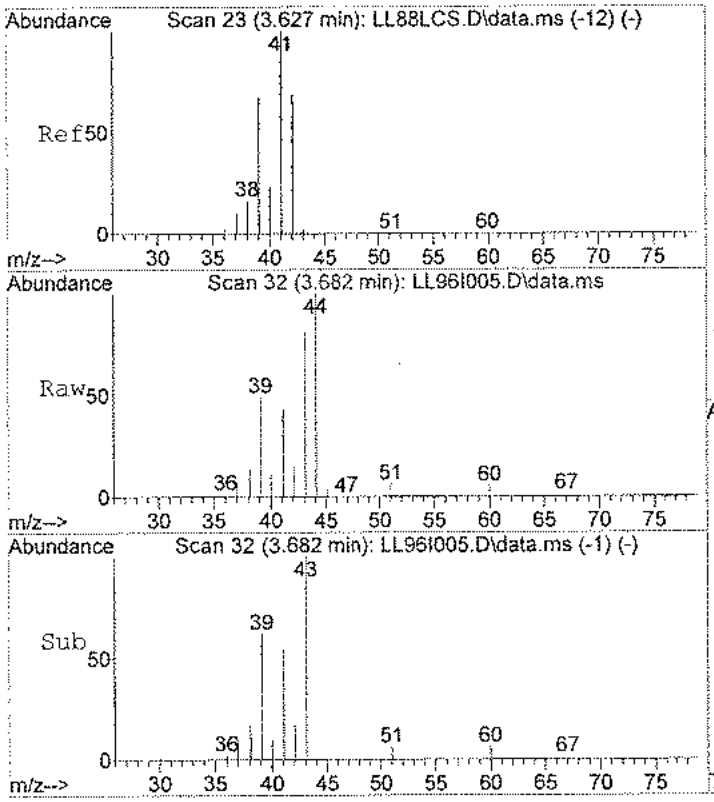
Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL96I005.D Vial: 8
Acq Time : 03/23/2017 17:38 Operator: LMR
Sample : 1707721005 Inst : 5975-L
Misc : A-0004H-031417-TO-001-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:16:19 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Toluene	12.82	91	102845	0.9705 ppb	99
46)	2-Hexanone	0.00	43		Not Detected	
47)	Dibromochloromethane	0.00	129		Not Detected	
48)	1,2-Dibromoethane	0.00	107		Not Detected	
49)	Tetrachloroethene	0.00	166		Not Detected	
51)	Chlorobenzene	0.00	112		Not Detected	
52)	Ethylbenzene	0.00	91		Not Detected	
53)	m,p-Xylene	15.28	91	19372	0.2267 ppb	89
54)	Bromoform	0.00	173		Not Detected	
55)	Styrene	0.00	104		Not Detected	
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57)	o-Xylene	0.00	91		Not Detected	
59)	4-Ethyl Toluene	0.00	105		Not Detected	
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61)	1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62)	Benzyl Chloride	0.00	91		Not Detected	
63)	m-Dichlorobenzene	0.00	146		Not Detected	
64)	p-Dichlorobenzene	0.00	146		Not Detected	
65)	o-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67)	Naphthalene	0.00	128		Not Detected	
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected	

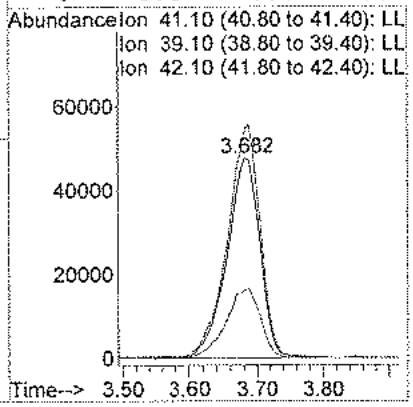
(#) = qualifier out of range (m) = manual integration

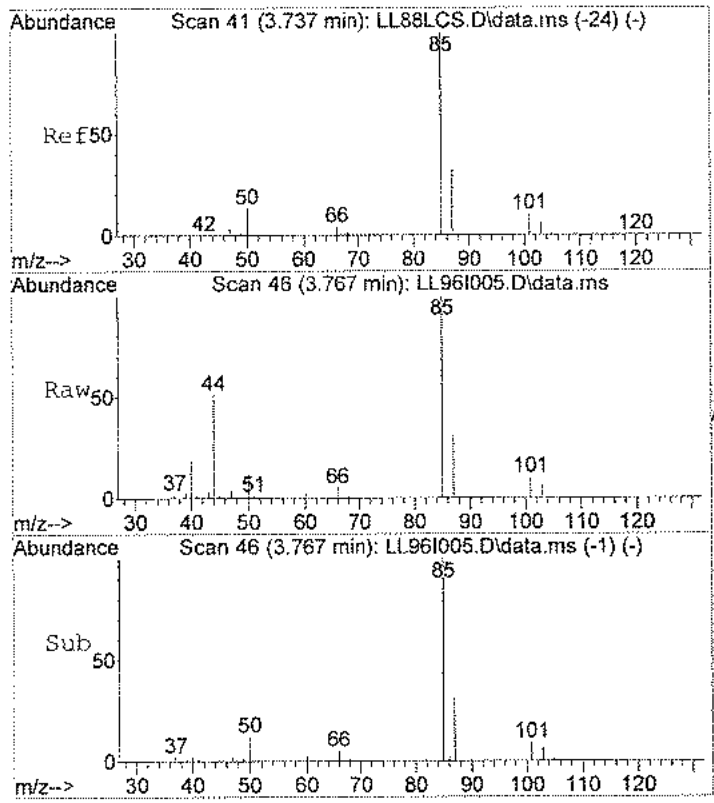


#2
Propene
Concen: 6.29 ppb
RT: 3.68 min Scan# 32
Delta R.T. 0.07 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:41.1 Resp: 163342

Ion	Ratio	Lower	Upper
41	100		
39	115.9	56.2	84.4#
42	36.4	53.8	80.6#
0	0.0	0.0	0.0

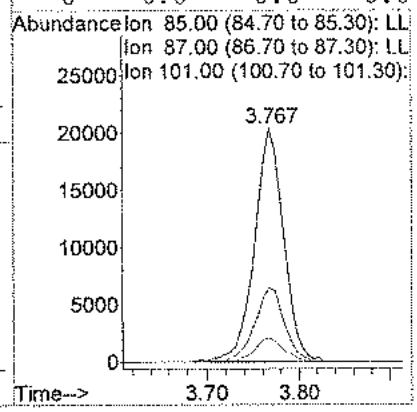


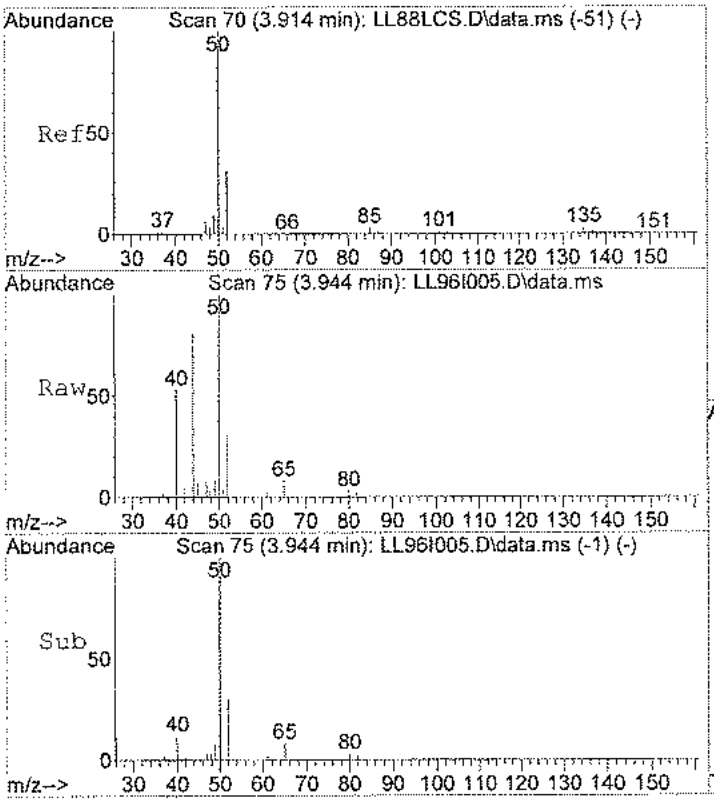


#3
Dichlorodifluoromethane
Concen: 0.58 ppb
RT: 3.77 min Scan# 46
Delta R.T. 0.05 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:85 Resp: 45178

Ion	Ratio	Lower	Upper
85	100		
87	32.4	26.1	39.1
101	10.0	8.0	12.0
0	0.0	0.0	0.0

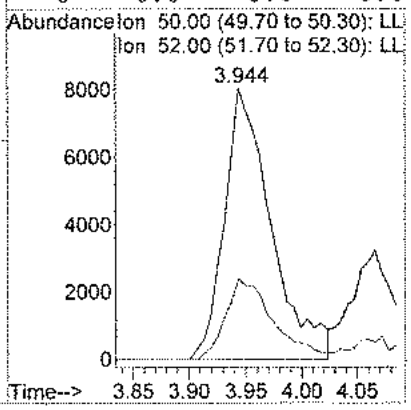


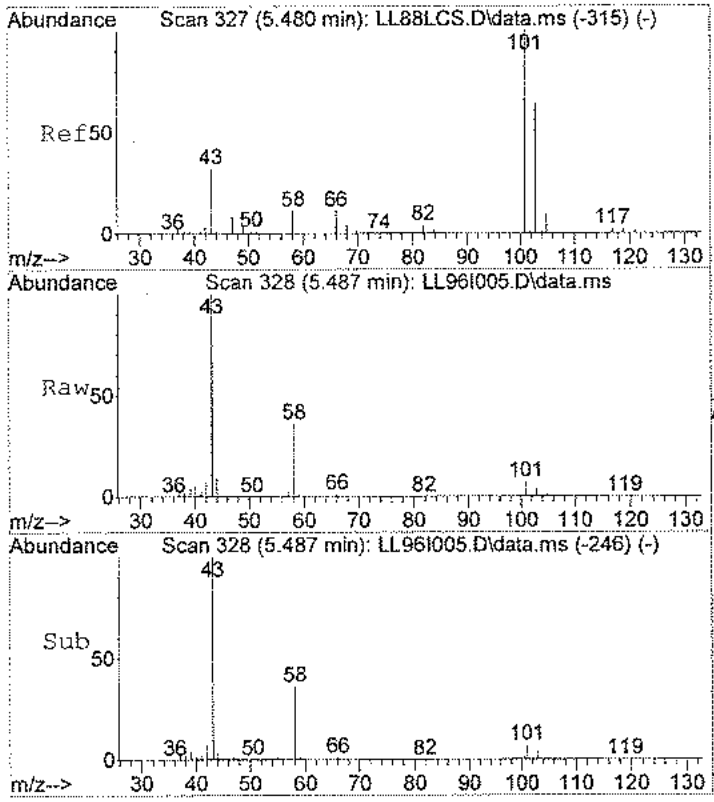


#4
Chloromethane
Concen: 0.76 ppb
RT: 3.94 min Scan# 75
Delta R.T. 0.05 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:50 Resp: 22855

Ion	Ratio	Lower	Upper
50	100		
52	30.5	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

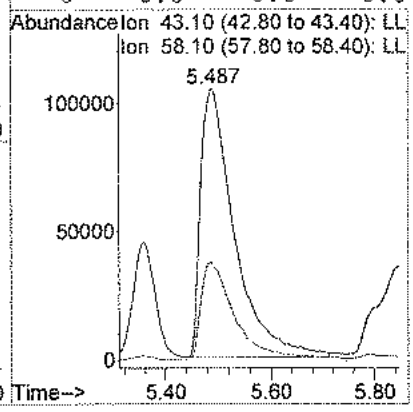


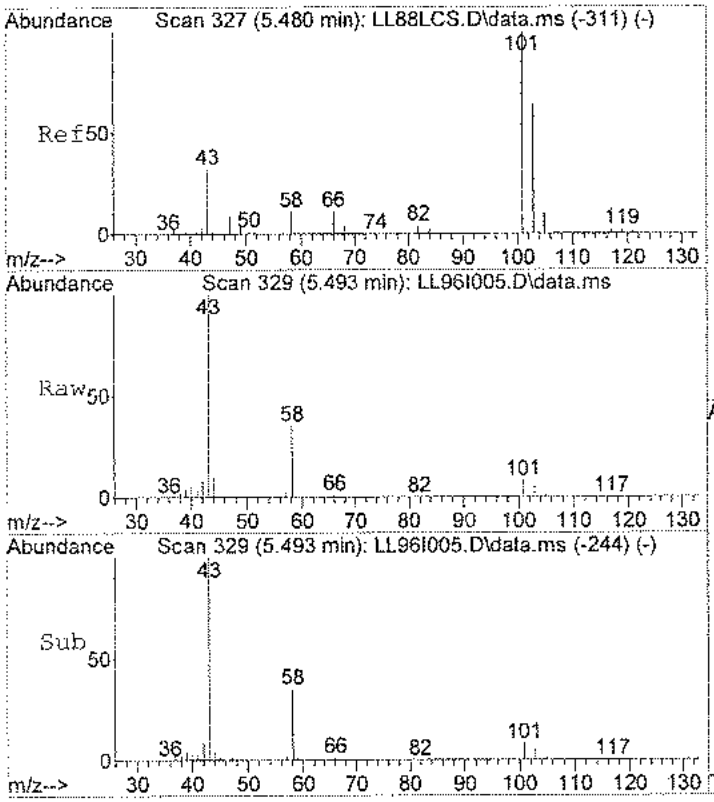


#11
Acetone
Concen: 9.15 ppb
RT: 5.49 min Scan# 328
Delta R.T. -0.00 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:43.1 Resp: 464530

Ion	Ratio	Lower	Upper
43	100		
58	36.7	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

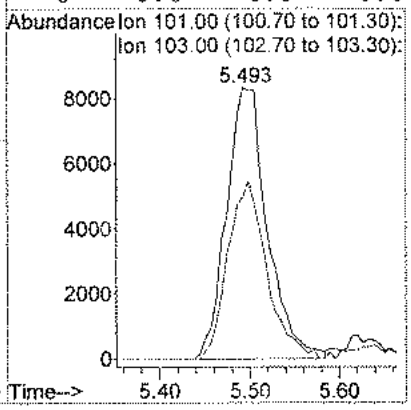


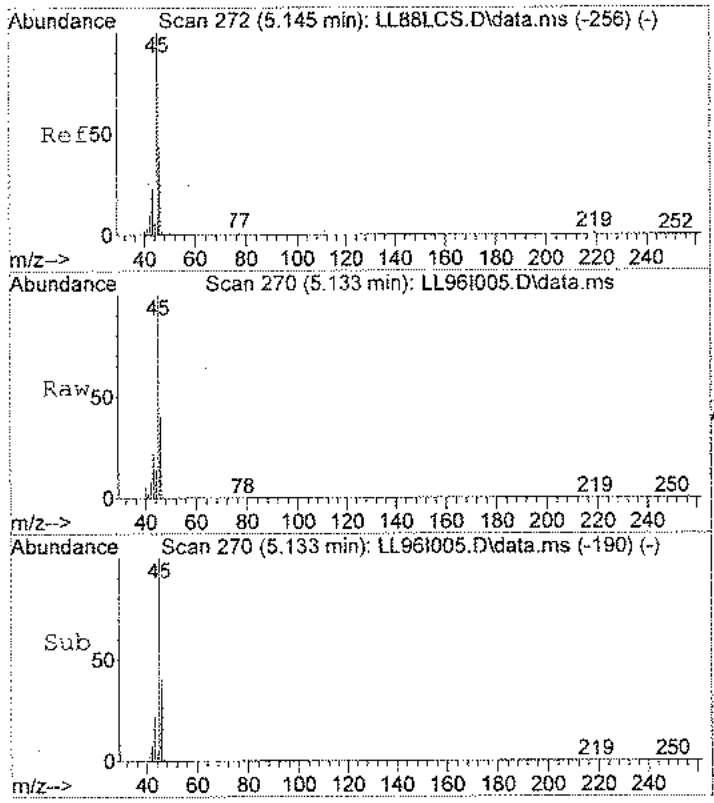


#12
Trichlorofluoromethane
Concen: 0.28 ppb
RT: 5.49 min Scan# 329
Delta R.T. 0.02 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:101 Resp: 26394

Ion	Ratio	Lower	Upper
101	100		
103	62.4	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

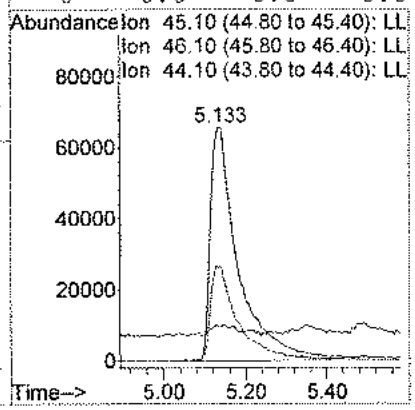


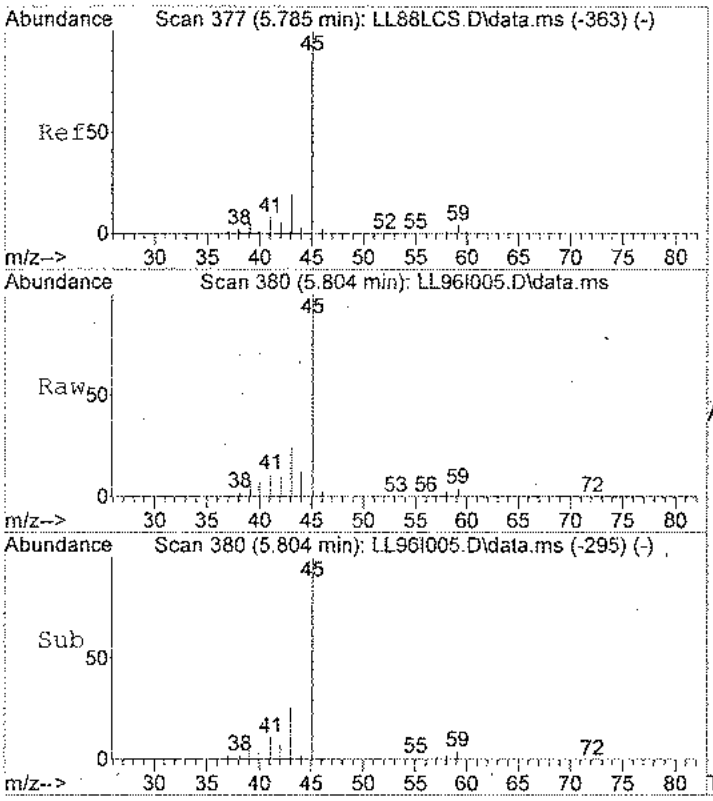


#13
Ethanol
Concen: 32.53 ppb
RT: 5.13 min Scan# 270
Delta R.T. -0.01 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:45.1 Resp: 312927

Ion	Ratio	Lower	Upper
45	100		
46	39.7	32.4	48.6
44	1.5	23.4	35.2#
0	0.0	0.0	0.0

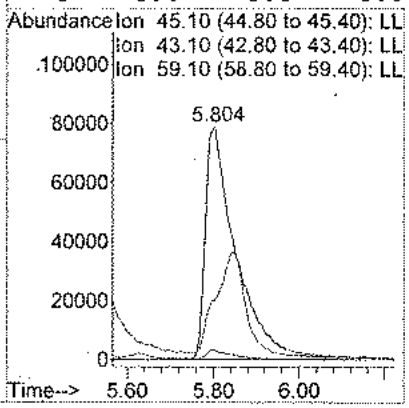


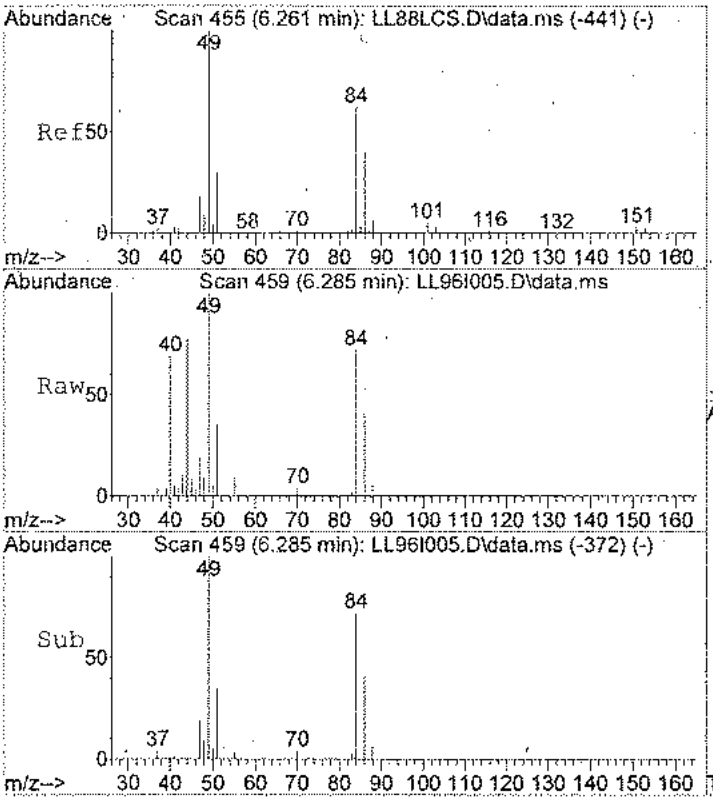


#14
Isopropyl Alcohol
Concen: 7.17 ppb
RT: 5.80 min Scan# 380
Delta R.T. 0.02 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:45.1 Resp: 390733

Ion	Ratio	Lower	Upper
45	100		
43	0.0	15.8	23.6#
59	3.8	3.2	4.8
0	0.0	0.0	0.0

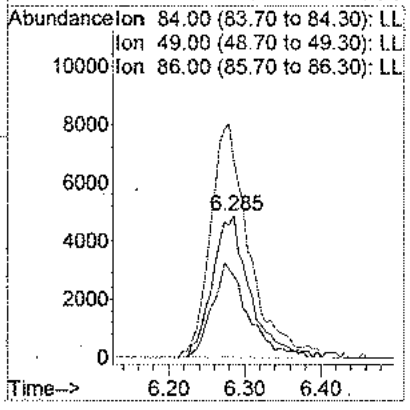


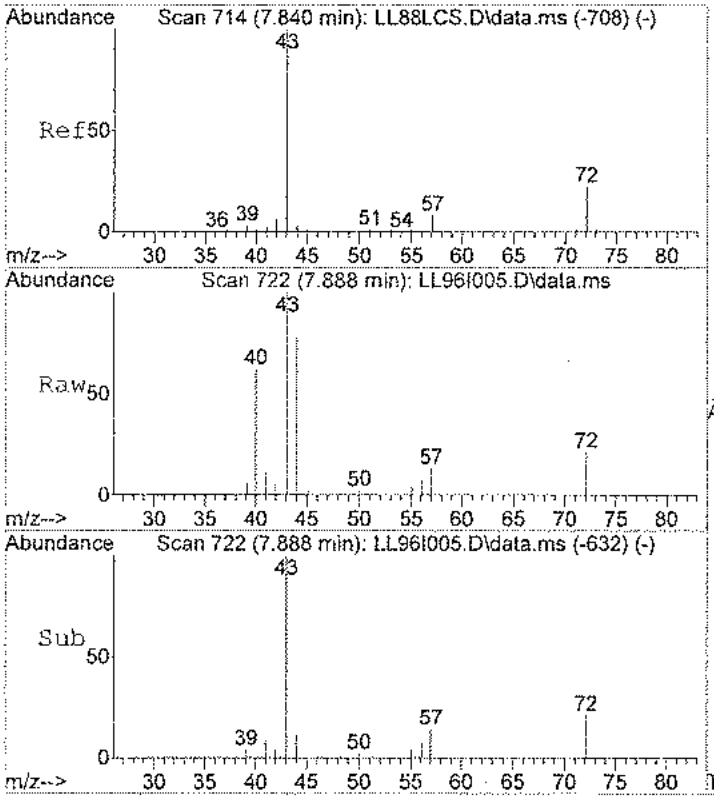


#16
Methylene Chloride
Concen: 0.60 ppb
RT: 6.29 min Scan# 459
Delta R.T. 0.03 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:84 Resp: 16706

Ion	Ratio	Lower	Upper
84	100		
49	166.8	66.6	100.0#
86	64.0	51.6	77.4
0	0.0	0.0	0.0

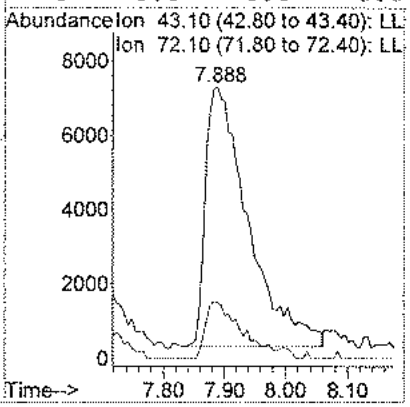


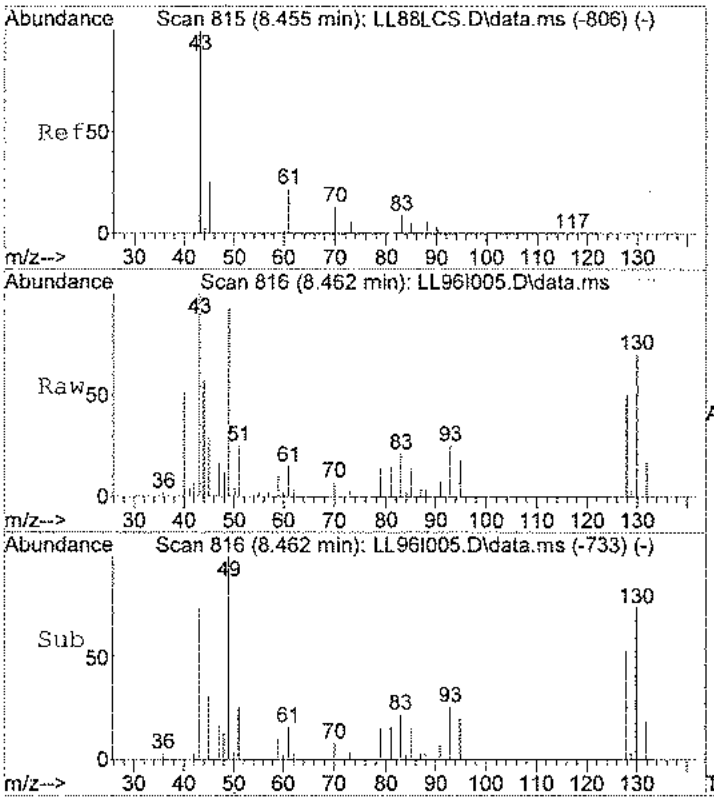


#23
2-Butanone
Concen: 0.53 ppb
RT: 7.89 min Scan# 722
Delta R.T. 0.05 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:43.1 Resp: 34417

Ion	Ratio	Lower	Upper
43	100		
72	18.2	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

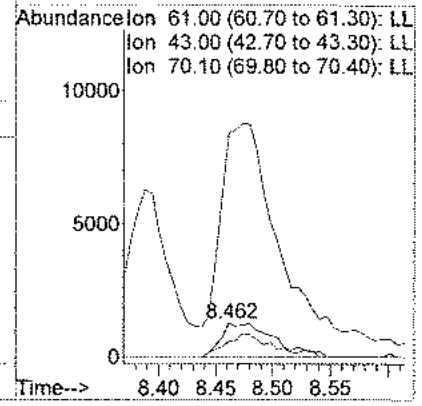


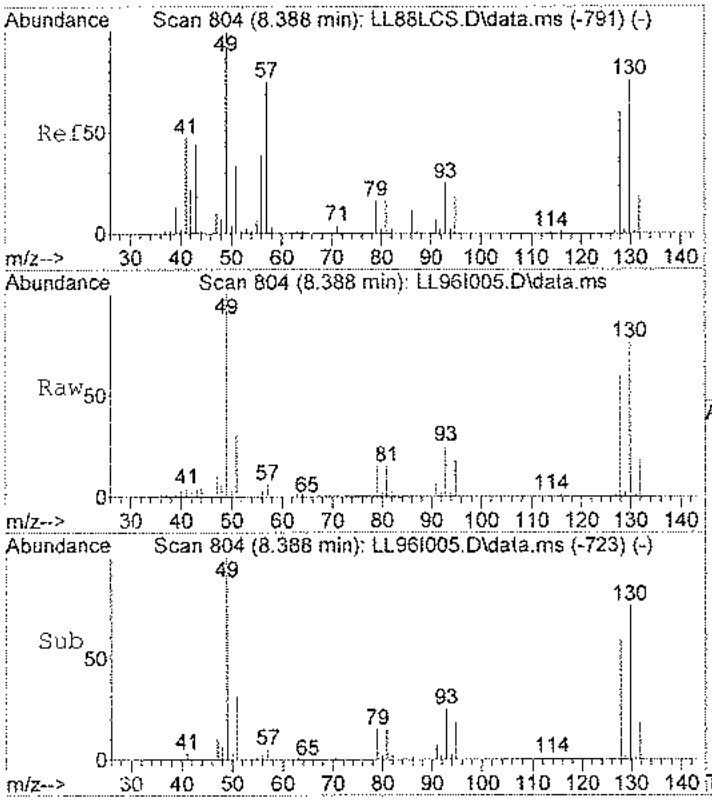


#26
Ethyl Acetate
Concen: 0.44 ppb
RT: 8.46 min Scan# 816
Delta R.T. 0.00 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:61 Resp: 4119

Ion	Ratio	Lower	Upper
61	100		
43	719.6	144.0	216.0#
70	56.6	13.6	20.4#
0	0.0	0.0	0.0

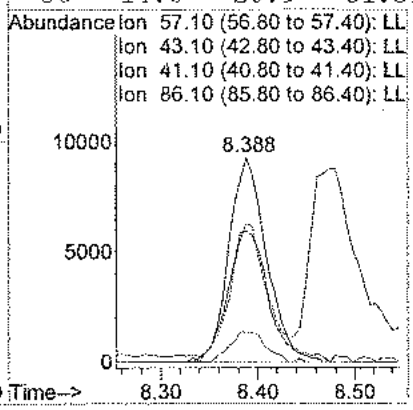


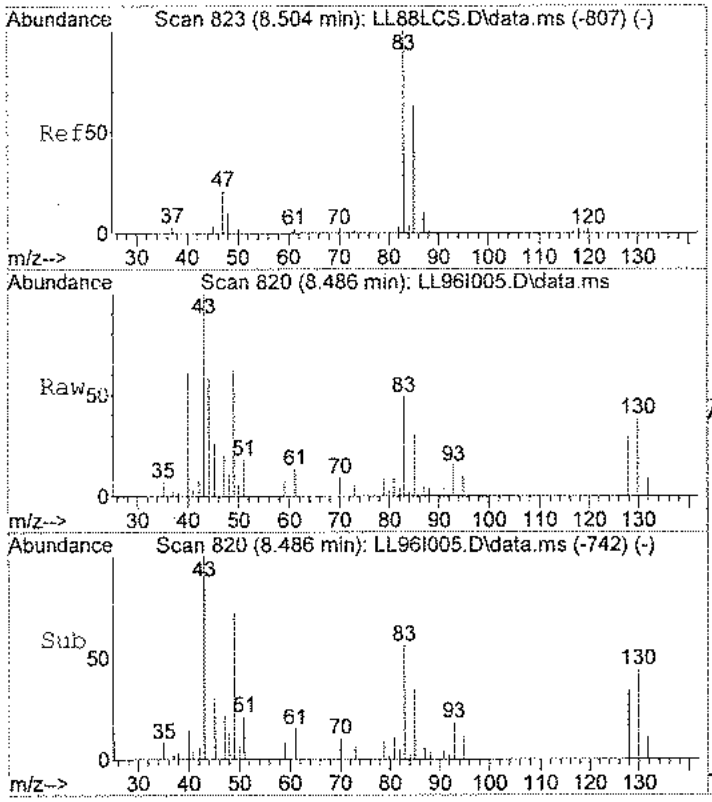


#27
Hexane
Concen: 0.44 ppb
RT: 8.39 min Scan# 804
Delta R.T. -0.01 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:57.1 Resp: 24967

Ion	Ratio	Lower	Upper
57	100		
43	61.6	57.3	85.9
41	69.9	47.0	70.4
86	14.0	20.9	31.3#

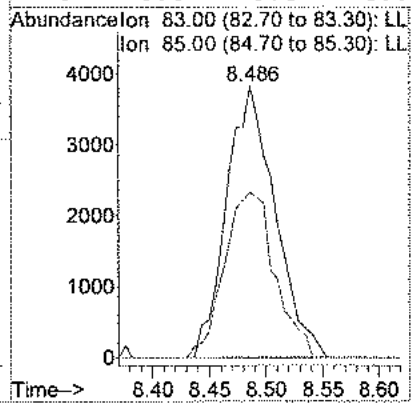


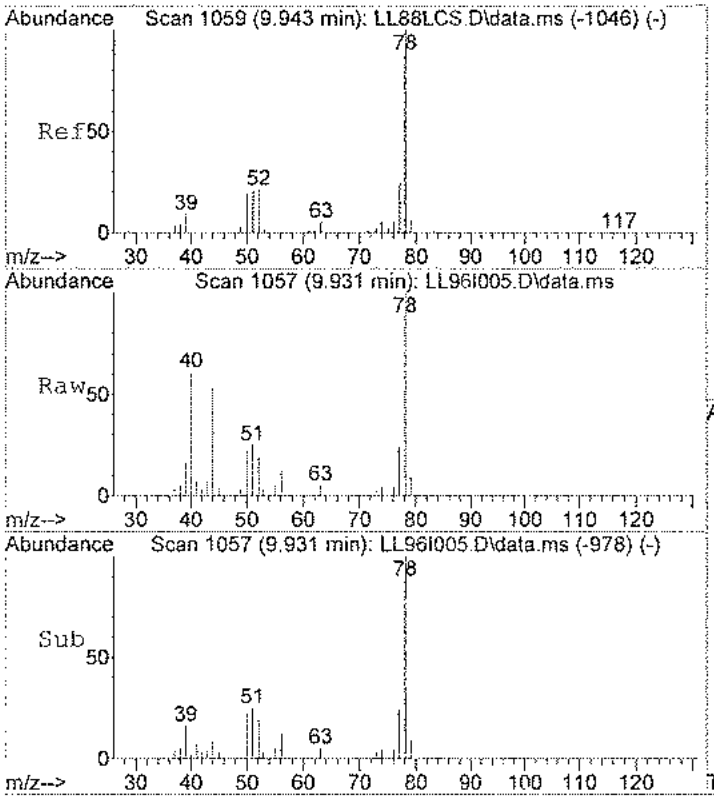


#28
Chloroform
Concen: 0.17 ppb
RT: 8.49 min Scan# 820
Delta R.T. -0.03 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:83 Resp: 11400

Ion	Ratio	Lower	Upper
83	100		
85	63.2	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

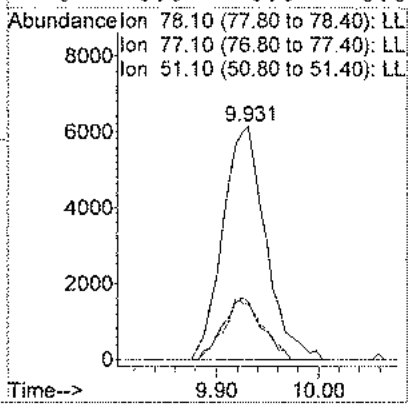


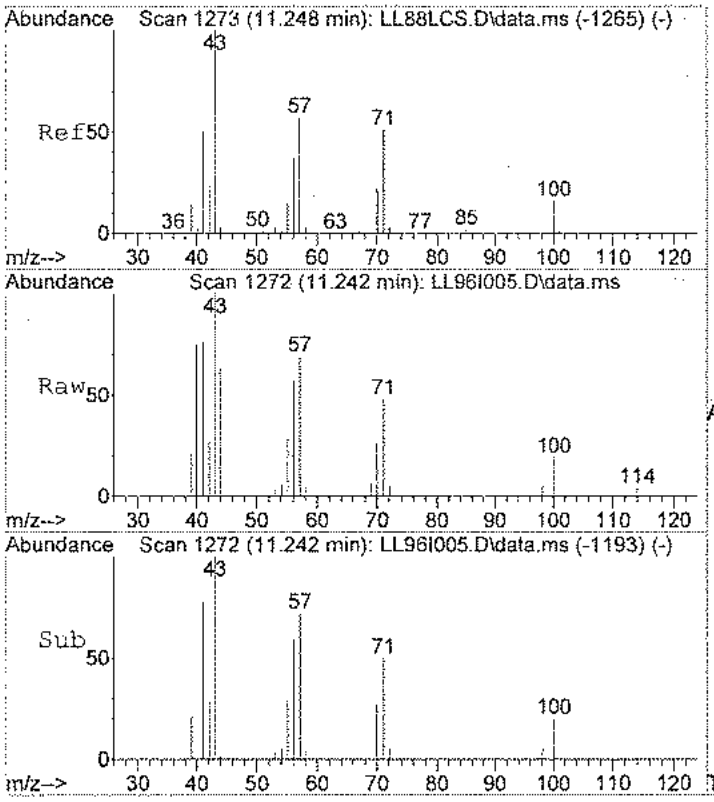


#32
Benzene
Concen: 0.21 ppb
RT: 9.93 min Scan# 1057
Delta R.T. -0.02 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:78.1 Resp: 17817

Ion	Ratio	Lower	Upper
78	100		
77	23.6	18.2	27.4
51	23.8	9.5	14.3#
0	0.0	0.0	0.0

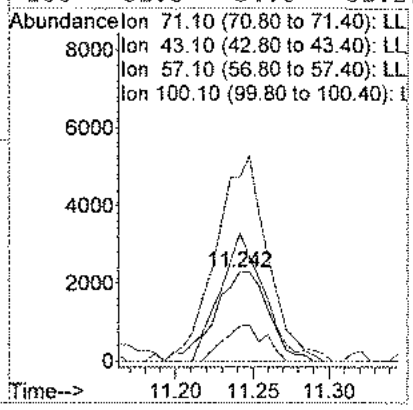


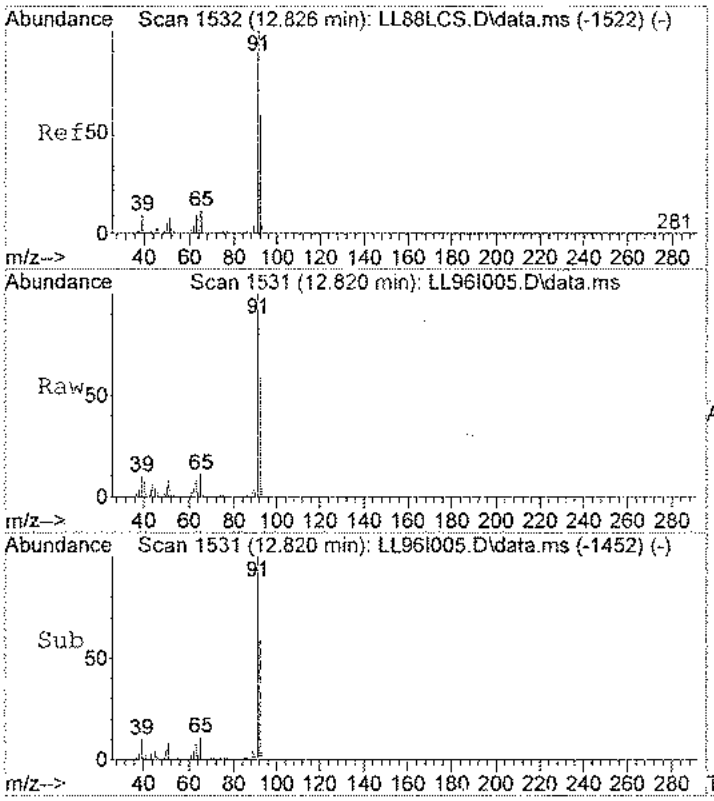


#40
Heptane
Concen: 0.18 ppb
RT: 11.24 min Scan# 1272
Delta R.T. -0.02 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:71.1 Resp: 5254

Ion	Ratio	Lower	Upper
71	100		
43	236.6	87.3	130.9#
57	130.9	57.8	86.6#
100	32.5	34.8	52.2#

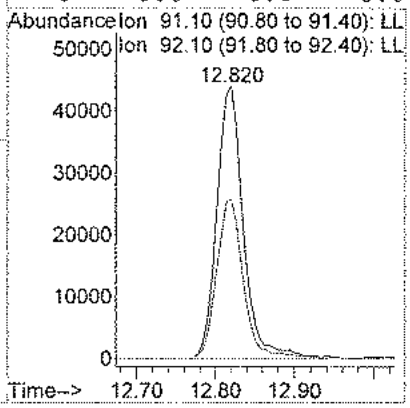


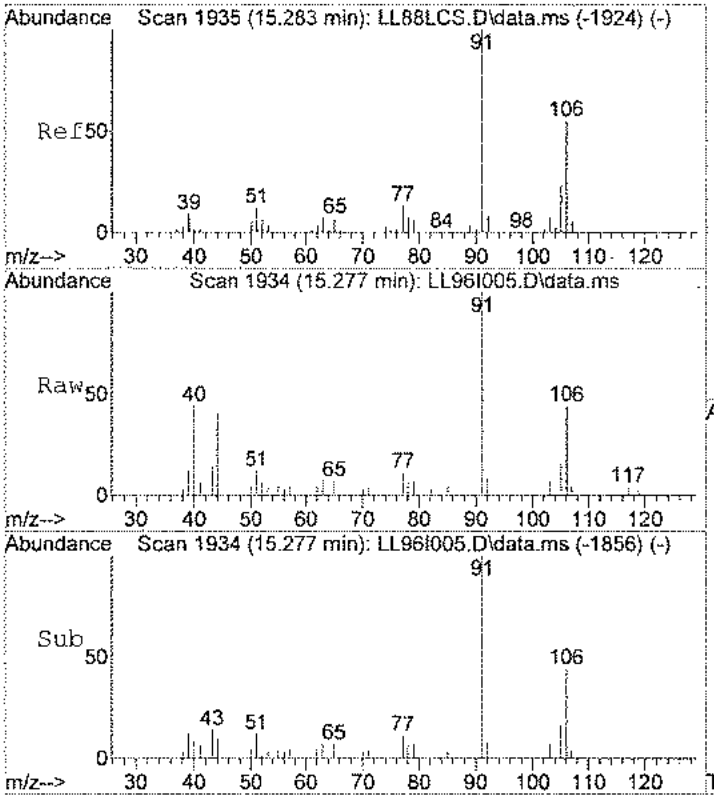


#45
Toluene
Concen: 0.97 ppb
RT: 12.82 min Scan# 1531
Delta R.T. -0.02 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:91.1 Resp: 102845

Ion	Ratio	Lower	Upper
91	100		
92	59.1	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

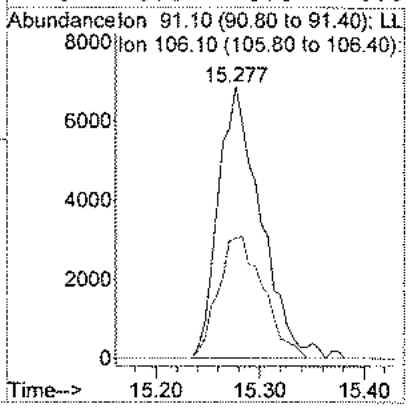




#53
m,p-Xylene
Concen: 0.23 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.03 min
Lab File: LL96I005.D
Acq: 03/23/2017 17:38

Tgt Ion:91.1 Resp: 19372

Ion	Ratio	Lower	Upper
91	100		
106	47.7	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0



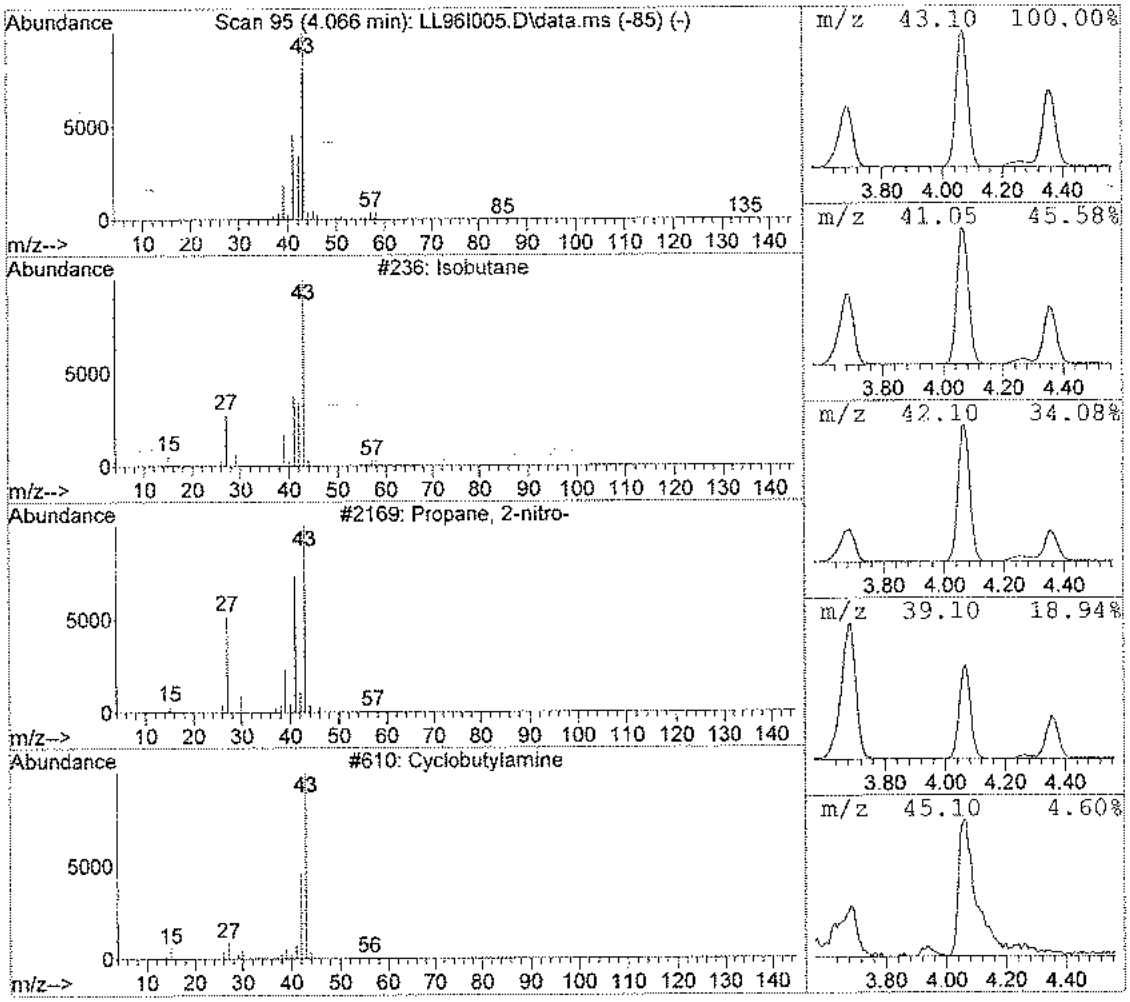
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL96I005.D Vial: 8
Acq Time : 03/23/2017 17:38 Operator: LMR
Sample : 1707721005 Inst : 5975-L
Misc : A-0004H-031417-TO-001-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.07	6.62 ppb	1248124	Bromochloromethane	3769811

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	236	000075-28-5	80.00
2	Propane, 2-nitro-	2169	000079-46-9	9.00
3	Cyclobutylamine	610	002516-34-9	9.00
4	Propane, 1-nitro-	2164	000108-03-2	9.00
5	Isopropylsulfonyl chloride	19275	010147-37-2	9.00



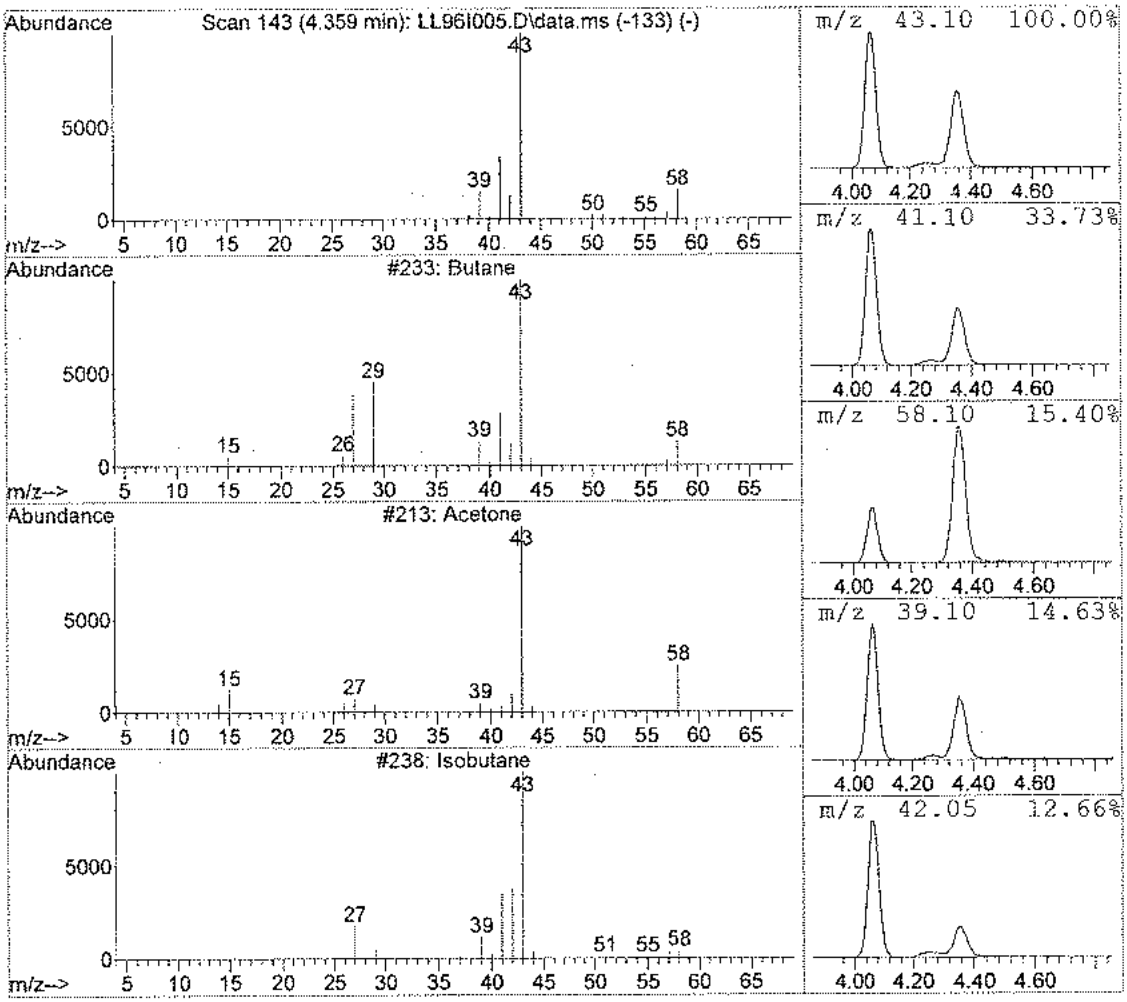
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL96I005.D Vial: 8
Acq Time : 03/23/2017 17:38 Operator: LMR
Sample : 1707721005 Inst : 5975-L
Misc : A-0004H-031417-TO-001-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.36	3.64 ppb	685888	Bromochloromethane	3769811

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane	233	000106-97-8	64.00
2	Acetone	213	000067-64-1	5.00
3	Isobutane	238	000075-28-5	4.00
4	Propane, 1-nitro-	2164	000108-03-2	4.00
5	Diazene, dimethyl-	212	000503-28-6	3.00



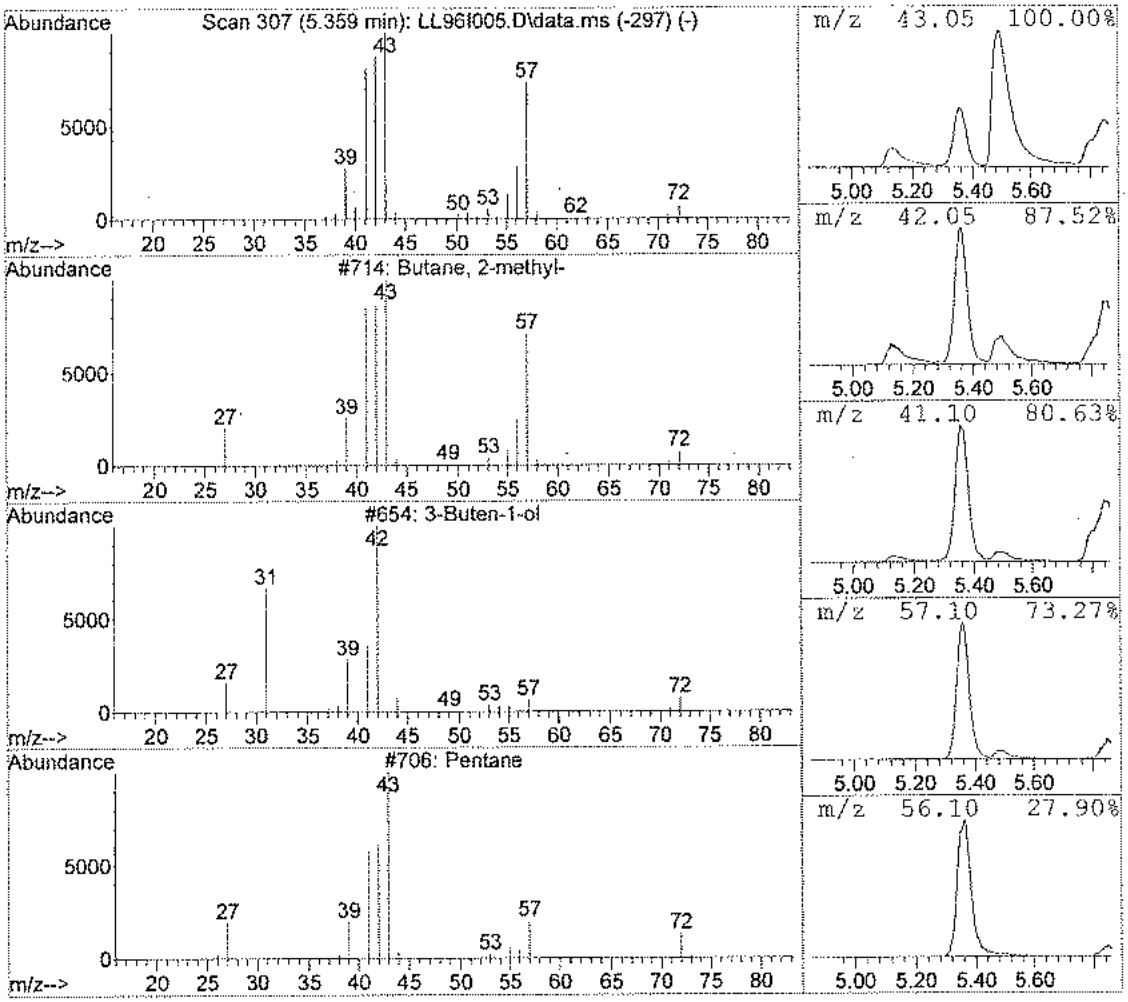
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL96I005.D Vial: 8
Acq Time : 03/23/2017 17:38 Operator: LMR
Sample : 1707721005 Inst : 5975-L
Misc : A-0004H-031417-TO-001-BAS (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column 1D: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
5.36	3.17 ppb	598362	Bromochloromethane	3769811

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane, 2-methyl-	714	000078-78-4	91.00
2	3-Buten-1-ol	654	000627-27-0	37.00
3	Pentane	706	000109-66-0	36.00
4	2-Butene, (E)-	182	000624-64-6	10.00
5	2-Butene, (Z)-	185	000590-18-1	10.00

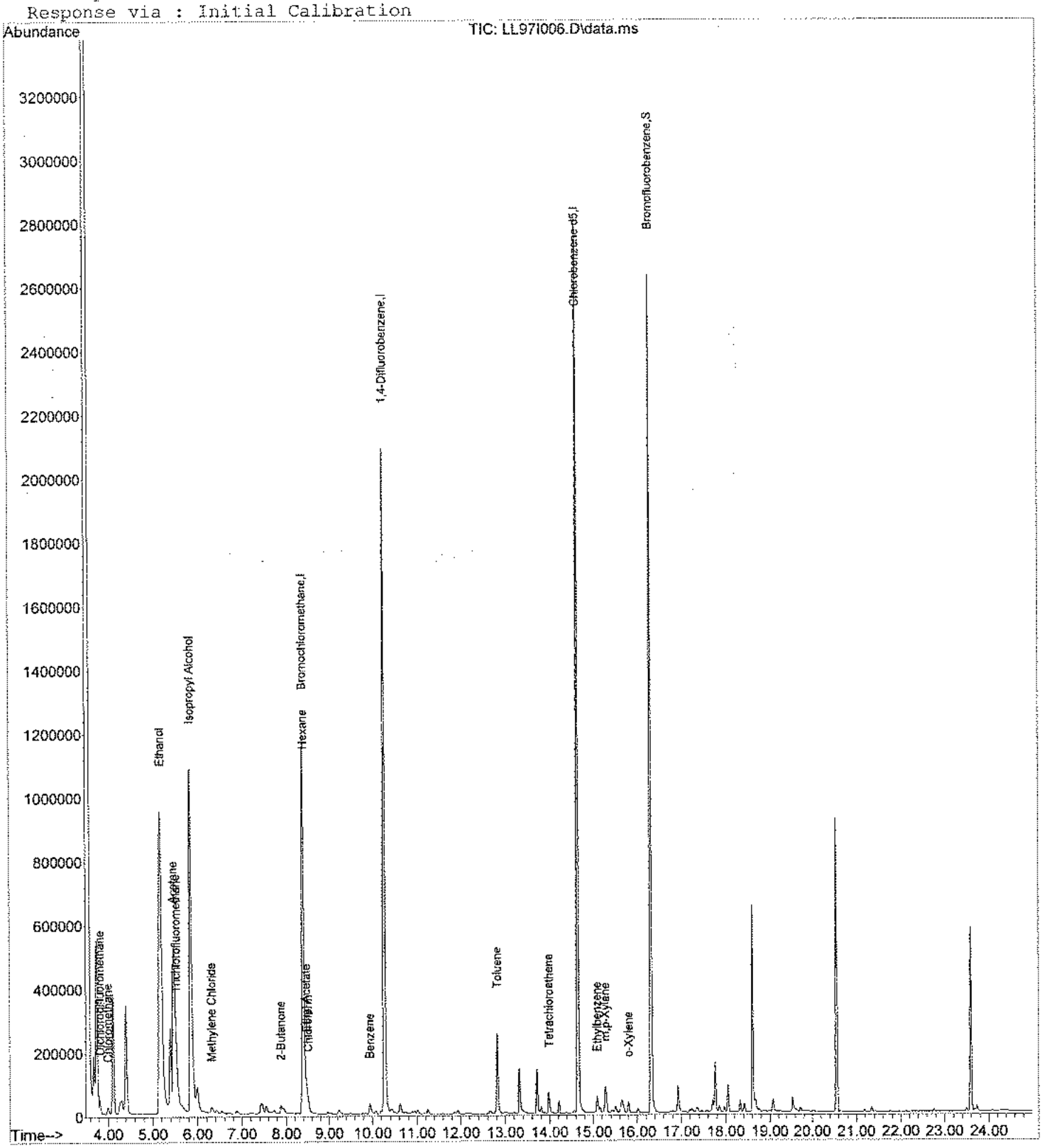


Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL97I006.D Vial: 9
Acq Time : 03/23/2017 18:29 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:17:02 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL97I006.D Vial: 9
Acq Time : 03/23/2017 18:29 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:17:02 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	8.39	130	214272	20.0000 ppb		113.41
25) 1,4-Difluorobenzene	10.27	114	2306094	20.0000 ppb		100.64
50) Chlorobenzene d5	14.66	117	1895115	20.0000 ppb		94.89
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	16.32	95	1065656	21.4382 ppb		107.19%
Target Compounds						Qvalue
2) Propene	0.00	41		Not Detected		
3) Dichlorodifluoromethane	3.82	85	44342	0.5084 ppb	m	0
4) Chloromethane	4.00	50	43422	1.2985 ppb	m	41
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	0.00	54		Not Detected		
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	0.00	56		Not Detected		
11) Acetone	5.47	43	1588544	28.2020 ppb		94
12) Trichlorofluoromethane	5.54	101	25288	0.2432 ppb		99
13) Ethanol	5.18	45	2707806	253.5537 ppb	#TIC	80
14) Isopropyl Alcohol	5.85	45	2292503	37.9025 ppb	TIC	94
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	6.32	84	9829	0.3206 ppb	#	41
17) Freon 113	0.00	151		Not Detected		
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	0.00	86		Not Detected		
23) 2-Butanone	7.88	43	66134	0.9175 ppb	#	68
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	8.47	61	16909	1.7893 ppb	#	1
27) Hexane	8.41	57	14107	0.2517 ppb	#	78
28) Chloroform	8.51	83	20452	0.3117 ppb		98
29) Tetrahydrofuran	0.00	42		Not Detected		
30) 1,2-Dichloroethane	0.00	62		Not Detected		
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	9.94	78	16873	0.1960 ppb	#	88
33) Carbon Tetrachloride	0.00	117		Not Detected		
34) Cyclohexane	0.00	84		Not Detected		
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	0.00	83		Not Detected		
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	0.00	130		Not Detected		
39) Methyl Methacrylate	0.00	69		Not Detected		
40) Heptane	0.00	71		Not Detected		
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected		
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	0.00	97		Not Detected		

03.24.17

03.24.17

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL97I006.D Vial: 9
Acq Time : 03/23/2017 18:29 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:17:02 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45) Toluene	12.82	91	238099	2.2504 ppb	98
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	13.99	166	21212	0.4140 ppb #	76
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	15.09	91	29368	0.2626 ppb	94
53) m,p-Xylene	15.28	91	75089	0.8618 ppb	97
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	15.81	91	21763	0.2262 ppb	93
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

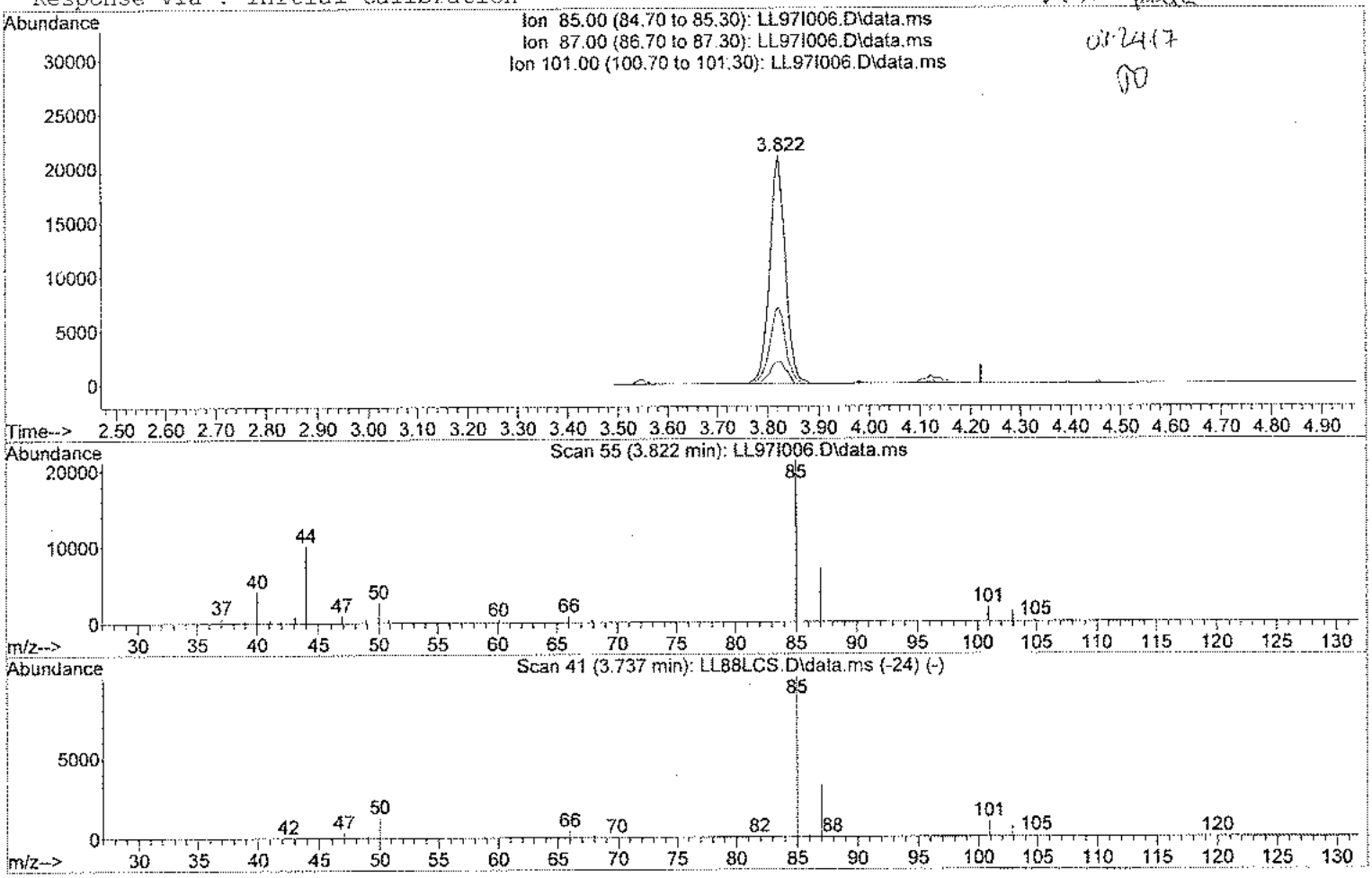
(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\23MAR17L\
Data File : LL97I006.D
Acq On : 03/23/2017 18:29
Operator : LMR
Sample : 1707721006
Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 24 11:06:52 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m
Quant Title : TO-15
QLast Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration

mass 85 peak
03/24/17
JD



TIC: LL97I006.D\data.ms

(3) Dichlorodifluoromethane

3.822min (+ 0.102) 0.51 ppb m

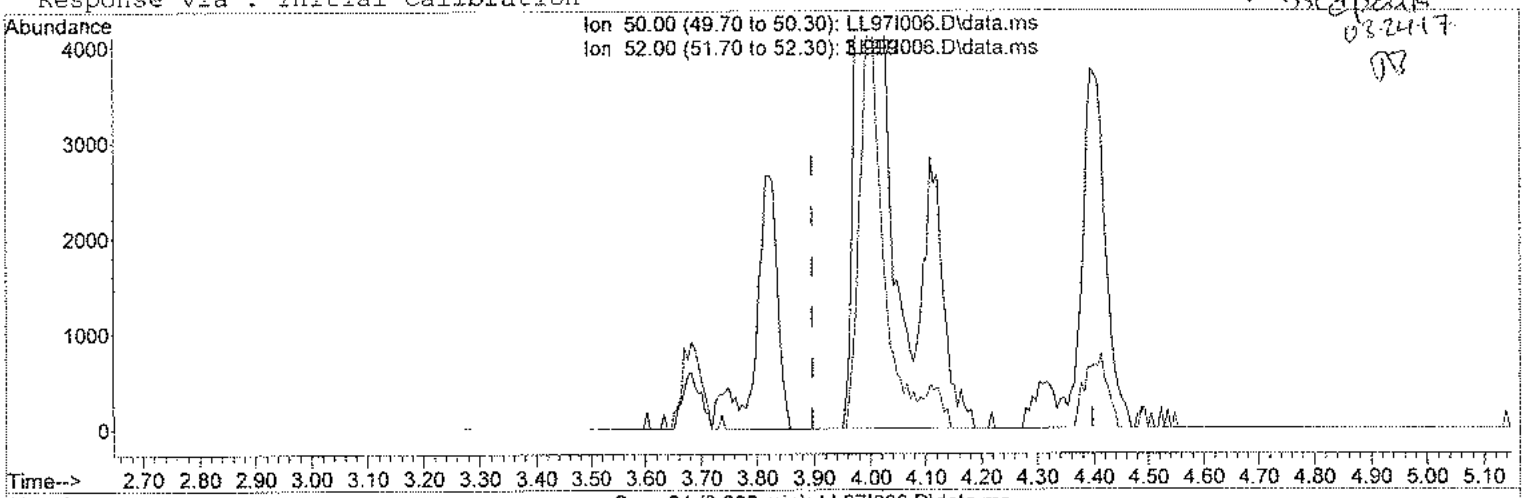
response 44342

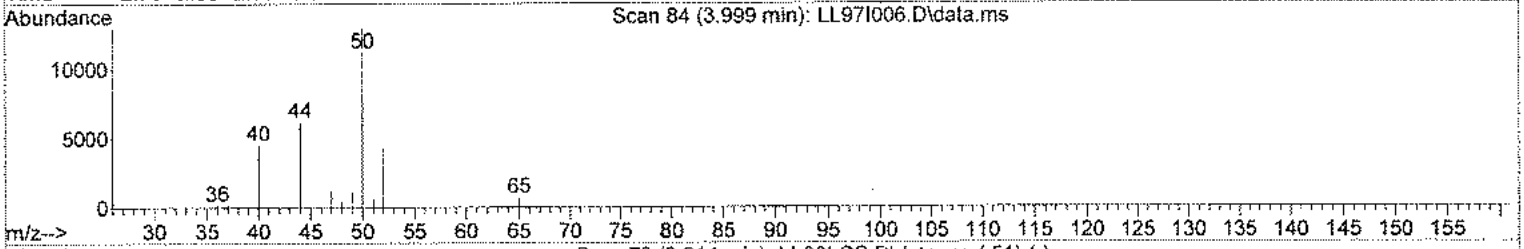
Ion	Exp%	Act%
85.00	100.00	100.00
87.00	32.60	0.00#
101.00	10.00	0.00#
0.00	0.00	0.00

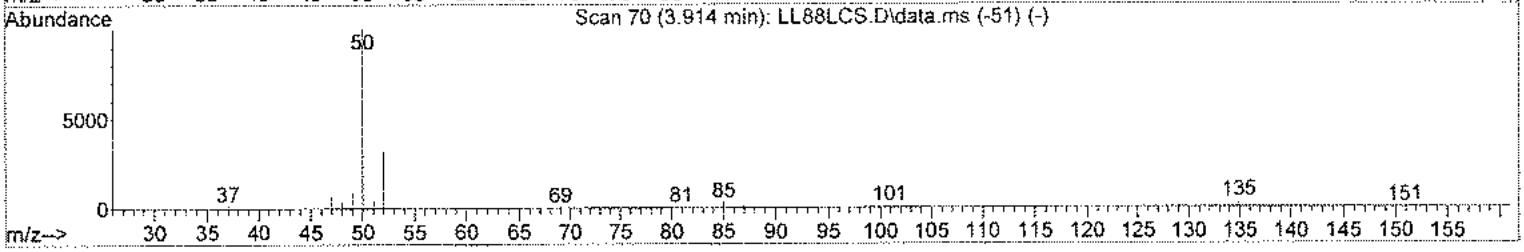
Data Path : I:\L - 5975-L\2017\MAR17L\23MAR17L\
Data File : LL97I006.D
Acq On : 03/23/2017 18:29
Operator : LMR
Sample : 1707721006
Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 24 11:06:52 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m
Quant Title : TO-15
QLast Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration

missed peak 03-24-17 DT







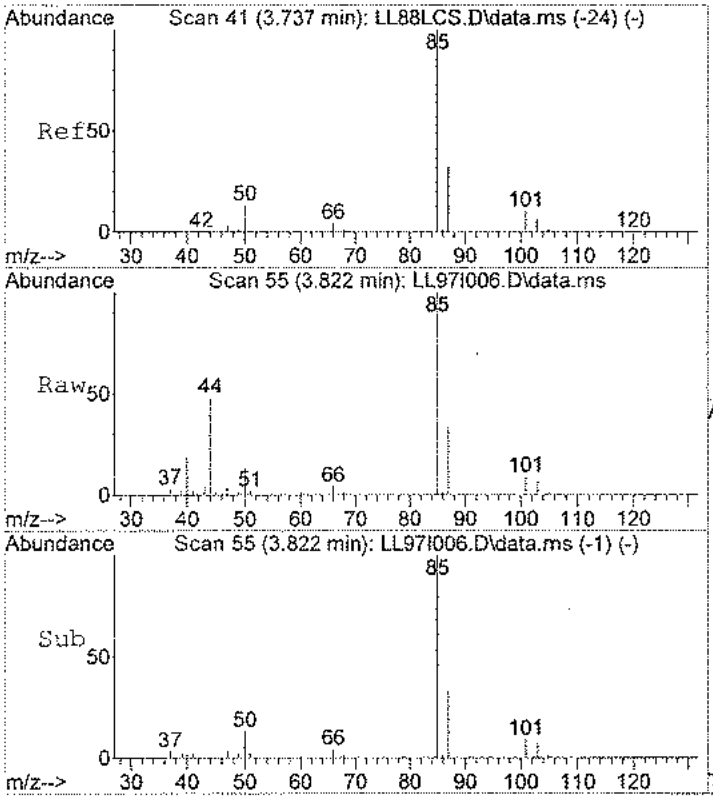
TIC: LL97I006.D\data.ms

(4) Chloromethane

3.999min (+ 0.102) 1.30 ppb m

response 43422

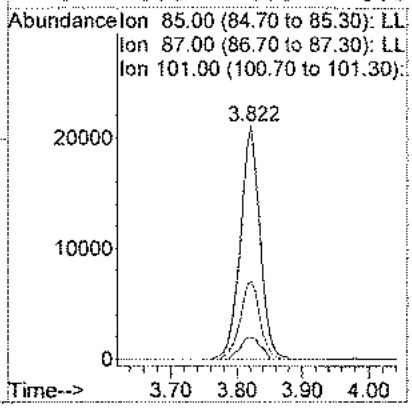
Ion	Exp%	Act%
50.00	100.00	100.00
52.00	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

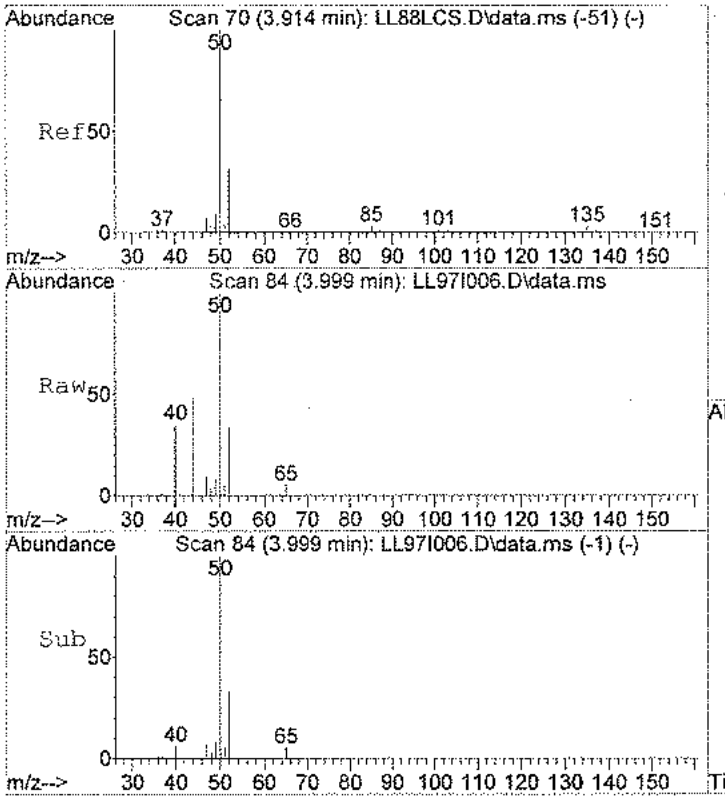


#3
Dichlorodifluoromethane
Concen: 0.51 ppb m
RT: 3.82 min Scan# 55
Delta R.T. 0.10 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:85 Resp: 44342

Ion	Ratio	Lower	Upper
85	100		
87	0.0	26.1	39.1#
101	0.0	8.0	12.0#
0	0.0	0.0	0.0

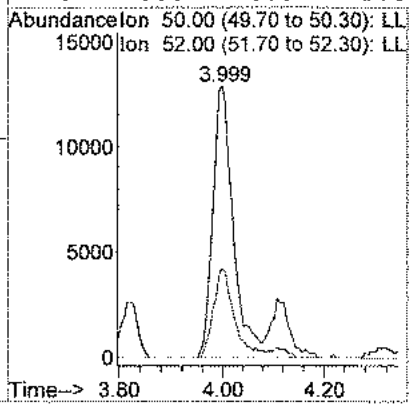


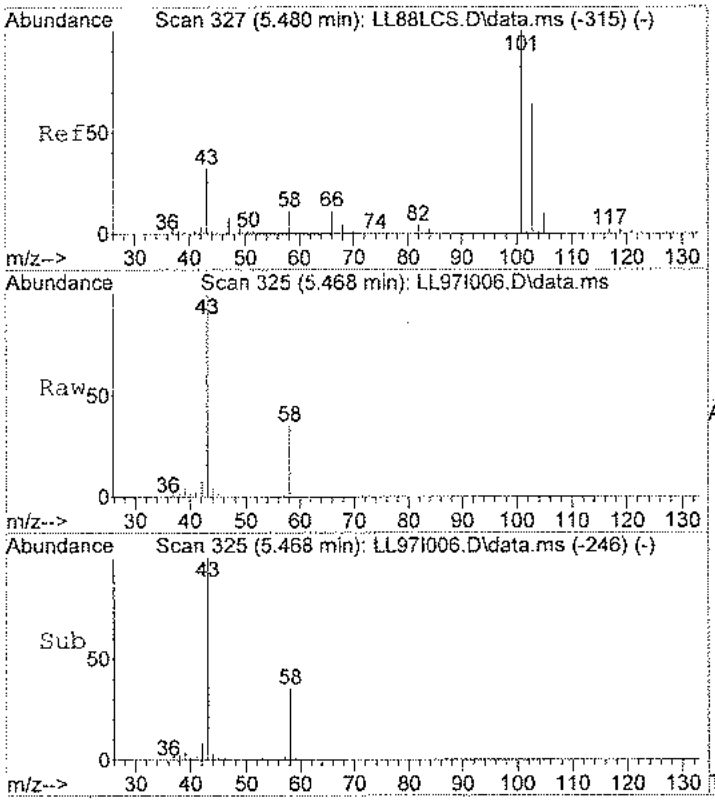


#4
Chloromethane
Concen: 1.30 ppb m
RT: 4.00 min Scan# 84
Delta R.T. 0.10 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:50 Resp: 43422

Ion	Ratio	Lower	Upper
50	100		
52	0.0	26.6	40.0#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

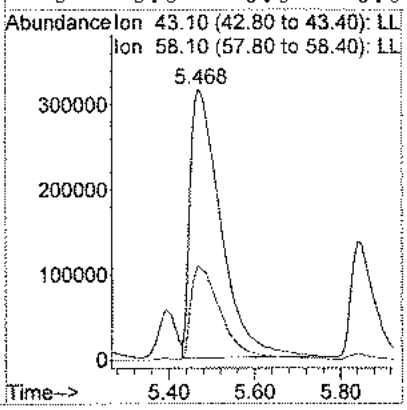


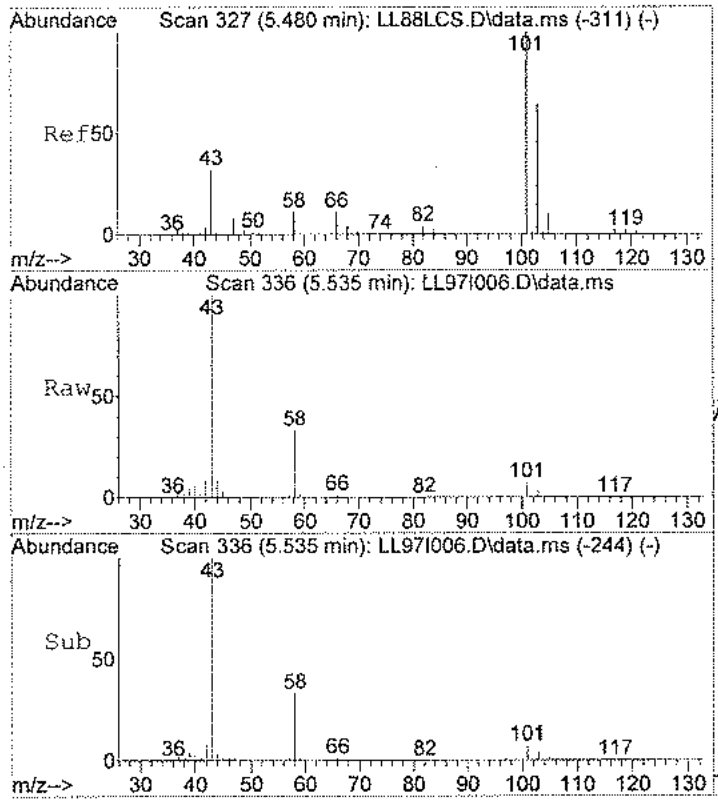


#11
Acetone
Concen: 28.20 ppb
RT: 5.47 min Scan# 325
Delta R.T. -0.02 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:43.1 Resp: 1588544

Ion	Ratio	Lower	Upper
43	100		
58	34.6	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

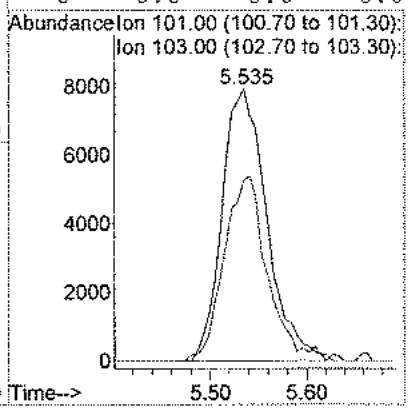


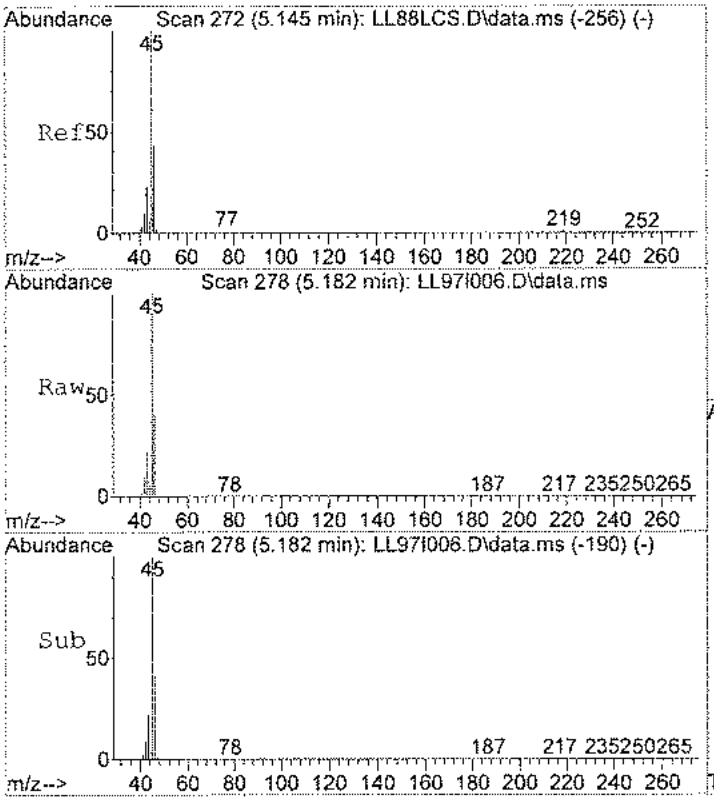


#12
Trichlorofluoromethane
Concen: 0.24 ppb
RT: 5.54 min Scan# 336
Delta R.T. 0.06 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:101 Resp: 25288

Ion	Ratio	Lower	Upper
101	100		
103	65.4	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

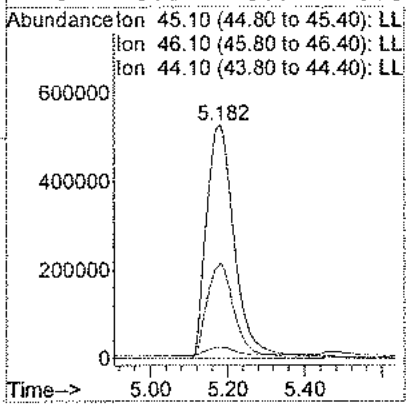


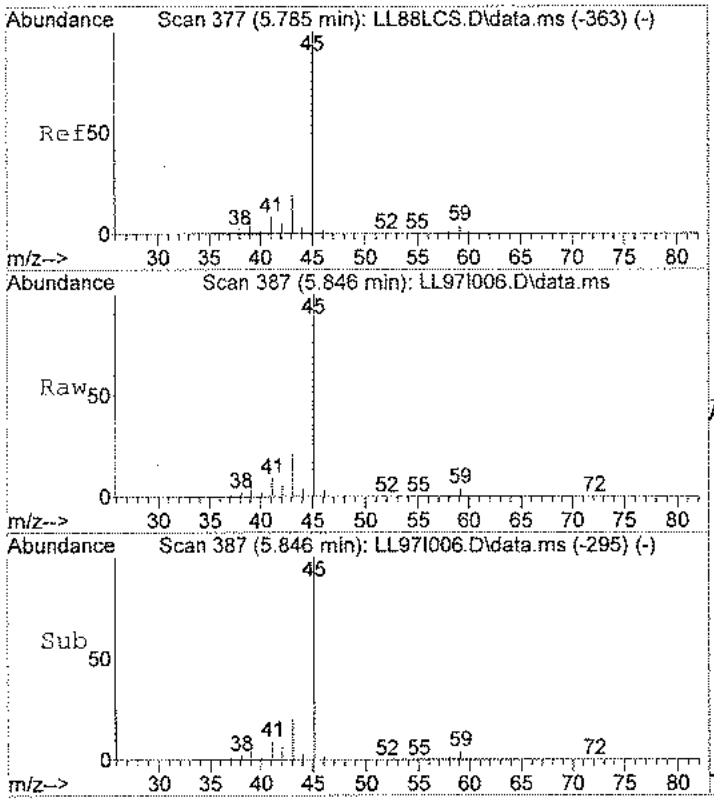


#13
Ethanol
Concen: 253.55 ppb
RT: 5.18 min Scan# 278
Delta R.T. 0.03 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:45.1 Resp: 2707806

Ion	Ratio	Lower	Upper
45	100		
46	40.5	32.4	48.6
44	3.6	23.4	35.2#
0	0.0	0.0	0.0

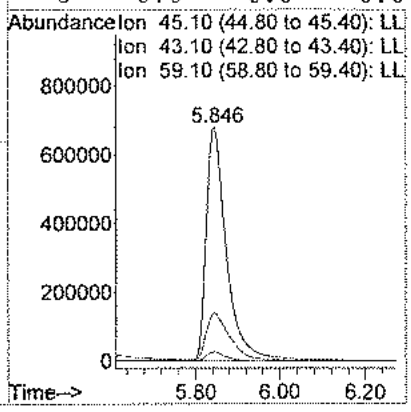


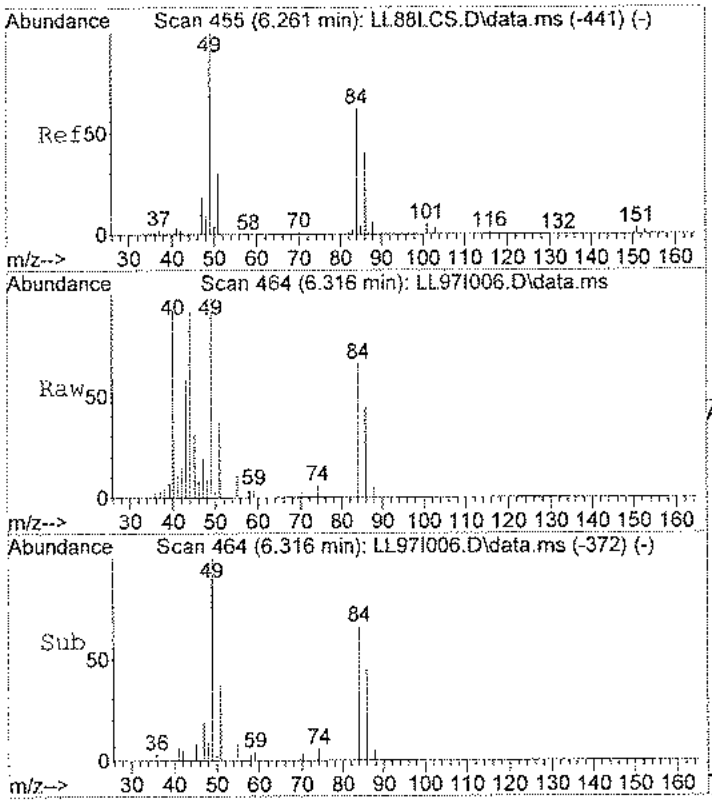


#14
Isopropyl Alcohol
Concen: 37.90 ppb
RT: 5.85 min Scan# 387
Delta R.T. 0.06 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:45.1 Resp: 2292503

Ion	Ratio	Lower	Upper
45	100		
43	23.1	15.8	23.6
59	3.9	3.2	4.8
0	0.0	0.0	0.0

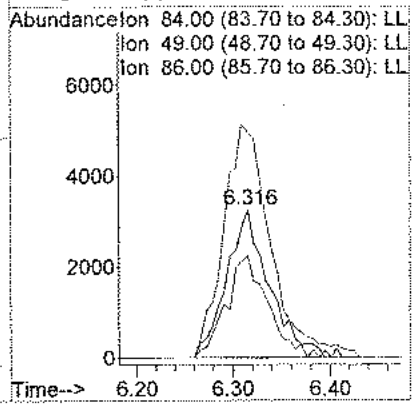


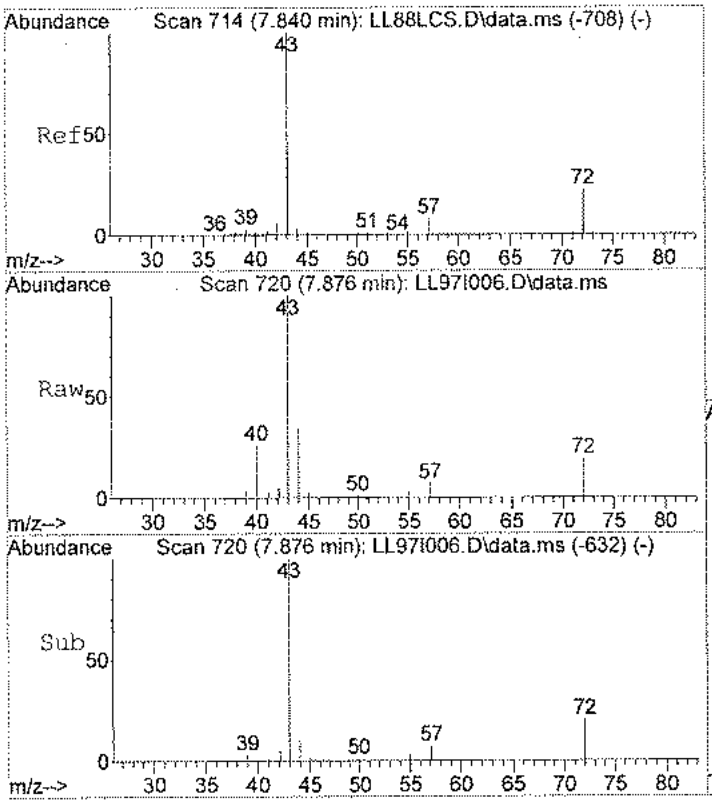


#16
Methylene Chloride
Concen: 0.32 ppb
RT: 6.32 min Scan# 464
Delta R.T. 0.06 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:84 Resp: 9829

Ion	Ratio	Lower	Upper
84	100		
49	175.5	66.6	100.0#
86	67.9	51.6	77.4
0	0.0	0.0	0.0

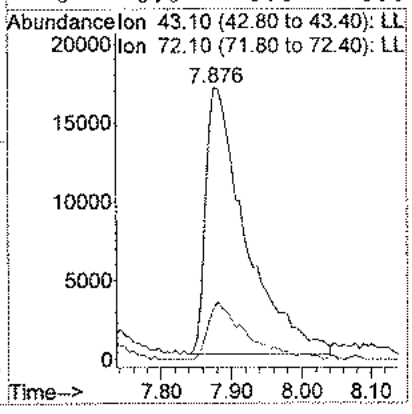


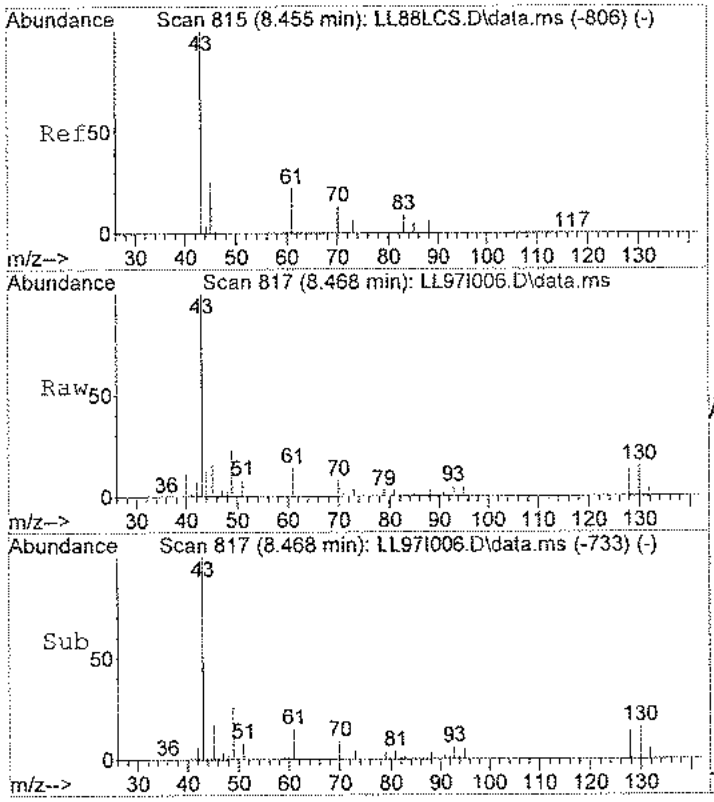


#23
2-Butanone
Concen: 0.92 ppb
RT: 7.88 min Scan# 720
Delta R.T. 0.03 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:43.1 Resp: 66134

Ion	Ratio	Lower	Upper
43	100		
72	19.5	31.3	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

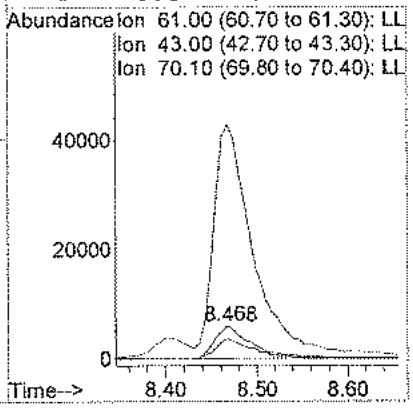


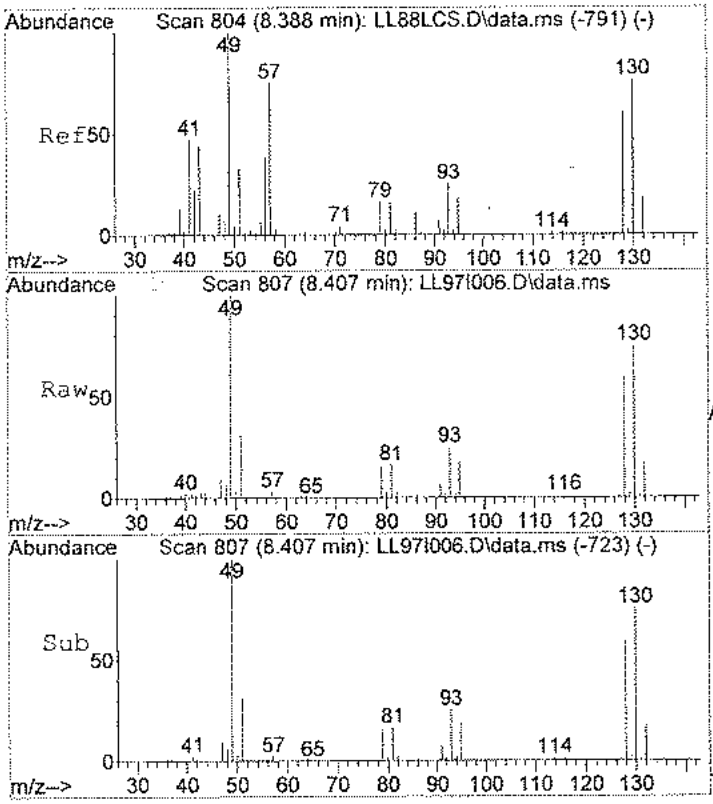


#26
Ethyl Acetate
Concen: 1.79 ppb
RT: 8.47 min Scan# 817
Delta R.T. 0.01 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:61 Resp: 16909

Ion	Ratio	Lower	Upper
61	100		
43	753.4	144.0	216.0#
70	61.6	13.6	20.4#
0	0.0	0.0	0.0

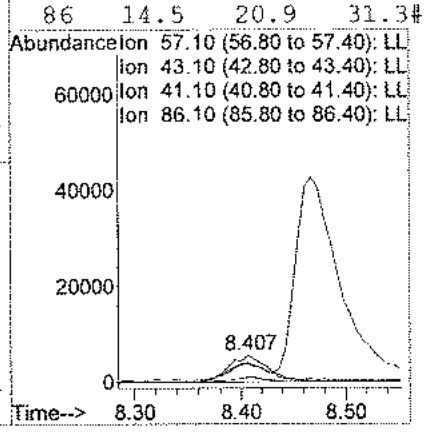


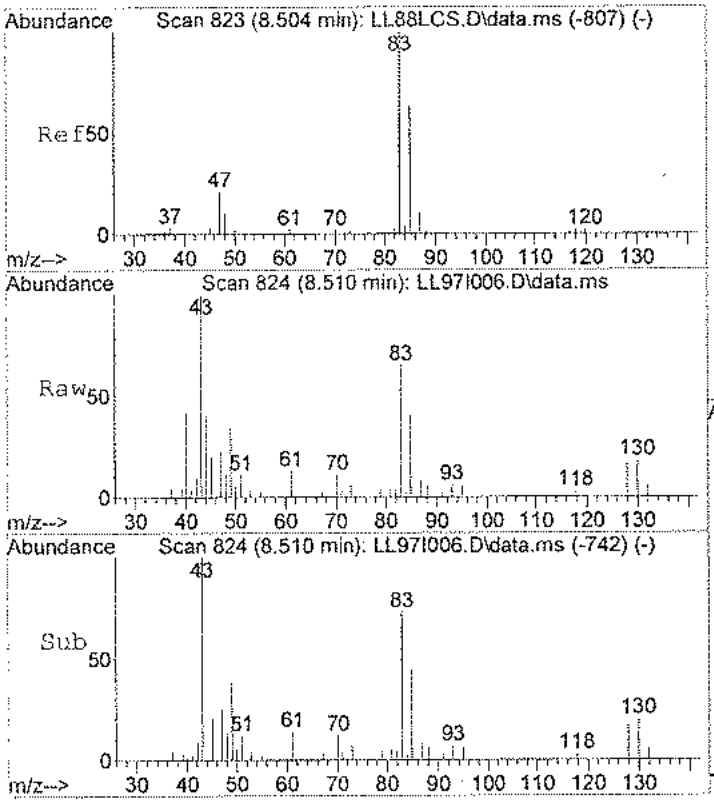


#27
Hexane
Concen: 0.25 ppb
RT: 8.41 min Scan# 807
Delta R.T. 0.01 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:57.1 Resp: 14107

Ion	Ratio	Lower	Upper
57	100		
43	59.6	57.3	85.9
41	82.8	47.0	70.4#
86	14.5	20.9	31.3#

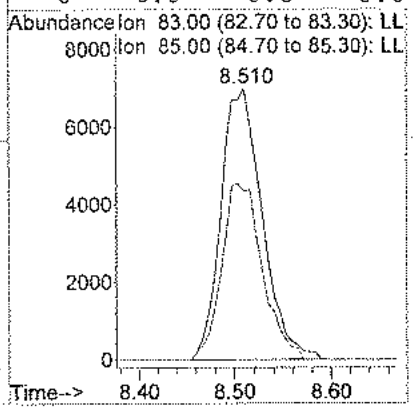


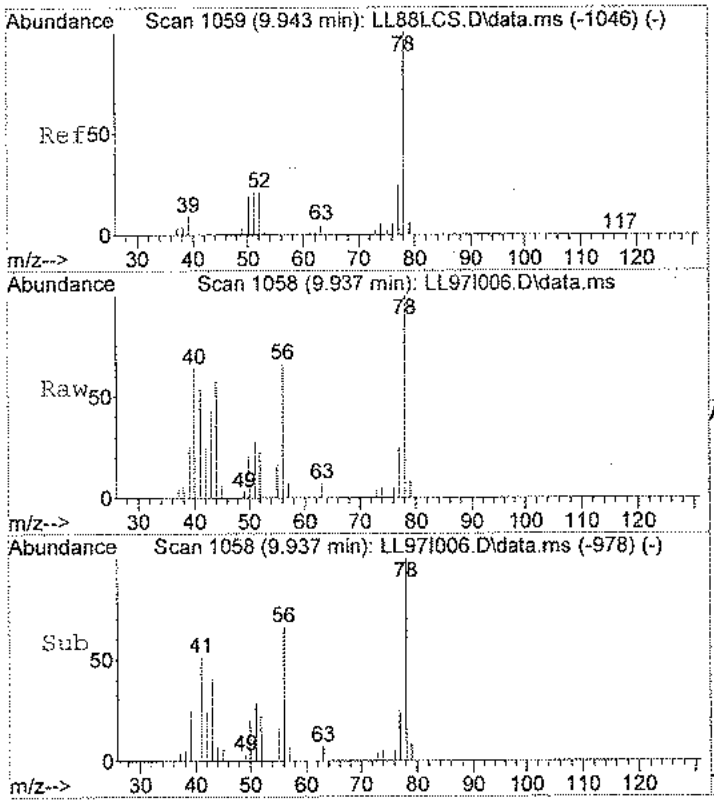


#28
Chloroform
Concen: 0.31 ppb
RT: 8.51 min Scan# 824
Delta R.T. -0.00 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:83 Resp: 20452

Ion	Ratio	Lower	Upper
83	100		
85	63.8	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

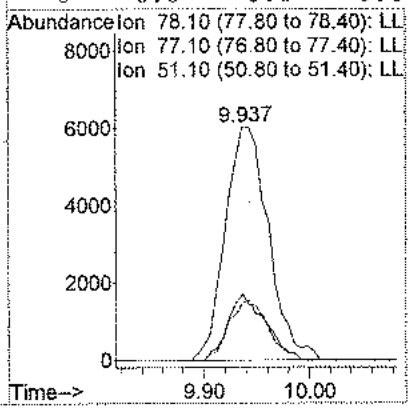


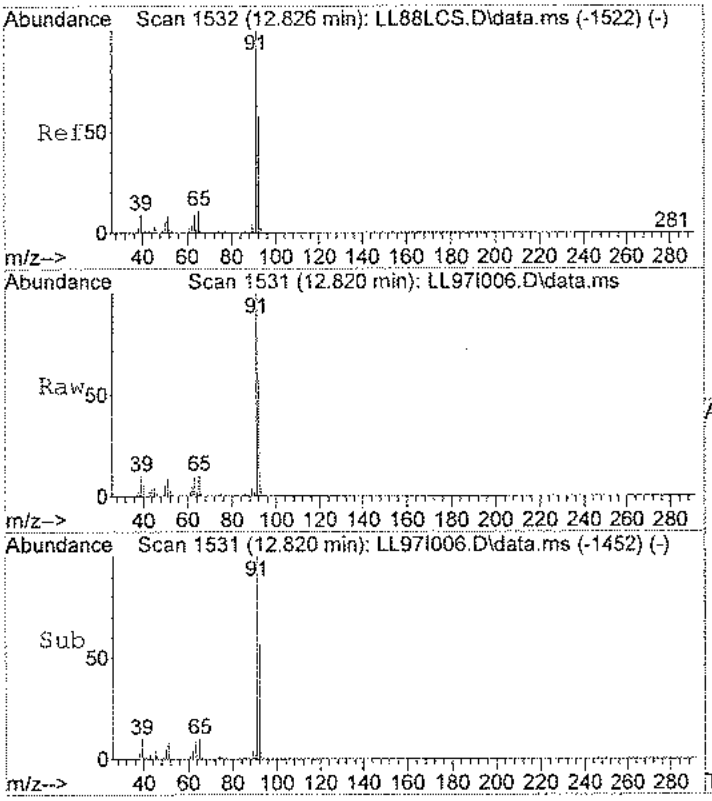


#32
Benzene
Concen: 0.20 ppb
RT: 9.94 min Scan# 1058
Delta R.T. -0.01 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:78.1 Resp: 16873

Ion	Ratio	Lower	Upper
78	100		
77	22.8	18.2	27.4
51	25.1	9.5	14.3#
0	0.0	0.0	0.0

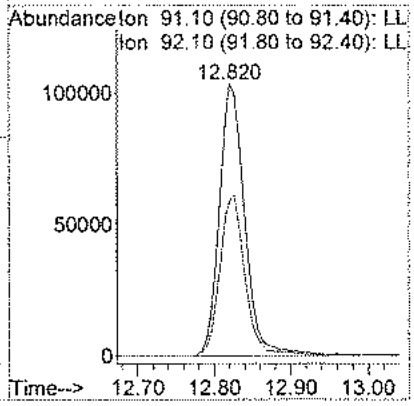


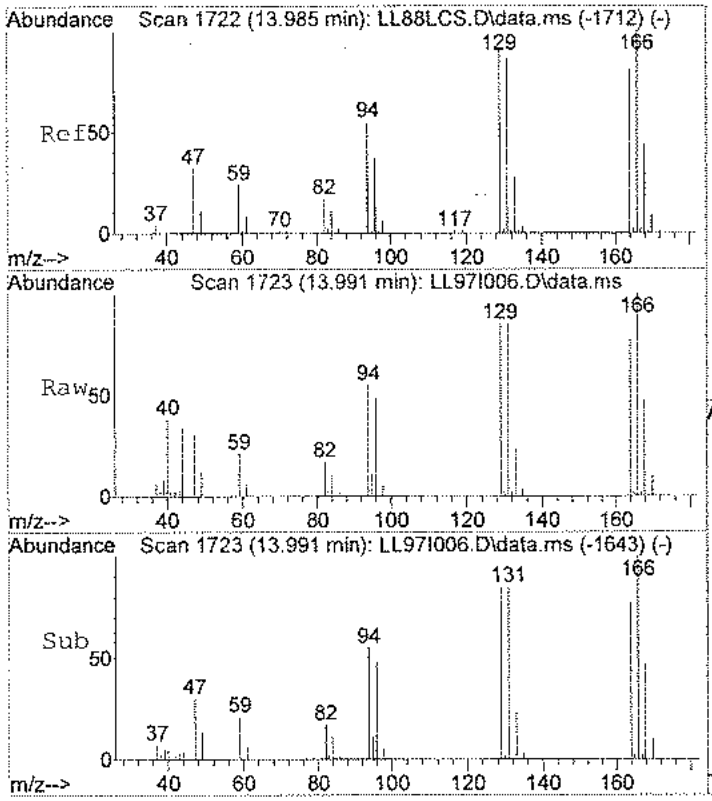


#45
Toluene
Concen: 2.25 ppb
RT: 12.82 min Scan# 1531
Delta R.T. -0.02 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:91.1 Resp: 238099

Ion	Ratio	Lower	Upper
91	100		
92	58.4	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

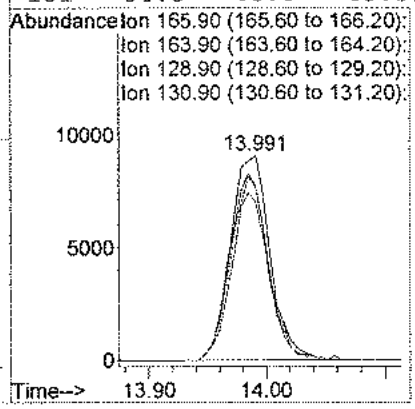


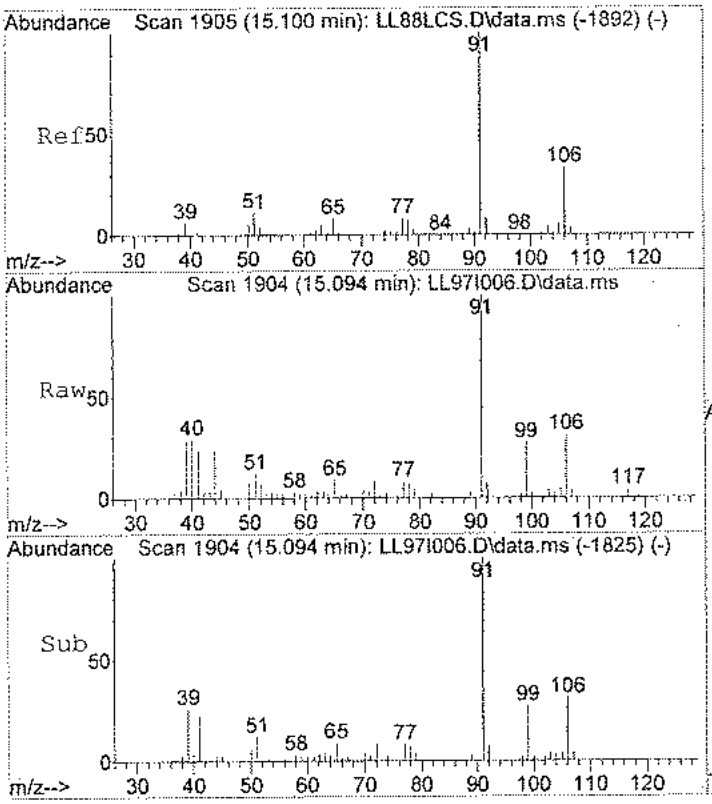


#49
Tetrachloroethene
Concen: 0.41 ppb
RT: 13.99 min Scan# 1723
Delta R.T. -0.01 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:165.9 Resp: 21212

Ion	Ratio	Lower	Upper
166	100		
164	78.1	61.0	91.4
129	87.8	45.9	68.9#
131	84.3	45.5	68.3#

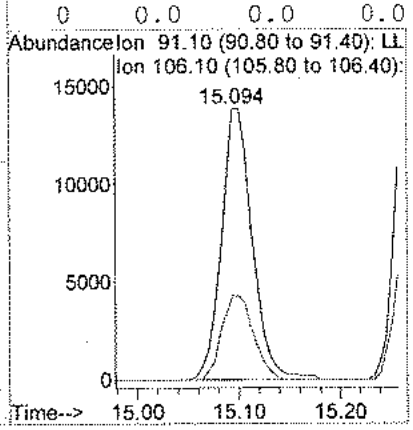


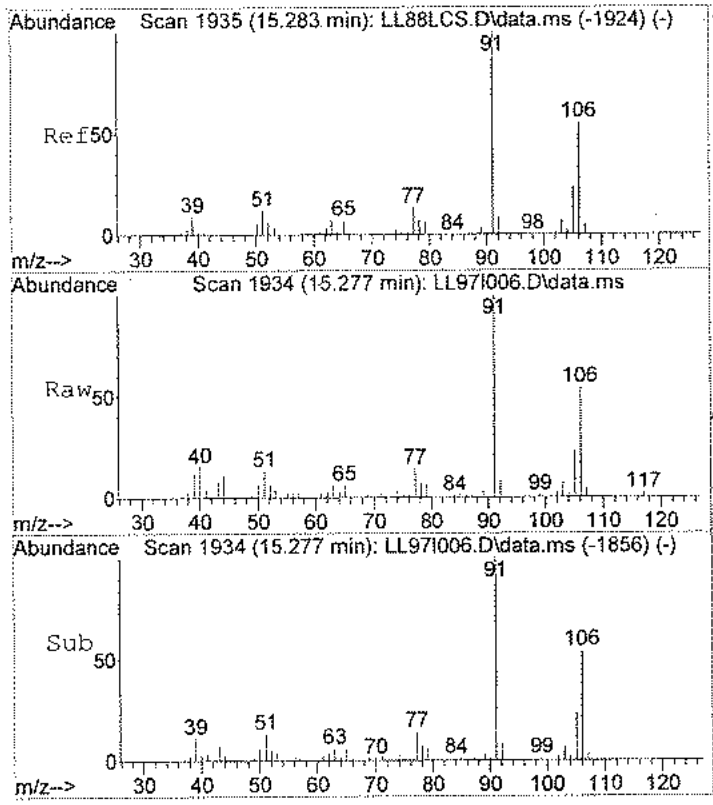


#52
Ethylbenzene
Concen: 0.26 ppb
RT: 15.09 min Scan# 1904
Delta R.T. -0.02 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:91.1 Resp: 29368

Ion	Ratio	Lower	Upper
91	100		
106	31.9	28.4	42.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

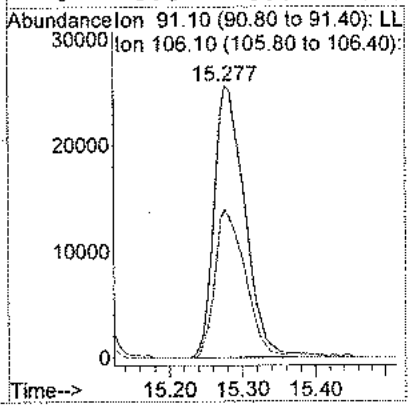


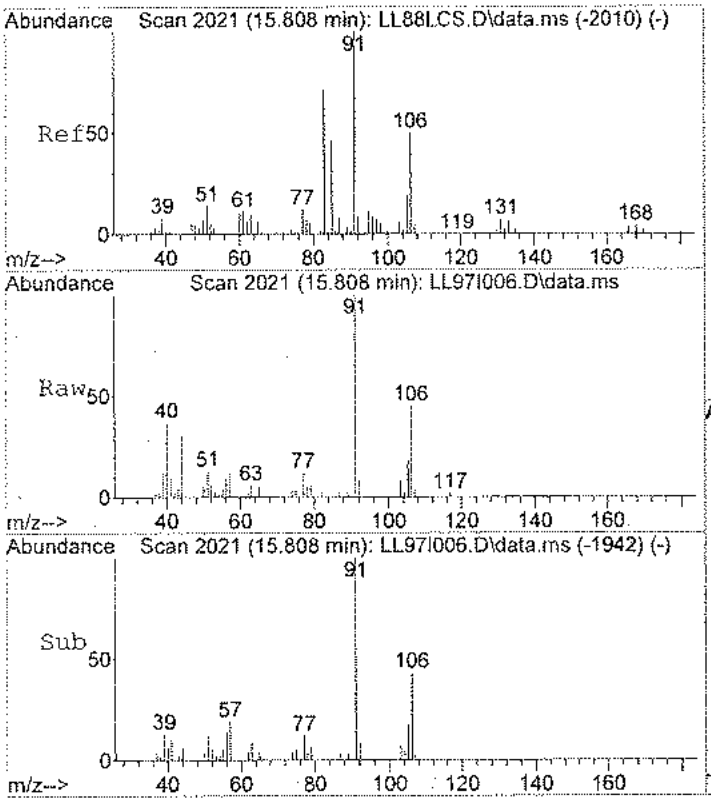


#53
m,p-Xylene
Concen: 0.86 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.03 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:91.1 Resp: 75089

Ion	Ratio	Lower	Upper
91	100		
106	53.7	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

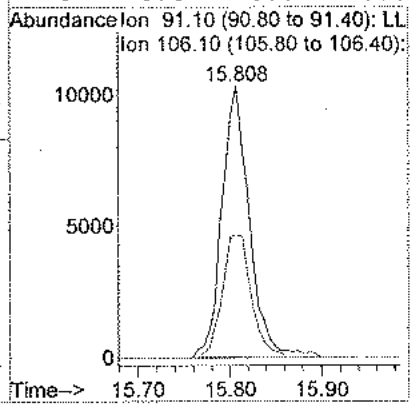




#57
o-Xylene
Concen: 0.23 ppb
RT: 15.81 min Scan# 2021
Delta R.T. -0.02 min
Lab File: LL97I006.D
Acq: 03/23/2017 18:29

Tgt Ion:91.1 Resp: 21763

Ion	Ratio	Lower	Upper
91	100		
106	47.7	41.9	62.9
0	0.0	0.0	0.0
0	0.0	0.0	0.0



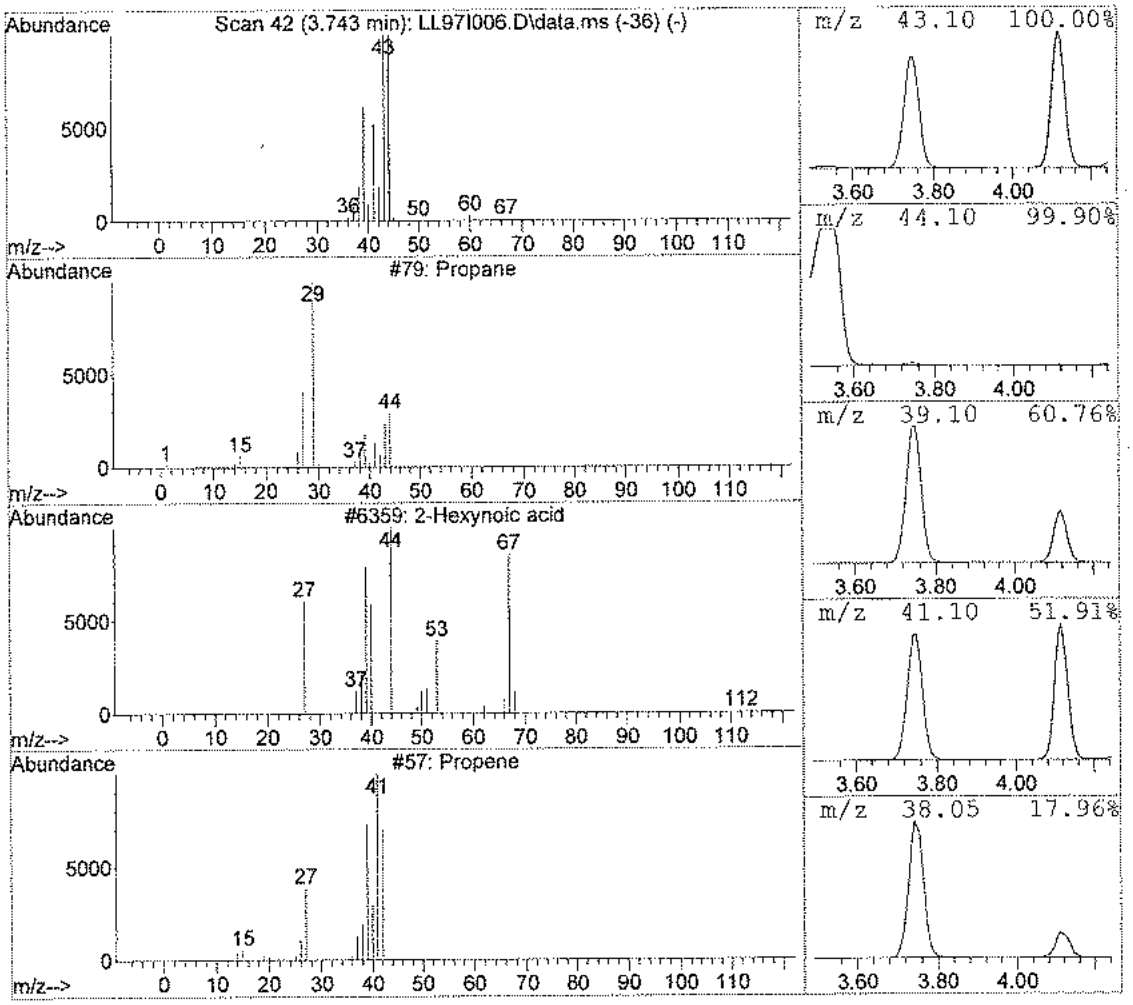
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL97I006.D Vial: 9
Acq Time : 03/23/2017 18:29 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
3.74	7.36 ppb	1309473	Bromochloromethane	3558729

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Propane	79	000074-98-6	83.00
2	2-Hexynoic acid	6359	000764-33-0	38.00
3	Propene	57	000115-07-1	9.00
4	Acetaldehyde	72	000075-07-0	4.00
5	Ethylene oxide	75	000075-21-8	4.00

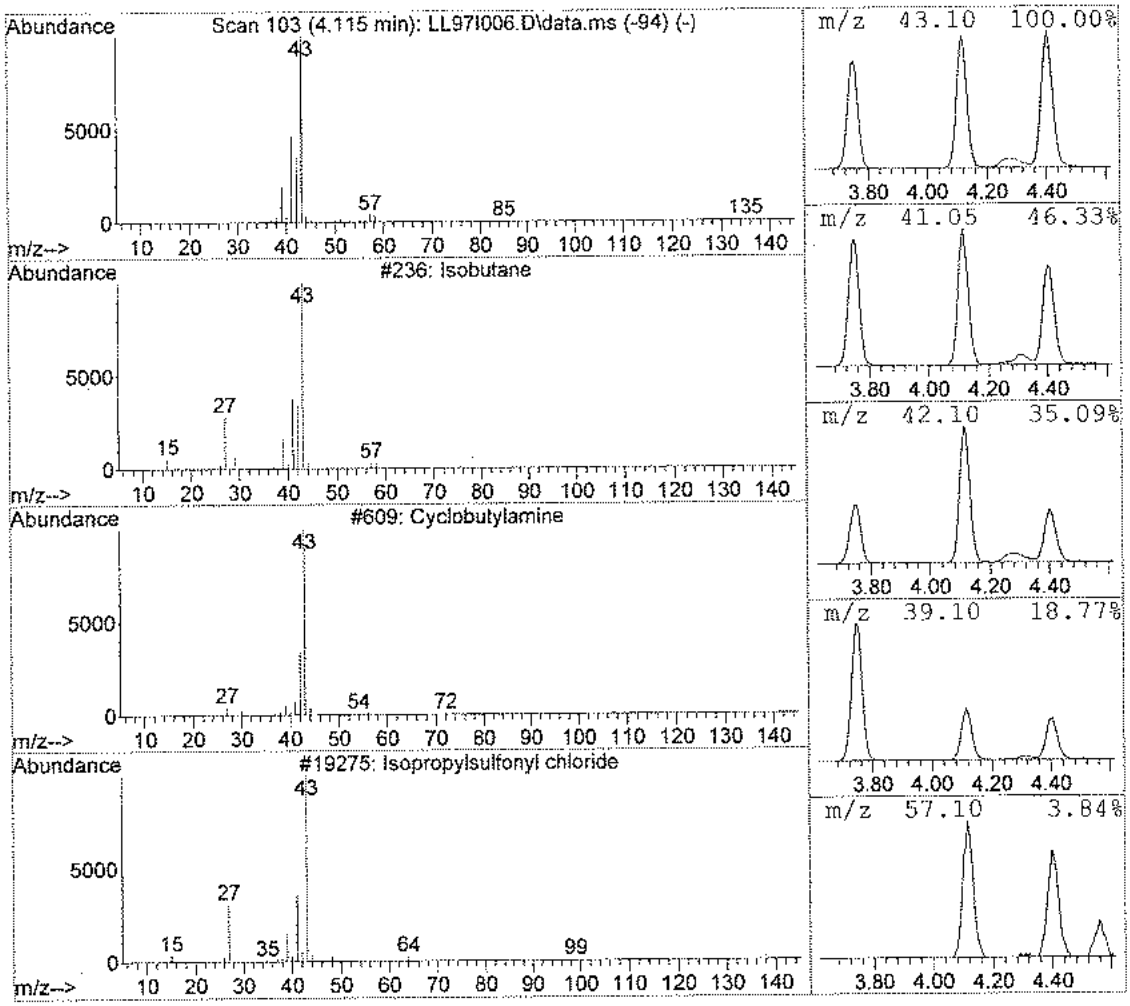


Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL97I006.D Vial: 9
Acq Time : 03/23/2017 18:29 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.11	5.01 ppb	891990	Bromochloromethane	3558729

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	236	000075-28-5	86.00
2	Cyclobutylamine	609	002516-34-9	36.00
3	Isopropylsulfonyl chloride	19275	010147-37-2	9.00
4	Propane, 2-nitro-	2169	000079-46-9	4.00
5	1-Propanol, 2-methyl-	853	000078-83-1	4.00



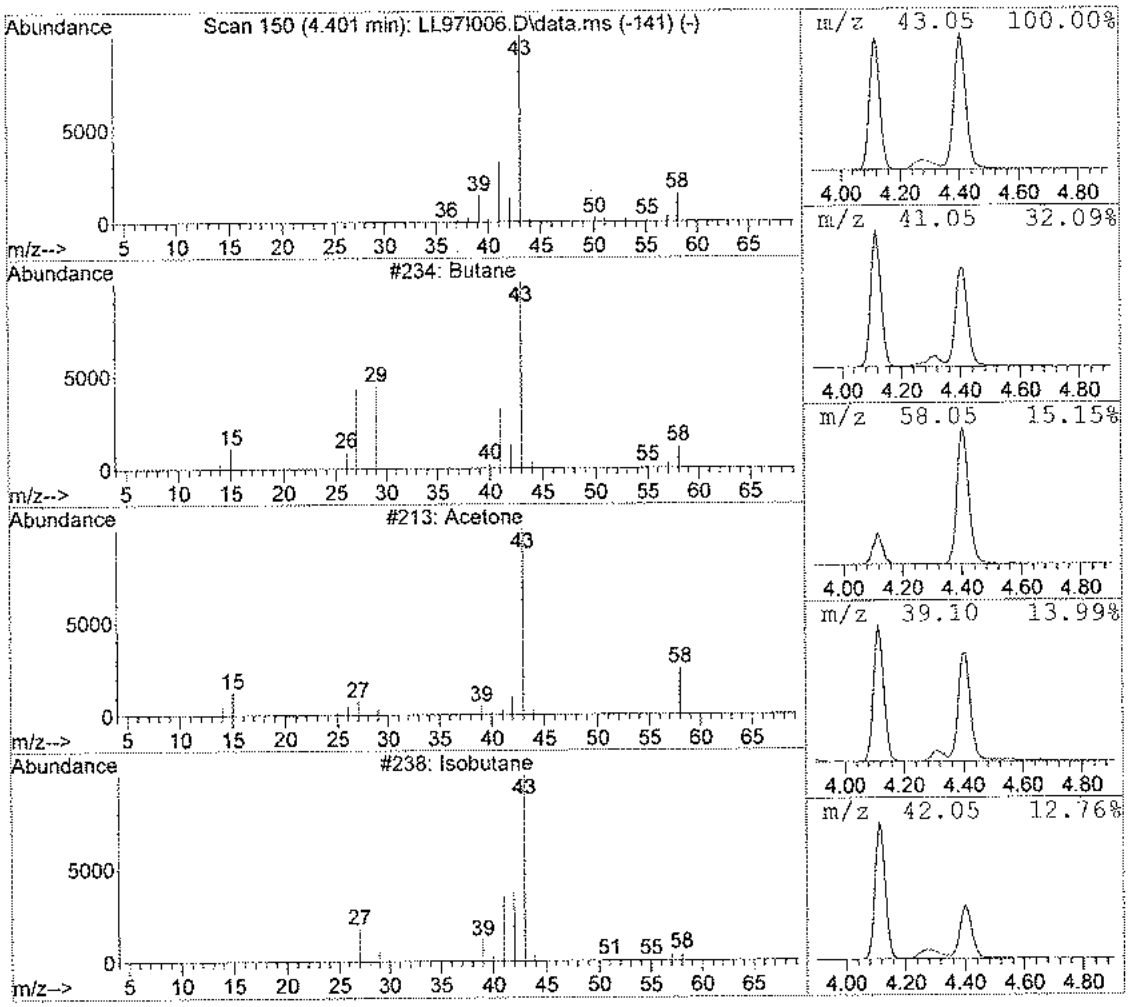
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL97I006.D Vial: 9
Acq Time : 03/23/2017 18:29 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.40	5.20 ppb	924929	Bromochloromethane	3558729

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane	234	000106-97-8	64.00
2	Acetone	213	000067-64-1	5.00
3	Isobutane	238	000075-28-5	4.00
4	Propane, 1-nitro-	2164	000108-03-2	4.00
5	Diazene, dimethyl-	212	000503-28-6	3.00



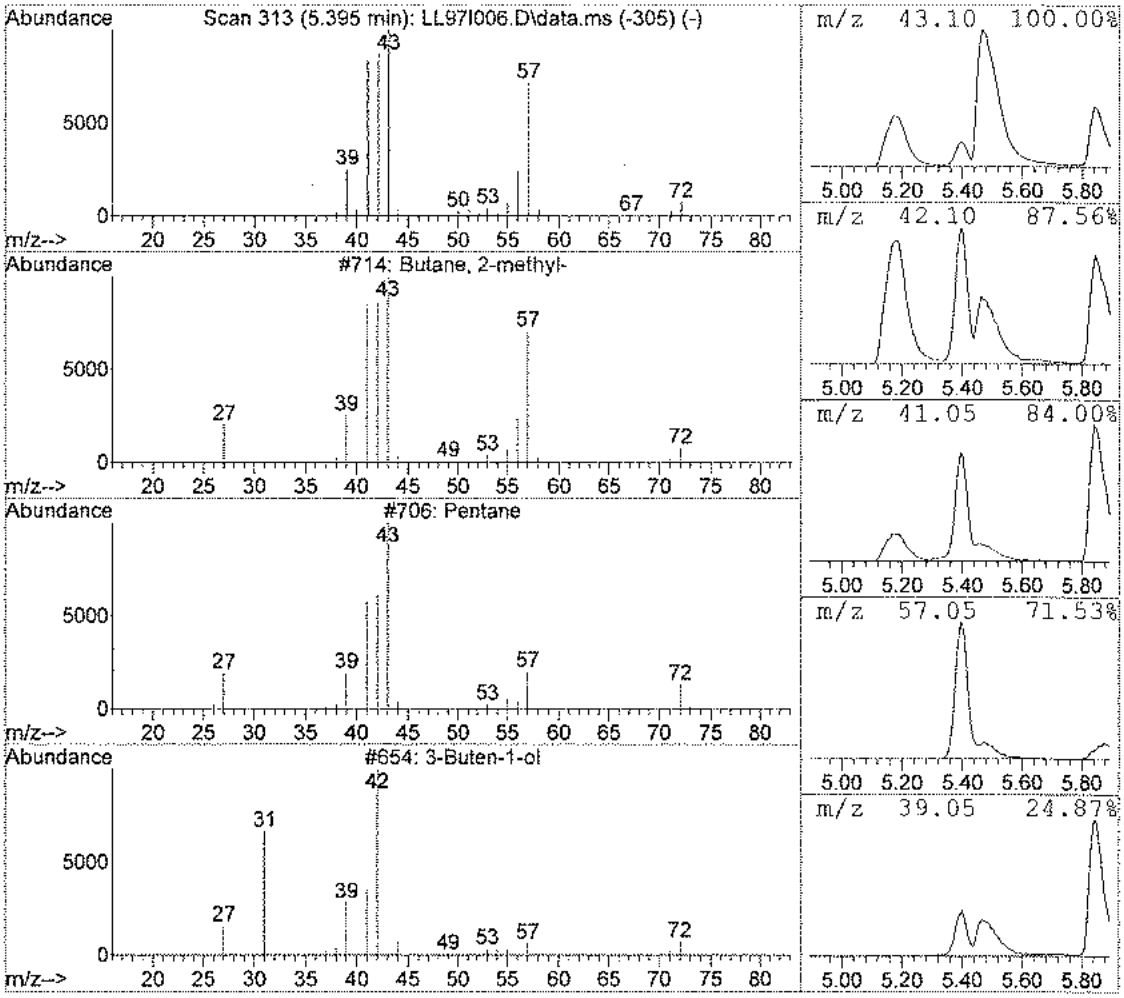
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL97I006.D Vial: 9
Acq Time : 03/23/2017 18:29 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
5.40	4.18 ppb	744319	Bromochloromethane	3558729

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane, 2-methyl-	714	000078-78-4	94.00
2	Pentane	706	000109-66-0	39.00
3	3-Buten-1-ol	654	000627-27-0	28.00
4	Methane, isocyanato-	190	000624-83-9	9.00
5	1-Butene	173	000106-98-9	9.00



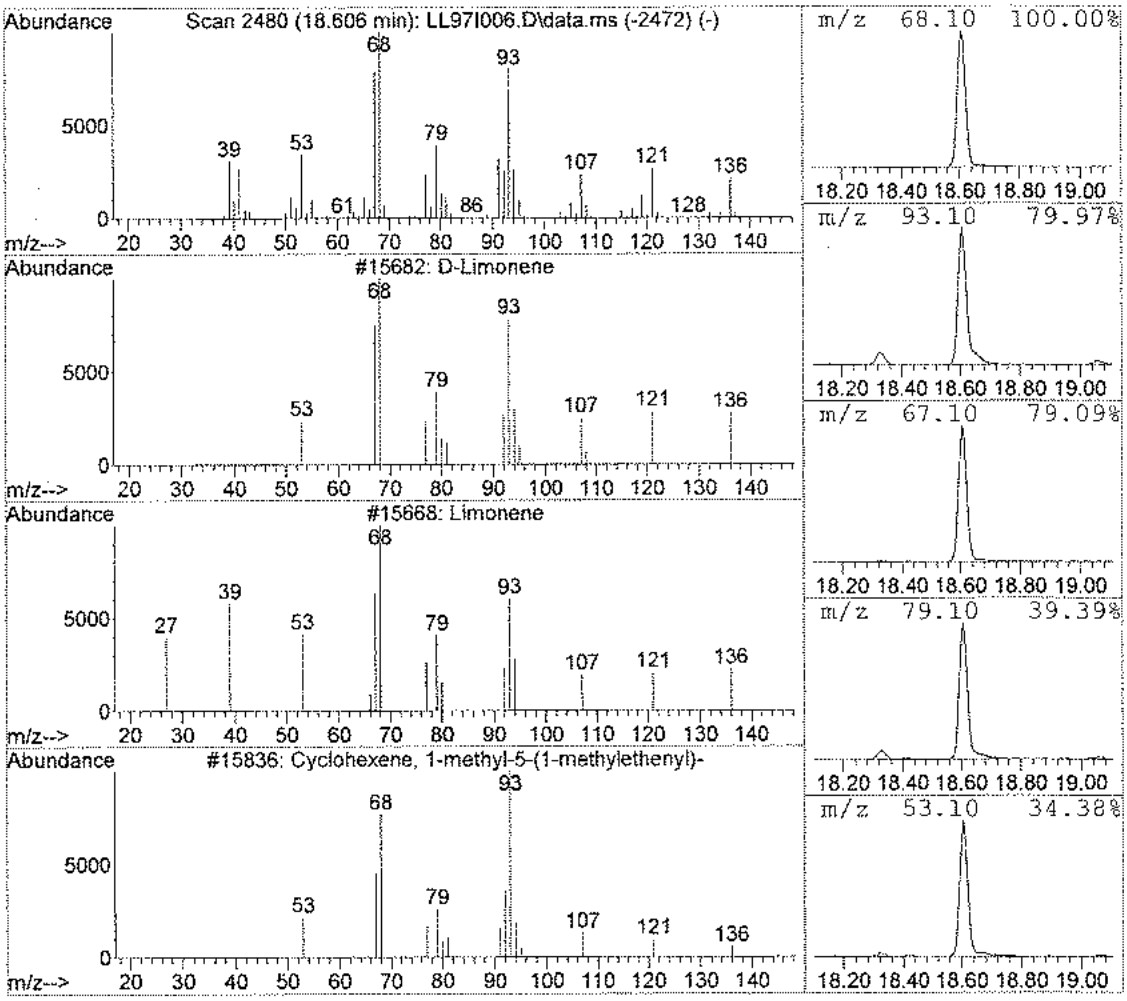
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL97I006.D Vial: 9
Acq Time : 03/23/2017 18:29 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
18.61	4.38 ppb	1256635	Chlorobenzene d5	5739520

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	D-Limonene	15682	005989-27-5	98.00
2	Limonene	15668	000138-86-3	91.00
3	Cyclohexene, 1-methyl-5-(1-methylet	15836	013898-73-2	86.00
4	Cyclohexene, 1-methyl-4-(1-methylet	15879	005989-54-8	86.00
5	1,5-Cyclooctadiene, 1,5-dimethyl-	15788	003760-14-3	68.00



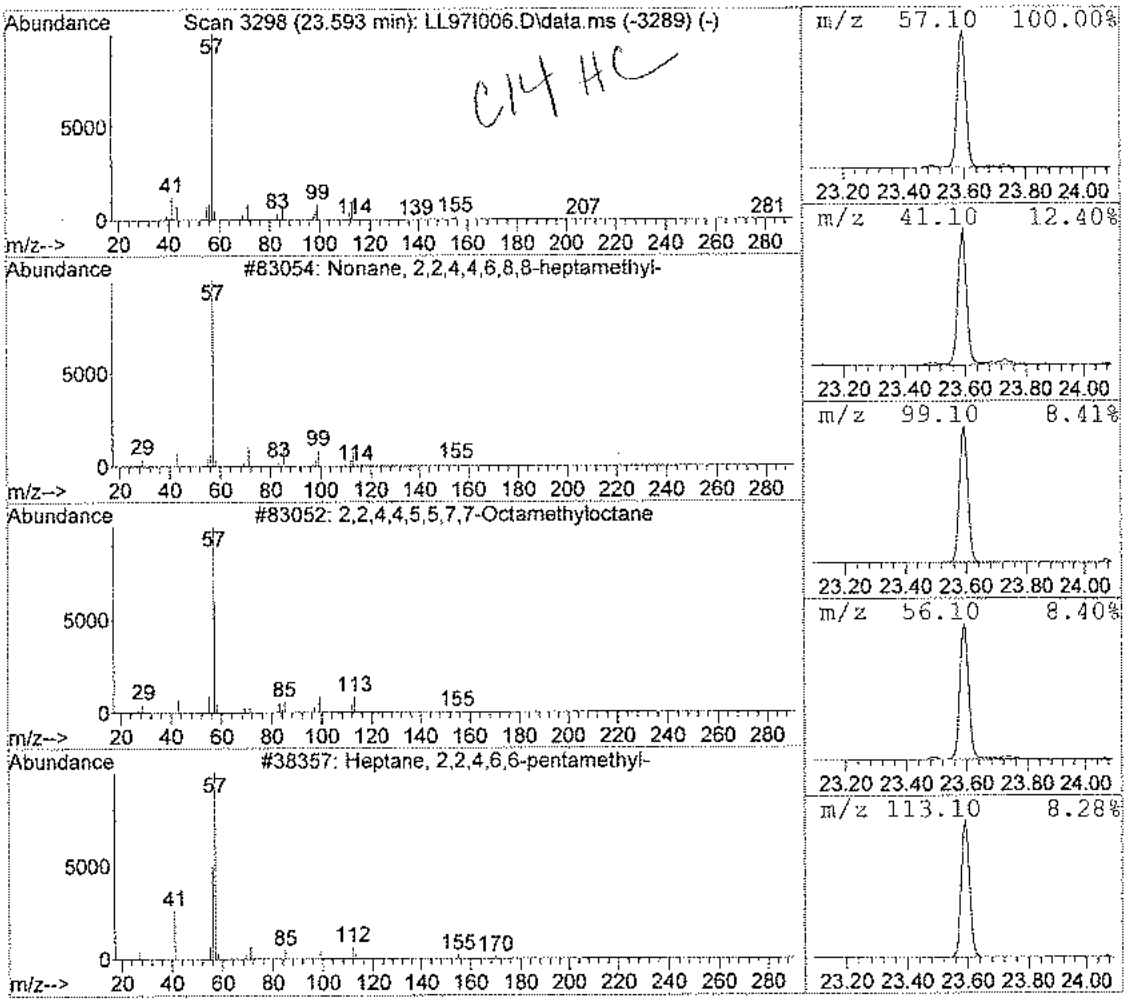
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL97I006.D Vial: 9
Acq Time : 03/23/2017 18:29 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS (2in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
23.59	3.90 ppb	1119824	Chlorobenzene d5	5739520

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Nonane, 2,2,4,4,6,8,8-heptamethyl-	83054	004390-04-9	90.00
2	2,2,4,4,5,5,7,7-Octamethyloctane	83052	005171-85-7	53.00
3	Heptane, 2,2,4,6,6-pentamethyl-	38357	013475-82-6	50.00
4	Nonane, 2,2,3-trimethyl-	38350	055499-04-2	47.00
5	Decane, 2,2-dimethyl-	38346	017302-37-3	43.00

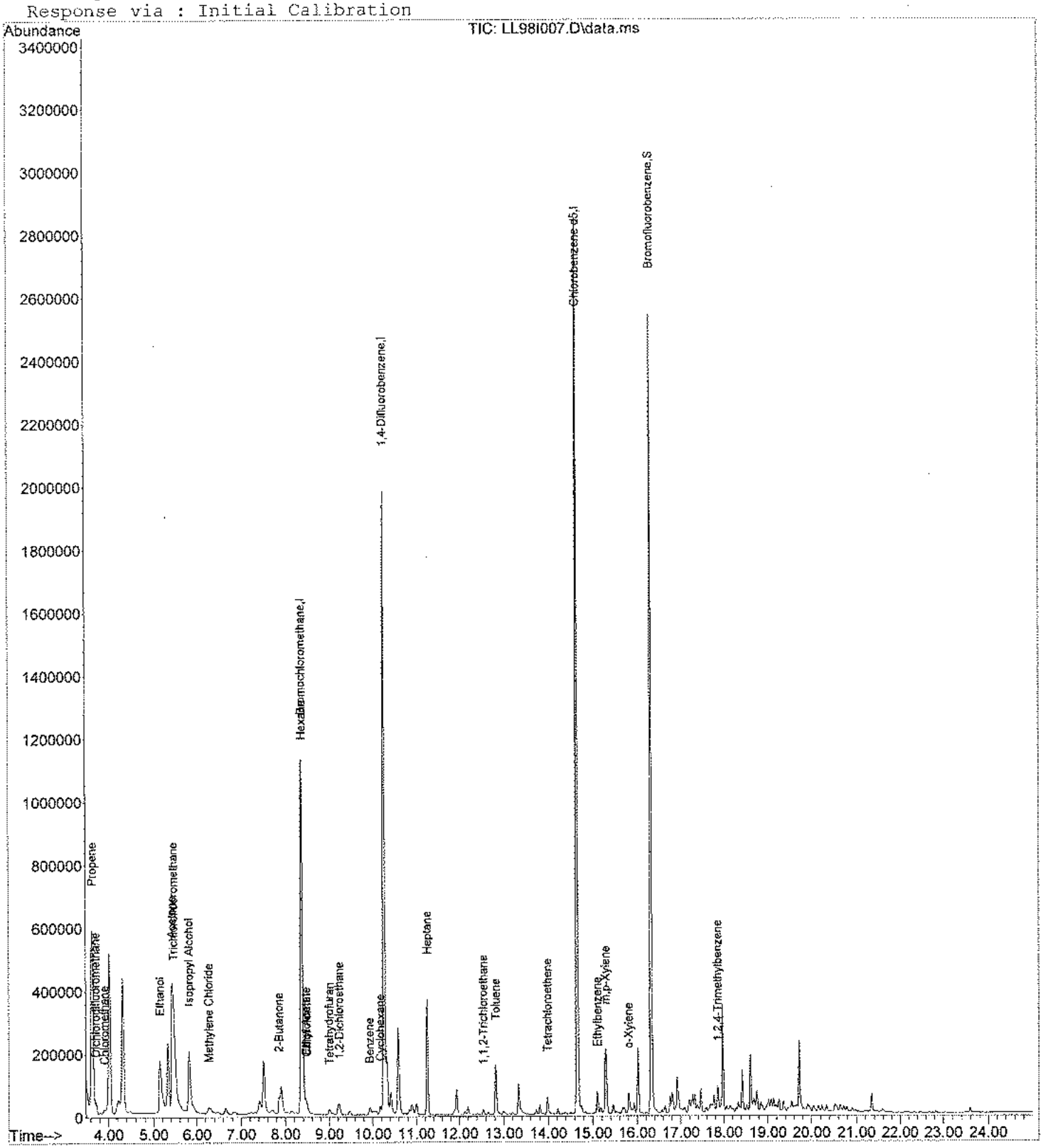


Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL981007.D Vial: 10
Acq Time : 03/23/2017 19:20 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:17:45 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL98I007.D Vial: 10
Acq Time : 03/23/2017 19:20 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:17:45 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	8.37	130	196032	20.0000 ppb		103.76
25) 1,4-Difluorobenzene	10.27	114	2301540	20.0000 ppb		100.44
50) Chlorobenzene d5	14.66	117	1897607	20.0000 ppb		95.01
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	16.32	95	1060151	21.2995 ppb		106.50%
Target Compounds						Qvalue
2) Propene	3.64	41	280357	10.6378 ppb	#fil	51
3) Dichlorodifluoromethane	3.72	85	54174	0.6789 ppb		98
4) Chloromethane	3.91	50	23245	0.7598 ppb		94
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	0.00	54		Not Detected		
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	0.00	56		Not Detected		
11) Acetone	5.43	43	1443969	28.0206 ppb		95
12) Trichlorofluoromethane	5.47	101	26150	0.2749 ppb		97
13) Ethanol	5.14	45	427136	43.7177 ppb	#fil	80
14) Isopropyl Alcohol	5.83	45	176410	3.1880 ppb	#fil	1
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	6.27	84	9180	0.3273 ppb	#	52
17) Freon 113	0.00	151		Not Detected		
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	0.00	86		Not Detected		
23) 2-Butanone	7.86	43	139704	2.1185 ppb	#	66
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	8.47	61	3246	0.3442 ppb	#	1
27) Hexane	8.38	57	38344	0.6854 ppb	#	86
28) Chloroform	8.49	83	16224	0.2478 ppb		97
29) Tetrahydrofuran	9.00	42	21447	0.5448 ppb	#	57
30) 1,2-Dichloroethane	9.24	62	29493	0.6218 ppb	#	90
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	9.93	78	20173	0.2348 ppb	#	86
33) Carbon Tetrachloride	0.00	117		Not Detected		
34) Cyclohexane	10.19	84	12149	0.3140 ppb	#	44
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	0.00	83		Not Detected		
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	0.00	130		Not Detected		
39) Methyl Methacrylate	0.00	69		Not Detected		
40) Heptane	11.25	71	96336	3.2830 ppb	#	39
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected		
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	12.55	97	6398	0.1608 ppb	#	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report

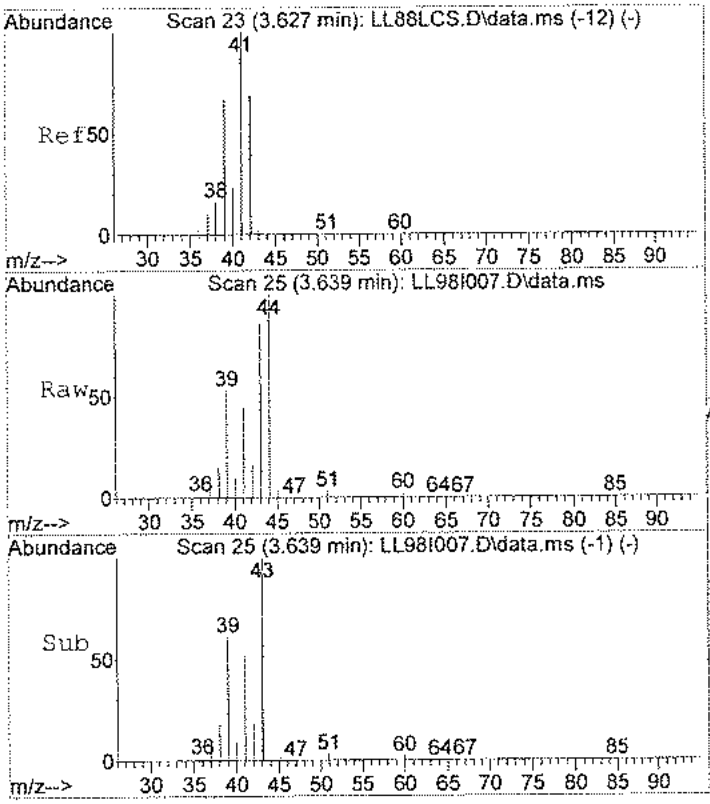
Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL98I007.D Vial: 10
Acq Time : 03/23/2017 19:20 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:17:45 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45) Toluene	12.83	91	148959	1.4107 ppb	99
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	13.98	166	18800	0.3677 ppb #	74
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	15.10	91	59029	0.5272 ppb	94
53) m,p-Xylene	15.28	91	179240	2.0545 ppb	94
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	15.81	91	45789	0.4752 ppb	97
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	17.86	105	29221	0.3209 ppb	97
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

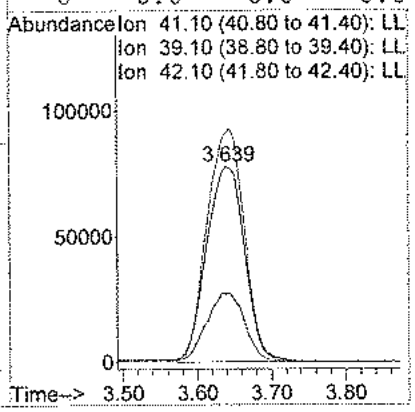
(#) = qualifier out of range (m) = manual integration

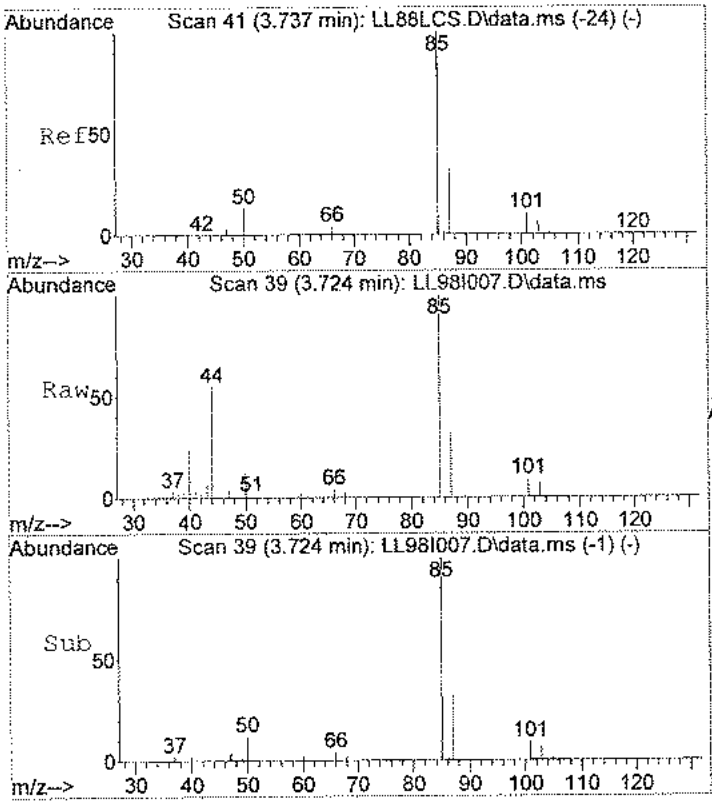


#2
Propene
Concen: 10.64 ppb
RT: 3.64 min Scan# 25
Delta R.T. 0.03 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:41.1 Resp: 280357

Ion	Ratio	Lower	Upper
41	100		
39	117.7	56.2	84.4#
42	35.5	53.8	80.6#
0	0.0	0.0	0.0

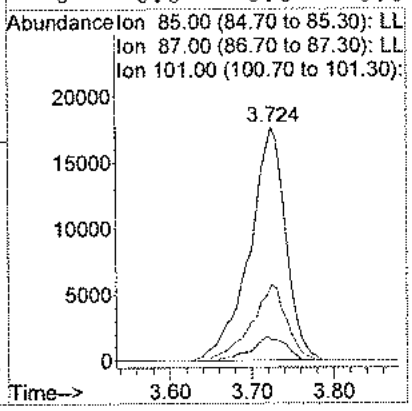


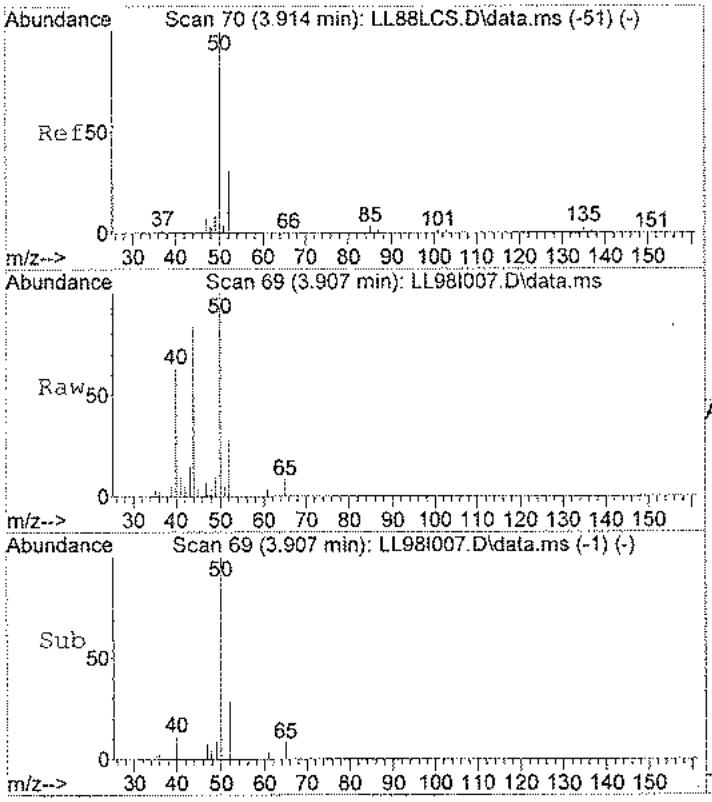


#3
Dichlorodifluoromethane
Concen: 0.68 ppb
RT: 3.72 min Scan# 39
Delta R.T. 0.00 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:85 Resp: 54174

Ion	Ratio	Lower	Upper
85	100		
87	31.5	26.1	39.1
101	9.6	8.0	12.0
0	0.0	0.0	0.0

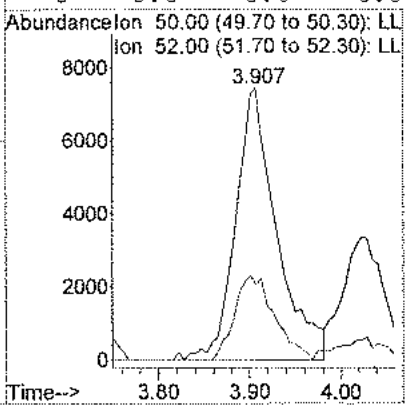


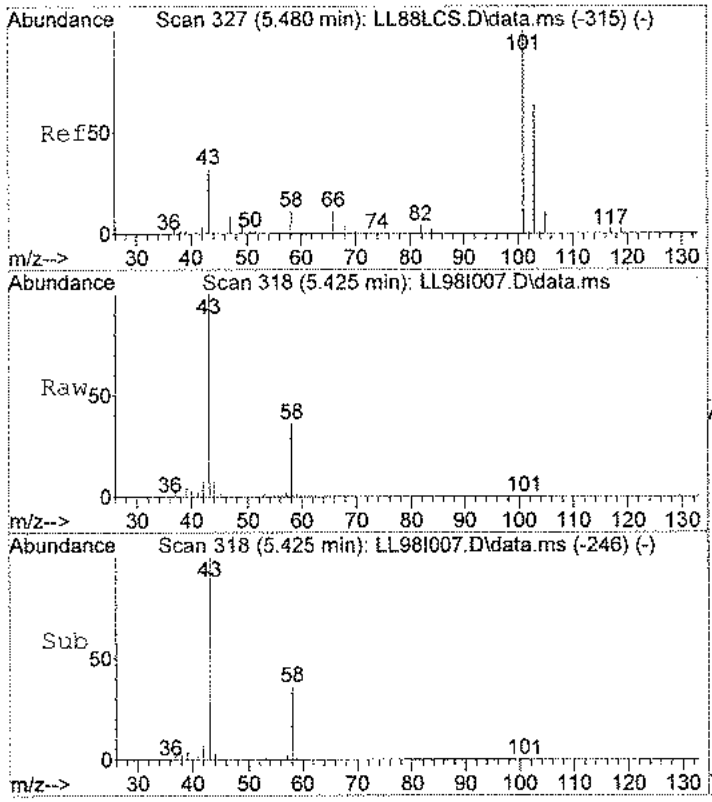


#4
Chloromethane
Concen: 0.76 ppb
RT: 3.91 min Scan# 69
Delta R.T. 0.01 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:50 Resp: 23245

Ion	Ratio	Lower	Upper
50	100		
52	30.0	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

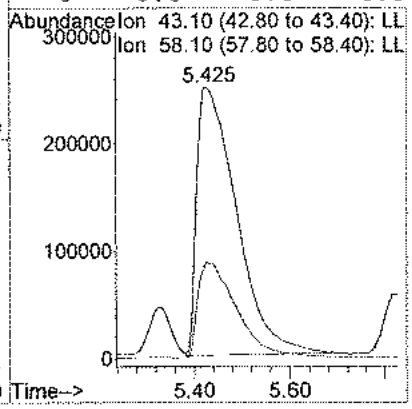


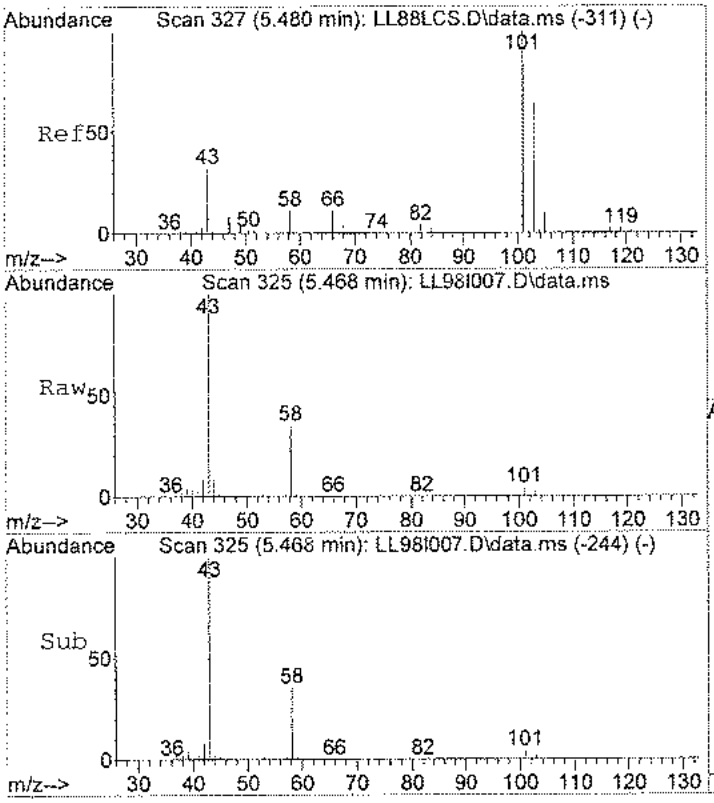


#11
Acetone
Concen: 28.02 ppb
RT: 5.43 min Scan# 318
Delta R.T. -0.06 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:43.1 Resp: 1443969

Ion	Ratio	Lower	Upper
43	100		
58	35.4	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

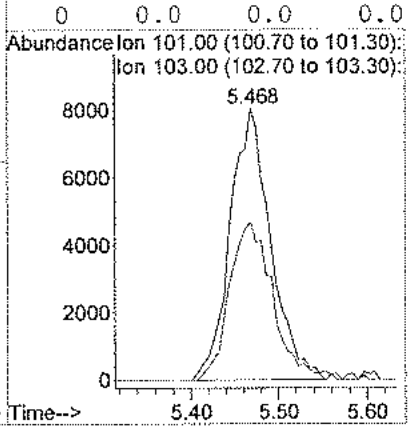


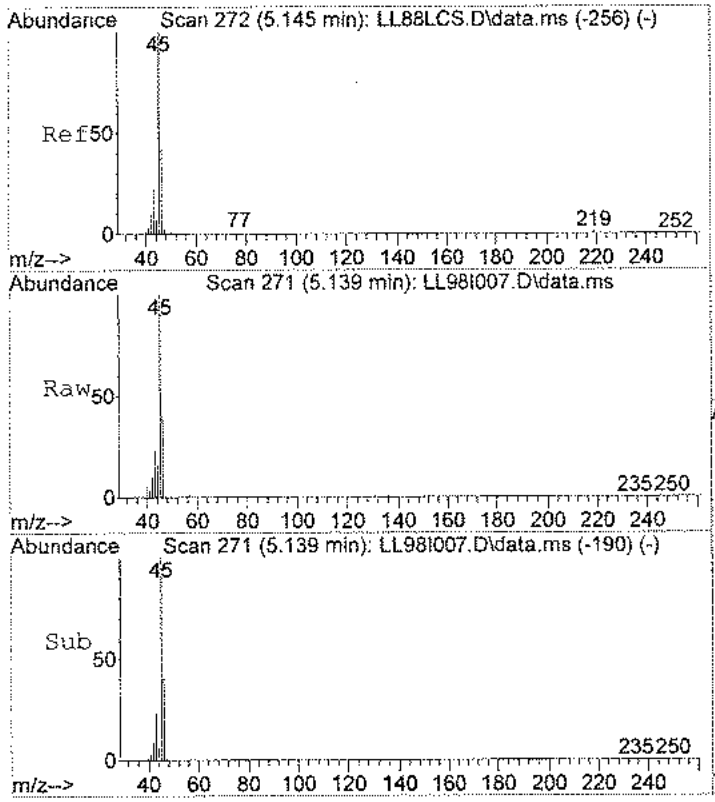


#12
Trichlorofluoromethane
Concen: 0.27 ppb
RT: 5.47 min Scan# 325
Delta R.T. -0.01 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:101 Resp: 26150

Ion	Ratio	Lower	Upper
101	100		
103	62.2	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

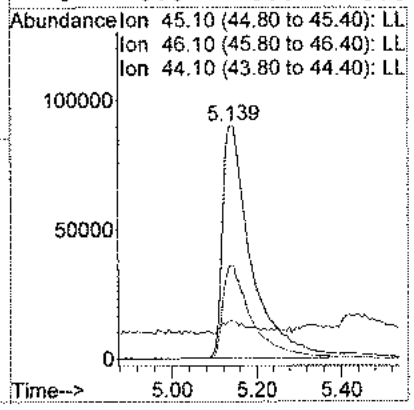


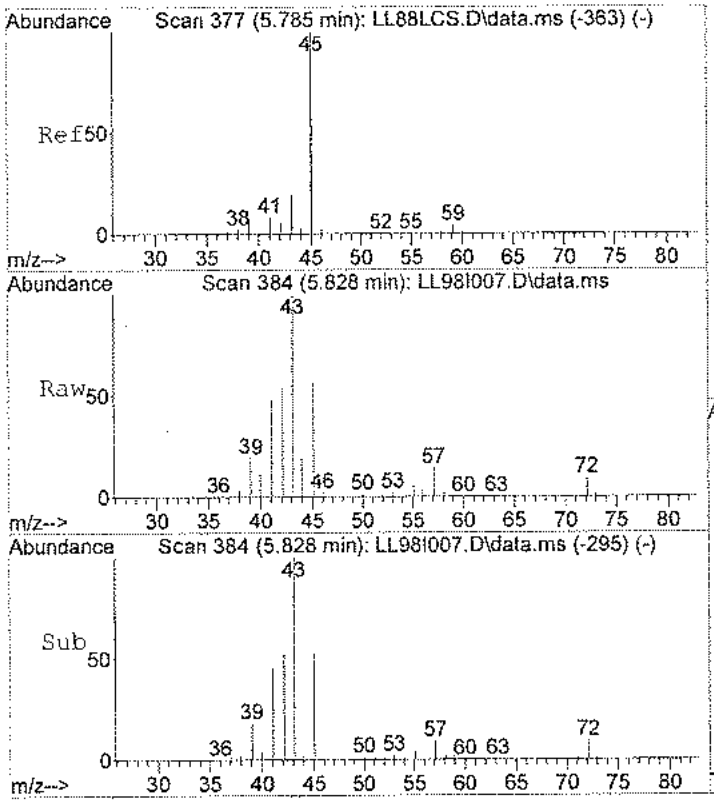


#13
Ethanol
Concen: 43.72 ppb
RT: 5.14 min Scan# 271
Delta R.T. -0.01 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:45.1 Resp: 427136

Ion	Ratio	Lower	Upper
45	100		
46	40.9	32.4	48.6
44	4.7	23.4	35.2#
0	0.0	0.0	0.0

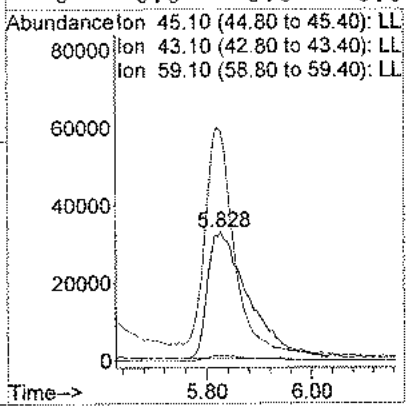


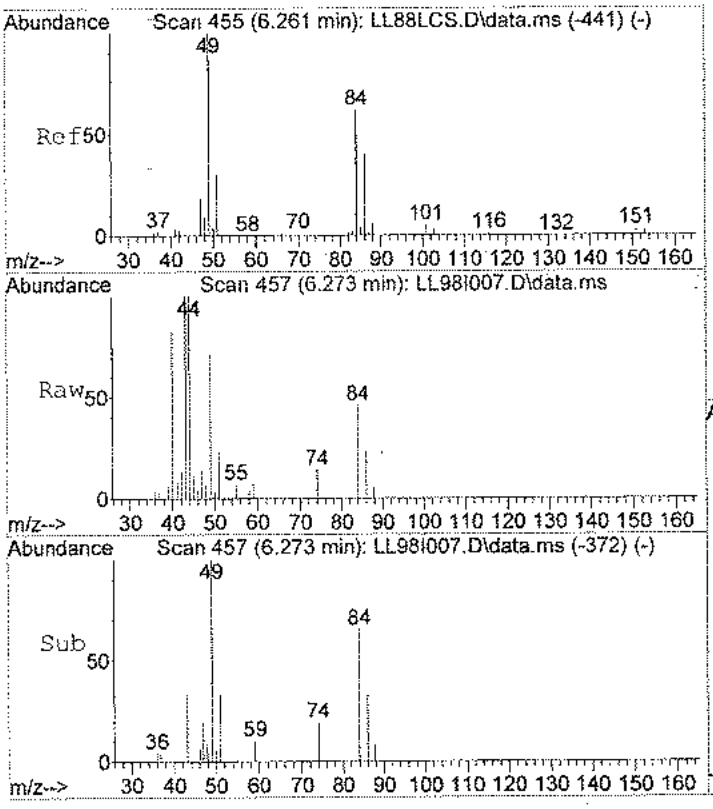


#14
Isopropyl Alcohol
Concen: 3.19 ppb
RT: 5.83 min Scan# 384
Delta R.T. 0.04 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:45.1 Resp: 176410

Ion	Ratio	Lower	Upper
45	100		
43	125.7	15.8	23.6#
59	3.7	3.2	4.8
0	0.0	0.0	0.0

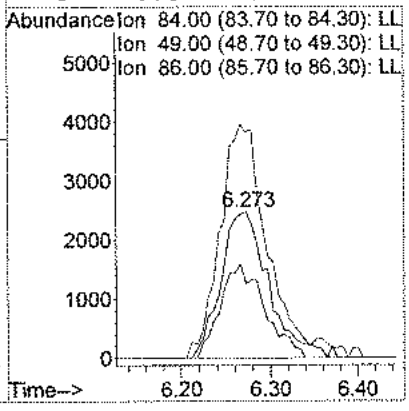


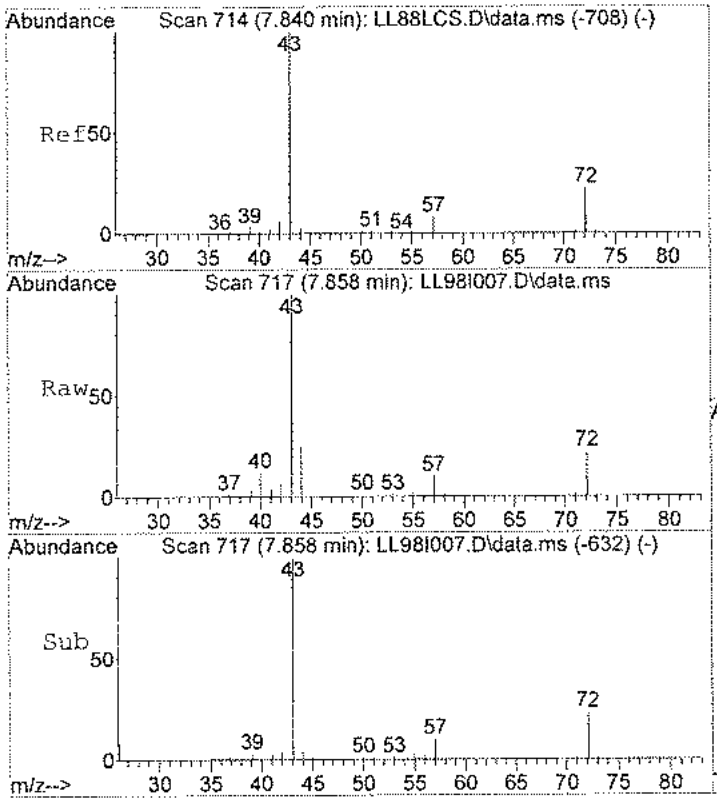


#16
Methylene Chloride
Concen: 0.33 ppb
RT: 6.27 min Scan# 457
Delta R.T. 0.02 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:84 Resp: 9180

Ion	Ratio	Lower	Upper
84	100		
49	156.0	66.6	100.0#
86	60.1	51.6	77.4
0	0.0	0.0	0.0

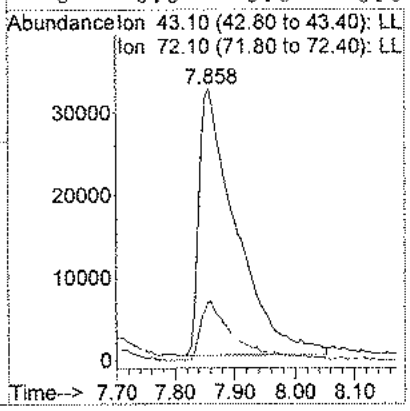


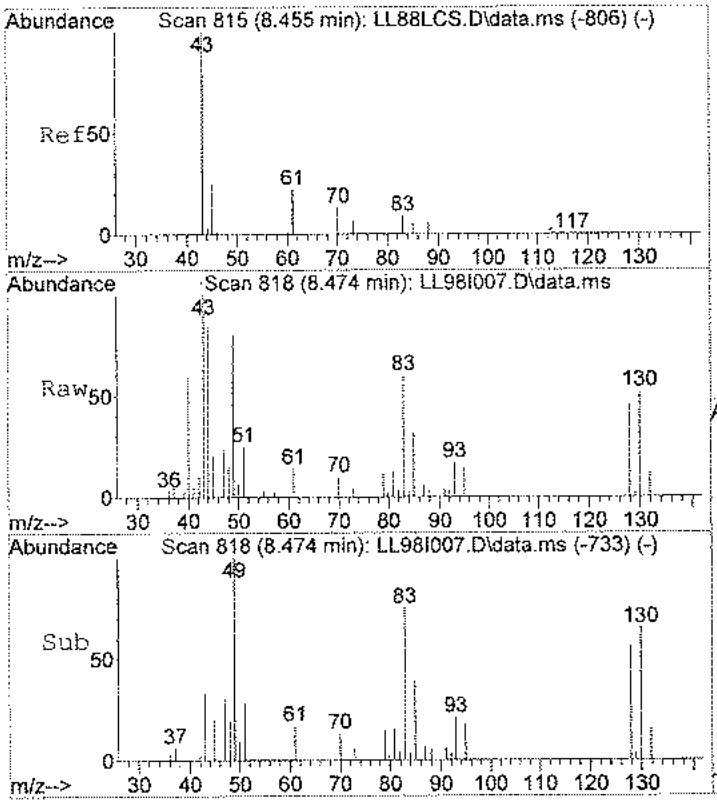


#23
2-Butanone
Concen: 2.12 ppb
RT: 7.86 min Scan# 717
Delta R.T. 0.02 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:43.1 Resp: 139704

Ion	Ratio	Lower	Upper
43	100		
72	18.0	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

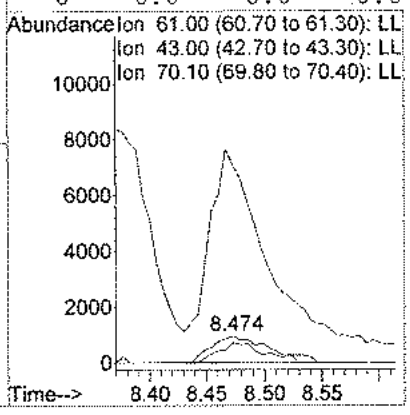


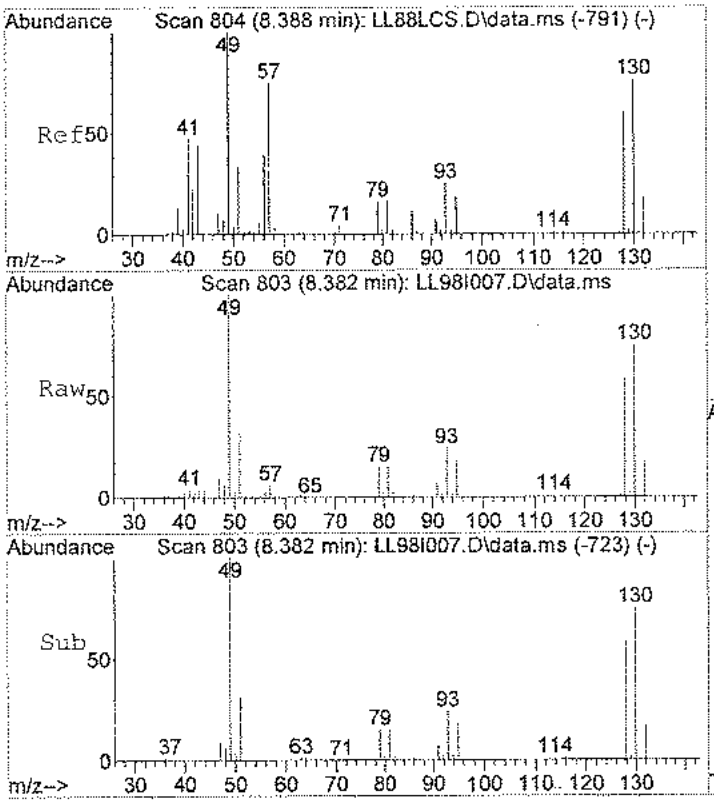


#26
Ethyl Acetate
Concen: 0.34 ppb
RT: 8.47 min Scan# 818
Delta R.T. 0.02 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:61 Resp: 3246

Ion	Ratio	Lower	Upper
61	100		
43	758.1	144.0	216.0#
70	57.9	13.6	20.4#
0	0.0	0.0	0.0

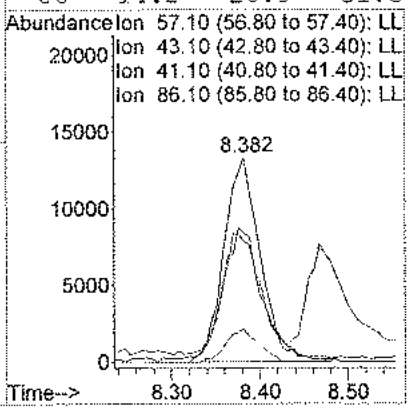


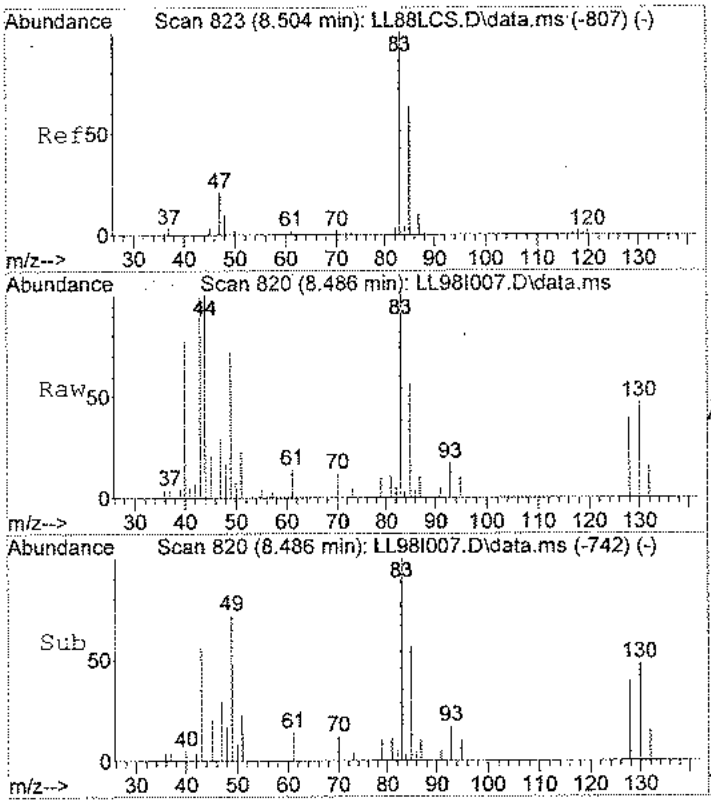


#27
Hexane
Concen: 0.69 ppb
RT: 8.38 min Scan# 803
Delta R.T. -0.01 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:57.1 Resp: 38344

Ion	Ratio	Lower	Upper
57	100		
43	59.9	57.3	85.9
41	65.2	47.0	70.4
86	14.2	20.9	31.3#

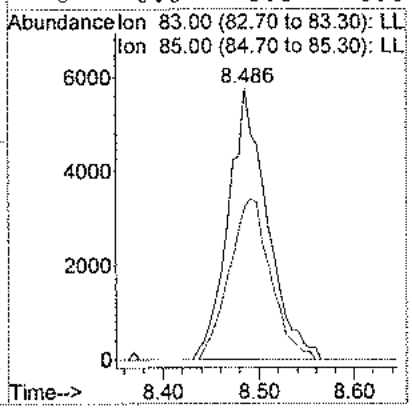


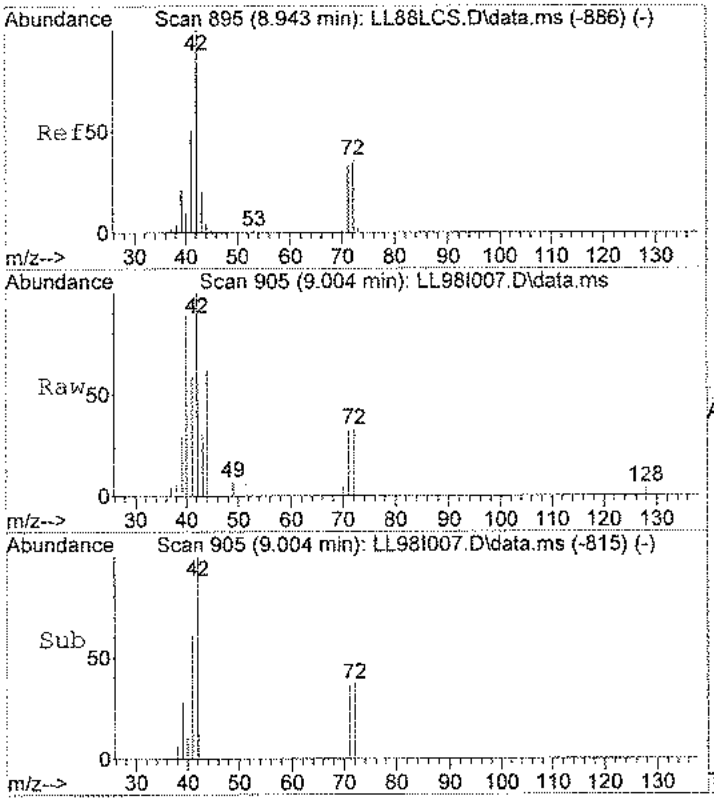


#28
Chloroform
Concen: 0.25 ppb
RT: 8.49 min Scan# 820
Delta R.T. -0.03 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:83 Resp: 16224

Ion	Ratio	Lower	Upper
83	100		
85	62.9	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

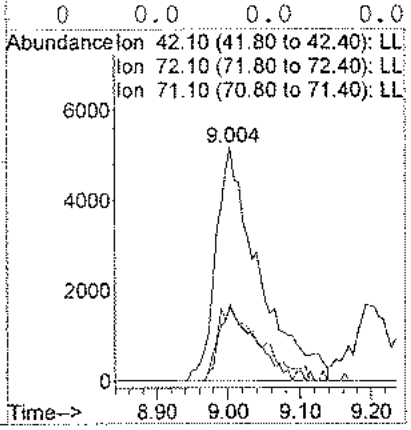


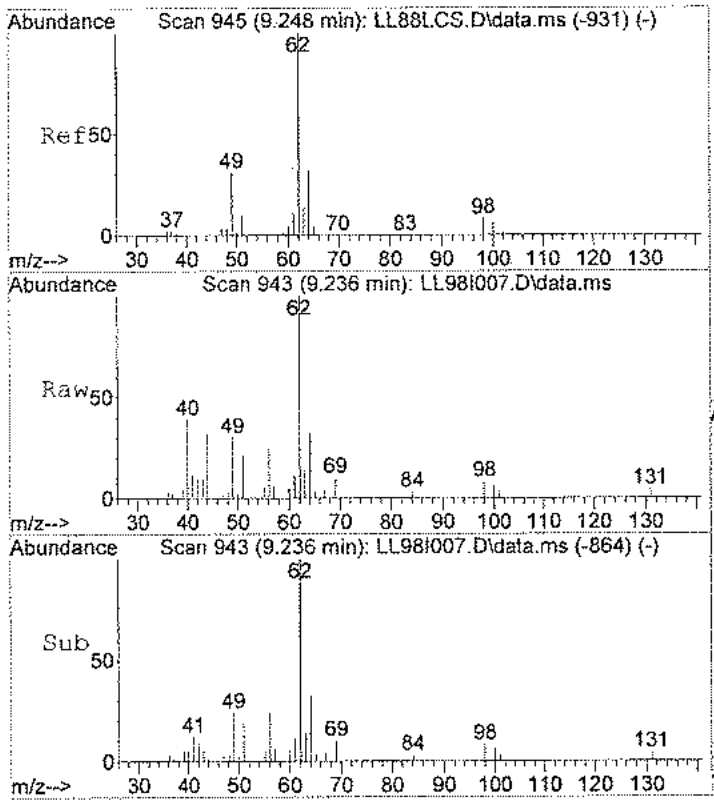


#29
Tetrahydrofuran
Concen: 0.54 ppb
RT: 9.00 min Scan# 905
Delta R.T. 0.05 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:42.1 Resp: 21447

Ion	Ratio	Lower	Upper
42	100		
72	31.4	51.5	77.3#
71	26.2	47.5	71.3#
0	0.0	0.0	0.0

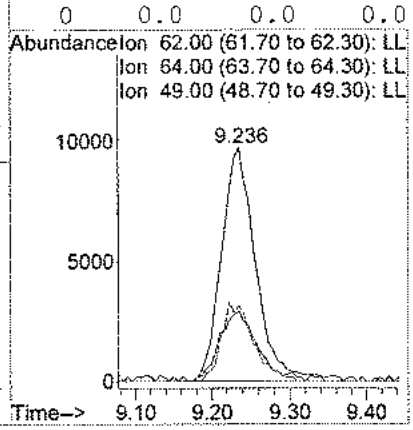


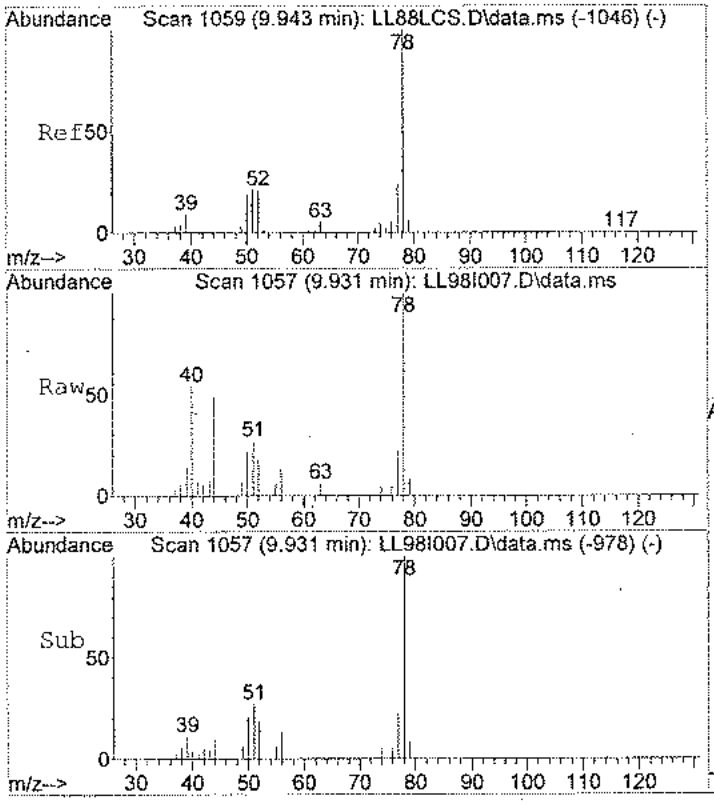


#30
1,2-Dichloroethane
Concen: 0.62 ppb
RT: 9.24 min Scan# 943
Delta R.T. -0.02 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:62 Resp: 29493

Ion	Ratio	Lower	Upper
62	100		
64	31.8	26.0	39.0
49	33.7	18.5	27.7#
0	0.0	0.0	0.0

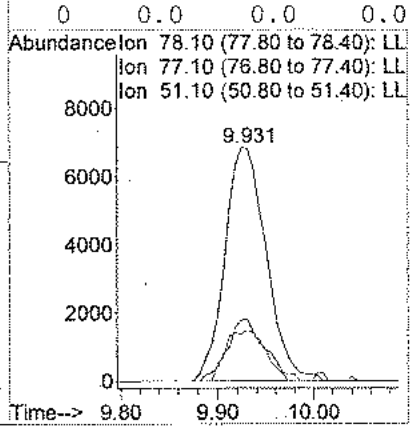


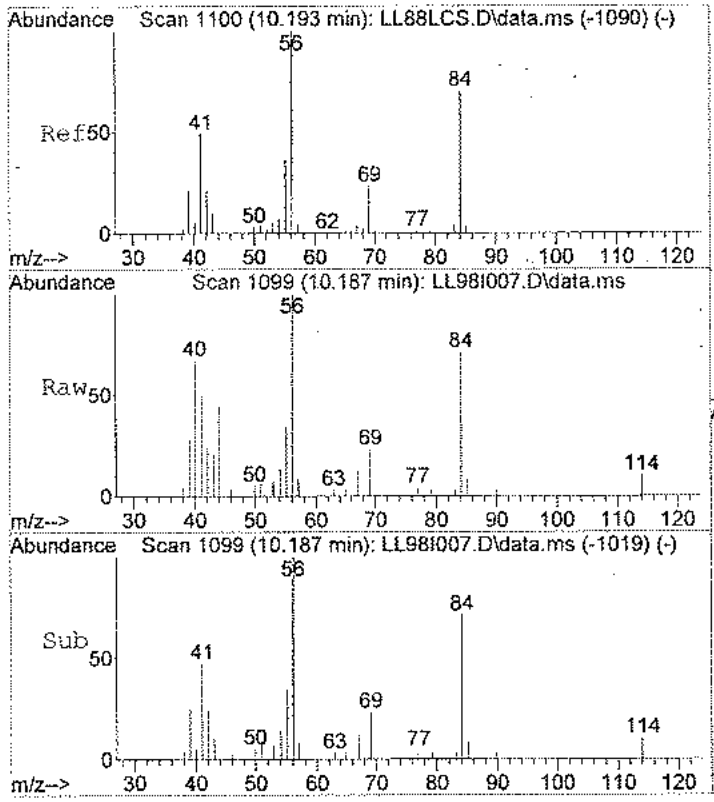


#32
Benzene
Concen: 0.23 ppb
RT: 9.93 min Scan# 1057
Delta R.T. -0.02 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:78.1 Resp: 20173

Ion	Ratio	Lower	Upper
78	100		
77	20.7	18.2	27.4
51	24.4	9.5	14.3#
0	0.0	0.0	0.0

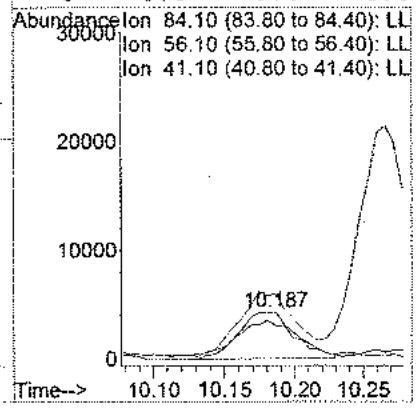


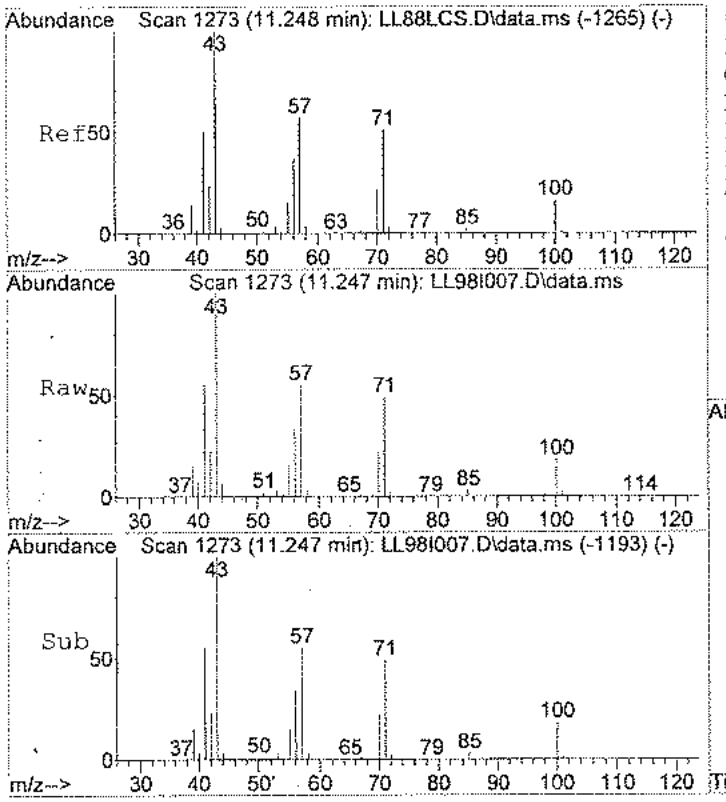


#34
Cyclohexane
Concen: 0.31 ppb
RT: 10.19 min Scan# 1099
Delta R.T. -0.01 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:84.1 Resp: 12149

Ion	Ratio	Lower	Upper
84	100		
56	130.9	67.3	100.9#
41	76.6	30.2	45.4#
0	0.0	0.0	0.0

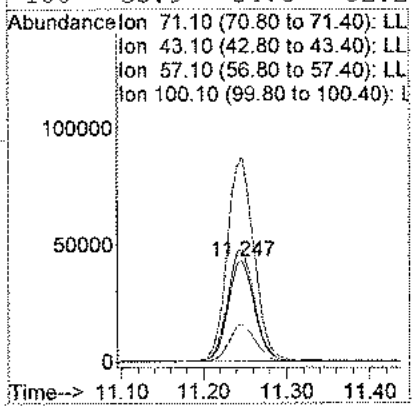


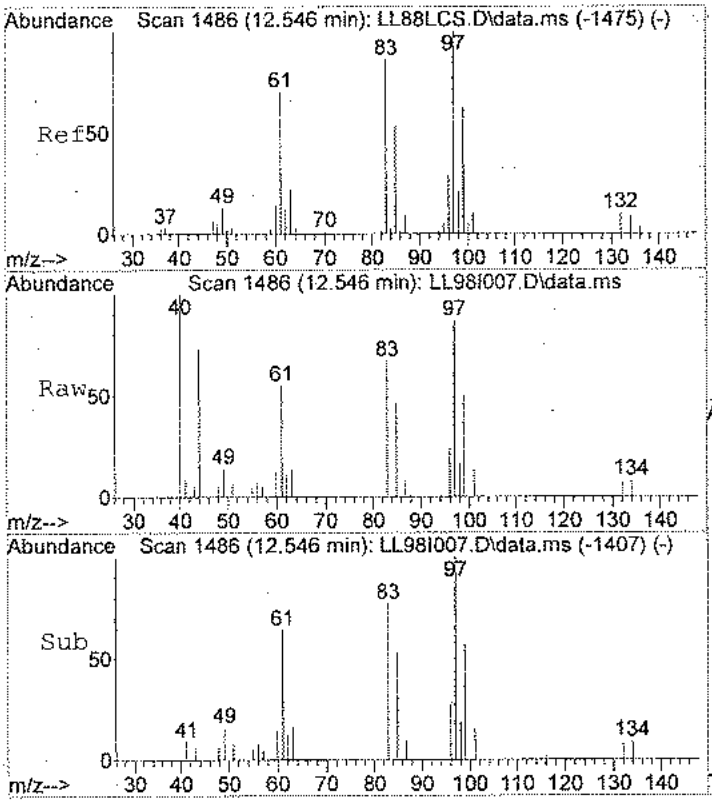


#40
Heptane
Concen: 3.28 ppb
RT: 11.25 min Scan# 1273
Delta R.T. -0.01 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:71.1 Resp: 96336

Ion	Ratio	Lower	Upper
71	100		
43	202.7	87.3	130.9#
57	112.8	57.8	86.6#
100	35.9	34.8	52.2

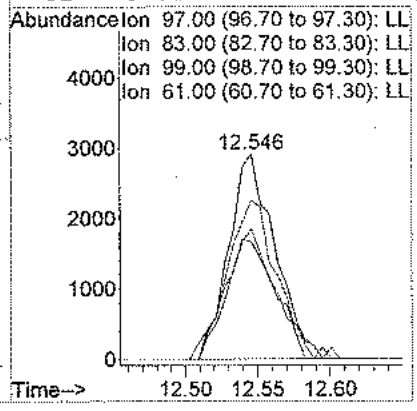


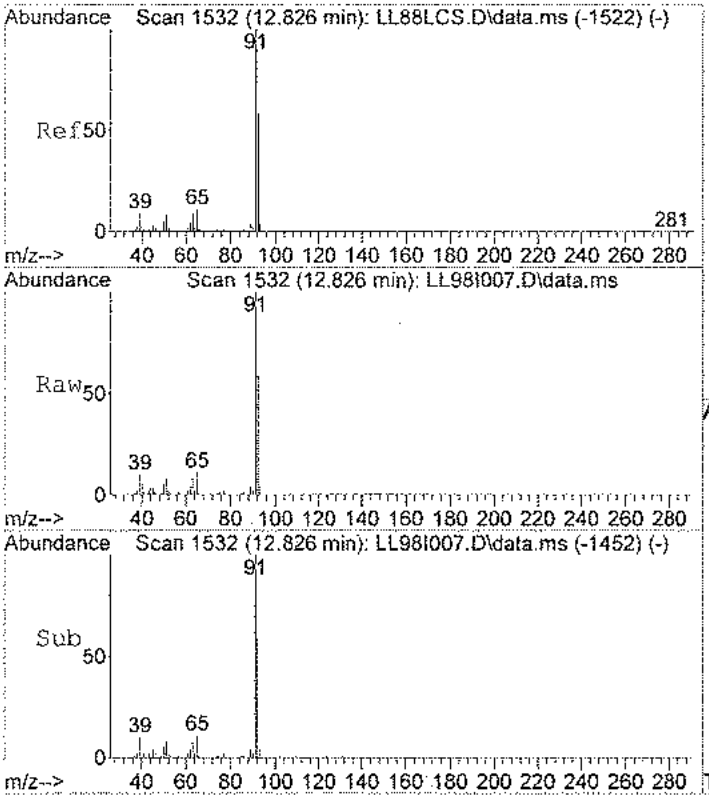


#44
1,1,2-Trichloroethane
Concen: 0.16 ppb
RT: 12.55 min Scan# 1486
Delta R.T. -0.02 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:97 Resp: 6398

Ion	Ratio	Lower	Upper
97	100		
83	84.2	60.3	90.5
99	62.0	51.4	77.0
61	67.1	34.9	52.3#

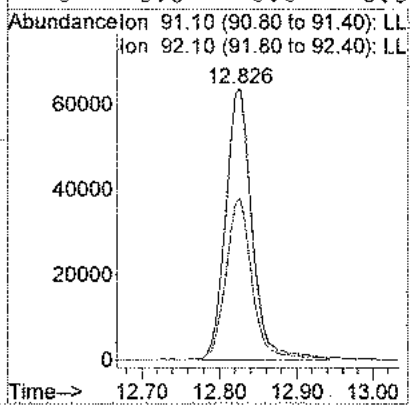


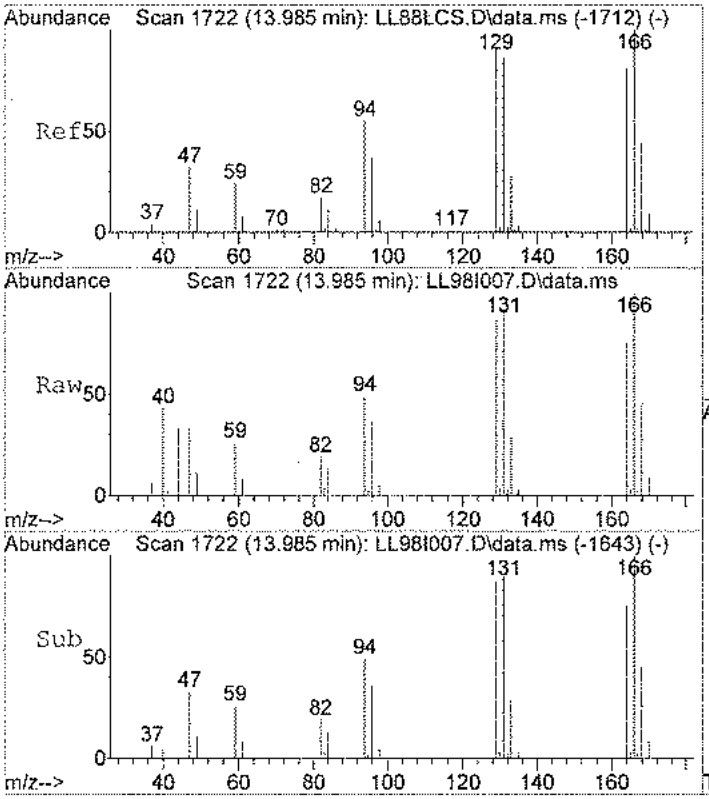


#45
Toluene
Concen: 1.41 ppb
RT: 12.83 min Scan# 1532
Delta R.T. -0.01 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:91.1 Resp: 148959

Ion	Ratio	Lower	Upper
91	100		
92	59.2	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

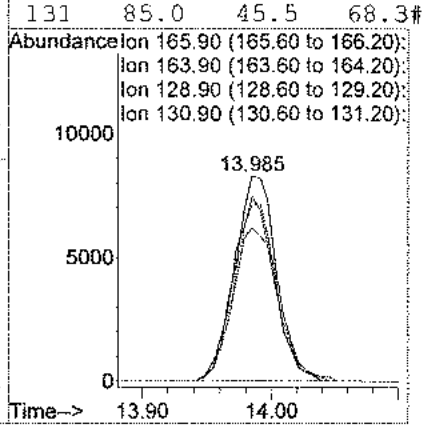


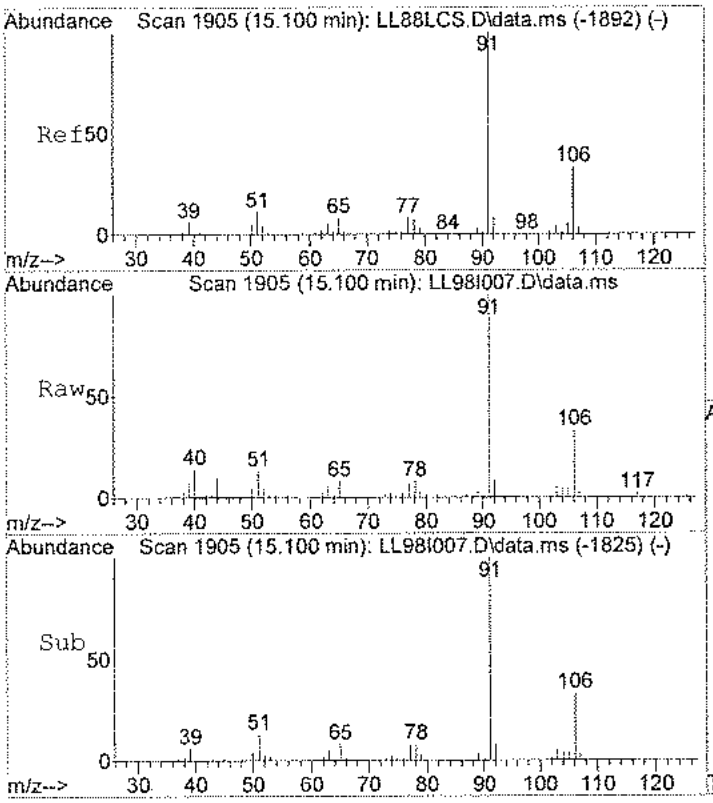


#49
Tetrachloroethene
Concen: 0.37 ppb
RT: 13.98 min Scan# 1722
Delta R.T. -0.02 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:165.9 Resp: 18800

Ion	Ratio	Lower	Upper
166	100		
164	79.5	61.0	91.4
129	89.7	45.9	68.9#
131	85.0	45.5	68.3#

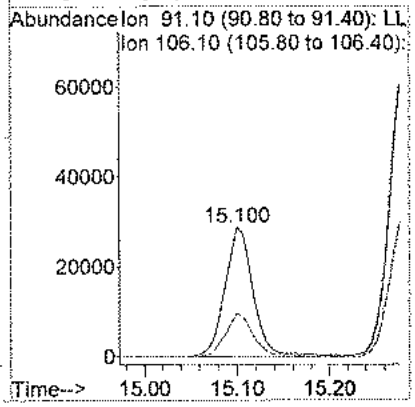


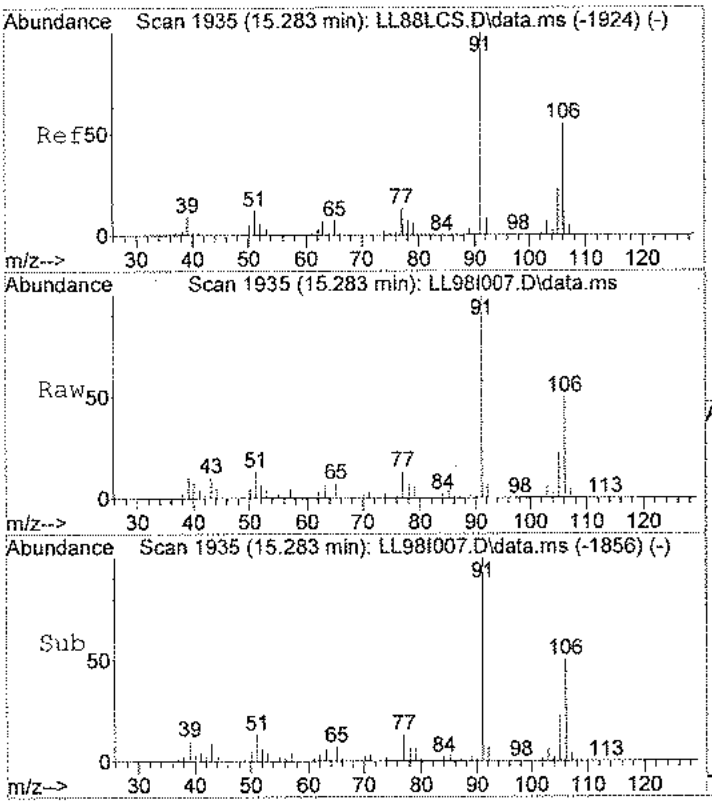


#52
Ethylbenzene
Concen: 0.53 ppb
RT: 15.10 min Scan# 1905
Delta R.T. -0.01 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:91.1 Resp: 59029

Ion	Ratio	Lower	Upper
91	100		
106	32.0	28.4	42.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

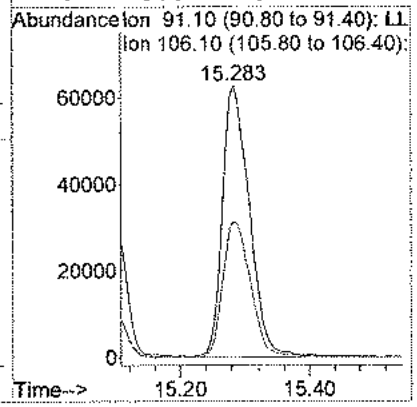


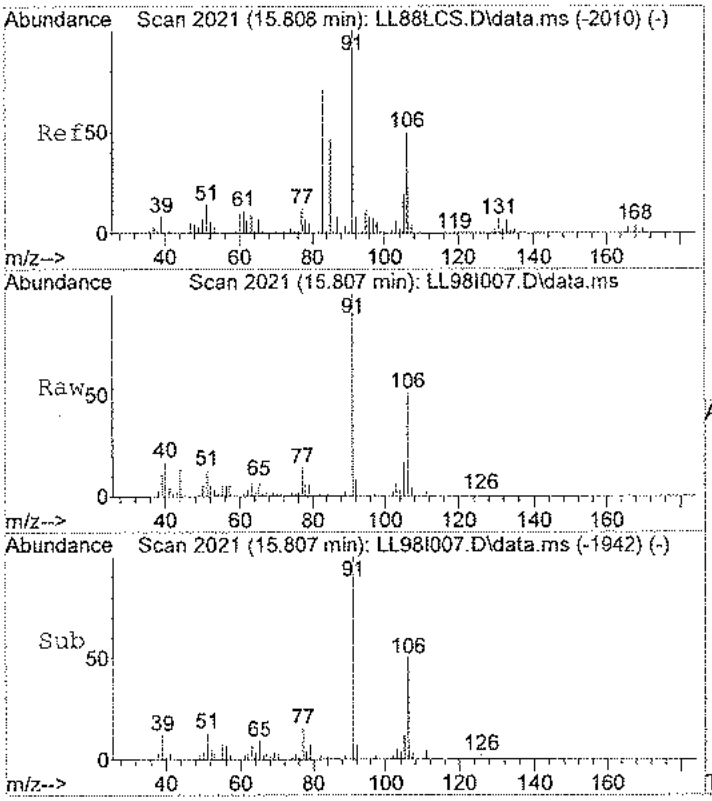


#53
m,p-Xylene
Concen: 2.05 ppb
RT: 15.28 min Scan# 1935
Delta R.T. -0.02 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:91.1 Resp: 179240

Ion	Ratio	Lower	Upper
91	100		
106	51.1	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

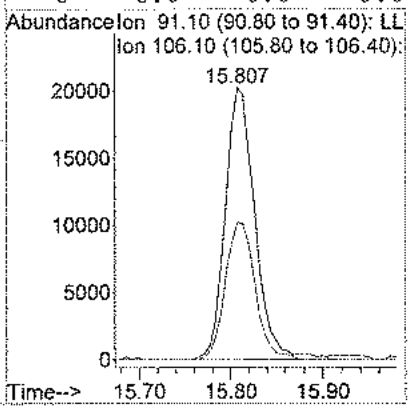


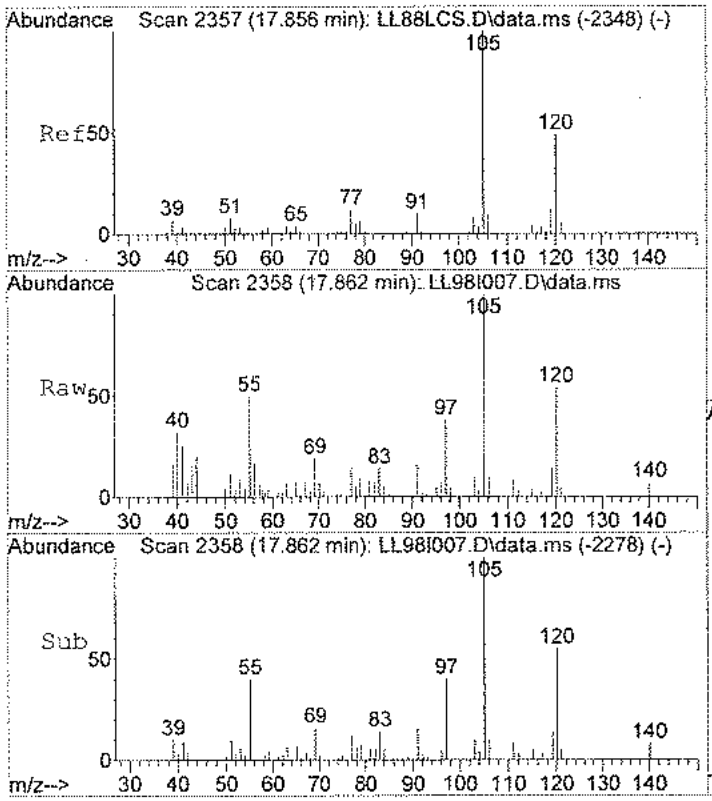


#57
o-Xylene
Concen: 0.48 ppb
RT: 15.81 min Scan# 2021
Delta R.T. -0.02 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:91.1 Resp: 45789

Ion	Ratio	Lower	Upper
91	100		
106	50.6	41.9	62.9
0	0.0	0.0	0.0
0	0.0	0.0	0.0

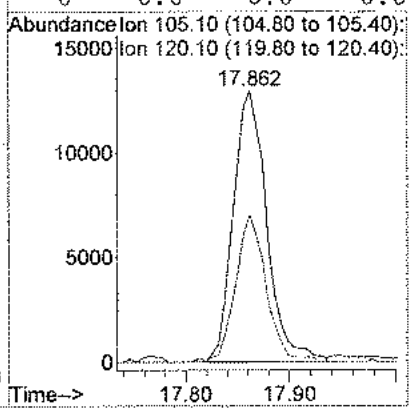




#61
1,2,4-Trimethylbenzene
Concen: 0.32 ppb
RT: 17.86 min Scan# 2358
Delta R.T. -0.01 min
Lab File: LL98I007.D
Acq: 03/23/2017 19:20

Tgt Ion:105.1 Resp: 29221

Ion	Ratio	Lower	Upper
105	100		
120	49.0	40.7	61.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0



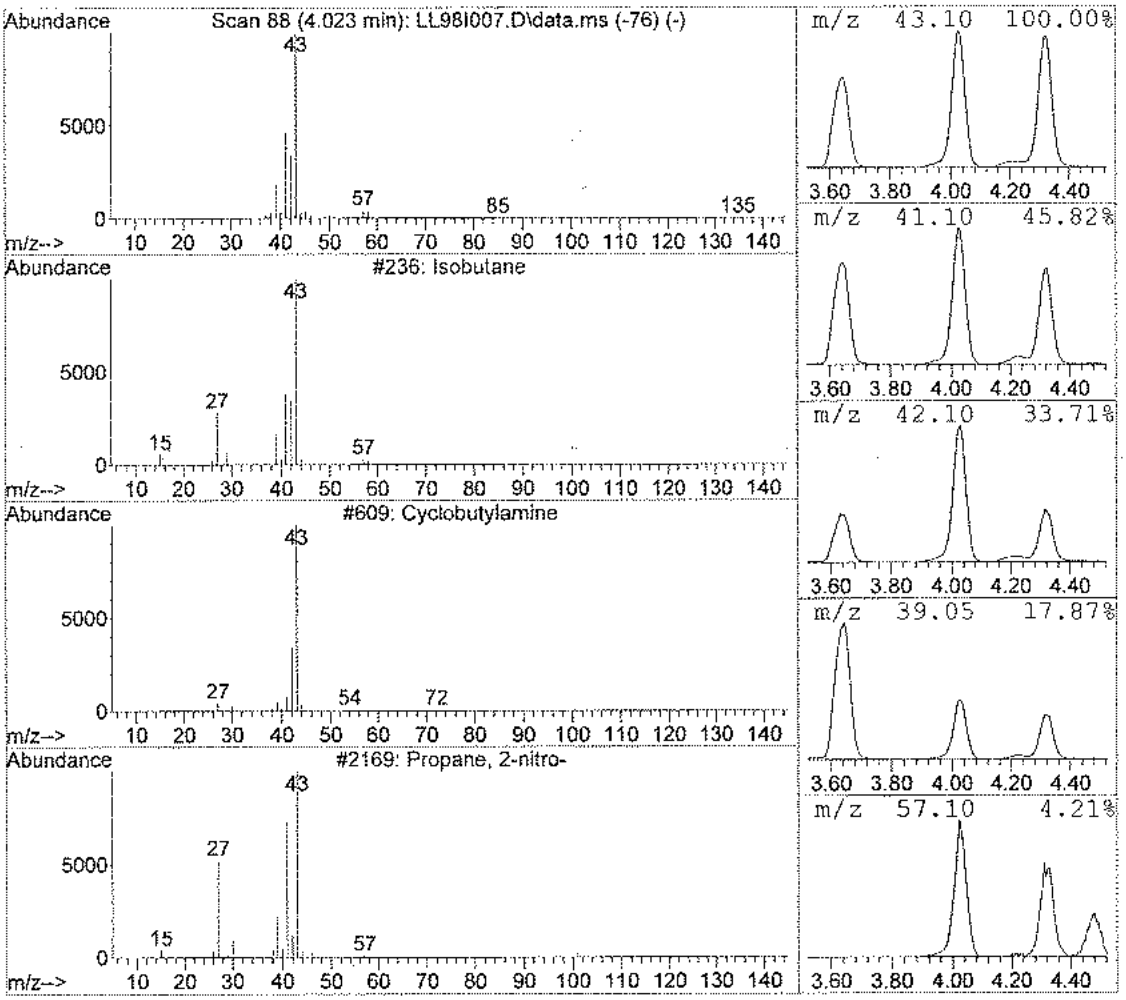
Library Search Compound Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL98I007.D Vial: 10
Acq Time : 03/23/2017 19:20 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.02	8.73 ppb	1593112	Bromochloromethane	3651510

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	236	000075-28-5	80.00
2	Cyclobutylamine	609	002516-34-9	40.00
3	Propane, 2-nitro-	2169	000079-46-9	9.00
4	Isopropylsulfonyl chloride	19275	010147-37-2	9.00
5	5-Methyloxazolidine	1878	058328-22-6	4.00

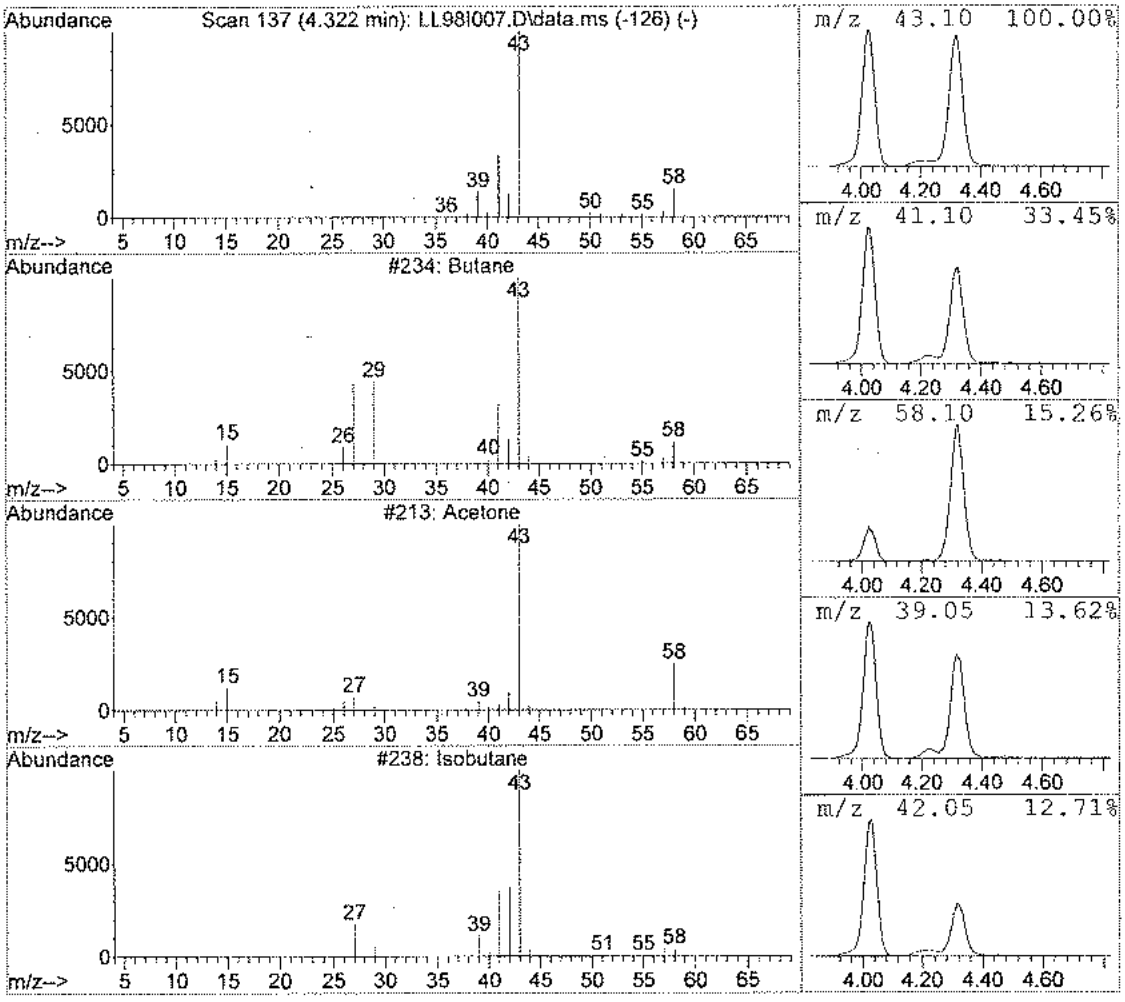


Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL98I007.D Vial: 10
Acq Time : 03/23/2017 19:20 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.32	7.43 ppb	1356721	Bromochloromethane	3651510

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane	234	000106-97-8	64.00
2	Acetone	213	000067-64-1	4.00
3	Isobutane	238	000075-28-5	4.00
4	Isopropylsulfonyl chloride	19275	010147-37-2	4.00
5	Propane, 1-nitro-	2164	000108-03-2	4.00

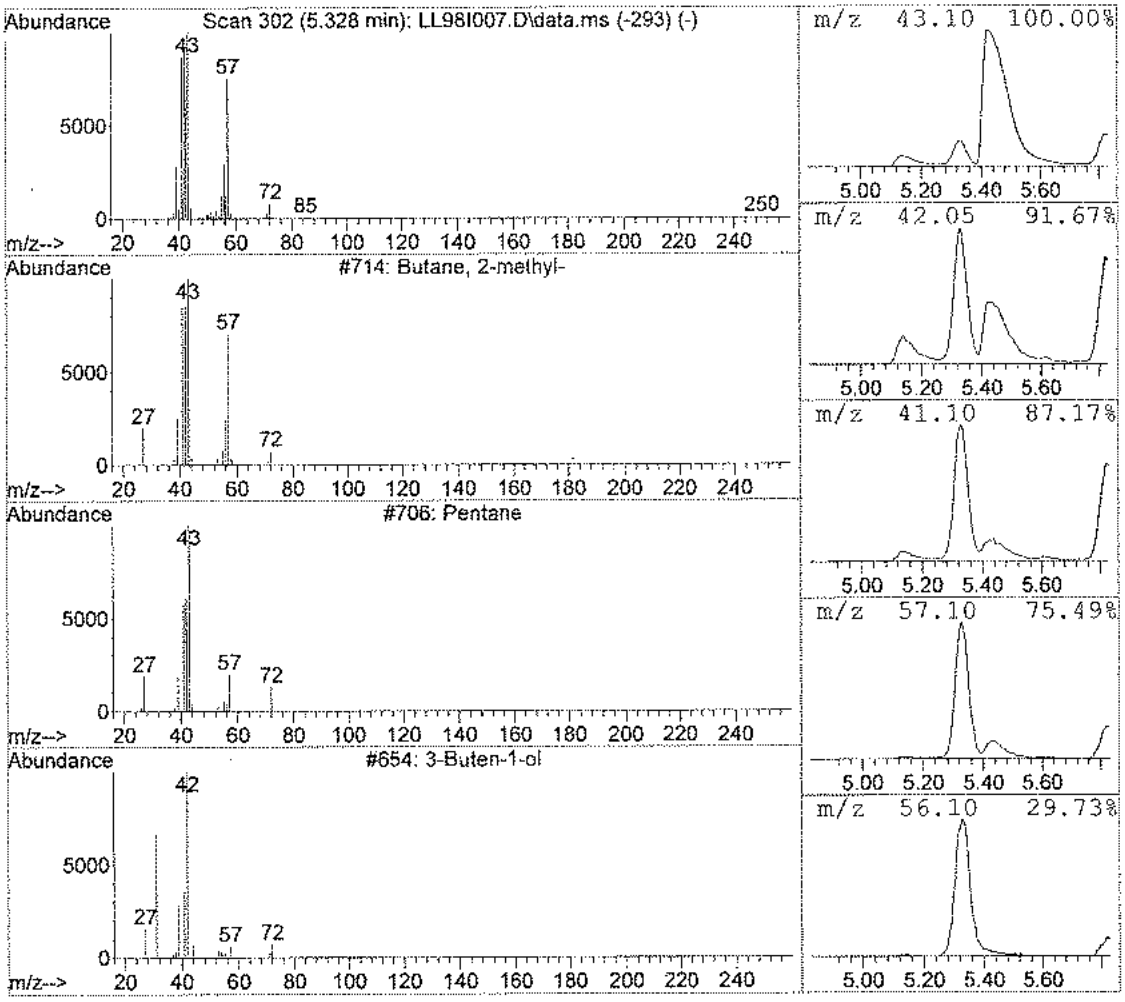


Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL98I007.D Vial: 10
Acq Time : 03/23/2017 19:20 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
5.33	3.84 ppb	701651	Bromochloromethane	3651510

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane, 2-methyl-	714	000078-78-4	94.00
2	Pentane	706	000109-66-0	42.00
3	3-Buten-1-ol	654	000627-27-0	38.00
4	Butane, 2,3-dimethyl-	1828	000079-29-8	36.00
5	Butane, 1-isocyano-	1295	002769-64-4	12.00

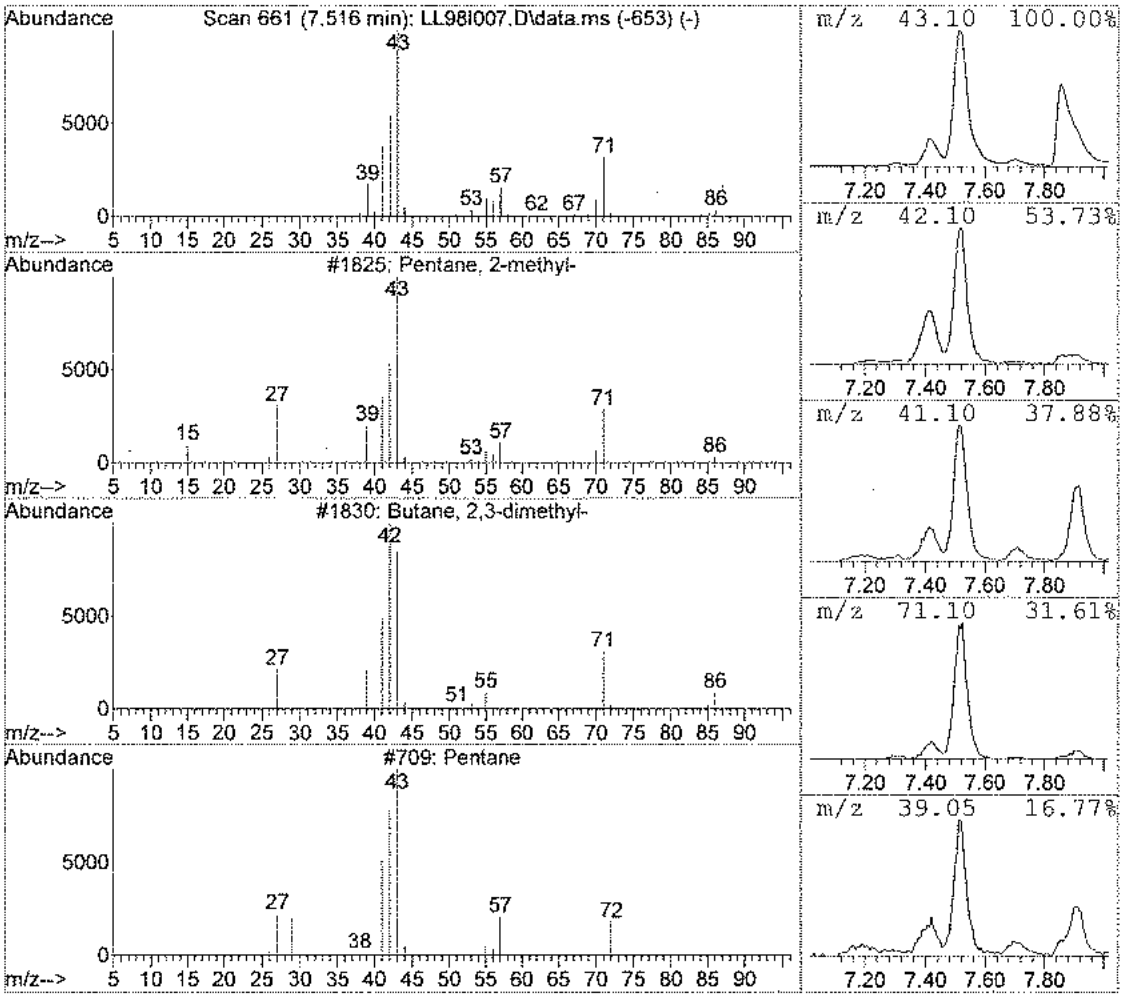


Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL98I007.D Vial: 10
Acq Time : 03/23/2017 19:20 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
7.52	2.86 ppb	521803	Bromochloromethane	3651510

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Pentane, 2-methyl-	1825	000107-83-5	91.00
2	Butane, 2,3-dimethyl-	1830	000079-29-8	58.00
3	Pentane	709	000109-66-0	53.00
4	Pentane, 2-bromo-	24063	000107-81-3	40.00
5	C2H5C(CH3)2COCH3	7457	020669-04-9	32.00

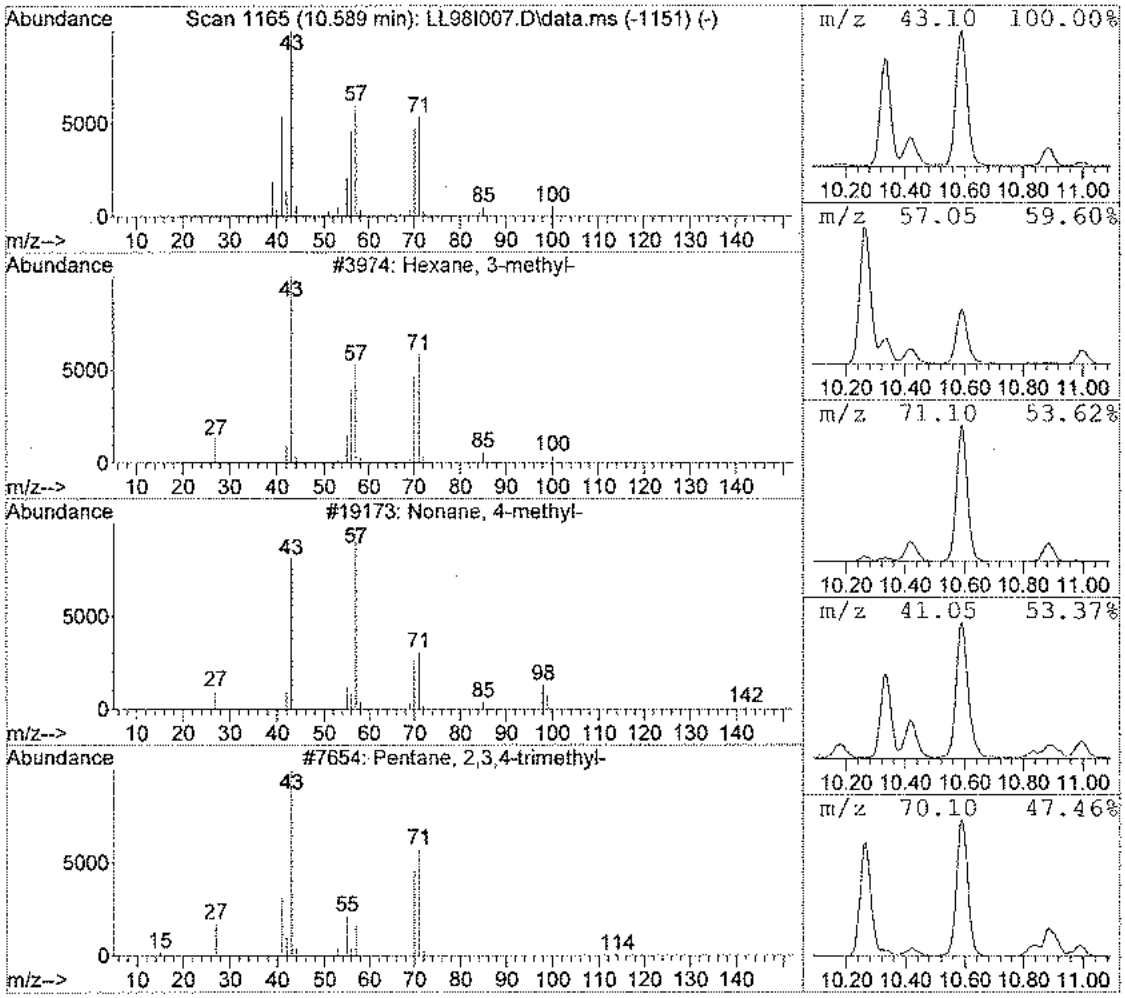


Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL98I007.D Vial: 10
Acq Time : 03/23/2017 19:20 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026A-031617-TO-001-LIV (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
10.59	3.06 ppb	765718	1,4-Difluorobenzene	5007040

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexane, 3-methyl-	3974	000589-34-4	91.00
2	Nonane, 4-methyl-	19173	017301-94-9	53.00
3	Pentane, 2,3,4-trimethyl-	7654	000565-75-3	53.00
4	Hexane, 3,3,4-trimethyl-	12715	016747-31-2	53.00
5	Pentane, 2,3,3-trimethyl-	7657	000560-21-4	50.00

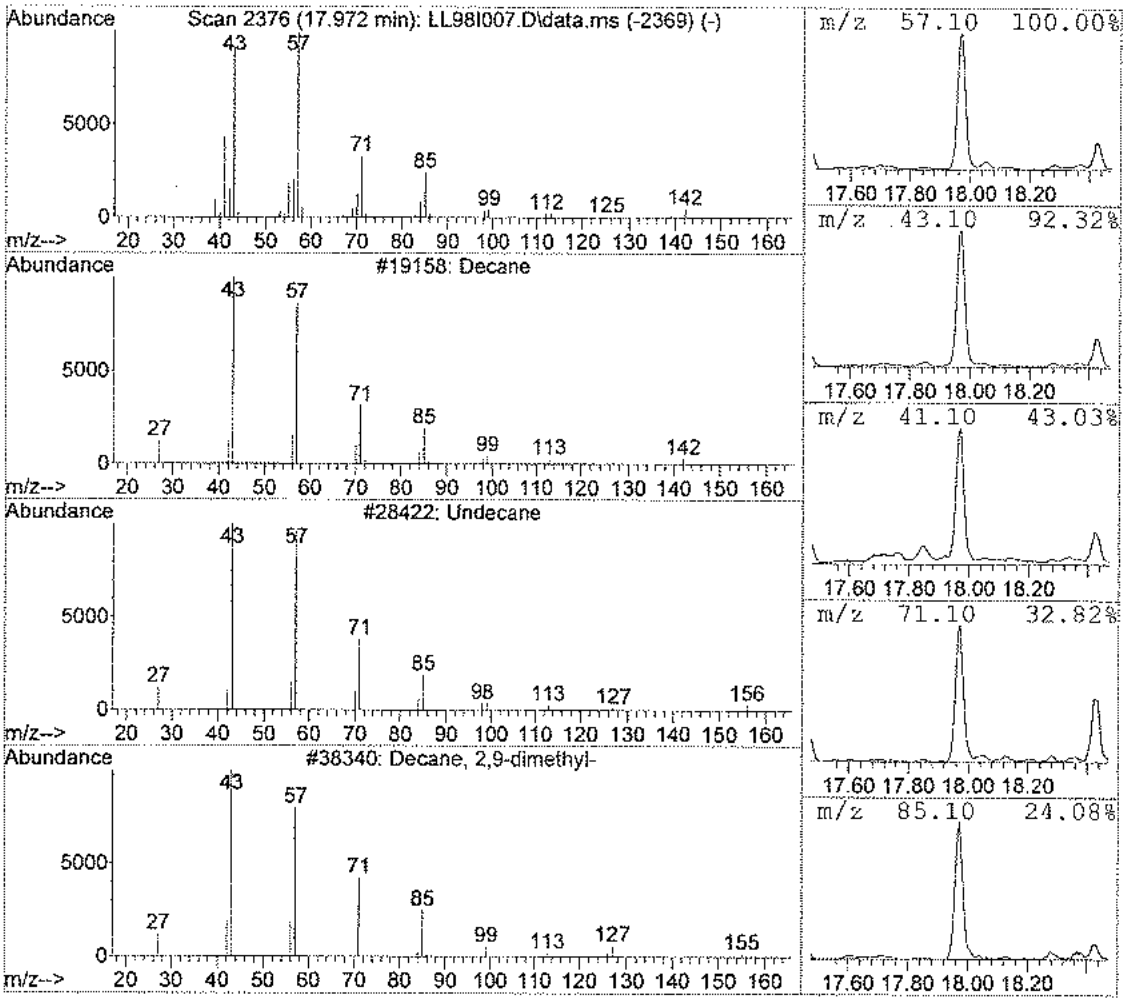


Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL98I007.D Vial: 10
Acq Time : 03/23/2017 19:20 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV (3in Hg) Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
17.97	2.25 ppb	642610	Chlorobenzene d5	5714793

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Decane	19158	000124-18-5	94.00
2	Undecane	28422	001120-21-4	64.00
3	Decane, 2,9-dimethyl-	38340	001002-17-1	59.00
4	Oxalic acid, heptyl isohexyl ester	120818	1000309-33-1	59.00
5	Octane	7618	000111-65-9	59.00

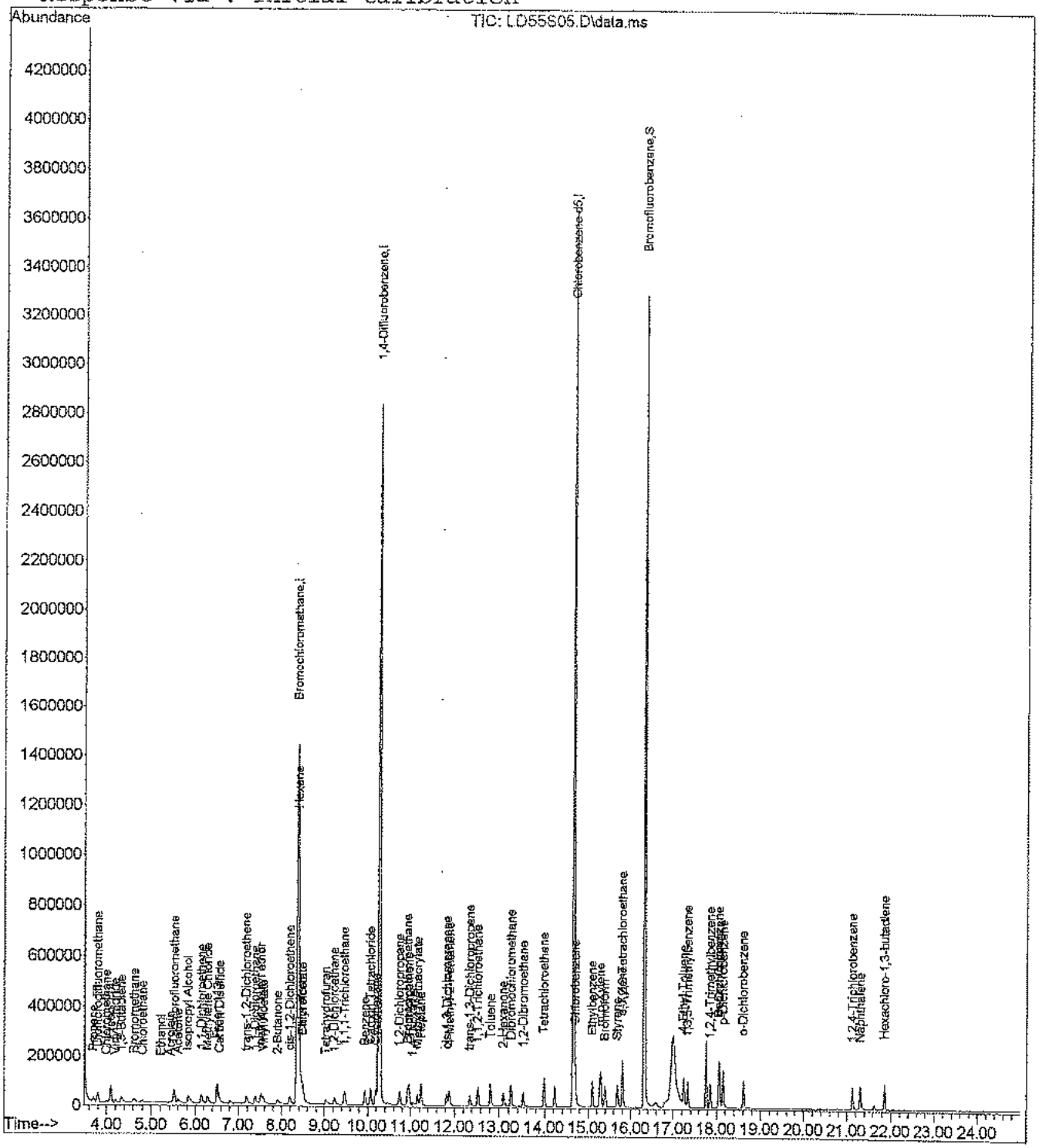


Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD55S05.D Vial: 2
Acq Time : 11/15/2016 09:18 Operator: LMR
Sample : 0.5 PPB STD Inst : 5975-L
Misc : 33932 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 09:57:28 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD55S05.D Vial: 2
Acq Time : 11/15/2016 09:18 Operator: LMR
Sample : 0.5 PPB STD Inst : 5975-L
Misc : 33932 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 09:57:28 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:53 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.37	130	258880	20.0000	ppb		137.03
25) 1,4-Difluorobenzene	10.26	114	3215583	20.0000	ppb		140.33
50) Chlorobenzene d5	14.66	117	2528459	20.0000	ppb		126.60
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.31	95	1324513	20.6540	ppb		103.27%
Target Compounds							Qvalue
2) Propene	3.70	41	19428	0.5680	ppb		98
3) Dichlorodifluoromethane	3.80	85	63703	0.6339	ppb		99
4) Chloromethane	3.99	50	20612	0.5159	ppb		95
5) Freon 114	4.10	135	44463	0.6298	ppb	#	61
6) Vinyl Chloride	4.20	62	23872	0.5846	ppb		94
7) 1,3-Butadiene	4.34	54	17839	0.5256	ppb	#	73
8) Bromomethane	4.63	94	24054	0.6598	ppb		99
9) Chloroethane	4.80	64	14101	0.7043	ppb	#	86
10) Acrolein	5.44	56	10535	0.5757	ppb	#	92
11) Acetone	5.60	43	46064	0.7276	ppb		92
12) Trichlorofluoromethane	5.51	101	75457	0.6372	ppb		100
13) Ethanol	5.21	45	10284	0.8410	ppb	#	59
14) Isopropyl Alcohol	5.83	45	91602	1.2835	ppb	#	96
15) 1,1-Dichloroethene	6.14	61	41675	0.6042	ppb	#	69
16) Methylene Chloride	6.29	84	23210	0.6564	ppb	#	47
17) Freon 113	6.51	151	39897	0.6481	ppb	#	53
18) Carbon Disulfide	6.57	76	62944	0.6441	ppb	#	57
19) trans-1,2-Dichloroethene	7.18	96	21806	0.5711	ppb	#	69
20) 1,1-Dichloroethane	7.38	63	43808	0.5912	ppb		94
21) methyl t-butyl ether	7.52	73	57204	0.6258	ppb	#	83
22) Vinyl Acetate	7.57	86	5387	0.5766	ppb	#	1
23) 2-Butanone	7.91	43	46245	0.5475	ppb	#	70
24) cis-1,2-Dichloroethene	8.19	96	24454	0.5847	ppb	#	67
26) Ethyl Acetate	8.49	61	6706	0.5206	ppb	#	1
27) Hexane	8.39	57	42207	0.5742	ppb	#	89
28) Chloroform	8.49	83	49994	0.5762	ppb		99
29) Tetrahydrofuran	9.03	42	25635	0.4928	ppb	#	59
30) 1,2-Dichloroethane	9.24	62	34956	0.5689	ppb	#	91
31) 1,1,1-Trichloroethane	9.46	97	51569	0.5765	ppb	#	88
32) Benzene	9.93	78	66471	0.5756	ppb	#	91
33) Carbon Tetrachloride	10.06	117	58542	0.5862	ppb		98
34) Cyclohexane	10.19	84	29201	0.5414	ppb	#	41
35) 1,2-Dichloropropane	10.74	63	26671	0.5418	ppb	#	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD55S05.D Vial: 2
Acq Time : 11/15/2016 09:18 Operator: LMR
Sample : 0.5 PPB STD Inst : 5975-L
Misc : 33932 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 09:57:28 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:53 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	10.92	83	52858	0.5565	ppb		99
37)	1,4-Dioxane	11.06	88	16974	0.6257	ppb	#	85
38)	Trichloroethene	10.96	130	35850	0.5823	ppb		93
39)	Methyl Methacrylate	11.17	69	24420	0.6099	ppb		94
40)	Heptane	11.25	71	23308	0.5847	ppb	#	42
41)	cis-1,3-Dichloropropene	11.83	75	35803	0.5580	ppb		96
42)	4-Methyl-2-Pentanone	11.88	43	59326	0.5221	ppb	#	76
43)	trans-1,3-Dichloropropene	12.35	75	34063	0.5949	ppb	#	93
44)	1,1,2-Trichloroethane	12.54	97	29765	0.5689	ppb	#	84
45)	Toluene	12.82	91	86292	0.6111	ppb		98
46)	2-Hexanone	13.09	43	55589	0.5689	ppb	#	82
47)	Dibromochloromethane	13.25	129	62949	0.6155	ppb		99
48)	1,2-Dibromoethane	13.52	107	52919	0.6608	ppb		100
49)	Tetrachloroethene	13.98	166	38434	0.6048	ppb	#	77
51)	Chlorobenzene	14.70	112	60785	0.6928	ppb		99
52)	Ethylbenzene	15.09	91	96797	0.7024	ppb		94
53)	m,p-Xylene	15.28	91	152007	1.4812	ppb		96
54)	Bromoform	15.39	173	49560	0.9129	ppb		98
55)	Styrene	15.69	104	62627	0.7386	ppb		97
56)	1,1,2,2-Tetrachloroethane	15.80	83	60099	0.6629	ppb	#	90
57)	o-Xylene	15.80	91	75791	0.6448	ppb		95
59)	4-Ethyl Toluene	17.24	105	90163	0.5758	ppb		98
60)	1,3,5-Trimethylbenzene	17.34	105	74160	0.6243	ppb		100
61)	1,2,4-Trimethylbenzene	17.86	105	75723	0.6509	ppb		94
62)	Benzyl Chloride	18.05	91	80301	0.9376	ppb		91
63)	m-Dichlorobenzene	18.06	146	75975	0.9423	ppb	#	94
64)	p-Dichlorobenzene	18.15	146	83457	1.0298	ppb	#	94
65)	o-Dichlorobenzene	18.62	146	64676	0.8334	ppb	#	94
66)	1,2,4-Trichlorobenzene	21.13	180	34202	1.0998	ppb	#	94
67)	Naphthalene	21.31	128	107279	1.1700	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	16931	0.6998	ppb		98

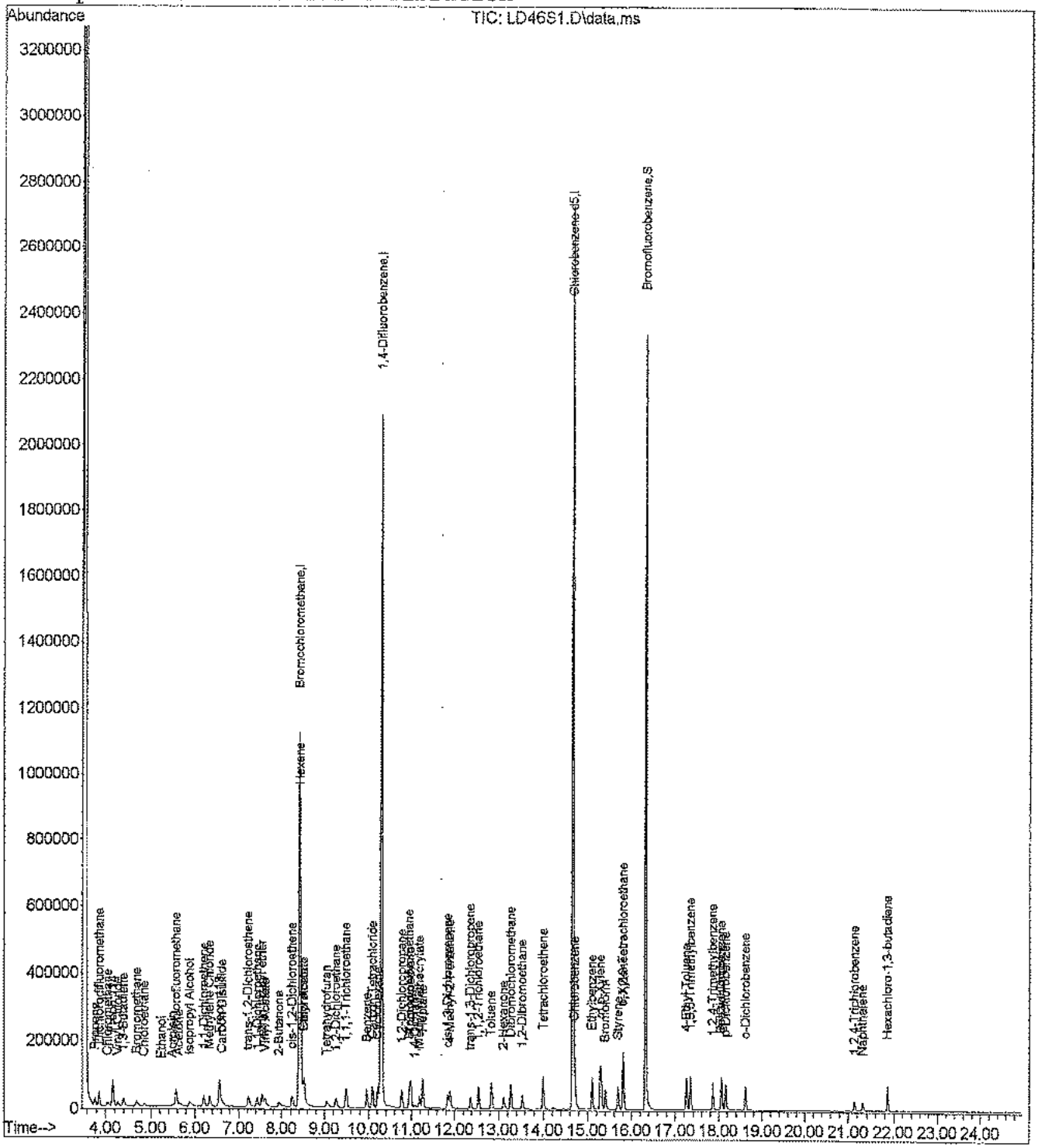
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD46S1.D Vial: 1
Acq Time : 11/14/2016 14:59 Operator: LMR
Sample : 1.0 PPB STD Inst : 5975-L
Misc : 34279 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:11 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD46S1.D Vial: 1
Acq Time : 11/14/2016 14:59 Operator: LMR
Sample : 1.0 PPB STD Inst : 5975-L
Misc : 34279 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:11 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:00 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.41	130	186560	20.0000	ppb		109.55
25) 1,4-Difluorobenzene	10.28	114	2280289	20.0000	ppb		114.80
50) Chlorobenzene d5	14.67	117	1852246	20.0000	ppb		108.41
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.32	95	960540	20.2308	ppb		101.15%
Target Compounds							Qvalue
2) Propene	3.77	41	19359	0.7810	ppb		97
3) Dichlorodifluoromethane	3.86	85	56472	0.7334	ppb		99
4) Chloromethane	4.06	50	22021	0.7557	ppb		98
5) Freon 114	4.17	135	41789	0.7321	ppb	#	55
6) Vinyl Chloride	4.27	62	23441	0.7439	ppb		95
7) 1,3-Butadiene	4.40	54	18023	0.6734	ppb	#	71
8) Bromomethane	4.69	94	21194	0.6977	ppb		95
9) Chloroethane	4.85	64	12654	0.7860	ppb	#	85
10) Acrolein	5.48	56	9790	0.6986	ppb	#	84
11) Acetone	5.64	43	36255	0.7473	ppb	#	76
12) Trichlorofluoromethane	5.57	101	67264	0.6877	ppb		97
13) Ethanol	5.24	45	3539	0.3128	ppb	#	93
14) Isopropyl Alcohol	5.88	45	40825	0.7300	ppb		100
15) 1,1-Dichloroethene	6.20	61	39090	0.7122	ppb	#	68
16) Methylene Chloride	6.33	84	21534	0.7557	ppb	#	41
17) Freon 113	6.56	151	35449	0.6873	ppb	#	44
18) Carbon Disulfide	6.63	76	56041	0.7185	ppb	#	56
19) trans-1,2-Dichloroethene	7.23	96	21749	0.7078	ppb	#	68
20) 1,1-Dichloroethane	7.43	63	43508	0.7415	ppb	#	93
21) methyl t-butyl ether	7.55	73	47927	0.6244	ppb	#	74
22) Vinyl Acetate	7.62	86	4530	0.5908	ppb	#	1
23) 2-Butanone	7.94	43	42717	0.6750	ppb	#	68
24) cis-1,2-Dichloroethene	8.24	96	23733	0.7126	ppb	#	74
26) Ethyl Acetate	8.52	61	6044	0.6288	ppb	#	1
27) Hexane	8.43	57	38994	0.7145	ppb	#	87
28) Chloroform	8.52	83	47384	0.7106	ppb		99
29) Tetrahydrofuran	9.05	42	23433	0.6361	ppb	#	62
30) 1,2-Dichloroethane	9.27	62	32779	0.6979	ppb	#	86
31) 1,1,1-Trichloroethane	9.50	97	48063	0.7089	ppb	#	86
32) Benzene	9.96	78	62536	0.7156	ppb	#	91
33) Carbon Tetrachloride	10.09	117	53423	0.6839	ppb		100
34) Cyclohexane	10.21	84	28008	0.6843	ppb	#	35
35) 1,2-Dichloropropane	10.77	63	27112	0.7225	ppb	#	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD46S1.D Vial: 1
Acq Time : 11/14/2016 14:59 Operator: LMR
Sample : 1.0 PPB STD Inst : 5975-L
Misc : 34279 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:11 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:00 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	10.95	83	49242	0.6801	ppb		97
37)	1,4-Dioxane	11.08	88	10732	0.6146	ppb	#	80
38)	Trichloroethene	10.99	130	32397	0.6778	ppb		92
39)	Methyl Methacrylate	11.19	69	20667	0.6799	ppb		94
40)	Heptane	11.26	71	21025	0.7045	ppb	#	32
41)	cis-1,3-Dichloropropene	11.84	75	30027	0.6264	ppb		95
42)	4-Methyl-2-Pentanone	11.90	43	53220	0.7006	ppb	#	73
43)	trans-1,3-Dichloropropene	12.36	75	26207	0.6124	ppb	#	92
44)	1,1,2-Trichloroethane	12.55	97	27383	0.6943	ppb	#	85
45)	Toluene	12.83	91	69906	0.6462	ppb		97
46)	2-Hexanone	13.11	43	42391	0.6421	ppb	#	74
47)	Dibromochloromethane	13.28	129	52467	0.6657	ppb		97
48)	1,2-Dibromoethane	13.54	107	38959	0.6375	ppb		100
49)	Tetrachloroethene	14.00	166	31275	0.6216	ppb	#	75
51)	Chlorobenzene	14.72	112	48612	0.6796	ppb		96
52)	Ethylbenzene	15.11	91	81755	0.6952	ppb		94
53)	m,p-Xylene	15.30	91	131896	1.5270	ppb		98
54)	Bromoform	15.41	173	33116	0.7250	ppb		97
55)	Styrene	15.69	104	46337	0.6646	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.81	83	53681	0.7285	ppb	#	92
57)	o-Xylene	15.81	91	67859	0.6964	ppb		96
59)	4-Ethyl Toluene	17.25	105	78115	0.5951	ppb		97
60)	1,3,5-Trimethylbenzene	17.34	105	69198	0.6889	ppb		97
61)	1,2,4-Trimethylbenzene	17.86	105	59145	0.6087	ppb		97
62)	Benzyl Chloride	18.05	91	33338	0.4717	ppb		93
63)	m-Dichlorobenzene	18.07	146	43689	0.6276	ppb	#	92
64)	p-Dichlorobenzene	18.16	146	42919	0.6231	ppb	#	92
65)	o-Dichlorobenzene	18.62	146	41114	0.6089	ppb	#	93
66)	1,2,4-Trichlorobenzene	21.14	180	10501	0.4042	ppb	#	93
67)	Naphthalene	21.31	128	32519	0.4615	ppb		96
68)	Hexachloro-1,3-butadiene	21.86	225	11513	0.5100	ppb		98

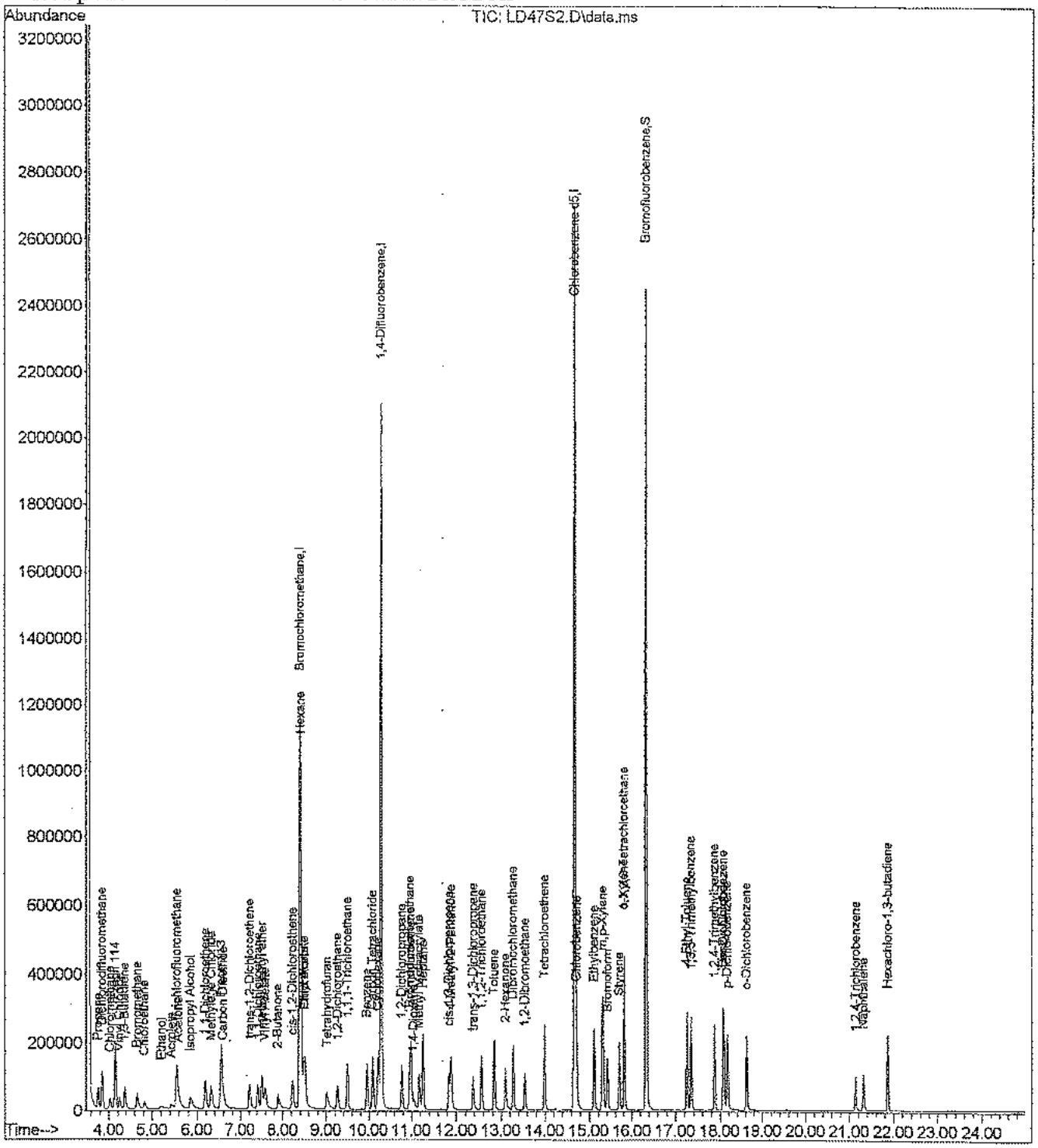
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD47S2.D Vial: 1
Acq Time : 11/14/2016 15:45 Operator: LMR
Sample : 2.0 PPB STD Inst : 5975-L
Misc : 34279 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:32 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD47S2.D Vial: 1
Acq Time : 11/14/2016 15:45 Operator: LMR
Sample : 2.0 PPB STD Inst : 5975-L
Misc : 34279 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:32 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:23 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.40	130	186496	20.0000	ppb		109.51
25) 1,4-Difluorobenzene	10.28	114	2233768	20.0000	ppb		112.46
50) Chlorobenzene d5	14.67	117	1859073	20.0000	ppb		108.81
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	972589	20.6065	ppb		103.03%
Target Compounds							Qvalue
2) Propene	3.76	41	49192	2.1100	ppb		98
3) Dichlorodifluoromethane	3.85	85	141177	1.9865	ppb		98
4) Chloromethane	4.02	50	56999	2.0813	ppb		100
5) Freon 114	4.15	135	99233	1.8661	ppb	#	53
6) Vinyl Chloride	4.24	62	58347	2.0056	ppb		95
7) 1,3-Butadiene	4.38	54	48422	1.9632	ppb	#	81
8) Bromomethane	4.65	94	52192	1.8688	ppb		96
9) Chloroethane	4.82	64	28558	1.9098	ppb	#	87
10) Acrolein	5.43	56	24335	1.8665	ppb	#	97
11) Acetone	5.59	43	88484	1.9421	ppb	#	87
12) Trichlorofluoromethane	5.55	101	166596	1.8464	ppb		100
13) Ethanol	5.21	45	17699	1.8172	ppb	#	74
14) Isopropyl Alcohol	5.85	45	95223	1.8101	ppb	#	98
15) 1,1-Dichloroethene	6.18	61	95052	1.8609	ppb	#	69
16) Methylene Chloride	6.32	84	49676	1.8738	ppb	#	41
17) Freon 113	6.55	151	85934	1.8047	ppb	#	44
18) Carbon Disulfide	6.60	76	138135	1.9057	ppb	#	65
19) trans-1,2-Dichloroethene	7.22	96	52847	1.8423	ppb	#	68
20) 1,1-Dichloroethane	7.41	63	103418	1.8914	ppb	#	95
21) methyl t-butyl ether	7.52	73	123245	1.7497	ppb	#	77
22) Vinyl Acetate	7.59	86	12357	1.7477	ppb	#	1
23) 2-Butanone	7.89	43	107431	1.8158	ppb	#	68
24) cis-1,2-Dichloroethene	8.23	96	56661	1.8236	ppb	#	69
26) Ethyl Acetate	8.49	61	17920	2.0612	ppb	#	1
27) Hexane	8.42	57	96691	1.9205	ppb	#	85
28) Chloroform	8.51	83	117020	1.9103	ppb		98
29) Tetrahydrofuran	9.02	42	67461	2.0111	ppb	#	58
30) 1,2-Dichloroethane	9.25	62	81478	1.8854	ppb	#	89
31) 1,1,1-Trichloroethane	9.49	97	117647	1.8787	ppb	#	86
32) Benzene	9.95	78	153466	1.9095	ppb	#	91
33) Carbon Tetrachloride	10.09	117	131138	1.8253	ppb		100
34) Cyclohexane	10.21	84	71927	1.9304	ppb	#	38
35) 1,2-Dichloropropane	10.76	63	64612	1.8697	ppb	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD47S2.D Vial: 1
Acq Time : 11/14/2016 15:45 Operator: LMR
Sample : 2.0 PPB STD Inst : 5975-L
Misc : 34279 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:32 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:23 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	10.94	83	121041	1.8103	ppb		99
37)	1,4-Dioxane	11.04	88	34179	2.1691	ppb	#	75
38)	Trichloroethene	10.98	130	78670	1.7906	ppb	#	91
39)	Methyl Methacrylate	11.17	69	49839	1.7996	ppb	#	82
40)	Heptane	11.26	71	54886	2.0162	ppb	#	34
41)	cis-1,3-Dichloropropene	11.84	75	80719	1.8266	ppb		94
42)	4-Methyl-2-Pentanone	11.88	43	151127	2.1626	ppb	#	74
43)	trans-1,3-Dichloropropene	12.36	75	70241	1.7752	ppb		95
44)	1,1,2-Trichloroethane	12.55	97	69152	1.8995	ppb	#	86
45)	Toluene	12.83	91	189917	1.9386	ppb		99
46)	2-Hexanone	13.09	43	123138	2.0351	ppb	#	80
47)	Dibromochloromethane	13.27	129	131962	1.8134	ppb		98
48)	1,2-Dibromoethane	13.54	107	103633	1.8508	ppb		96
49)	Tetrachloroethene	13.99	166	81693	1.7805	ppb	#	77
51)	Chlorobenzene	14.71	112	127946	1.9224	ppb		97
52)	Ethylbenzene	15.11	91	219105	2.0250	ppb		97
53)	m,p-Xylene	15.30	91	343238	4.3154	ppb		97
54)	Bromoform	15.41	173	85699	2.0200	ppb		99
55)	Styrene	15.69	104	133148	2.0973	ppb		98
56)	1,1,2,2-Tetrachloroethane	15.82	83	138654	2.0280	ppb		99
57)	o-Xylene	15.81	91	182705	2.0384	ppb		97
59)	4-Ethyl Toluene	17.25	105	231840	1.9361	ppb		98
60)	1,3,5-Trimethylbenzene	17.34	105	191779	2.0902	ppb		96
61)	1,2,4-Trimethylbenzene	17.87	105	179437	2.0371	ppb		97
62)	Benzyl Chloride	18.06	91	115872	1.7410	ppb		93
63)	m-Dichlorobenzene	18.08	146	120447	1.8919	ppb	#	94
64)	p-Dichlorobenzene	18.17	146	120570	1.8977	ppb		96
65)	o-Dichlorobenzene	18.62	146	116602	1.9033	ppb	#	95
66)	1,2,4-Trichlorobenzene	21.13	180	37565	1.5819	ppb	#	95
67)	Naphthalene	21.31	128	120705	1.8781	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	33722	1.6494	ppb		97

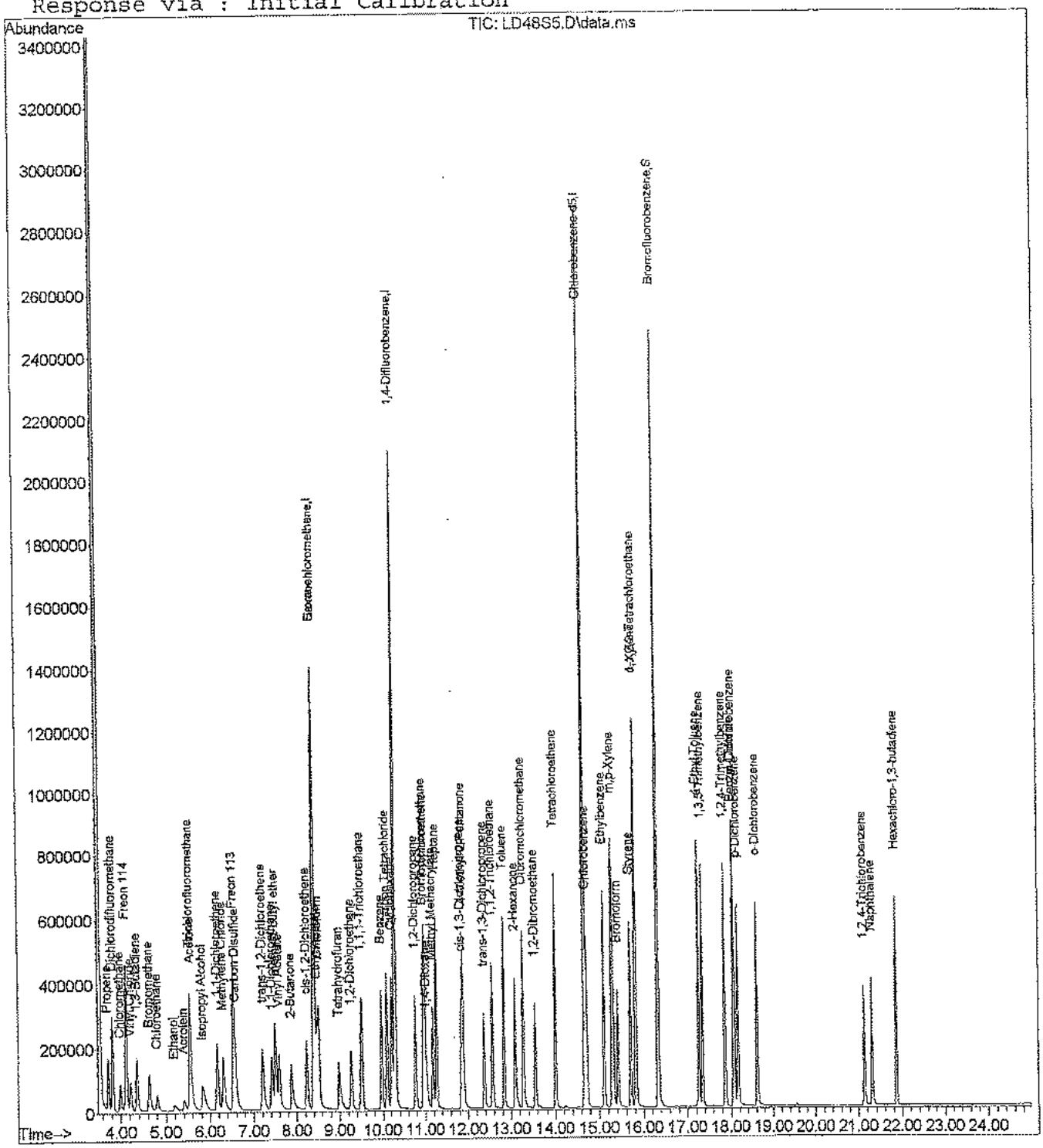
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD48S5.D Vial: 1
Acq Time : 11/14/2016 16:33 Operator: LMR
Sample : 5.0 PPB STD Inst : 5975-L
Misc : 34279 (100mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:54 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD48S5.D Vial: 1
Acq Time : 11/14/2016 16:33 Operator: LMR
Sample : 5.0 PPB STD Inst : 5975-L
Misc : 34279 (100mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:54 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:43 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.41	130	184832	20.0000	ppb		108.53
25) 1,4-Difluorobenzene	10.29	114	2275314	20.0000	ppb		114.55
50) Chlorobenzene d5	14.67	117	1904764	20.0000	ppb		111.48
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	1004638	20.9178	ppb		104.59%
Target Compounds							Qvalue
2) Propene	3.72	41	130993	5.8206	ppb		97
3) Dichlorodifluoromethane	3.82	85	380907	5.6673	ppb		99
4) Chloromethane	3.99	50	156300	5.9342	ppb		98
5) Freon 114	4.12	135	265965	5.2903	ppb	#	54
6) Vinyl Chloride	4.22	62	154703	5.5623	ppb		97
7) 1,3-Butadiene	4.35	54	129486	5.5173	ppb		83
8) Bromomethane	4.63	94	136799	5.2261	ppb		98
9) Chloroethane	4.80	64	73022	5.1343	ppb	#	86
10) Acrolein	5.39	56	71141	5.7815	ppb	#	96
11) Acetone	5.56	43	231992	5.3026	ppb		90
12) Trichlorofluoromethane	5.54	101	442582	5.1970	ppb		99
13) Ethanol	5.18	45	49643	5.5597	ppb	#	53
14) Isopropyl Alcohol	5.83	45	268622	5.3796	ppb	#	98
15) 1,1-Dichloroethene	6.16	61	260535	5.3828	ppb	#	69
16) Methylene Chloride	6.30	84	132086	5.2381	ppb	#	42
17) Freon 113	6.54	151	231271	5.1573	ppb	#	45
18) Carbon Disulfide	6.59	76	372988	5.4255	ppb	#	65
19) trans-1,2-Dichloroethene	7.21	96	143483	5.2794	ppb	#	68
20) 1,1-Dichloroethane	7.42	63	278451	5.3487	ppb		95
21) methyl t-butyl ether	7.50	73	347839	5.2825	ppb	#	75
22) Vinyl Acetate	7.59	86	35166	5.2845	ppb	#	1
23) 2-Butanone	7.88	43	326071	5.7910	ppb	#	67
24) cis-1,2-Dichloroethene	8.24	96	159277	5.4355	ppb	#	70
26) Ethyl Acetate	8.48	61	45232	5.3170	ppb	#	1
27) Hexane	8.42	57	265354	5.3765	ppb	#	85
28) Chloroform	8.53	83	314403	5.2369	ppb		99
29) Tetrahydrofuran	8.99	42	190797	5.7455	ppb	#	61
30) 1,2-Dichloroethane	9.27	62	220752	5.2199	ppb	#	88
31) 1,1,1-Trichloroethane	9.50	97	318364	5.1694	ppb	#	87
32) Benzene	9.96	78	426441	5.4303	ppb	#	91
33) Carbon Tetrachloride	10.10	117	368795	5.2685	ppb		99
34) Cyclohexane	10.21	84	200340	5.5227	ppb	#	35
35) 1,2-Dichloropropane	10.77	63	175745	5.1771	ppb	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD48S5.D Vial: 1
Acq Time : 11/14/2016 16:33 Operator: LMR
Sample : 5.0 PPB STD Inst : 5975-L
Misc : 34279 (100mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:54 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:43 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.95	83	341800	5.2197	ppb		98
37) 1,4-Dioxane	11.03	88	104793	6.6772	ppb	#	75
38) Trichloroethene	10.99	130	224895	5.2631	ppb		91
39) Methyl Methacrylate	11.17	69	148141	5.5517	ppb	#	83
40) Heptane	11.27	71	154892	5.8402	ppb	#	37
41) cis-1,3-Dichloropropene	11.84	75	234488	5.4233	ppb		95
42) 4-Methyl-2-Pentanone	11.88	43	434068	6.2324	ppb	#	74
43) trans-1,3-Dichloropropene	12.38	75	208268	5.3828	ppb		94
44) 1,1,2-Trichloroethane	12.56	97	187536	5.2555	ppb	#	85
45) Toluene	12.84	91	536992	5.6331	ppb		99
46) 2-Hexanone	13.09	43	387328	6.4879	ppb	#	79
47) Dibromochloromethane	13.28	129	378728	5.3349	ppb		98
48) 1,2-Dibromoethane	13.55	107	291953	5.3312	ppb		99
49) Tetrachloroethene	14.00	166	227930	5.1079	ppb	#	76
51) Chlorobenzene	14.72	112	352483	5.3828	ppb		94
52) Ethylbenzene	15.11	91	589103	5.6482	ppb		94
53) m,p-Xylene	15.30	91	840588	10.9144	ppb		98
54) Bromoform	15.41	173	191734	4.6495	ppb		99
55) Styrene	15.70	104	371089	6.0673	ppb		99
56) 1,1,2,2-Tetrachloroethane	15.82	83	367819	5.5243	ppb		98
57) o-Xylene	15.81	91	484964	5.5662	ppb		97
59) 4-Ethyl Toluene	17.25	105	672092	5.8259	ppb		97
60) 1,3,5-Trimethylbenzene	17.34	105	503023	5.7044	ppb		96
61) 1,2,4-Trimethylbenzene	17.86	105	520003	6.1732	ppb		97
62) Benzyl Chloride	18.05	91	388021	6.0405	ppb		93
63) m-Dichlorobenzene	18.07	146	335370	5.4917	ppb	#	94
64) p-Dichlorobenzene	18.16	146	310463	5.0633	ppb	#	94
65) o-Dichlorobenzene	18.62	146	333033	5.7031	ppb	#	95
66) 1,2,4-Trichlorobenzene	21.13	180	131756	5.8102	ppb	#	96
67) Naphthalene	21.31	128	418197	6.7524	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	96997	4.9660	ppb		96

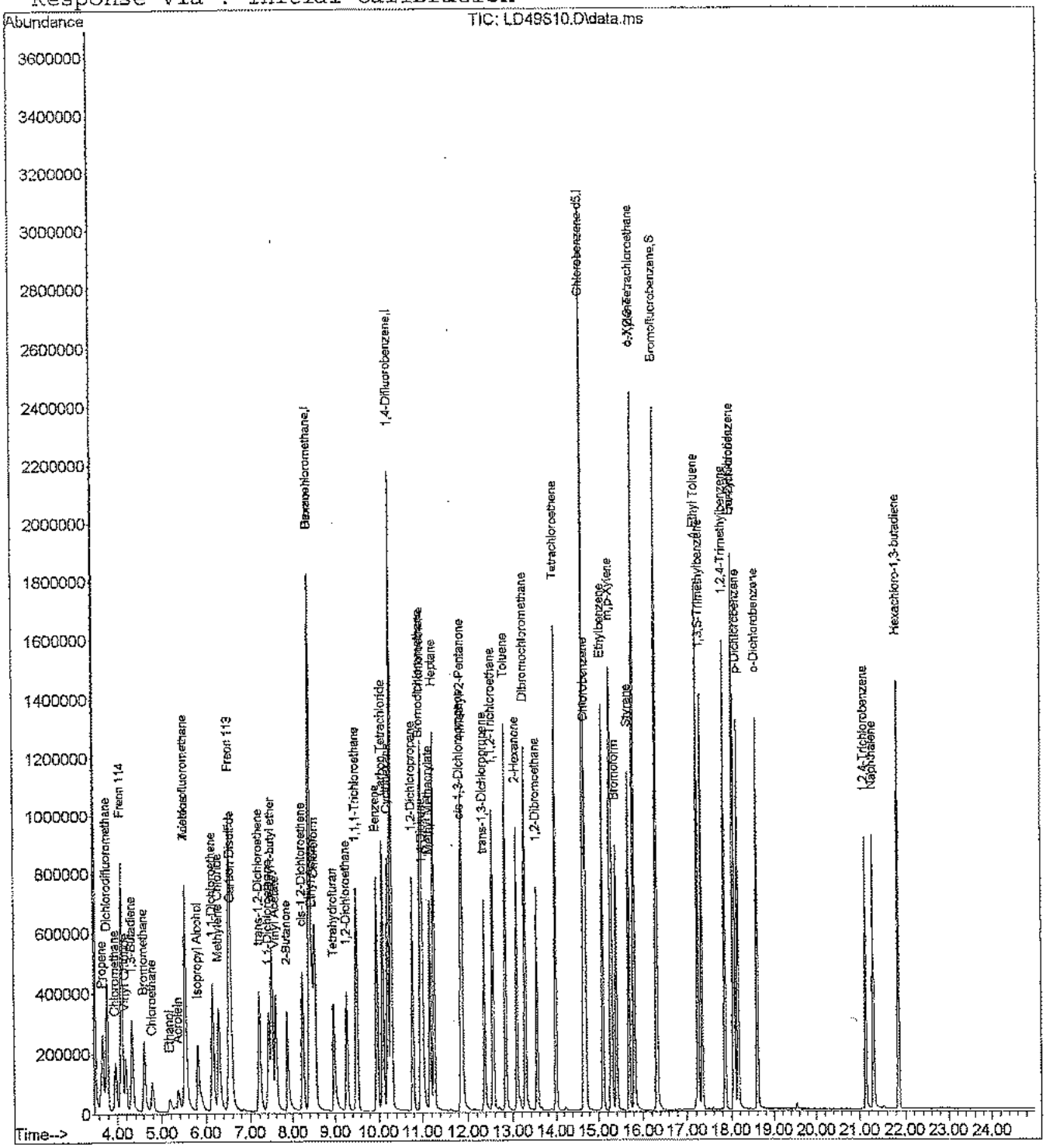
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD49S10.D Vial: 1
Acq Time : 11/14/2016 17:22 Operator: LMR
Sample : 10 PPB STD Inst : 5975-L
Misc : 34279 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:23 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD49S10.D Vial: 1
Acq Time : 11/14/2016 17:22 Operator: LMR
Sample : 10 PPB STD Inst : 5975-L
Misc : 34279 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:23 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:05 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.42	130	188928	20.0000	ppb		110.94
25) 1,4-Difluorobenzene	10.30	114	2291505	20.0000	ppb		115.37
50) Chlorobenzene d5	14.67	117	1997253	20.0000	ppb		116.89
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	1011213	20.1658	ppb		100.83%
Target Compounds							Qvalue
2) Propene	3.68	41	274803	12.0167	ppb		96
3) Dichlorodifluoromethane	3.79	85	813431	12.1804	ppb		99
4) Chloromethane	3.96	50	308128	11.5841	ppb		98
5) Freon 114	4.10	135	555096	11.1230	ppb	#	54
6) Vinyl Chloride	4.19	62	320202	11.5605	ppb		96
7) 1,3-Butadiene	4.33	54	277116	11.8209	ppb		88
8) Bromomethane	4.61	94	281314	10.9509	ppb		100
9) Chloroethane	4.79	64	153888	10.9413	ppb	#	85
10) Acrolein	5.37	56	149743	12.2262	ppb	#	98
11) Acetone	5.54	43	517102	11.7774	ppb		91
12) Trichlorofluoromethane	5.53	101	941187	11.1870	ppb		99
13) Ethanol	5.18	45	110038	12.5559	ppb	#	79
14) Isopropyl Alcohol	5.82	45	591679	11.8661	ppb		99
15) 1,1-Dichloroethene	6.16	61	558755	11.6184	ppb	#	68
16) Methylene Chloride	6.30	84	279891	11.1536	ppb	#	44
17) Freon 113	6.54	151	494545	11.1646	ppb	#	46
18) Carbon Disulfide	6.58	76	775334	11.2923	ppb	#	66
19) trans-1,2-Dichloroethene	7.21	96	310961	11.5641	ppb	#	69
20) 1,1-Dichloroethane	7.43	63	597898	11.5023	ppb		95
21) methyl t-butyl ether	7.50	73	767795	11.8771	ppb	#	76
22) Vinyl Acetate	7.60	86	80960	12.4335	ppb	#	1
23) 2-Butanone	7.87	43	723207	12.7217	ppb	#	69
24) cis-1,2-Dichloroethene	8.24	96	341821	11.6994	ppb	#	69
26) Ethyl Acetate	8.48	61	101806	12.1488	ppb	#	1
27) Hexane	8.43	57	576944	11.8810	ppb	#	84
28) Chloroform	8.53	83	669565	11.3693	ppb		98
29) Tetrahydrofuran	8.97	42	424821	12.8824	ppb	#	61
30) 1,2-Dichloroethane	9.28	62	474102	11.4301	ppb	#	88
31) 1,1,1-Trichloroethane	9.50	97	693216	11.4946	ppb	#	87
32) Benzene	9.97	78	903017	11.6599	ppb	#	90
33) Carbon Tetrachloride	10.10	117	790683	11.5432	ppb		99
34) Cyclohexane	10.22	84	426210	11.9248	ppb	#	34
35) 1,2-Dichloropropane	10.78	63	383952	11.5030	ppb	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD49S10.D Vial: 1
Acq Time : 11/14/2016 17:22 Operator: LMR
Sample : 10 PPB STD Inst : 5975-L
Misc : 34279 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:23 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:05 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.96	83	742777	11.5400	ppb		98
37) 1,4-Dioxane	11.02	88	226931	14.2251	ppb	#	75
38) Trichloroethene	10.99	130	482522	11.5146	ppb		92
39) Methyl Methacrylate	11.17	69	323681	12.3159	ppb	#	82
40) Heptane	11.27	71	316987	12.0996	ppb	#	34
41) cis-1,3-Dichloropropene	11.85	75	522812	12.3145	ppb		94
42) 4-Methyl-2-Pentanone	11.88	43	930768	13.2643	ppb	#	74
43) trans-1,3-Dichloropropene	12.37	75	472852	12.4798	ppb		93
44) 1,1,2-Trichloroethane	12.56	97	410265	11.7394	ppb	#	85
45) Toluene	12.84	91	1147609	12.2664	ppb		99
46) 2-Hexanone	13.09	43	856330	14.1992	ppb	#	80
47) Dibromochloromethane	13.28	129	830255	11.9227	ppb		99
48) 1,2-Dibromoethane	13.55	107	640472	11.9211	ppb		98
49) Tetrachloroethene	14.00	166	505309	11.6010	ppb	#	75
51) Chlorobenzene	14.72	112	772851	11.5596	ppb		96
52) Ethylbenzene	15.11	91	1146421	10.9130	ppb		96
53) m,p-Xylene	15.29	91	1510533	19.3700	ppb		99
54) Bromoform	15.41	173	420076	10.1203	ppb		99
55) Styrene	15.69	104	679767	10.9529	ppb		99
56) 1,1,2,2-Tetrachloroethane	15.81	83	698744	10.2766	ppb		98
57) o-Xylene	15.81	91	896710	10.1044	ppb		99
59) 4-Ethyl Toluene	17.25	105	1387076	11.9074	ppb		98
60) 1,3,5-Trimethylbenzene	17.34	105	901844	10.0957	ppb		98
61) 1,2,4-Trimethylbenzene	17.86	105	1032574	12.1571	ppb		99
62) Benzyl Chloride	18.05	91	806244	12.5006	ppb		93
63) m-Dichlorobenzene	18.07	146	679087	11.0710	ppb	#	95
64) p-Dichlorobenzene	18.15	146	680119	10.9743	ppb	#	95
65) o-Dichlorobenzene	18.61	146	656649	11.2658	ppb	#	95
66) 1,2,4-Trichlorobenzene	21.13	180	309910	13.5476	ppb	#	95
67) Naphthalene	21.31	128	946147	14.9393	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	214138	11.0317	ppb		96

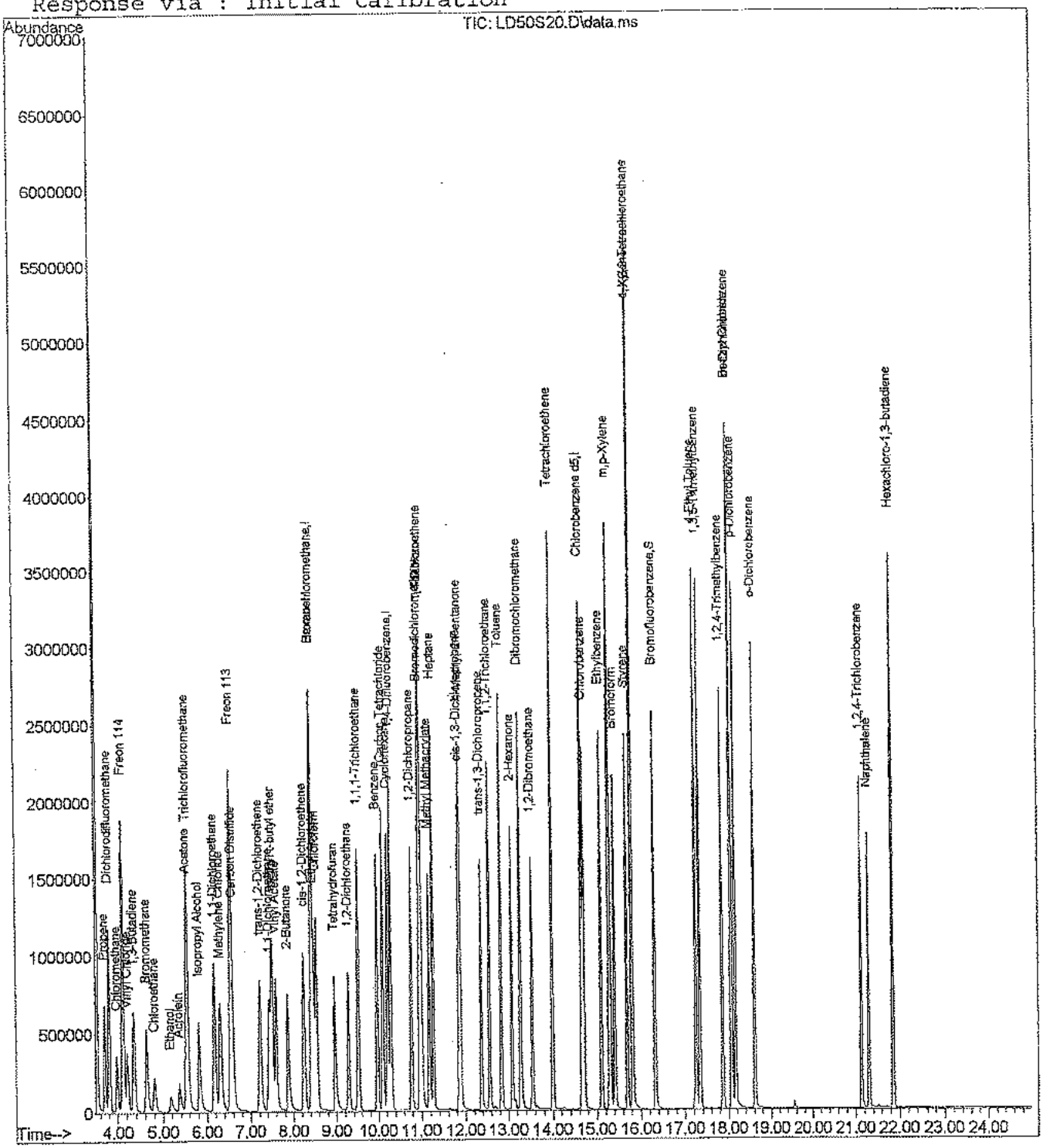
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD50S20.D Vial: 1
Acq Time : 11/14/2016 18:14 Operator: LMR
Sample : 20 PPB STD Inst : 5975-L
Misc : 34279 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:42 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD50S20.D Vial: 1
Acq Time : 11/14/2016 18:14 Operator: LMR
Sample : 20 PPB STD Inst : 5975-L
Misc : 34279 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:42 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:33 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.42	130	208960	20.0000	ppb		110.60
25) 1,4-Difluorobenzene	10.30	114	2277345	20.0000	ppb		99.38
50) Chlorobenzene d5	14.67	117	2169465	20.0000	ppb		108.62
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	999693	18.4403	ppb		92.20%
Target Compounds							Qvalue
2) Propene	3.71	41	575978	22.6025	ppb		96
3) Dichlorodifluoromethane	3.81	85	1743410	23.9186	ppb		99
4) Chloromethane	3.98	50	704548	24.2363	ppb		100
5) Freon 114	4.12	135	1219586	22.5622	ppb	#	56
6) Vinyl Chloride	4.21	62	709246	23.5030	ppb		97
7) 1,3-Butadiene	4.36	54	594564	23.1045	ppb		86
8) Bromomethane	4.63	94	642397	23.3427	ppb		98
9) Chloroethane	4.81	64	341917	22.4055	ppb	#	86
10) Acrolein	5.36	56	332273	24.8753	ppb	#	96
11) Acetone	5.52	43	1113829	22.8844	ppb		91
12) Trichlorofluoromethane	5.55	101	2102255	23.1184	ppb		99
13) Ethanol	5.16	45	241491	25.0051	ppb	#	78
14) Isopropyl Alcohol	5.81	45	1255465	22.9532	ppb		98
15) 1,1-Dichloroethene	6.17	61	1212562	23.0873	ppb	#	68
16) Methylene Chloride	6.31	84	598568	21.8094	ppb	#	45
17) Freon 113	6.55	151	1071861	22.3722	ppb	#	45
18) Carbon Disulfide	6.59	76	1682620	22.4606	ppb	#	66
19) trans-1,2-Dichloroethene	7.21	96	665727	22.6615	ppb	#	69
20) 1,1-Dichloroethane	7.44	63	1266384	22.2430	ppb		96
21) methyl t-butyl ether	7.50	73	1652410	23.5871	ppb	#	76
22) Vinyl Acetate	7.60	86	176016	25.0015	ppb	#	1
23) 2-Butanone	7.86	43	1583398	25.1263	ppb	#	69
24) cis-1,2-Dichloroethene	8.25	96	733102	22.9136	ppb	#	69
26) Ethyl Acetate	8.47	61	225361	27.6779	ppb	#	1
27) Hexane	8.42	57	1232512	25.8859	ppb	#	82
28) Chloroform	8.54	83	1416107	24.7345	ppb		99
29) Tetrahydrofuran	8.96	42	919800	28.1201	ppb	#	62
30) 1,2-Dichloroethane	9.28	62	1040172	25.8207	ppb	#	89
31) 1,1,1-Trichloroethane	9.51	97	1522897	25.9692	ppb	#	88
32) Benzene	9.97	78	1862147	24.5621	ppb	#	90
33) Carbon Tetrachloride	10.10	117	1621119	24.3886	ppb		99
34) Cyclohexane	10.22	84	878082	25.1072	ppb	#	31
35) 1,2-Dichloropropane	10.78	63	819045	25.0343	ppb	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD50S20.D Vial: 1
Acq Time : 11/14/2016 18:14 Operator: LMR
Sample : 20 PPB STD Inst : 5975-L
Misc : 34279 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:42 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:33 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.96	83	1664372	26.6036	ppb		98
37) 1,4-Dioxane	11.00	88	487871	30.3567	ppb	#	76
38) Trichloroethene	10.99	130	1051365	25.8511	ppb		92
39) Methyl Methacrylate	11.17	69	678450	26.4615	ppb	#	81
40) Heptane	11.27	71	593587	23.1923	ppb	#	36
41) cis-1,3-Dichloropropene	11.85	75	1143712	27.6175	ppb		95
42) 4-Methyl-2-Pentanone	11.88	43	1856296	26.3568	ppb	#	75
43) trans-1,3-Dichloropropene	12.37	75	1042083	28.2123	ppb		95
44) 1,1,2-Trichloroethane	12.56	97	886893	25.9940	ppb	#	86
45) Toluene	12.83	91	2237108	24.4674	ppb		99
46) 2-Hexanone	13.08	43	1565046	25.8351	ppb	#	81
47) Dibromochloromethane	13.28	129	1682980	24.8916	ppb		99
48) 1,2-Dibromoethane	13.55	107	1395297	26.7703	ppb		98
49) Tetrachloroethene	14.00	166	1125809	26.7739	ppb	#	73
51) Chlorobenzene	14.72	112	1610898	22.7635	ppb		97
52) Ethylbenzene	15.11	91	2178338	19.5760	ppb		97
53) m,p-Xylene	15.30	91	3404623	41.1422	ppb		100
54) Bromoform	15.41	173	1096282	25.0454	ppb		99
55) Styrene	15.69	104	1468638	22.3392	ppb		99
56) 1,1,2,2-Tetrachloroethane	15.81	83	1709656	23.9074	ppb		99
57) o-Xylene	15.81	91	2205705	23.8306	ppb		97
59) 4-Ethyl Toluene	17.25	105	2824305	22.9781	ppb		99
60) 1,3,5-Trimethylbenzene	17.34	105	2082550	22.0927	ppb		98
61) 1,2,4-Trimethylbenzene	17.86	105	1889676	20.8701	ppb		100
62) Benzyl Chloride	18.06	91	1696392	25.4601	ppb		96
63) m-Dichlorobenzene	18.07	146	1486081	23.2252	ppb	#	95
64) p-Dichlorobenzene	18.16	146	1649331	25.4519	ppb	#	94
65) o-Dichlorobenzene	18.62	146	1391322	22.6365	ppb	#	95
66) 1,2,4-Trichlorobenzene	21.13	180	710311	29.6774	ppb	#	95
67) Naphthalene	21.31	128	1736124	25.4428	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	505431	25.5096	ppb		97

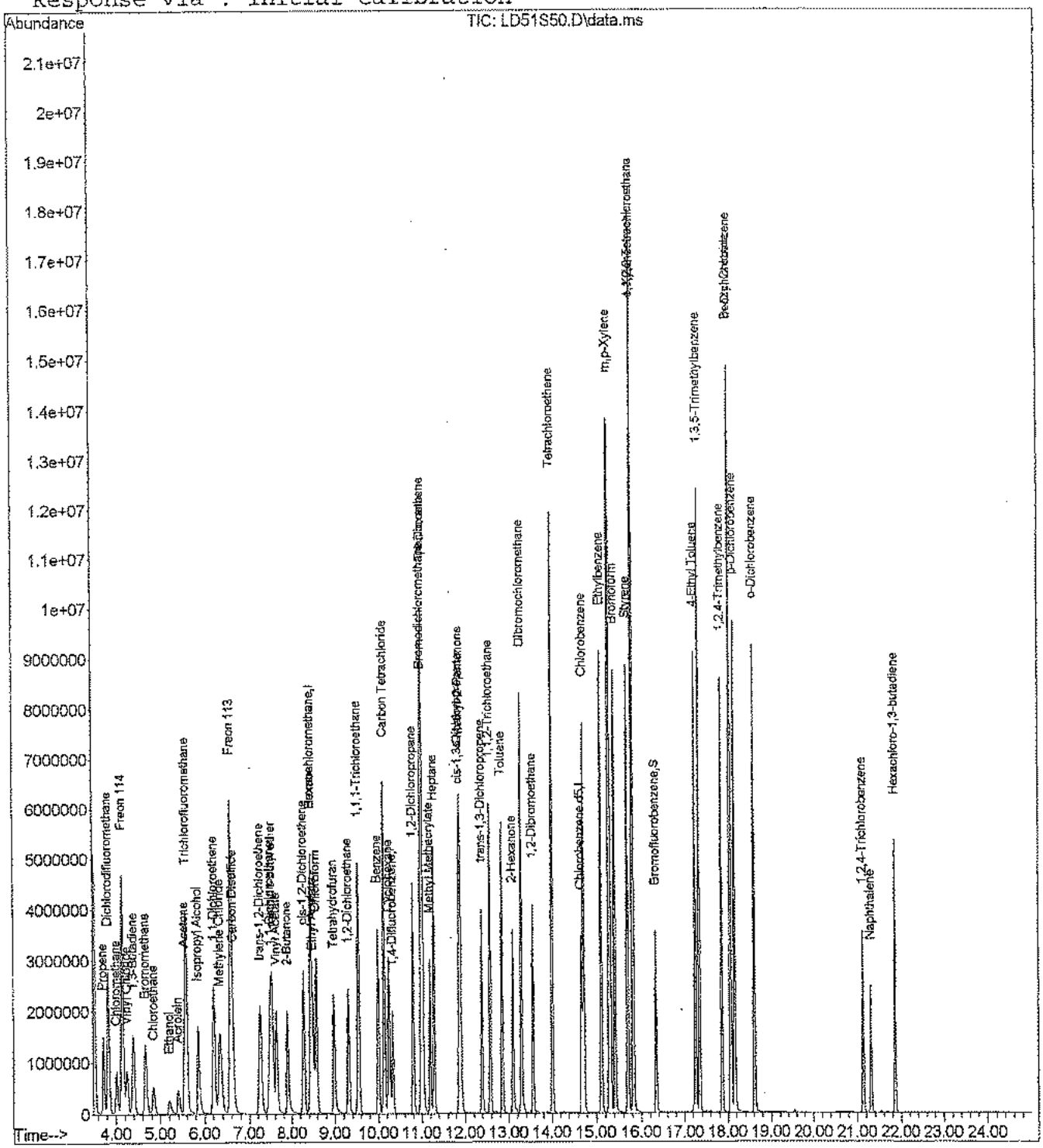
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD51S50.D Vial: 2
Acq Time : 11/14/2016 19:02 Operator: LMR
Sample : 50 PPB STD Inst : 5975-L
Misc : 34329 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 11:11:53 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD51S50.D Vial: 2
Acq Time : 11/14/2016 19:02 Operator: LMR
Sample : 50 PPB STD Inst : 5975-L
Misc : 34329 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 11:11:53 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 10:00:28 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.46	130	224384	20.0000	ppb		118.77
25) 1,4-Difluorobenzene	10.33	114	2089109	20.0000	ppb		91.17
50) Chlorobenzene d5	14.67	117	2373053	20.0000	ppb		118.82
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	1452380	24.0002	ppb		120.00%
Target Compounds							Qvalue
2) Propene	3.72	41	1462201	48.2251	ppb		96
3) Dichlorodifluoromethane	3.83	85	4668283	51.3020	ppb		99
4) Chloromethane	4.02	50	1812238	52.0563	ppb		100
5) Freon 114	4.15	135	3380003	52.9480	ppb	#	57
6) Vinyl Chloride	4.25	62	1855997	51.0014	ppb		96
7) 1,3-Butadiene	4.40	54	1586236	53.4674	ppb		88
8) Bromomethane	4.67	94	1731945	52.0358	ppb		99
9) Chloroethane	4.85	64	902748	48.7061	ppb	#	86
10) Acrolein	5.39	56	903568	55.5620	ppb	#	96
11) Acetone	5.54	43	2933358	49.6855	ppb		92
12) Trichlorofluoromethane	5.58	101	5913731	55.0936	ppb		99
13) Ethanol	5.20	45	705434	66.5607	ppb	#	80
14) Isopropyl Alcohol	5.85	45	3537314	57.1852	ppb		99
15) 1,1-Dichloroethene	6.21	61	3267451	52.8198	ppb	#	68
16) Methylene Chloride	6.35	84	1564167	48.5093	ppb	#	46
17) Freon 113	6.58	151	3087106	55.1384	ppb	#	48
18) Carbon Disulfide	6.63	76	4482101	50.4930	ppb	#	67
19) trans-1,2-Dichloroethene	7.25	96	1777047	52.4555	ppb	#	69
20) 1,1-Dichloroethane	7.48	63	3387204	51.1798	ppb		95
21) methyl t-butyl ether	7.53	73	4092141	49.5706	ppb	#	74
22) Vinyl Acetate	7.63	86	420981	50.6957	ppb	#	1
23) 2-Butanone	7.89	43	4107007	55.2206	ppb	#	70
24) cis-1,2-Dichloroethene	8.28	96	1948145	52.2637	ppb	#	69
26) Ethyl Acetate	8.50	61	468555	55.6096	ppb	#	1
27) Hexane	8.46	57	3091100	63.1611	ppb	#	85
28) Chloroform	8.58	83	3460639	59.8687	ppb		98
29) Tetrahydrofuran	8.98	42	2391650	70.9412	ppb	#	63
30) 1,2-Dichloroethane	9.31	62	2816761	68.9757	ppb	#	91
31) 1,1,1-Trichloroethane	9.54	97	4359803	73.1580	ppb	#	89
32) Benzene	9.99	78	4223933	54.9190	ppb	#	91
33) Carbon Tetrachloride	10.13	117	4986934	74.7110	ppb		99
34) Cyclohexane	10.24	84	1634272	46.0018	ppb	#	43
35) 1,2-Dichloropropane	10.80	63	2130013	65.6898	ppb	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD51S50.D Vial: 2
Acq Time : 11/14/2016 19:02 Operator: LMR
Sample : 50 PPB STD Inst : 5975-L
Misc : 34329 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 11:11:53 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 10:00:28 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.99	83	4853554	77.2000	ppb		99
37) 1,4-Dioxane	11.02	88	1294056	70.4696	ppb	#	78
38) Trichloroethene	11.02	130	3246994	79.0144	ppb		93
39) Methyl Methacrylate	11.19	69	1357084	50.3239	ppb		88
40) Heptane	11.28	71	1333430	50.0719	ppb	#	51
41) cis-1,3-Dichloropropene	11.86	75	3032182	71.3571	ppb		95
42) 4-Methyl-2-Pentanone	11.89	43	4641897	62.4160	ppb	#	77
43) trans-1,3-Dichloropropene	12.39	75	2471608	64.4019	ppb		95
44) 1,1,2-Trichloroethane	12.58	97	2208078	63.5054	ppb	#	85
45) Toluene	12.85	91	5006087	52.6197	ppb		99
46) 2-Hexanone	13.10	43	2872735	44.2380	ppb	#	86
47) Dibromochloromethane	13.30	129	4906331	71.1058	ppb		99
48) 1,2-Dibromoethane	13.56	107	3098877	56.5290	ppb		97
49) Tetrachloroethene	14.01	166	3426972	80.2085	ppb	#	72
51) Chlorobenzene	14.73	112	5013318	57.2082	ppb		96
52) Ethylbenzene	15.12	91	7587090	54.9513	ppb		96
53) m,p-Xylene	15.30	91	13946989	134.0511	ppb		94
54) Bromoform	15.42	173	4536672	78.2645	ppb		98
55) Styrene	15.70	104	5305506	61.7571	ppb	#	93
56) 1,1,2,2-Tetrachloroethane	15.82	83	4301616	47.9507	ppb	#	97
57) o-Xylene	15.82	91	7481897	64.7008	ppb		91
59) 4-Ethyl Toluene	17.25	105	6925497	45.9642	ppb		98
60) 1,3,5-Trimethylbenzene	17.35	105	7362818	63.4134	ppb		94
61) 1,2,4-Trimethylbenzene	17.87	105	5455442	47.5736	ppb		98
62) Benzyl Chloride	18.06	91	5750013	71.5313	ppb		94
63) m-Dichlorobenzene	18.07	146	5094937	58.6766	ppb	#	94
64) p-Dichlorobenzene	18.16	146	4783904	62.8946	ppb	#	94
65) o-Dichlorobenzene	18.62	146	4394352	60.3304	ppb	#	94
66) 1,2,4-Trichlorobenzene	21.13	180	1174013	40.2254	ppb	#	95
67) Naphthalene	21.31	128	2573229	29.9023	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	715937	31.5314	ppb		96

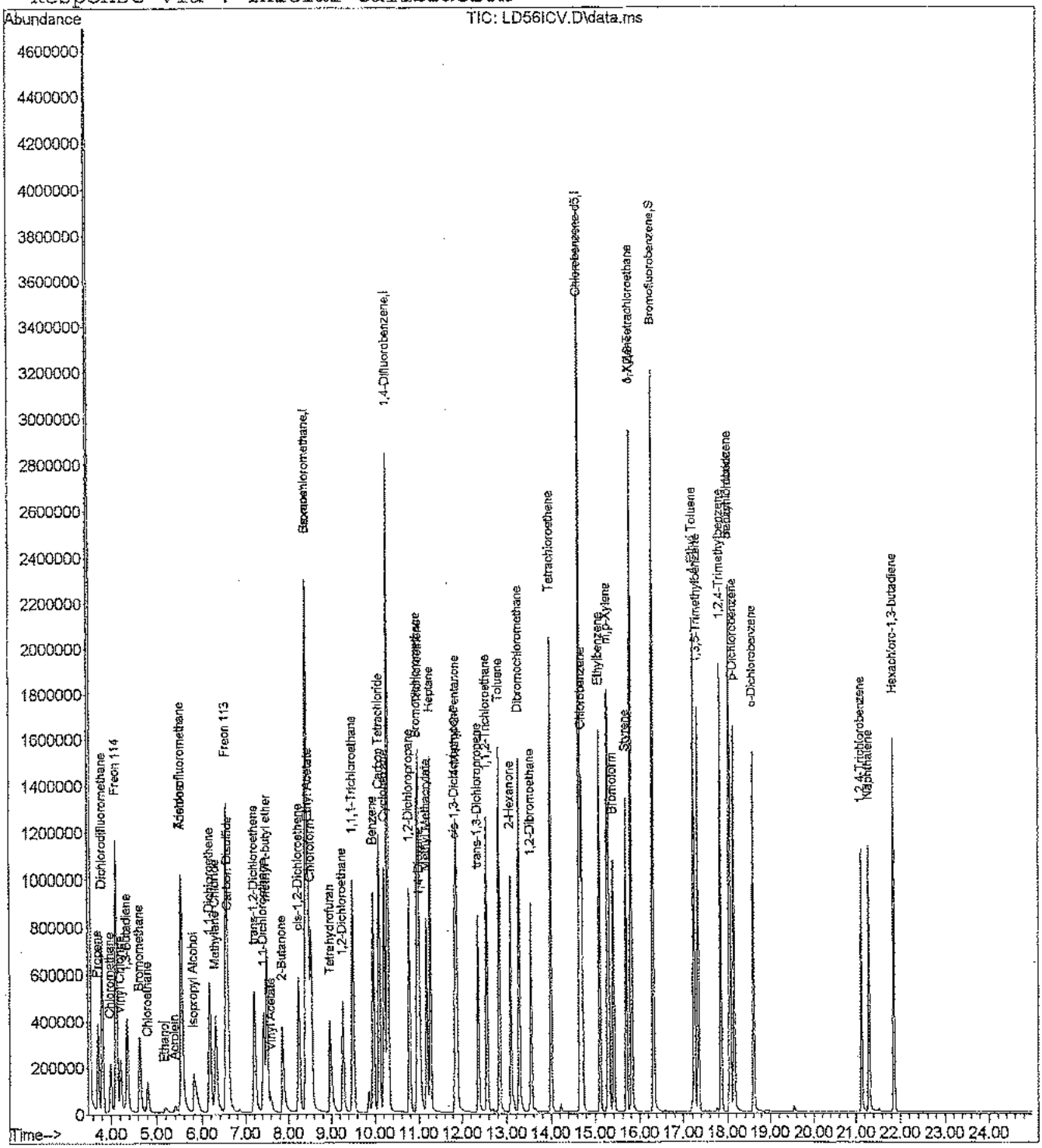
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD56ICV.D Vial: 3
Acq Time : 11/15/2016 10:07 Operator: LMR
Sample : 10.0 ICV Inst : 5975-L
Misc : 34081 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 17 11:39:57 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Nov 17 11:38:44 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD56ICV.D Vial: 3
Acq Time : 11/15/2016 10:07 Operator: LMR
Sample : 10.0 ICV Inst : 5975-L
Misc : 34081 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 17 11:39:57 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Nov 17 11:38:44 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.42	130	267136	20.0000	ppb		141.40
25) 1,4-Difluorobenzene	10.30	114	3040932	20.0000	ppb		132.70
50) Chlorobenzene d5	14.67	117	2608347	20.0000	ppb		130.60
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	1333499	19.4910	ppb		97.46%
Target Compounds							Qvalue
2) Propene	3.72	41	309949	8.6303	ppb		97
3) Dichlorodifluoromethane	3.82	85	1049377	9.6506	ppb		100
4) Chloromethane	3.99	50	389946	9.3536	ppb		99
5) Freon 114	4.13	135	738041	9.6301	ppb	#	59
6) Vinyl Chloride	4.22	62	408055	9.3917	ppb		95
7) 1,3-Butadiene	4.36	54	338499	9.4898	ppb		89
8) Bromomethane	4.64	94	389743	9.7788	ppb		97
9) Chloroethane	4.81	64	205228	9.3352	ppb	#	88
10) Acrolein	5.40	56	53098	2.6996	ppb	#	99
11) Acetone	5.54	43	647730	9.2238	ppb		96
12) Trichlorofluoromethane	5.55	101	1262832	9.7402	ppb		100
13) Ethanol	5.18	45	56312	4.2295	ppb	#	73
14) Isopropyl Alcohol	5.82	45	562514	7.4597	ppb		97
15) 1,1-Dichloroethene	6.18	61	710070	9.5645	ppb	#	69
16) Methylene Chloride	6.31	84	351365	9.1921	ppb	#	52
17) Freon 113	6.55	151	666121	9.8488	ppb	#	50
18) Carbon Disulfide	6.59	76	1043295	9.8584	ppb	#	66
19) trans-1,2-Dichloroethene	7.22	96	401745	9.8916	ppb	#	70
20) 1,1-Dichloroethane	7.43	63	745399	9.4285	ppb		95
21) methyl t-butyl ether	7.50	73	1006846	10.2572	ppb	#	79
22) Vinyl Acetate	7.60	86	13622	1.3751	ppb	#	1
23) 2-Butanone	7.86	43	827317	9.2061	ppb	#	71
24) cis-1,2-Dichloroethene	8.24	96	425156	9.5189	ppb	#	70
26) Ethyl Acetate	8.47	61	210467	16.8897	ppb	#	1
27) Hexane	8.42	57	706047	9.5520	ppb	#	79
28) Chloroform	8.53	83	837734	9.6834	ppb		98
29) Tetrahydrofuran	8.97	42	490598	9.4329	ppb	#	64
30) 1,2-Dichloroethane	9.27	62	601152	9.5930	ppb	#	91
31) 1,1,1-Trichloroethane	9.50	97	906884	9.8056	ppb	#	89
32) Benzene	9.97	78	1109403	9.7721	ppb	#	91
33) Carbon Tetrachloride	10.10	117	1040218	10.0000	ppb		99
34) Cyclohexane	10.22	84	524140	10.2528	ppb	#	38
35) 1,2-Dichloropropane	10.78	63	468111	9.4924	ppb	#	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD56ICV.D Vial: 3
Acq Time : 11/15/2016 10:07 Operator: LMR
Sample : 10.0 ICV Inst : 5975-L
Misc : 34081 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 17 11:39:57 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Nov 17 11:38:44 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.96	83	938955	9.5203	ppb		99
37) 1,4-Dioxane	11.02	88	254388	8.9912	ppb	#	76
38) Trichloroethene	10.99	130	614400	9.4851	ppb		93
39) Methyl Methacrylate	11.17	69	385860	9.8209	ppb		87
40) Heptane	11.27	71	386229	9.9617	ppb	#	36
41) cis-1,3-Dichloropropene	11.84	75	633067	9.6463	ppb		95
42) 4-Methyl-2-Pentanone	11.88	43	1024813	9.1424	ppb	#	77
43) trans-1,3-Dichloropropene	12.37	75	566666	9.7429	ppb		95
44) 1,1,2-Trichloroethane	12.56	97	504100	9.5901	ppb	#	86
45) Toluene	12.84	91	1396418	10.0088	ppb		99
46) 2-Hexanone	13.09	43	889242	9.5650	ppb	#	83
47) Dibromochloromethane	13.28	129	1040956	9.7747	ppb		99
48) 1,2-Dibromoethane	13.55	107	791418	9.7364	ppb		98
49) Tetrachloroethene	14.00	166	640567	9.4815	ppb	#	74
51) Chlorobenzene	14.72	112	957220	9.7372	ppb		96
52) Ethylbenzene	15.11	91	1376277	8.9423	ppb		96
53) m,p-Xylene	15.29	91	1848086	15.4108	ppb		98
54) Bromoform	15.41	173	516544	8.1611	ppb		99
55) Styrene	15.69	104	810662	8.3060	ppb		99
56) 1,1,2,2-Tetrachloroethane	15.81	83	841541	8.5848	ppb		99
57) o-Xylene	15.81	91	1113832	8.4099	ppb		97
59) 4-Ethyl Toluene	17.25	105	1680995	10.2687	ppb		98
60) 1,3,5-Trimethylbenzene	17.34	105	1110839	8.3830	ppb		97
61) 1,2,4-Trimethylbenzene	17.86	105	1257556	10.0468	ppb		97
62) Benzyl Chloride	18.05	91	895508	9.4566	ppb		95
63) m-Dichlorobenzene	18.06	146	846664	9.6231	ppb	#	94
64) p-Dichlorobenzene	18.15	146	845784	9.6996	ppb	#	94
65) o-Dichlorobenzene	18.61	146	782300	9.4461	ppb	#	95
66) 1,2,4-Trichlorobenzene	21.13	180	394613	12.7153	ppb	#	95
67) Naphthalene	21.31	128	1162122	13.1685	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	249010	10.6322	ppb		97

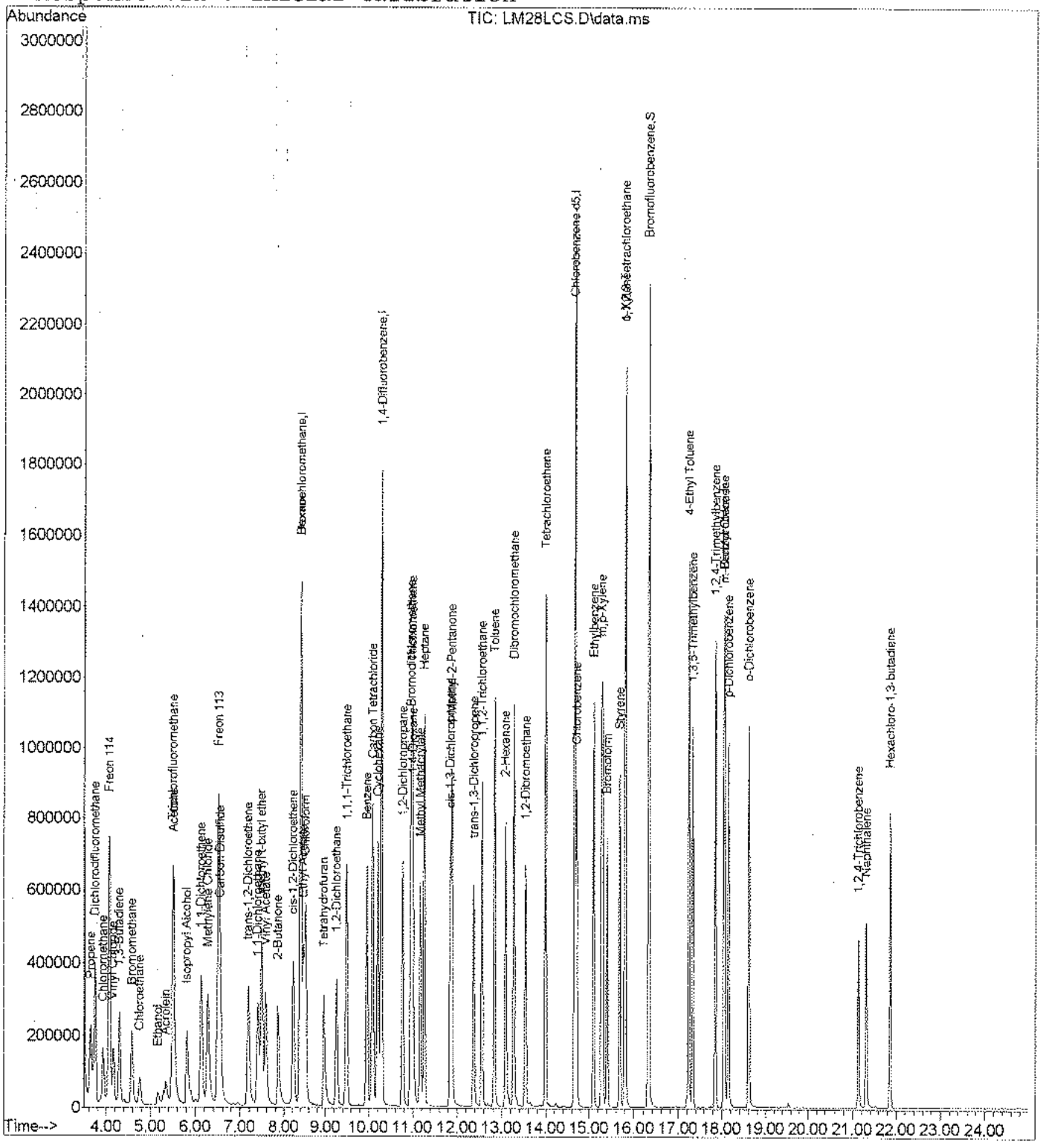
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\29MAR17L\LM28LCS.D Vial: 2
Acq Time : 03/29/2017 10:57 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 29 11:23:04 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Mar 30 11:13:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\29MAR17L\LM28LCS.D Vial: 2
Acq Time : 03/29/2017 10:57 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 29 11:23:04 2017 Results File: TO15LU16.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.39	130	153408	20.0000	ppb		81.20
25) 1,4-Difluorobenzene	10.28	114	1881698	20.0000	ppb		82.12
50) Chlorobenzene d5	14.66	117	1665288	20.0000	ppb		83.38
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.31	95	945938	21.6561	ppb		108.28%
Target Compounds							Qvalue
2) Propene	3.65	41	227117	11.0120	ppb		97
3) Dichlorodifluoromethane	3.75	85	729268	11.6787	ppb		99
4) Chloromethane	3.93	50	302090	12.6181	ppb		100
5) Freon 114	4.07	135	506148	11.5004	ppb	#	57
6) Vinyl Chloride	4.16	62	276974	11.1006	ppb		95
7) 1,3-Butadiene	4.30	54	228634	11.1615	ppb		88
8) Bromomethane	4.58	94	235059	10.2700	ppb		99
9) Chloroethane	4.76	64	121613	9.6327	ppb	#	84
10) Acrolein	5.34	56	127044	11.2478	ppb	#	98
11) Acetone	5.51	43	462422	11.4667	ppb		90
12) Trichlorofluoromethane	5.49	101	855307	11.4876	ppb		99
13) Ethanol	5.16	45	89873	11.7544	ppb	#	77
14) Isopropyl Alcohol	5.80	45	485430	11.2099	ppb		96
15) 1,1-Dichloroethene	6.13	61	475679	11.1573	ppb	#	67
16) Methylene Chloride	6.27	84	238488	10.8644	ppb	#	43
17) Freon 113	6.51	151	440064	11.3301	ppb	#	48
18) Carbon Disulfide	6.55	76	660819	10.8734	ppb	#	67
19) trans-1,2-Dichloroethene	7.18	96	261986	11.2325	ppb	#	69
20) 1,1-Dichloroethane	7.39	63	516213	11.3702	ppb		95
21) methyl t-butyl ether	7.48	73	653733	11.5971	ppb	#	77
22) Vinyl Acetate	7.57	86	68313	12.0086	ppb	#	1
23) 2-Butanone	7.85	43	627975	12.1683	ppb	#	68
24) cis-1,2-Dichloroethene	8.22	96	295132	11.5064	ppb	#	68
26) Ethyl Acetate	8.47	61	91147	11.8205	ppb	#	1
27) Hexane	8.40	57	488508	10.6804	ppb	#	84
28) Chloroform	8.52	83	613248	11.4555	ppb		98
29) Tetrahydrofuran	8.96	42	360622	11.2054	ppb	#	61
30) 1,2-Dichloroethane	9.26	62	433723	11.1851	ppb	#	89
31) 1,1,1-Trichloroethane	9.49	97	633465	11.0689	ppb	#	88
32) Benzene	9.96	78	780257	11.1069	ppb	#	90
33) Carbon Tetrachloride	10.08	117	739127	11.4829	ppb		99
34) Cyclohexane	10.20	84	367263	11.6099	ppb	#	35
35) 1,2-Dichloropropane	10.77	63	329509	10.7981	ppb	#	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\29MAR17L\LM28LCS.D Vial: 2
Acq Time : 03/29/2017 10:57 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 29 11:23:04 2017 Results File: TO15LU16.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	10.95	83	673319	11.0328	ppb		99
37)	1,4-Dioxane	11.00	88	201543	11.5118	ppb	#	76
38)	Trichloroethene	10.99	130	430945	10.7515	ppb		93
39)	Methyl Methacrylate	11.16	69	281551	11.5807	ppb	#	81
40)	Heptane	11.26	71	280202	11.6793	ppb	#	34
41)	cis-1,3-Dichloropropene	11.84	75	452909	11.1527	ppb		95
42)	4-Methyl-2-Pentanone	11.87	43	800471	11.5403	ppb	#	75
43)	trans-1,3-Dichloropropene	12.36	75	405115	11.2563	ppb		94
44)	1,1,2-Trichloroethane	12.55	97	359631	11.0566	ppb	#	85
45)	Toluene	12.83	91	991032	11.4792	ppb		98
46)	2-Hexanone	13.08	43	711037	12.3598	ppb	#	80
47)	Dibromochloromethane	13.27	129	762051	11.5641	ppb		99
48)	1,2-Dibromoethane	13.53	107	569229	11.3172	ppb		98
49)	Tetrachloroethene	13.99	166	446825	10.6882	ppb	#	75
51)	Chlorobenzene	14.71	112	597780	9.5244	ppb		96
52)	Ethylbenzene	15.10	91	956519	9.7345	ppb		97
53)	m,p-Xylene	15.28	91	1254855	16.3898	ppb		100
54)	Bromoform	15.40	173	352740	8.7292	ppb		99
55)	Styrene	15.69	104	578571	9.2851	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.80	83	599650	9.5814	ppb		98
57)	o-Xylene	15.80	91	767385	9.0753	ppb		98
59)	4-Ethyl Toluene	17.24	105	1147180	10.9763	ppb		98
60)	1,3,5-Trimethylbenzene	17.33	105	707548	8.3633	ppb		98
61)	1,2,4-Trimethylbenzene	17.85	105	857344	10.7283	ppb		98
62)	Benzyl Chloride	18.05	91	625992	10.3541	ppb		95
63)	m-Dichlorobenzene	18.06	146	514387	9.1574	ppb	#	95
64)	p-Dichlorobenzene	18.15	146	500743	8.9947	ppb		95
65)	o-Dichlorobenzene	18.61	146	553236	10.4633	ppb	#	95
66)	1,2,4-Trichlorobenzene	21.13	180	163996	8.2768	ppb	#	95
67)	Naphthalene	21.31	128	543658	9.6491	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	122454	8.1894	ppb		97

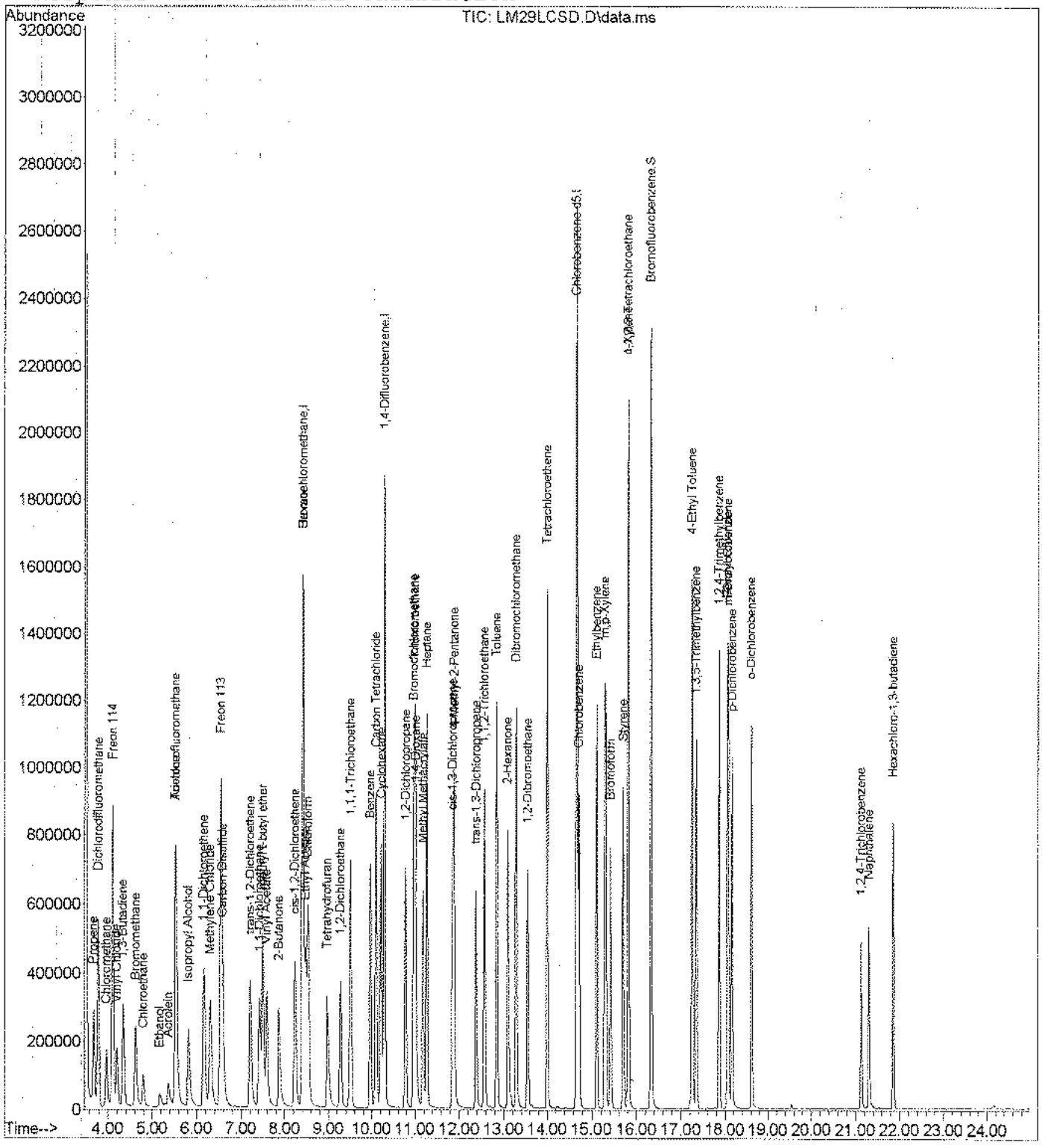
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\29MAR17L\LM29LCSD.D Vial: 2
Acq Time : 03/29/2017 11:46 Operator: LMR
Sample : QD- Inst : 5975-L
Misc : 35937 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 29 13:14:15 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Mar 30 11:13:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\29MAR17L\LM29LCSD.D Vial: 2
Acq Time : 03/29/2017 11:46 Operator: LMR
Sample : QD- Inst : 5975-L
Misc : 35937 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 29 13:14:15 2017 Results File: TO15LU16.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.41	130	165056	20.0000	ppb		87.36
25) 1,4-Difluorobenzene	10.30	114	1971360	20.0000	ppb		86.03
50) Chlorobenzene d5	14.67	117	1755963	20.0000	ppb		87.92
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	972697	21.1188	ppb		105.59%
Target Compounds							Qvalue
2) Propene	3.69	41	246834	11.1234	ppb		97
3) Dichlorodifluoromethane	3.80	85	793074	11.8043	ppb		99
4) Chloromethane	3.97	50	309623	12.0201	ppb		100
5) Freon 114	4.11	135	552284	11.6631	ppb	#	56
6) Vinyl Chloride	4.20	62	302573	11.2708	ppb		95
7) 1,3-Butadiene	4.34	54	250219	11.3533	ppb		88
8) Bromomethane	4.62	94	277671	11.2756	ppb		97
9) Chloroethane	4.79	64	140375	10.3342	ppb	#	86
10) Acrolein	5.36	56	135266	11.1306	ppb	#	98
11) Acetone	5.53	43	480081	11.0644	ppb		90
12) Trichlorofluoromethane	5.53	101	942123	11.7607	ppb		99
13) Ethanol	5.18	45	95611	11.6224	ppb	#	76
14) Isopropyl Alcohol	5.82	45	514630	11.0455	ppb		95
15) 1,1-Dichloroethene	6.16	61	521247	11.3634	ppb	#	68
16) Methylene Chloride	6.30	84	256567	10.8632	ppb	#	44
17) Freon 113	6.53	151	476251	11.3964	ppb	#	47
18) Carbon Disulfide	6.58	76	714922	10.9334	ppb	#	66
19) trans-1,2-Dichloroethene	7.21	96	285609	11.3812	ppb	#	69
20) 1,1-Dichloroethane	7.42	63	543604	11.1286	ppb		96
21) methyl t-butyl ether	7.50	73	694440	11.4499	ppb	#	77
22) Vinyl Acetate	7.59	86	70704	11.5518	ppb	#	1
23) 2-Butanone	7.87	43	652831	11.7573	ppb	#	69
24) cis-1,2-Dichloroethene	8.24	96	317191	11.4937	ppb	#	70
26) Ethyl Acetate	8.48	61	93013	11.5139	ppb	#	1
27) Hexane	8.42	57	519923	10.8502	ppb	#	83
28) Chloroform	8.53	83	643463	11.4732	ppb		98
29) Tetrahydrofuran	8.97	42	370731	10.9956	ppb	#	62
30) 1,2-Dichloroethane	9.28	62	458278	11.2808	ppb	#	90
31) 1,1,1-Trichloroethane	9.50	97	667724	11.1368	ppb	#	88
32) Benzene	9.97	78	822711	11.1786	ppb	#	90
33) Carbon Tetrachloride	10.10	117	784708	11.6366	ppb		99
34) Cyclohexane	10.22	84	386282	11.6557	ppb	#	35
35) 1,2-Dichloropropane	10.78	63	344844	10.7867	ppb	#	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\29MAR17L\LM29LCSD.D Vial: 2
Acq Time : 03/29/2017 11:46 Operator: LMR
Sample : QD- Inst : 5975-L
Misc : 35937 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 29 13:14:15 2017 Results File: TO15LU16.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	10.96	83	712124	11.1379	ppb		99
37)	1,4-Dioxane	11.02	88	206567	11.2621	ppb	#	72
38)	Trichloroethene	10.99	130	452954	10.7866	ppb		94
39)	Methyl Methacrylate	11.17	69	294501	11.5624	ppb	#	83
40)	Heptane	11.27	71	290732	11.5670	ppb	#	34
41)	cis-1,3-Dichloropropene	11.85	75	475208	11.1696	ppb		95
42)	4-Methyl-2-Pentanone	11.88	43	830074	11.4228	ppb	#	75
43)	trans-1,3-Dichloropropene	12.38	75	427641	11.3418	ppb		94
44)	1,1,2-Trichloroethane	12.56	97	380777	11.1743	ppb	#	85
45)	Toluene	12.84	91	1042037	11.5210	ppb		98
46)	2-Hexanone	13.09	43	731862	12.1432	ppb	#	81
47)	Dibromochloromethane	13.28	129	800836	11.6000	ppb		99
48)	1,2-Dibromoethane	13.55	107	598041	11.3492	ppb		98
49)	Tetrachloroethene	14.00	166	470231	10.7365	ppb	#	74
51)	Chlorobenzene	14.72	112	634630	9.5894	ppb		96
52)	Ethylbenzene	15.11	91	996763	9.6202	ppb		97
53)	m,p-Xylene	15.29	91	1308734	16.2108	ppb		99
54)	Bromoform	15.41	173	367110	8.6157	ppb		99
55)	Styrene	15.70	104	590756	8.9911	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.81	83	607768	9.2097	ppb		98
57)	o-Xylene	15.81	91	785167	8.8061	ppb		99
59)	4-Ethyl Toluene	17.25	105	1188076	10.7806	ppb		97
60)	1,3,5-Trimethylbenzene	17.34	105	724796	8.1248	ppb		99
61)	1,2,4-Trimethylbenzene	17.86	105	887170	10.5283	ppb		97
62)	Benzyl Chloride	18.05	91	646700	10.1443	ppb		94
63)	m-Dichlorobenzene	18.07	146	530218	8.9518	ppb	#	95
64)	p-Dichlorobenzene	18.15	146	519910	8.8567	ppb	#	95
65)	o-Dichlorobenzene	18.61	146	568627	10.1990	ppb	#	94
66)	1,2,4-Trichlorobenzene	21.13	180	170823	8.1762	ppb	#	96
67)	Naphthalene	21.31	128	563160	9.4791	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	125614	7.9670	ppb		97

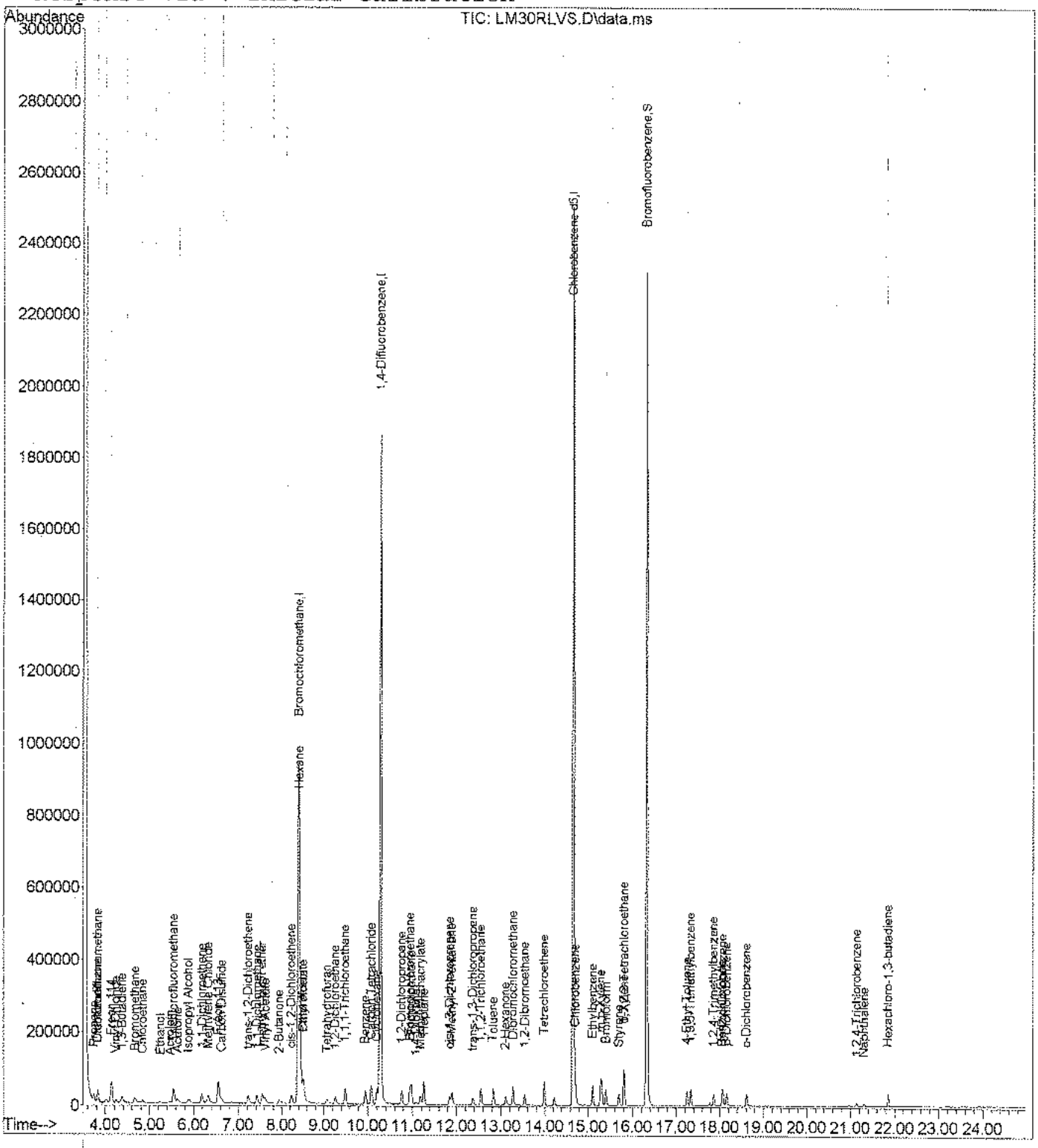
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\29MAR17L\LM30RLVS.D Vial: 3
Acq Time : 03/29/2017 12:35 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 35941 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 30 11:14:28 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Mar 30 11:13:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\29MAR17L\LM30RLVS.D Vial: 3
Acq Time : 03/29/2017 12:35 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 35941 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 30 11:14:28 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Mar 30 11:13:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.39	130	164736	20.0000	ppb		87.20
25) 1,4-Difluorobenzene	10.28	114	2007459	20.0000	ppb		87.60
50) Chlorobenzene d5	14.66	117	1668986	20.0000	ppb		83.56
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.31	95	930010	21.2443	ppb		106.22%
Target Compounds							Qvalue
2) Propene	3.75	41	14487	0.6541	ppb	m	0
3) Dichlorodifluoromethane	3.83	85	46922	0.6998	ppb		99
4) Chloromethane	3.83	50	6404	0.2491	ppb	#	41
5) Freon 114	4.14	135	34368	0.7272	ppb	#	60
6) Vinyl Chloride	4.24	62	17887	0.6676	ppb		89
7) 1,3-Butadiene	4.38	54	14671	0.6670	ppb	#	77
8) Bromomethane	4.67	94	16441	0.6689	ppb		93
9) Chloroethane	4.83	64	8944	0.6597	ppb	#	88
10) Acrolein	5.46	56	6800	0.5606	ppb	#	95
11) Acetone	5.63	43	27912	0.6445	ppb		91
12) Trichlorofluoromethane	5.55	101	56608	0.7080	ppb		99
13) Ethanol	5.25	45	6281	0.7650	ppb	#	65
14) Isopropyl Alcohol	5.88	45	27645	0.5945	ppb	#	68
15) 1,1-Dichloroethene	6.19	61	28787	0.6288	ppb	#	69
16) Methylene Chloride	6.32	84	15883	0.6738	ppb	#	41
17) Freon 113	6.55	151	28382	0.6805	ppb	#	49
18) Carbon Disulfide	6.61	76	42477	0.6509	ppb	#	62
19) trans-1,2-Dichloroethene	7.21	96	15282	0.6102	ppb	#	65
20) 1,1-Dichloroethane	7.42	63	31798	0.6522	ppb	#	94
21) methyl t-butyl ether	7.54	73	33590	0.5549	ppb	#	77
22) Vinyl Acetate	7.61	86	3333	0.5456	ppb	#	1
23) 2-Butanone	7.94	43	31611	0.5704	ppb	#	63
24) cis-1,2-Dichloroethene	8.23	96	16302	0.5919	ppb	#	64
26) Ethyl Acetate	8.52	61	3846	0.4675	ppb	#	1
27) Hexane	8.42	57	26551	0.5441	ppb	#	89
28) Chloroform	8.50	83	40641	0.7116	ppb		98
29) Tetrahydrofuran	9.05	42	15709	0.4575	ppb	#	48
30) 1,2-Dichloroethane	9.25	62	24861	0.6010	ppb	#	86
31) 1,1,1-Trichloroethane	9.49	97	37151	0.6085	ppb	#	87
32) Benzene	9.95	78	43609	0.5819	ppb	#	90
33) Carbon Tetrachloride	10.09	117	43034	0.6267	ppb		99
34) Cyclohexane	10.20	84	18391	0.5450	ppb	#	34
35) 1,2-Dichloropropane	10.76	63	18999	0.5836	ppb	#	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\29MAR17L\LM30RLVS.D Vial: 3
Acq Time : 03/29/2017 12:35 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 35941 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 30 11:14:28 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Mar 30 11:13:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	10.94	83	37485	0.5757	ppb		98
37)	1,4-Dioxane	11.08	88	8860	0.4744	ppb	#	82
38)	Trichloroethene	10.98	130	23706	0.5544	ppb		92
39)	Methyl Methacrylate	11.19	69	12326	0.4752	ppb	#	84
40)	Heptane	11.26	71	14735	0.5757	ppb	#	30
41)	cis-1,3-Dichloropropene	11.84	75	19824	0.4576	ppb		94
42)	4-Methyl-2-Pentanone	11.89	43	35900	0.4851	ppb	#	72
43)	trans-1,3-Dichloropropene	12.36	75	16370	0.4264	ppb		94
44)	1,1,2-Trichloroethane	12.55	97	18511	0.5335	ppb	#	84
45)	Toluene	12.83	91	44305	0.4810	ppb		99
46)	2-Hexanone	13.10	43	26211	0.4271	ppb	#	76
47)	Dibromochloromethane	13.27	129	37058	0.5271	ppb		98
48)	1,2-Dibromoethane	13.53	107	27185	0.5066	ppb		98
49)	Tetrachloroethene	13.98	166	21554	0.4833	ppb	#	74
51)	Chlorobenzene	14.71	112	30141	0.4792	ppb		95
52)	Ethylbenzene	15.10	91	47933	0.4867	ppb		95
53)	m,p-Xylene	15.30	91	76486	0.9968	ppb		96
54)	Bromoform	15.40	173	23021	0.5684	ppb		99
55)	Styrene	15.69	104	23048	0.3691	ppb		96
56)	1,1,2,2-Tetrachloroethane	15.80	83	33068	0.5272	ppb	#	90
57)	o-Xylene	15.81	91	38050	0.4490	ppb		96
59)	4-Ethyl Toluene	17.25	105	32271	0.3081	ppb		99
60)	1,3,5-Trimethylbenzene	17.34	105	32390	0.3820	ppb		100
61)	1,2,4-Trimethylbenzene	17.86	105	27273	0.3405	ppb		93
62)	Benzyl Chloride	18.04	91	16004	0.2641	ppb	#	89
63)	m-Dichlorobenzene	18.06	146	22468	0.3991	ppb		93
64)	p-Dichlorobenzene	18.16	146	19767	0.3543	ppb	#	90
65)	o-Dichlorobenzene	18.61	146	19762	0.3729	ppb	#	94
66)	1,2,4-Trichlorobenzene	21.14	180	4246	0.2138	ppb	#	92
67)	Naphthalene	21.31	128	11781	0.2086	ppb	#	91
68)	Hexachloro-1,3-butadiene	21.86	225	5555	0.3707	ppb		98

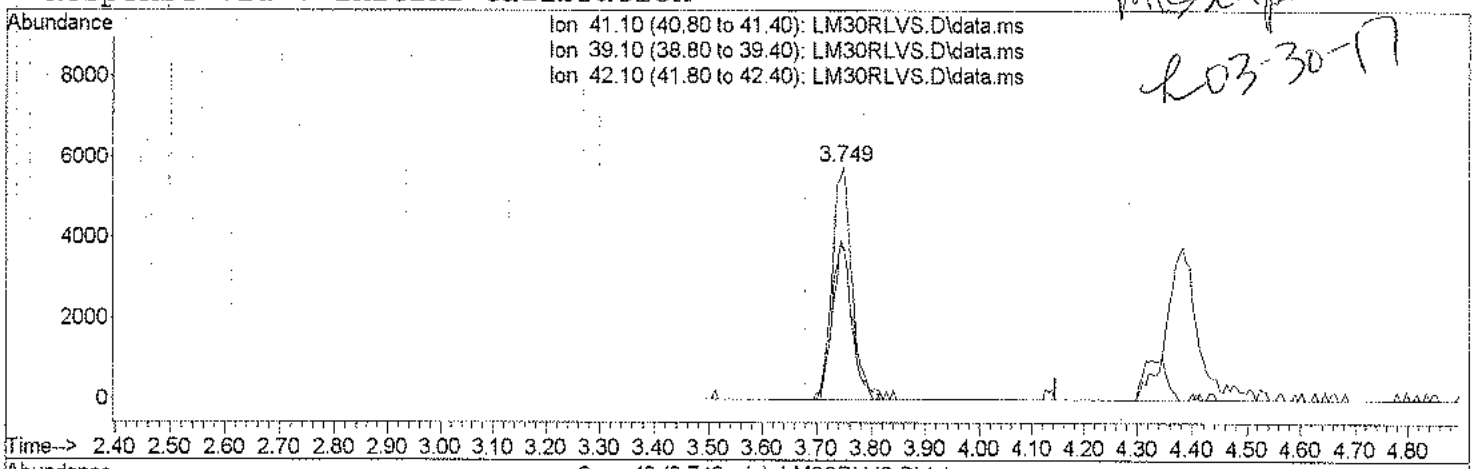
(#) = qualifier out of range (m) = manual integration

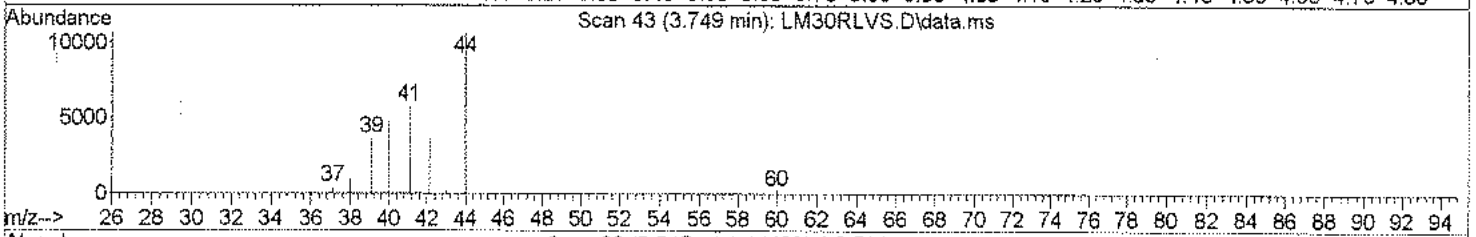
Quantitation Report (Qedit)

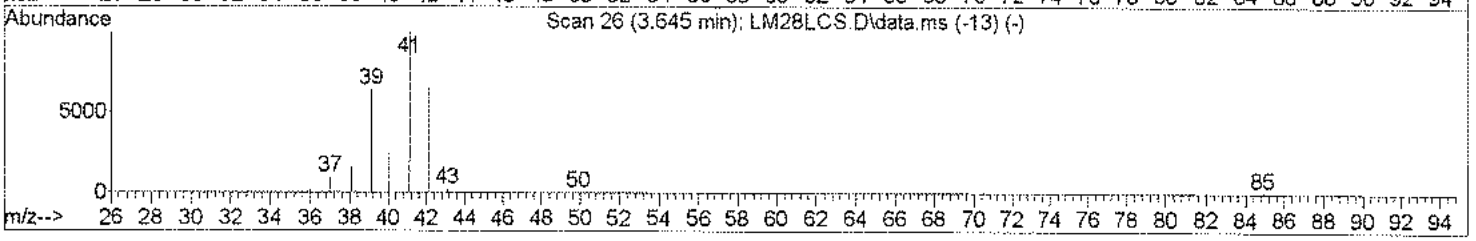
Data Path : I:\L - 5975-L\2017\MAR17L\29MAR17L\
Data File : LM30RLVS.D
Acq On : 03/29/2017 12:35
Operator : LMR
Sample : RLVS
Inst : 5975-L
Misc : 35941 200 mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 30 11:14:11 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m
Quant Title : TO-15
QLast Update : Thu Mar 30 11:13:57 2017
Response via : Initial Calibration

MCS 4-per
4-03-30-17







TIC: LM30RLVS.D\data.ms

(2) Propene

3.749min (+ 0.103) 0.65 ppb m

response 14487

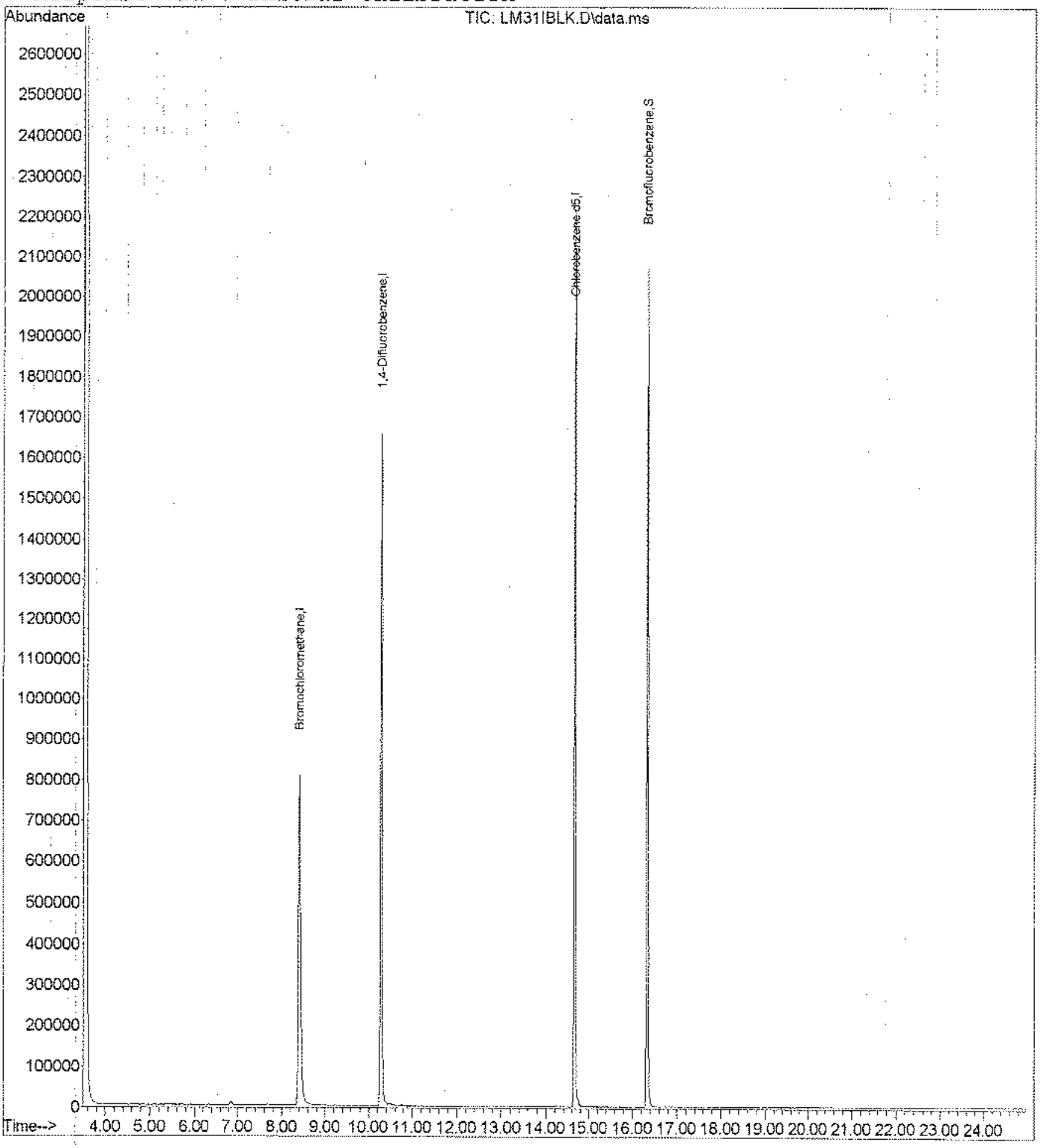
Ion	Exp%	Act%
41.10	100.00	100.00
39.10	70.30	0.00#
42.10	67.20	0.00#
0.00	0.00	0.00

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\29MAR17L\LM31IBLK.D Vial: 1
Acq Time : 03/29/2017 13:24 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 30 11:14:42 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Mar 30 11:13:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\29MAR17L\LM31IBLK.D Vial: 1
Acq Time : 03/29/2017 13:24 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 30 11:14:42 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Mar 30 11:13:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.40	130	144320	20.0000 ppb	76.39
25) 1,4-Difluorobenzene	10.28	114	1829936	20.0000 ppb	79.86
50) Chlorobenzene d5	14.66	117	1500372	20.0000 ppb	75.12
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.32	95	821753	20.8809 ppb	104.40%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	0.00	85		Not Detected	
4) Chloromethane	0.00	50		Not Detected	
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	0.00	43		Not Detected	
12) Trichlorofluoromethane	0.00	101		Not Detected	
13) Ethanol	0.00	45		Not Detected	
14) Isopropyl Alcohol	0.00	45		Not Detected	
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	0.00	84		Not Detected	
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	0.00	43		Not Detected	
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	0.00	61		Not Detected	
27) Hexane	0.00	57		Not Detected	
28) Chloroform	0.00	83		Not Detected	
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	0.00	78		Not Detected	
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\29MAR17L\LM31IBLK.D Vial: 1
Acq Time : 03/29/2017 13:24 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 30 11:14:42 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Mar 30 11:13:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected	
37)	1,4-Dioxane	0.00	88		Not Detected	
38)	Trichloroethene	0.00	130		Not Detected	
39)	Methyl Methacrylate	0.00	69		Not Detected	
40)	Heptane	0.00	71		Not Detected	
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
42)	4-Methyl-2-Pentanone	0.00	43		Not Detected	
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
44)	1,1,2-Trichloroethane	0.00	97		Not Detected	
45)	Toluene	0.00	91		Not Detected	
46)	2-Hexanone	0.00	43		Not Detected	
47)	Dibromochloromethane	0.00	129		Not Detected	
48)	1,2-Dibromoethane	0.00	107		Not Detected	
49)	Tetrachloroethene	0.00	166		Not Detected	
51)	Chlorobenzene	0.00	112		Not Detected	
52)	Ethylbenzene	0.00	91		Not Detected	
53)	m,p-Xylene	0.00	91		Not Detected	
54)	Bromoform	0.00	173		Not Detected	
55)	Styrene	0.00	104		Not Detected	
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57)	o-Xylene	0.00	91		Not Detected	
59)	4-Ethyl Toluene	0.00	105		Not Detected	
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61)	1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62)	Benzyl Chloride	0.00	91		Not Detected	
63)	m-Dichlorobenzene	0.00	146		Not Detected	
64)	p-Dichlorobenzene	0.00	146		Not Detected	
65)	o-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67)	Naphthalene	0.00	128		Not Detected	
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected	

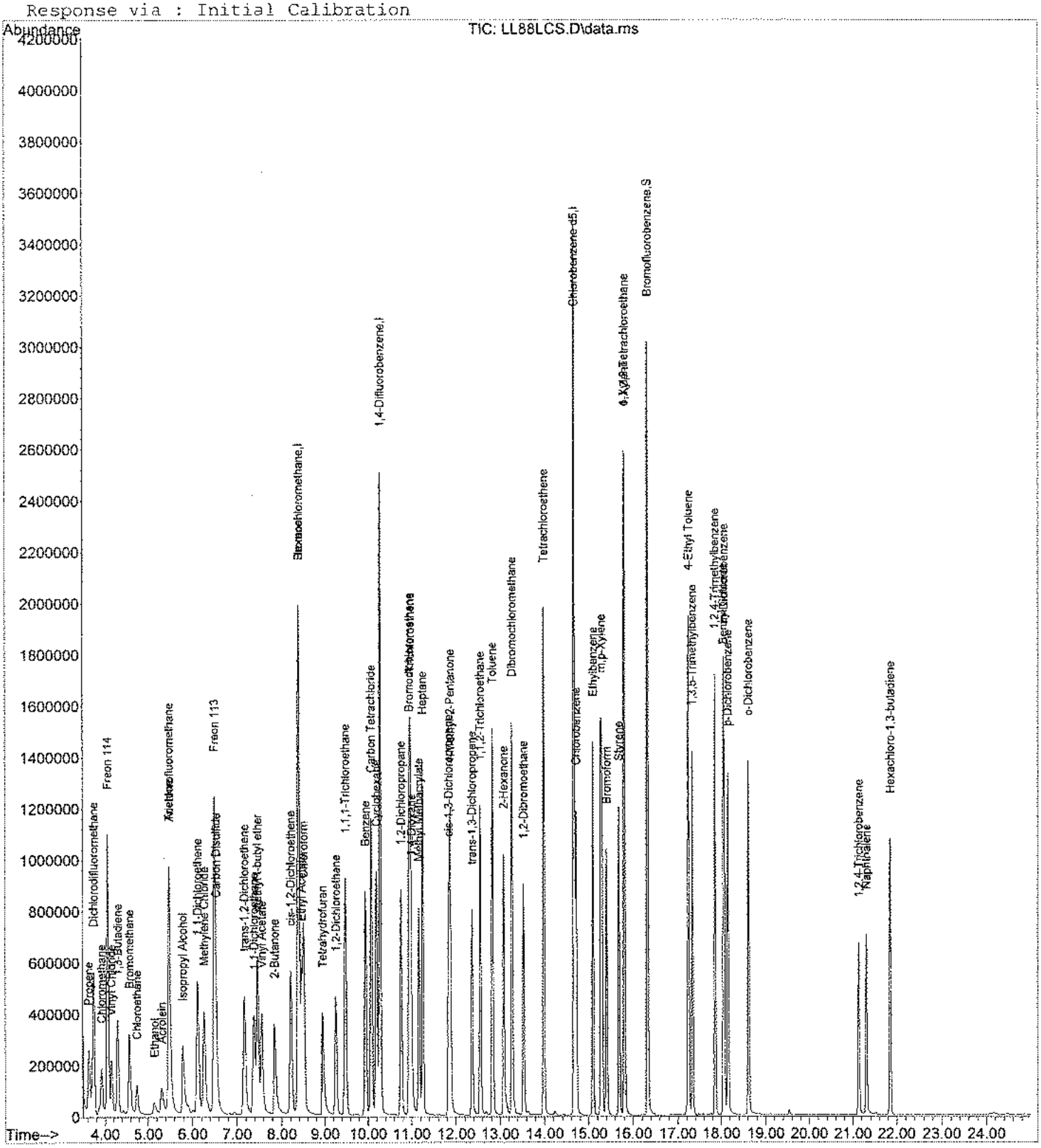
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\23MAR17L\LL88LCS.D Vial: 2
Acq Time : 03/23/2017 10:54 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 23 11:23:05 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\23MAR17L\LL88LCS.D Vial: 2
Acq Time : 03/23/2017 10:54 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 23 11:23:05 2017 Results File: TO15LU16.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Mar 22 14:06:47 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.38	130	223552	20.0000	ppb		118.33
25) 1,4-Difluorobenzene	10.28	114	2702998	20.0000	ppb		117.96
50) Chlorobenzene d5	14.66	117	2345091	20.0000	ppb		117.42
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.32	95	1294226	21.0406	ppb		105.20%
Target Compounds							Qvalue
2) Propene	3.63	41	255768	8.5101	ppb		98
3) Dichlorodifluoromethane	3.74	85	1015950	11.1648	ppb		99
4) Chloromethane	3.91	50	375712	10.7692	ppb		100
5) Freon 114	4.05	135	737740	11.5029	ppb	#	61
6) Vinyl Chloride	4.15	62	376567	10.3567	ppb		95
7) 1,3-Butadiene	4.29	54	317951	10.6516	ppb		91
8) Bromomethane	4.57	94	362653	10.8731	ppb		96
9) Chloroethane	4.74	64	181020	9.8393	ppb	#	88
10) Acrolein	5.32	56	176689	10.7348	ppb	#	98
11) Acetone	5.48	43	596647	10.1528	ppb		93
12) Trichlorofluoromethane	5.48	101	1264155	11.6514	ppb		100
13) Ethanol	5.15	45	124784	11.1995	ppb	#	77
14) Isopropyl Alcohol	5.79	45	636143	10.0809	ppb		99
15) 1,1-Dichloroethene	6.11	61	662509	10.6637	ppb	#	70
16) Methylene Chloride	6.26	84	334028	10.4422	ppb	#	52
17) Freon 113	6.49	151	648260	11.4534	ppb	#	53
18) Carbon Disulfide	6.54	76	915248	10.3345	ppb	#	66
19) trans-1,2-Dichloroethene	7.17	96	377556	11.1084	ppb	#	71
20) 1,1-Dichloroethane	7.38	63	702560	10.6192	ppb		96
21) methyl t-butyl ether	7.47	73	931569	11.3406	ppb	#	79
22) Vinyl Acetate	7.57	86	94460	11.3948	ppb	#	1
23) 2-Butanone	7.84	43	789513	10.4983	ppb	#	70
24) cis-1,2-Dichloroethene	8.21	96	417682	11.1748	ppb	#	71
26) Ethyl Acetate	8.46	61	116740	10.5395	ppb	#	1
27) Hexane	8.39	57	661077	10.0617	ppb	#	84
28) Chloroform	8.50	83	858239	11.1607	ppb		98
29) Tetrahydrofuran	8.94	42	460098	9.9524	ppb	#	65
30) 1,2-Dichloroethane	9.25	62	606051	10.8803	ppb	#	92
31) 1,1,1-Trichloroethane	9.48	97	899384	10.9403	ppb	#	89
32) Benzene	9.94	78	1057083	10.4754	ppb	#	90
33) Carbon Tetrachloride	10.07	117	1066145	11.5307	ppb		99
34) Cyclohexane	10.19	84	499943	11.0021	ppb	#	39
35) 1,2-Dichloropropane	10.76	63	440268	10.0439	ppb		90
36) Bromodichloromethane	10.94	83	946249	10.7938	ppb		99
37) 1,4-Dioxane	11.00	88	273886	10.8905	ppb	#	74
38) Trichloroethene	10.97	130	612212	10.6330	ppb		94
39) Methyl Methacrylate	11.16	69	382980	10.9662	ppb		88
40) Heptane	11.25	71	371824	10.7891	ppb	#	40
41) cis-1,3-Dichloropropene	11.83	75	611267	10.4786	ppb		96
42) 4-Methyl-2-Pentanone	11.87	43	1015614	10.1931	ppb	#	77
43) trans-1,3-Dichloropropene	12.36	75	557846	10.7904	ppb		95
44) 1,1,2-Trichloroethane	12.55	97	494971	10.5937	ppb	#	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\23MAR17L\LL88LCS.D Vial: 2
Acq Time : 03/23/2017 10:54 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 23 11:23:05 2017 Results File: TO15LU16.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Mar 22 14:06:47 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	Toluene	12.83	91	1354207	10.9197	ppb		98
46)	2-Hexanone	13.08	43	919241	11.1238	ppb	#	82
47)	Dibromochloromethane	13.27	129	1077248	11.3802	ppb		99
48)	1,2-Dibromoethane	13.53	107	786167	10.8810	ppb		98
49)	Tetrachloroethene	13.98	166	622122	10.3597	ppb	#	74
51)	Chlorobenzene	14.71	112	812625	9.1943	ppb		95
52)	Ethylbenzene	15.10	91	1205842	8.7145	ppb		96
53)	m,p-Xylene	15.28	91	1674047	15.5266	ppb		100
54)	Bromoform	15.41	173	490219	8.6147	ppb		99
55)	Styrene	15.69	104	725241	8.2650	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.81	83	753848	8.5535	ppb		98
57)	o-Xylene	15.81	91	993915	8.3469	ppb		98
59)	4-Ethyl Toluene	17.25	105	1518807	10.3194	ppb		98
60)	1,3,5-Trimethylbenzene	17.34	105	947385	7.9520	ppb		97
61)	1,2,4-Trimethylbenzene	17.86	105	1119382	9.9468	ppb		97
62)	Benzyl Chloride	18.04	91	820064	9.6321	ppb		94
63)	m-Dichlorobenzene	18.07	146	676602	8.5535	ppb	#	94
64)	p-Dichlorobenzene	18.15	146	667465	8.5139	ppb	#	96
65)	o-Dichlorobenzene	18.61	146	710969	9.5485	ppb	#	95
66)	1,2,4-Trichlorobenzene	21.13	180	228563	8.1916	ppb	#	95
67)	Naphthalene	21.31	128	741584	9.3465	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	165023	7.8371	ppb		96

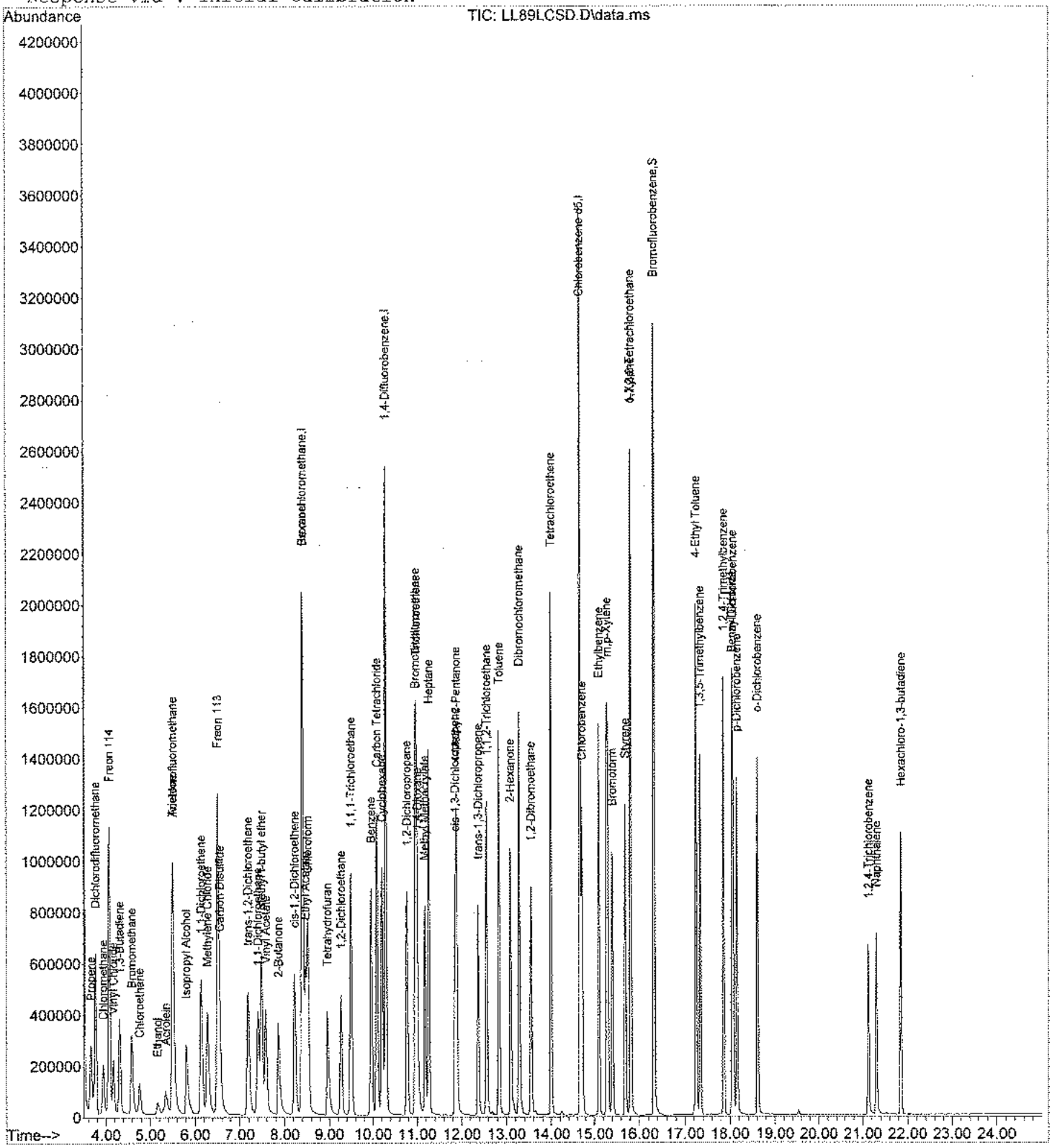
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL89LCSD.D Vial: 2
Acq Time : 03/23/2017 11:43 Operator: LMR
Sample : QD- Inst : 5975-L
Misc : 35937 200mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:03:21 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL89LCSD.D Vial: 2
Acq Time : 03/23/2017 11:43 Operator: LMR
Sample : QD- Inst : 5975-L
Misc : 35937 200mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:03:21 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.41	130	227136	20.0000	ppb		120.22
25) 1,4-Difluorobenzene	10.29	114	2748932	20.0000	ppb		119.96
50) Chlorobenzene d5	14.67	117	2395956	20.0000	ppb		119.96
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	1309189	20.8320	ppb		104.16%
Target Compounds							Qvalue
2) Propene	3.66	41	289316	9.4744	ppb		98
3) Dichlorodifluoromethane	3.76	85	1044559	11.2981	ppb		99
4) Chloromethane	3.94	50	375784	10.6013	ppb		98
5) Freon 114	4.08	135	745554	11.4413	ppb	#	61
6) Vinyl Chloride	4.17	62	384039	10.3955	ppb		93
7) 1,3-Butadiene	4.31	54	326327	10.7597	ppb		91
8) Bromomethane	4.59	94	377279	11.1332	ppb		97
9) Chloroethane	4.77	64	189082	10.1154	ppb	#	88
10) Acrolein	5.35	56	177791	10.6313	ppb	#	95
11) Acetone	5.50	43	597989	10.0151	ppb		92
12) Trichlorofluoromethane	5.50	101	1285108	11.6576	ppb		99
13) Ethanol	5.16	45	125769	11.1098	ppb	#	78
14) Isopropyl Alcohol	5.81	45	657728	10.2585	ppb		97
15) 1,1-Dichloroethene	6.14	61	684580	10.8451	ppb	#	70
16) Methylene Chloride	6.28	84	339914	10.4585	ppb	#	52
17) Freon 113	6.52	151	664649	11.5577	ppb	#	51
18) Carbon Disulfide	6.57	76	939887	10.4453	ppb	#	66
19) trans-1,2-Dichloroethene	7.19	96	386871	11.2028	ppb	#	71
20) 1,1-Dichloroethane	7.41	63	719603	10.7052	ppb		96
21) methyl t-butyl ether	7.49	73	944073	11.3114	ppb	#	79
22) Vinyl Acetate	7.58	86	98519	11.6969	ppb	#	1
23) 2-Butanone	7.86	43	809676	10.5965	ppb	#	71
24) cis-1,2-Dichloroethene	8.23	96	423994	11.1646	ppb	#	71
26) Ethyl Acetate	8.47	61	128951	11.4474	ppb	#	1
27) Hexane	8.41	57	672682	10.0673	ppb	#	85
28) Chloroform	8.52	83	862871	11.0334	ppb		98
29) Tetrahydrofuran	8.96	42	462820	9.8440	ppb	#	65
30) 1,2-Dichloroethane	9.27	62	613464	10.8294	ppb	#	92
31) 1,1,1-Trichloroethane	9.50	97	914154	10.9342	ppb	#	89
32) Benzene	9.96	78	1079346	10.5172	ppb	#	91
33) Carbon Tetrachloride	10.09	117	1083058	11.5179	ppb		99
34) Cyclohexane	10.20	84	510672	11.0504	ppb	#	40
35) 1,2-Dichloropropane	10.77	63	448491	10.0605	ppb		90
36) Bromodichloromethane	10.96	83	954472	10.7057	ppb		99
37) 1,4-Dioxane	11.02	88	283202	11.0728	ppb	#	77
38) Trichloroethene	10.99	130	624504	10.6652	ppb		93
39) Methyl Methacrylate	11.17	69	389787	10.9746	ppb		88
40) Heptane	11.26	71	375288	10.7077	ppb	#	39
41) cis-1,3-Dichloropropene	11.84	75	625862	10.5495	ppb		95
42) 4-Methyl-2-Pentanone	11.88	43	1028239	10.1473	ppb	#	77
43) trans-1,3-Dichloropropene	12.38	75	572789	10.8943	ppb		94
44) 1,1,2-Trichloroethane	12.56	97	500774	10.5388	ppb	#	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL89LCSD.D Vial: 2
Acq Time : 03/23/2017 11:43 Operator: LMR
Sample : QD- Inst : 5975-L
Misc : 35937 200mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:03:21 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	Toluene	12.84	91	1371741	10.8763	ppb		98
46)	2-Hexanone	13.09	43	921421	10.9639	ppb	#	83
47)	Dibromochloromethane	13.28	129	1092195	11.3453	ppb		99
48)	1,2-Dibromoethane	13.55	107	790570	10.7591	ppb		98
49)	Tetrachloroethene	14.00	166	637185	10.4332	ppb	#	74
51)	Chlorobenzene	14.72	112	830328	9.1951	ppb		96
52)	Ethylbenzene	15.11	91	1271541	8.9942	ppb		96
53)	m,p-Xylene	15.29	91	1716907	15.5861	ppb		99
54)	Bromoform	15.42	173	497796	8.5621	ppb		98
55)	Styrene	15.70	104	743002	8.2876	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.81	83	754482	8.3790	ppb		98
57)	o-Xylene	15.81	91	1002193	8.2378	ppb		98
59)	4-Ethyl Toluene	17.25	105	1534549	10.2050	ppb		98
60)	1,3,5-Trimethylbenzene	17.34	105	947769	7.7864	ppb		98
61)	1,2,4-Trimethylbenzene	17.86	105	1135725	9.8778	ppb		97
62)	Benzyl Chloride	18.04	91	833604	9.5833	ppb		94
63)	m-Dichlorobenzene	18.07	146	680846	8.4244	ppb	#	95
64)	p-Dichlorobenzene	18.15	146	669828	8.3627	ppb	#	95
65)	o-Dichlorobenzene	18.61	146	710582	9.3407	ppb	#	95
66)	1,2,4-Trichlorobenzene	21.13	180	235428	8.2585	ppb	#	95
67)	Naphthalene	21.31	128	755768	9.3231	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	163434	7.5969	ppb		96

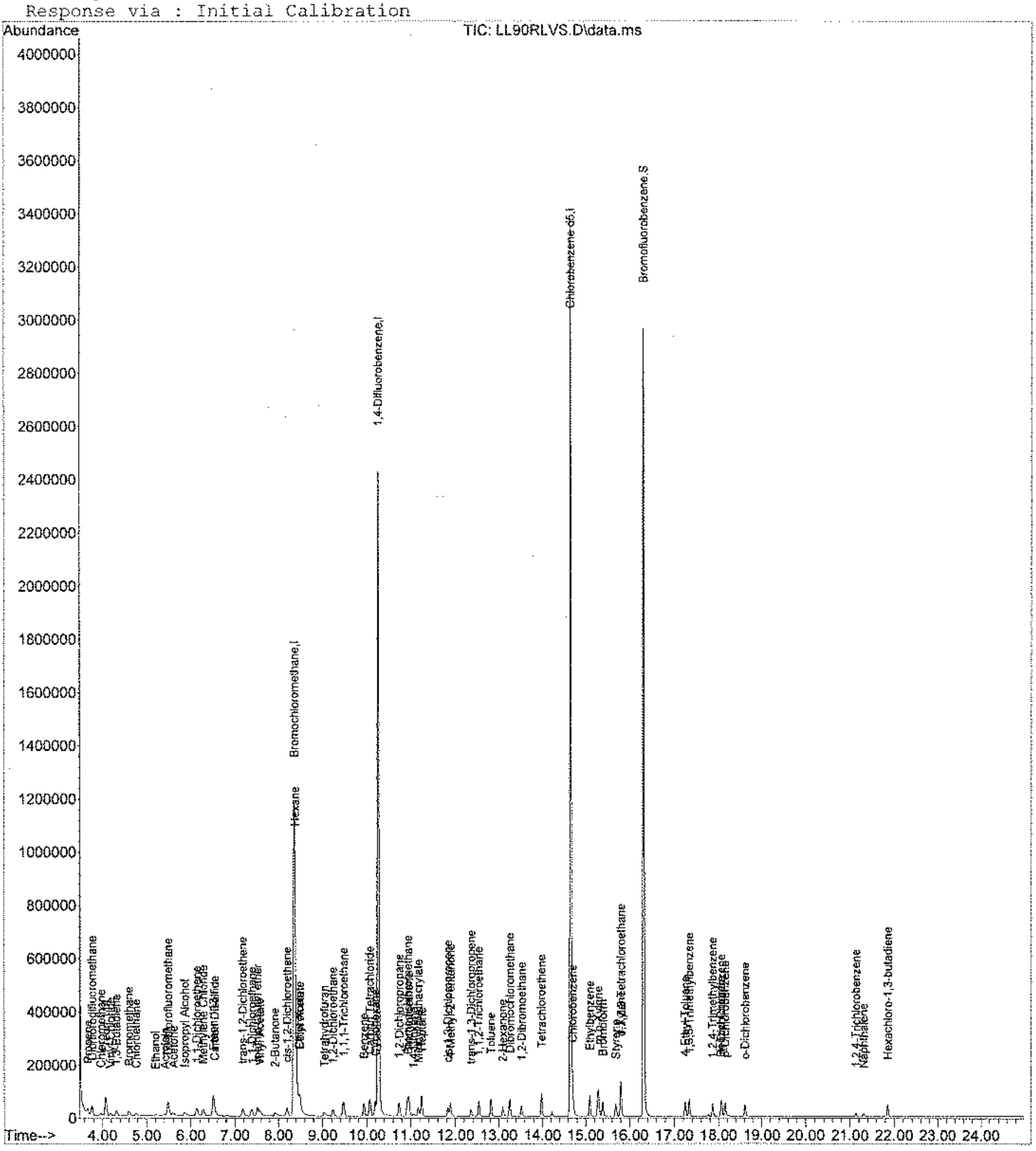
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL90RLVS.D Vial: 3
Acq Time : 03/23/2017 12:31 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 35941 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:03:41 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL90RLVS.D Vial: 3
Acq Time : 03/23/2017 12:31 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 35941 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:03:41 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.36	130	213440	20.0000	ppb		112.97
25) 1,4-Difluorobenzene	10.26	114	2738266	20.0000	ppb		119.50
50) Chlorobenzene d5	14.65	117	2231762	20.0000	ppb		111.74
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.31	95	1265324	21.6153	ppb		108.08%
Target Compounds							Qvalue
2) Propene	3.68	41	17365	0.6052	ppb		97
3) Dichlorodifluoromethane	3.77	85	61006	0.7022	ppb		98
4) Chloromethane	3.97	50	21841	0.6557	ppb		99
5) Freon 114	4.08	135	43558	0.7113	ppb	#	61
6) Vinyl Chloride	4.18	62	20944	0.6033	ppb		94
7) 1,3-Butadiene	4.31	54	16599	0.5824	ppb	#	79
8) Bromomethane	4.60	94	22872	0.7182	ppb		93
9) Chloroethane	4.77	64	11344	0.6458	ppb	#	92
10) Acrolein	5.43	56	9015	0.5737	ppb	#	76
11) Acetone	5.60	43	35381	0.6306	ppb		93
12) Trichlorofluoromethane	5.49	101	74216	0.7164	ppb		100
13) Ethanol	5.21	45	3069	0.2885	ppb	#	48
14) Isopropyl Alcohol	5.86	45	34835	0.5782	ppb	#	94
15) 1,1-Dichloroethene	6.13	61	38463	0.6484	ppb	#	68
16) Methylene Chloride	6.27	84	20519	0.6718	ppb	#	50
17) Freon 113	6.50	151	38467	0.7118	ppb	#	52
18) Carbon Disulfide	6.54	76	54193	0.6409	ppb	#	57
19) trans-1,2-Dichloroethene	7.18	96	20427	0.6295	ppb	#	68
20) 1,1-Dichloroethane	7.38	63	40626	0.6432	ppb	#	93
21) methyl t-butyl ether	7.51	73	46349	0.5910	ppb	#	79
22) Vinyl Acetate	7.58	86	4195	0.5300	ppb	#	1
23) 2-Butanone	7.91	43	34580	0.4816	ppb	#	67
24) cis-1,2-Dichloroethene	8.20	96	22677	0.6354	ppb	#	70
26) Ethyl Acetate	8.49	61	6578	0.5862	ppb	#	1
27) Hexane	8.39	57	35912	0.5395	ppb	#	85
28) Chloroform	8.48	83	50923	0.6537	ppb		98
29) Tetrahydrofuran	9.04	42	20047	0.4281	ppb	#	59
30) 1,2-Dichloroethane	9.23	62	32943	0.5838	ppb	#	88
31) 1,1,1-Trichloroethane	9.46	97	48297	0.5799	ppb	#	88
32) Benzene	9.92	78	58564	0.5729	ppb	#	91
33) Carbon Tetrachloride	10.06	117	57867	0.6178	ppb		99
34) Cyclohexane	10.19	84	25550	0.5550	ppb	#	43
35) 1,2-Dichloropropane	10.74	63	24469	0.5510	ppb	#	88
36) Bromodichloromethane	10.93	83	48881	0.5504	ppb		99
37) 1,4-Dioxane	11.06	88	12672	0.4974	ppb	#	82
38) Trichloroethene	10.97	130	31814	0.5454	ppb		93
39) Methyl Methacrylate	11.17	69	17358	0.4906	ppb		91
40) Heptane	11.25	71	19815	0.5676	ppb	#	36
41) cis-1,3-Dichloropropene	11.83	75	26791	0.4533	ppb		96
42) 4-Methyl-2-Pentanone	11.88	43	46982	0.4655	ppb	#	76
43) trans-1,3-Dichloropropene	12.36	75	22521	0.4300	ppb	#	93
44) 1,1,2-Trichloroethane	12.54	97	25073	0.5297	ppb	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL90RLVS.D Vial: 3
Acq Time : 03/23/2017 12:31 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 35941 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:03:41 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	Toluene	12.82	91	63702	0.5070	ppb		98
46)	2-Hexanone	13.09	43	36881	0.4406	ppb	#	79
47)	Dibromochloromethane	13.26	129	50156	0.5230	ppb		97
48)	1,2-Dibromoethane	13.52	107	37437	0.5115	ppb		98
49)	Tetrachloroethene	13.98	166	29673	0.4878	ppb	#	75
51)	Chlorobenzene	14.70	112	39666	0.4716	ppb		99
52)	Ethylbenzene	15.09	91	68059	0.5168	ppb		95
53)	m,p-Xylene	15.29	91	105195	1.0252	ppb		94
54)	Bromoform	15.39	173	30273	0.5590	ppb		99
55)	Styrene	15.69	104	33734	0.4040	ppb		95
56)	1,1,2,2-Tetrachloroethane	15.80	83	42140	0.5024	ppb	#	91
57)	o-Xylene	15.80	91	52953	0.4673	ppb		96
59)	4-Ethyl Toluene	17.25	105	44140	0.3151	ppb		97
60)	1,3,5-Trimethylbenzene	17.33	105	46628	0.4113	ppb		96
61)	1,2,4-Trimethylbenzene	17.86	105	36817	0.3438	ppb		98
62)	Benzyl Chloride	18.04	91	21559	0.2661	ppb		91
63)	m-Dichlorobenzene	18.06	146	29102	0.3866	ppb	#	93
64)	p-Dichlorobenzene	18.15	146	27788	0.3725	ppb	#	95
65)	o-Dichlorobenzene	18.61	146	28730	0.4054	ppb		94
66)	1,2,4-Trichlorobenzene	21.14	180	6130	0.2309	ppb	#	93
67)	Naphthalene	21.31	128	17211	0.2279	ppb	#	95
68)	Hexachloro-1,3-butadiene	21.86	225	6776	0.3381	ppb		87

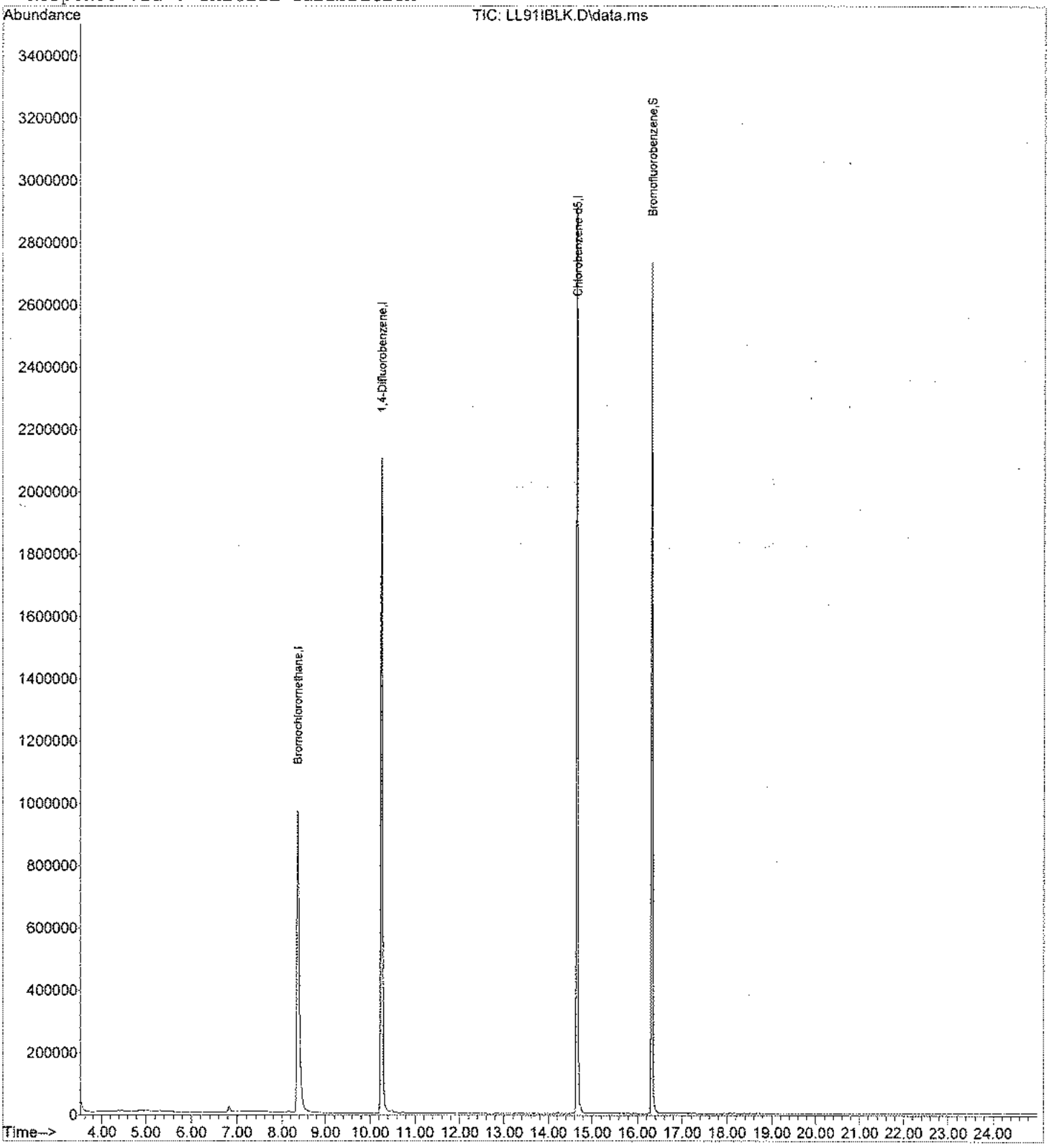
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL91IBLK.D Vial: 1
Acq Time : 03/23/2017 13:21 Operator: LMR
Sample : BL- 0153 Inst : 5975-L
Misc : 0153/0724/0671/0428/0669/0659/0667/0796 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:03:53 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL91IBLK.D Vial: 1
Acq Time : 03/23/2017 13:21 Operator: LMR
Sample : BL- 0153 Inst : 5975-L
Misc : 0153/0724/0671/0428/0669/0659/0667/0796 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:03:53 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.36	130	177152	20.0000 ppb	93.77
25) 1,4-Difluorobenzene	10.26	114	2500002	20.0000 ppb	109.10
50) Chlorobenzene d5	14.66	117	2014732	20.0000 ppb	100.88
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.32	95	1114982	21.0988 ppb	105.49%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	0.00	85		Not Detected	
4) Chloromethane	0.00	50		Not Detected	
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	0.00	43		Not Detected	
12) Trichlorofluoromethane	0.00	101		Not Detected	
13) Ethanol	0.00	45		Not Detected	
14) Isopropyl Alcohol	0.00	45		Not Detected	
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	0.00	84		Not Detected	
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	0.00	43		Not Detected	
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	0.00	61		Not Detected	
27) Hexane	0.00	57		Not Detected	
28) Chloroform	0.00	83		Not Detected	
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	0.00	78		Not Detected	
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	0.00	71		Not Detected	
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\23MAR17L\LL91IBLK.D Vial: 1
Acq Time : 03/23/2017 13:21 Operator: LMR
Sample : BL- 0153 Inst : 5975-L
Misc : 0153/0724/0671/0428/0669/0659/0667/0796 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Mar 24 11:03:53 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Mar 24 11:02:57 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Toluene	0.00	91		Not Detected	
46)	2-Hexanone	0.00	43		Not Detected	
47)	Dibromochloromethane	0.00	129		Not Detected	
48)	1,2-Dibromoethane	0.00	107		Not Detected	
49)	Tetrachloroethene	0.00	166		Not Detected	
51)	Chlorobenzene	0.00	112		Not Detected	
52)	Ethylbenzene	0.00	91		Not Detected	
53)	m,p-Xylene	0.00	91		Not Detected	
54)	Bromoform	0.00	173		Not Detected	
55)	Styrene	0.00	104		Not Detected	
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57)	o-Xylene	0.00	91		Not Detected	
59)	4-Ethyl Toluene	0.00	105		Not Detected	
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61)	1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62)	Benzyl Chloride	0.00	91		Not Detected	
63)	m-Dichlorobenzene	0.00	146		Not Detected	
64)	p-Dichlorobenzene	0.00	146		Not Detected	
65)	o-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67)	Naphthalene	0.00	128		Not Detected	
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected	

(#) = qualifier out of range (m) = manual integration

Analyst Notebook

TO15
Instrument : See Batch Worklist
HBN: See Batch Worklist
Column: DB-1
Inst. Program: Initial 40 °C for 4 min; 10 °C/min to 220 °C hold for 3 mins.
Run time: 26 min for 5975-K, 25 min for 5975-L
Carrier Gas: Helium
Cold Trap Dehydration
Initial Calibration Curve is : T015LU16.M (HBN 180857)

The following compounds in the CCS were outside of +/_30%: N/A

Dilutions:

Notes:

Analyst Signature:

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ALS GROUP USA, CORP. Part of the ALS Laboratory Group A Campbell Brothers Limited Company
www.alsglobal.com
RIGHT SOLUTIONS

Batch Worklist

Batch: IVOA/ 3536 Created: 3/24/2017 11:05 Instrument: 5975-L HBN: 187449

Rule: EPA TO-15, Air Analyst: J. Baum Status: WP

Workorder: 1707721 [ENV_LVL4]

Pos	Lab ID	Sample ID	Prep Initial	Prep Final	Dust Weight	Type	Mx	Container	Procedure	Mgr	Expire Date	Due Date	Run Date
1	541788	MB for HBN 187449 [IVOA/3536]				MB	1		ETO15...1Q	6186		3/31/2017	3/23/2017
2	541789	LCS for HBN 187449 [IVOA/3536]				LCS	1		ETO15...1Q	6186		3/31/2017	3/23/2017
3	541790	LCSD for HBN 187449 [IVOA/3536				LCSD	1		ETO15...1Q	6186		3/31/2017	3/23/2017
4	541791	RLVS for HBN 187449 [IVOA/3536				RLVS	1		ETO15...1Q	6186		3/31/2017	3/23/2017
5	1707721001	A-0027H-031017-TO-001-BAS				SAMPLE	1	1707721001-A	ETO15....1	5480		3/31/2017	3/23/2017
6	1707721002	A-0027H-031017-TO-002-BAS				SAMPLE	1	1707721002-A	ETO15....1	5480		3/31/2017	3/23/2017
7	1707721003	A-0013H-031017-TO-001-BAS				SAMPLE	1	1707721003-A	ETO15....1	5480		3/31/2017	3/23/2017
8	1707721004	A-0025H-031417-TO-001-BAS				SAMPLE	1	1707721004-A	ETO15....1	5480		3/31/2017	3/23/2017
9	1707721005	A-0004H-031417-TO-001-BAS				SAMPLE	1	1707721005-A	ETO15....1	5480		3/31/2017	3/23/2017
10	1707721006	A-0012H-031417-TO-001-BAS				SAMPLE	1	1707721006-A	ETO15....1	5480		3/31/2017	3/23/2017
11	1707721007	A-0026H-031617-TO-001-LIV				SAMPLE	1	1707721007-A	ETO15....1	5480		3/31/2017	3/23/2017

1707721

ANALYTICAL REQUEST FORM

1707721
1707644

1. ☑ REGULAR Status [14-Day TAT]

☐ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____ DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 3/17/17 Purchase Order No. 10006-7-107234

3. Company Name CH2M HILL
Address 4246 S. Riverboat Rd, Suite 210
Taylorsville, UT 84123
Person to Contact Mark Cicky
Telephone (530) 229-3274
Fax Telephone ( )
E-mail Address Mark.cicky@ch2m.com
Billing Address (If different from above)

4. Quote No. 80QR20655-R17-0003
ALS Project Manager Kevin Griffith

5. Sample Collection
Sampling Site VA AOU1 (SLC, UT)
Industrial Process Residential Indoor Air
Date of Collection 3/10/17 – 3/16/17
Time Collected
Date of Shipment dropped @ Lab
Chain of Custody No. 001

6. How did you first learn about ALS?

7. REQUEST FOR ANALYSES

Rush 03-23-17 Hg

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
~~0026H 031017-TO-002-BAS~~	~~Indoor Air~~		~~Sim TO-15 (VOCs)*~~	~~5+6~~	
0027H-031017-TO-001-BAS	"		Sim TO-15 (VOCs)*	5+6	4 in Hg
0022H-031017-TO-002-BAS	"		Sim TO-15 (VOCs)*	5+6	3 in Hg
0017H-031017-TO-001-BAS	"		Sim TO-15 (VOCs)*	5+6	1 in Hg
0023H-031417-TO-001-BAS	"		SIM TO-15 (VOCs)*	5+6	1 in Hg
0014H-031417-TO-001-BAS	"		Sim TO-15 (VOCs)*	5+6	3
0012H-031417-TO-001-BAS	"		Sim TO-15 (VOCs)*	5+6	2
0026H-031617-TO-001-LAB	"		Sim TO-15 (VOCs)*	5+6	3

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % (5.) µg/m³ (6.) ppb (other) Please indicate one or more units in the column entitled Units**

Comments EDD type: Labspec 7 Data Deliverable: Level 4

* 1,1-DCE, cis-1,2-DCE, TCE, PCE ~~by TO-15~~ and 1,4-Dioxane by TO-15 Sim

Possible Contamination and/or Chemical Hazards None

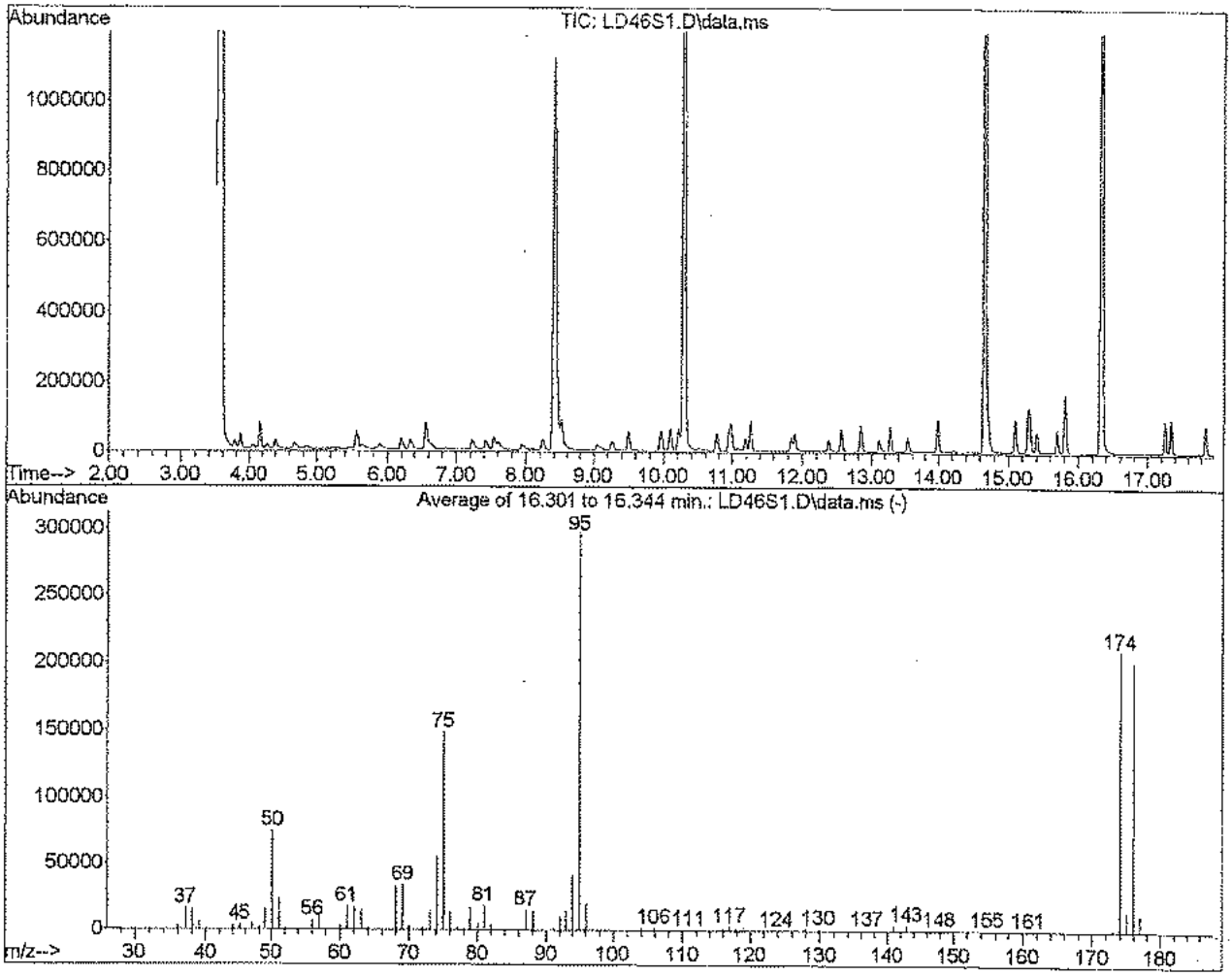
7. Chain of Custody (Optional)

Relinquished by		Date/Time	3/17/17 10:35
Received by		Date/Time	3/17/17 1035
Relinquished by		Date/Time	
Received by		Date/Time	

BFB

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD46S1.D Vial: 1
Acq Time : 11/14/2016 14:59 Operator: LMR
Sample : 1.0 PPB STD Inst : 5975-L
Misc : 34279 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15



Peak Apex is scan: Average of 16.301 to 16.344 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	30	25.03	74683	PASS
75	95	30	66	49.77	148469	PASS
95	95	100	100	100.00	298322	PASS
96	95	5	9	6.63	19788	PASS
173	174	0.00	2	0.77	1605	PASS
174	95	50	120	70.15	209285	PASS
175	174	5	9	7.23	15124	PASS
176	174	93	101	96.41	201776	PASS
177	176	5	9	6.58	13275	PASS

Average of 16.301 to 16.344 min.: LD46S1.D\data.ms
1.0 PPB STD
Modified:subtracted

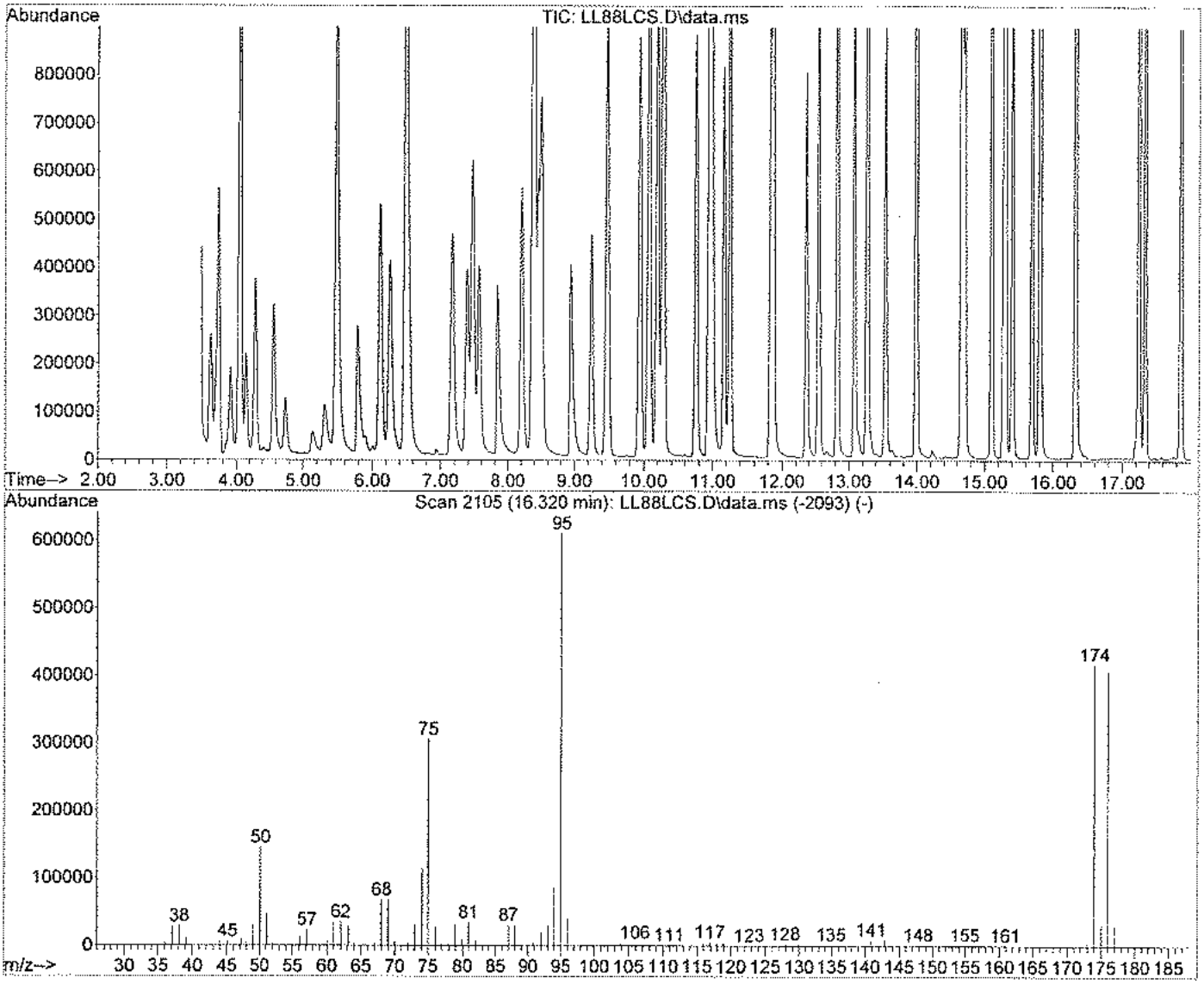
m/z	Abundance
36.05	2535.0
37.10	15856.0
38.10	15031.0
39.05	6061.0
43.00	109.0
44.00	2487.0
45.05	3561.0
46.10	348.0
47.05	5340.0
48.00	1981.0
49.00	15784.0
50.10	74683.0
51.10	23504.0
52.00	1036.0
55.00	958.0
56.05	7054.0
57.00	12149.0
58.00	497.0
60.00	3069.0
61.00	17075.0
62.00	16901.0
63.05	13798.0
64.00	1260.0
64.90	43.0
65.20	25.0
67.00	765.0
68.00	32927.0
69.00	33575.0
70.00	2887.0
70.90	40.0
71.10	49.0
72.00	1721.0
73.00	14165.0
74.05	55491.0
75.00	148469.0
76.05	12950.0
77.05	1681.0
78.00	1123.0
78.90	16829.0
79.95	4583.0
80.90	18022.0
81.95	3915.0
82.95	524.0
86.00	349.0
87.00	15158.0
88.00	14467.0
90.95	1793.0
92.00	10028.0
93.00	14797.0
94.00	41548.0
95.00	298322.0
96.05	19788.0
97.00	588.0
102.90	227.0
103.95	2143.0
104.70	19.0
104.90	586.0
105.90	2192.0
106.90	382.0
109.95	351.0
110.95	568.0
111.85	323.0
112.95	554.0
114.90	379.0
115.90	1647.0
116.95	2941.0
117.90	1624.0
118.90	2365.0
119.90	20.0
122.80	38.0
123.00	50.0
123.85	242.0
124.90	110.0
125.70	22.0
125.90	151.0
126.85	63.0
127.85	1272.0
128.95	592.0
129.85	1354.0
130.95	472.0
133.90	86.0
134.85	754.0
135.90	117.0
136.90	755.0
138.75	71.0
139.95	265.0
140.90	4235.0

141.85	472.0
142.90	4333.0
143.95	220.0
144.95	355.0
145.90	468.0
146.90	165.0
147.85	777.0
148.90	170.0
149.85	282.0
151.85	85.0
152.90	185.0
153.90	181.0
154.95	692.0
156.90	453.0
158.85	322.0
160.85	269.0
169.55	58.0
170.25	53.0
170.60	33.0
170.90	102.0
171.25	176.0
171.65	163.0
171.80	38.0
172.00	283.0
172.20	74.0
172.90	1605.0
173.95	209285.0
174.95	15124.0
175.90	201776.0
177.00	13275.0
177.80	52.0
177.95	334.0

BFB

Data File : I:\L - 5975-L\2017\MAR17L\23MAR17L\LL88LCS.D Vial: 2
Acq Time : 03/23/2017 10:54 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15



Peak Apex is scan: Scan 2105

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	30	23.77	145280	PASS
75	95	30	66	50.00	305600	PASS
95	95	100	100	100.00	611200	PASS
96	95	5	9	6.49	39672	PASS
173	174	0.00	2	0.79	3312	PASS
174	95	50	120	68.36	417792	PASS
175	174	5	9	7.74	32328	PASS
176	174	93	101	97.43	407040	PASS
177	176	5	9	7.17	29200	PASS

can 2105 (16.320 min): LL88LCS.D\data.ms (-2093)

odified:subtracted

m/z	Abundance
35.95	4086.0
37.10	27888.0
38.10	28464.0
39.10	10991.0
43.00	303.0
44.00	5171.0
45.10	6519.0
46.00	520.0
47.10	9948.0
48.00	3710.0
49.00	30104.0
50.10	145280.0
51.10	46670.0
52.00	2172.0
55.00	1733.0
56.10	13305.0
57.10	23368.0
58.00	1316.0
58.80	154.0
60.00	6616.0
61.00	34048.0
62.00	34560.0
63.10	27312.0
64.00	2610.0
65.00	198.0
67.00	1910.0
68.00	67880.0
69.00	67760.0
70.00	5583.0
71.00	277.0
72.00	3415.0
73.00	30352.0
74.10	113936.0
75.00	305600.0
76.10	26944.0
76.95	2932.0
77.90	2055.0
78.90	31064.0
79.90	8932.0
80.90	34184.0
82.00	7126.0
82.95	934.0
84.90	187.0
86.00	958.0
87.00	30672.0
88.00	29824.0
90.85	3616.0
92.00	20152.0
93.00	30224.0
94.00	86184.0
95.00	611200.0
96.10	39672.0
97.10	1238.0
102.90	337.0
103.90	4050.0
105.00	1332.0
105.90	4107.0
106.90	1003.0
109.90	776.0
110.90	1131.0
112.00	719.0
112.90	995.0
114.90	504.0
115.90	3367.0
116.90	5648.0
117.90	3706.0
118.90	4628.0
119.90	163.0
121.80	223.0
122.70	265.0
123.90	536.0
125.00	228.0
125.90	345.0
127.00	212.0
127.90	2653.0
128.90	1757.0
129.90	2433.0
130.90	1138.0
131.90	183.0
133.90	217.0
134.90	1534.0
135.90	197.0
136.90	1487.0
138.80	192.0
140.00	490.0
140.90	8688.0
141.90	754.0
142.90	8583.0
144.00	512.0

144.90	806.0
145.90	1074.0
146.90	438.0
147.90	1625.0
148.90	410.0
149.90	633.0
152.00	170.0
152.90	537.0
153.80	290.0
154.90	1353.0
156.90	971.0
158.90	571.0
160.90	646.0
170.90	381.0
171.80	658.0
172.90	3312.0
174.00	417792.0
175.00	32328.0
176.00	407040.0
177.00	29200.0
178.00	624.0

Response Factor Report 5975-L

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15
Last Update : Thu Nov 17 11:38:44 2016
Response Via : Initial Calibration

Calibration Files
.5 =LD55S05.D 1 =LD46S1.D 2 =LD47S2.D 5 =LD48S5.D 10 =LD49S10.D 20 =LD50S20.D
50 =LD51S50.D

		Compound	.5	1	2	5	10	20	50	Avg		%RSD	
.)	I	Bromochloromethane	----------ISTD----------										
2)		Propene	3.002	2.075	2.638	2.835	2.909	2.756	2.607	2.689		11.34	TL
3)		Dichlorodifluo...	9.843	6.054	7.570	8.243	8.611	8.343	8.322	8.141		14.08	
4)		Chloromethane	3.185	2.361	3.056	3.383	3.262	3.372	3.231	3.121		11.32	
5)		Freon 114	6.870	4.480	5.321	5.756	5.876	5.836	6.025	5.738		12.63	
6)		Vinyl Chloride	3.689	2.513	3.129	3.348	3.390	3.394	3.309	3.253		11.25	
7)		1,3-Butadiene	2.756	1.932	2.596	2.802	2.934	2.845	2.828	2.671		12.79	
8)		Bromomethane	3.717	2.272	2.799	2.961	2.978	3.074	3.087	2.984		14.33	
9)		Chloroethane	2.179	1.357	1.531	1.580	1.629	1.636	1.609	1.646		15.43	
0)		Acrolein	1.628	1.050	1.305	1.540	1.585	1.590	1.611	1.473		14.70	TL
1)		Acetone	7.117	3.887	4.745	5.021	5.474	5.330	5.229	5.258		18.56	
2)		Trichlorofluor...	1.166	0.721	0.893	0.958	0.996	1.006	1.054	0.971	E1	14.29	
3)		Ethanol		0.379	0.949	1.074	1.165	1.156	1.258	0.997		32.07	TL
4)		Isopropyl Alcohol		4.377	5.106	5.813	6.264	6.008	6.306	5.646		13.44	TL
5)		1,1-Dichloroet...	6.439	4.191	5.097	5.638	5.915	5.803	5.825	5.558		12.98	
6)		Methylene Chlo...	3.586	2.309	2.664	2.859	2.963	2.865	2.788	2.862		13.43	
7)		Freon 113	6.165	3.800	4.608	5.005	5.235	5.130	5.503	5.064		14.53	
8)		Carbon Disulfide	9.726	6.008	7.407	8.072	8.208	8.052	7.990	7.923		13.93	
9)		trans-1,2-Dich...	3.369	2.332	2.834	3.105	3.292	3.186	3.168	3.041		11.69	
0)		1,1-Dichloroet...	6.769	4.664	5.545	6.026	6.329	6.060	6.038	5.919		11.23	
1)		methyl t-butyl...	8.839	5.138	6.608	7.528	8.128	7.908	7.295	7.349		16.30	
2)		Vinyl Acetate	0.832	0.486	0.663	0.761	0.857	0.842	0.750	0.742		17.75	
3)		2-Butanone	7.145	4.579	5.760	7.057	7.656	7.578	7.321	6.728		16.91	
4)		cis-1,2-Dichlo...	3.778	2.544	3.038	3.447	3.619	3.508	3.473	3.344		12.52	
5)	I	1,4-Difluorobenzene	----------ISTD----------										
6)		Ethyl Acetate	0.083	0.053	0.080	0.080	0.089	0.099	0.090	0.082		17.58	
7)		Hexane	0.525	0.342	0.433	0.466	0.504	0.541	0.592	0.486		16.80	
8)		Chloroform	0.622	0.416	0.524	0.553	0.584	0.622	0.663	0.569		14.43	
9)		Tetrahydrofuran	0.319	0.206	0.302	0.335	0.371	0.404	0.458	0.342		23.54	

Response Factor Report 5975-L

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15

)	1,2-Dichloroet...	0.435	0.287	0.365	0.388	0.414	0.457	0.539	0.412	19.06
L)	1,1,1-Trichlor...	0.641	0.422	0.527	0.560	0.605	0.669	0.835	0.608	21.22
2)	Benzene	0.827	0.548	0.687	0.750	0.788	0.818	0.809	0.747	13.38
3)	Carbon Tetrach...	0.728	0.469	0.587	0.648	0.690	0.712	0.955	0.684	21.78
4)	Cyclohexane	0.363	0.246	0.322	0.352	0.372	0.386	0.313	0.336	14.19
5)	1,2-Dichloropr...	0.332	0.238	0.289	0.309	0.335	0.360	0.408	0.324	16.58
5)	Bromodichlorom...	0.658	0.432	0.542	0.601	0.648	0.731	0.929	0.649	24.07
7)	1,4-Dioxane	0.211	0.094	0.153	0.184	0.198	0.214	0.248	0.186	26.80 TIC
3)	Trichloroethene	0.446	0.284	0.352	0.395	0.421	0.462	0.622	0.426	24.71
9)	Methyl Methacr...	0.304	0.181	0.223	0.260	0.283	0.298	0.260	0.258	16.87 TIC
))	Heptane	0.290	0.184	0.246	0.272	0.277	0.261	0.255	0.255	13.48
L)	cis-1,3-Dichlo...	0.445	0.263	0.361	0.412	0.456	0.502	0.581	0.432	23.47
2)	4-Methyl-2-Pen...	0.738	0.467	0.677	0.763	0.812	0.815	0.889	0.737	18.55
3)	trans-1,3-Dich...	0.424	0.230	0.314	0.366	0.413	0.458	0.473	0.383	22.56
4)	1,1,2-Trichlor...	0.370	0.240	0.310	0.330	0.358	0.389	0.423	0.346	17.24
5)	Toluene	1.073	0.613	0.850	0.944	1.002	0.982	0.959	0.918	16.36
5)	2-Hexanone	0.691	0.372	0.551	0.681	0.747	0.687	0.550	0.611	21.14
7)	Dibromochlorom...	0.783	0.460	0.591	0.666	0.725	0.739	0.939	0.700	21.57
3)	1,2-Dibromoethane	0.658	0.342	0.464	0.513	0.559	0.613	0.593	0.535	19.93
9)	Tetrachloroethene	0.478	0.274	0.366	0.401	0.441	0.494	0.656	0.444	26.87
)	I Chlorobenzene d5	----------ISTD----------								
.)	Chlorobenzene	0.962	0.525	0.688	0.740	0.774	0.743	0.845	0.754	17.87
:)	Ethylbenzene	1.531	0.883	1.179	1.237	1.148	1.004	1.279	1.180	17.53
)	m,p-Xylene	1.202	0.712	0.923	0.883	0.756	0.785	1.175	0.920	21.51
)	Bromoform		0.358	0.461	0.403	0.421	0.505	0.765	0.485	30.06
)	Styrene	0.991	0.500	0.716	0.779	0.681	0.677	0.894	0.748	21.35
)	1,1,2,2-Tetrac...	0.951	0.580	0.746	0.772	0.700	0.788	0.725	0.752	14.82
)	o-Xylene	1.199	0.733	0.983	1.018	0.898	1.017	1.261	1.016	17.47
)	S Bromofluoroben...	0.524	0.519	0.523	0.527	0.506	0.461	0.612	0.525	8.56
)	4-Ethyl Toluene	1.426	0.843	1.247	1.411	1.389	1.302	1.167	1.255	16.30
)	1,3,5-Trimethy...	1.173	0.747	1.032	1.056	0.903	0.960	1.241	1.016	16.34
)	1,2,4-Trimethy...	1.198	0.639	0.965	1.092	1.034	0.871	0.920	0.960	18.66
)	Benzyl Chloride		0.360	0.623	0.815	0.807	0.782	0.969	0.726	28.98 EST
)	m-Dichlorobenzene		0.472	0.648	0.704	0.680	0.685	0.859	0.675	18.37
)	p-Dichlorobenzene		0.463	0.649	0.652	0.681	0.760	0.806	0.669	17.74
)	o-Dichlorobenzene		0.444	0.627	0.699	0.658	0.641	0.741	0.635	16.13
)	1,2,4-Trichlor...		0.113	0.202	0.277	0.310	0.327	0.198	0.238	34.22 EST
)	Naphthalene		0.351	0.649	0.878	0.947	0.800	0.434	0.677	35.89 TIC
)	Hexachloro-1,3...		0.124	0.181	0.204	0.214	0.233	0.121	0.180	26.32 EST

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15

#) = Out of Range

Continuing Calibration Report 5975-L

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15
Last Update : Wed Mar 29 13:50:23 2017
Response Via : Initial Calibration

CC Data File: LL88LCS.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	
1	I	Bromochloromethane	1.000	1.000	0.0	118	
2		Propene	2.689	2.288	14.9	93	NC
3		Dichlorodifluoromethane	8.141	9.089	-11.6	125	
4		Chloromethane	3.121	3.361	-7.7	122	
5		Freon 114	5.738	6.600	-15.0	133	
6		Vinyl Chloride	3.253	3.369	-3.6	118	
7		1,3-Butadiene	2.671	2.845	-6.5	115	
8		Bromomethane	2.984	3.244	-8.7	129	
9		Chloroethane	1.646	1.619	1.6	118	
10		Acrolein	1.473	1.581	-7.3	118	NC
11		Acetone	5.258	5.338	-1.5	115	
12		Trichlorofluoromethane	9.707	11.310	-16.5	134	
13		Ethanol	0.997	1.116	-12.0	113	NC
14		Isopropyl Alcohol	5.646	5.691	-0.8	108	NC
15		1,1-Dichloroethene	5.558	5.927	-6.6	119	
16		Methylene Chloride	2.862	2.988	-4.4	119	
17		Freon 113	5.064	5.800	-14.5	131	
18		Carbon Disulfide	7.923	8.188	-3.3	118	
19		trans-1,2-Dichloroethene	3.041	3.378	-11.1	121	
20		1,1-Dichloroethane	5.919	6.285	-6.2	118	
21		methyl t-butyl ether	7.349	8.334	-13.4	121	
22		Vinyl Acetate	0.742	0.845	-13.9	117	
23		2-Butanone	6.728	7.063	-5.0	109	
24		cis-1,2-Dichloroethene	3.344	3.737	-11.7	122	
25	I	1,4-Difluorobenzene	1.000	1.000	0.0	118	
26		Ethyl Acetate	0.082	0.086	-5.4	115	
27		Hexane	0.486	0.489	-0.6	115	
28		Chloroform	0.569	0.635	-11.6	128	
29		Tetrahydrofuran	0.342	0.340	0.5	108	
30		1,2-Dichloroethane	0.412	0.448	-8.8	128	
31		1,1,1-Trichloroethane	0.608	0.665	-9.4	130	
32		Benzene	0.747	0.782	-4.8	117	
33		Carbon Tetrachloride	0.684	0.789	-15.3	135	
34		Cyclohexane	0.336	0.370	-10.0	117	
35		1,2-Dichloropropane	0.324	0.326	-0.4	115	
36		Bromodichloromethane	0.649	0.700	-7.9	127	
37		1,4-Dioxane	0.186	0.203	-8.9	121	NC
38		Trichloroethene	0.426	0.453	-6.3	127	
39		Methyl Methacrylate	0.258	0.283	-9.7	118	NC
40		Heptane	0.255	0.275	-7.9	117	
41		cis-1,3-Dichloropropene	0.432	0.452	-4.8	117	
42		4-Methyl-2-Pentanone	0.737	0.751	-1.9	109	
43		trans-1,3-Dichloropropene	0.383	0.413	-7.9	118	
44		1,1,2-Trichloroethane	0.346	0.366	-5.9	121	

Continuing Calibration Report 5975-L

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15
Last Update : Wed Mar 29 13:50:23 2017
Response Via : Initial Calibration

CC Data File: LL88LCS.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	
45		Toluene	0.918	1.002	-9.2	118	
46		2-Hexanone	0.611	0.680	-11.2	107	
47		Dibromochloromethane	0.700	0.797	-13.8	130	
48		1,2-Dibromoethane	0.535	0.582	-8.8	123	
49		Tetrachloroethene	0.444	0.460	-3.6	123	
50	I	Chlorobenzene d5	1.000	1.000	0.0	117	
51		Chlorobenzene	0.754	0.693	8.1	105	
52		Ethylbenzene	1.180	1.028	12.9	105	
53		m,p-Xylene	0.920	0.714	22.4	111	
54		Bromoform	0.485	0.418	13.9	117	
55		Styrene	0.748	0.619	17.4	107	
56		1,1,2,2-Tetrachloroethane	0.752	0.643	14.5	108	
57		o-Xylene	1.016	0.848	16.5	111	
58	S	Bromofluorobenzene	0.525	0.552	-5.2	128	
59		4-Ethyl Toluene	1.255	1.295	-3.2	109	
60		1,3,5-Trimethylbenzene	1.016	0.808	20.5	105	
61		1,2,4-Trimethylbenzene	0.960	0.955	0.5	108	
62		Benzyl Chloride	0.726	0.699	3.7	102	EST
63		m-Dichlorobenzene	0.675	0.577	14.5	100	
64		p-Dichlorobenzene	0.669	0.569	14.9	98	
65		o-Dichlorobenzene	0.635	0.606	4.5	108	
66		1,2,4-Trichlorobenzene	0.238	0.195	18.1	74	EST
67		Naphthalene	0.677	0.632	6.5	78	TK
68		Hexachloro-1,3-butadiene	0.180	0.141	21.6	77	EST

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GC/MS QA-QC Check Report

Tune File : I:\L - 5975-L\2017\MAR17L\23MAR17L\LL88LCS.D
Tune Time : 23 Mar 2017 10:54 am

Daily Calibration File : I:\L - 5975-L\2017\MAR17L\23MAR17L\LL88LCS.D

			223552	2703000	2345090
File	Sample	Surrogate Recovery %	Internal Standard Responses		
LL88LCS.D					
	QC	105	223552	2702998	2345091
LL89LCSD.D					
	QD-	104	227136	2748932	2395956
LL90RLVS.D					
	RLVS	108	213440	2738266	2231762
LL91IBLK.D					
	BL- 0153	105	177152	2500002	2014732
LL92I001.D					
	1707721001	102	177754	2273482	1839182
LL93I002.D					
	1707721002	104	202176	2342735	1880217
LL94I003.D					
	1707721003	103	182388	2326793	1868775
LL95I004.D					
	1707721004	105	201920	2352217	1898445
LL96I005.D					
	1707721005	105	193024	2309619	1858387
LL97I006.D					
	1707721006	107	214272	2306094	1895115
LL98I007.D					
	1707721007	106	196032	2301540	1897607

fails) - fails 24hr time check * - fails criteria

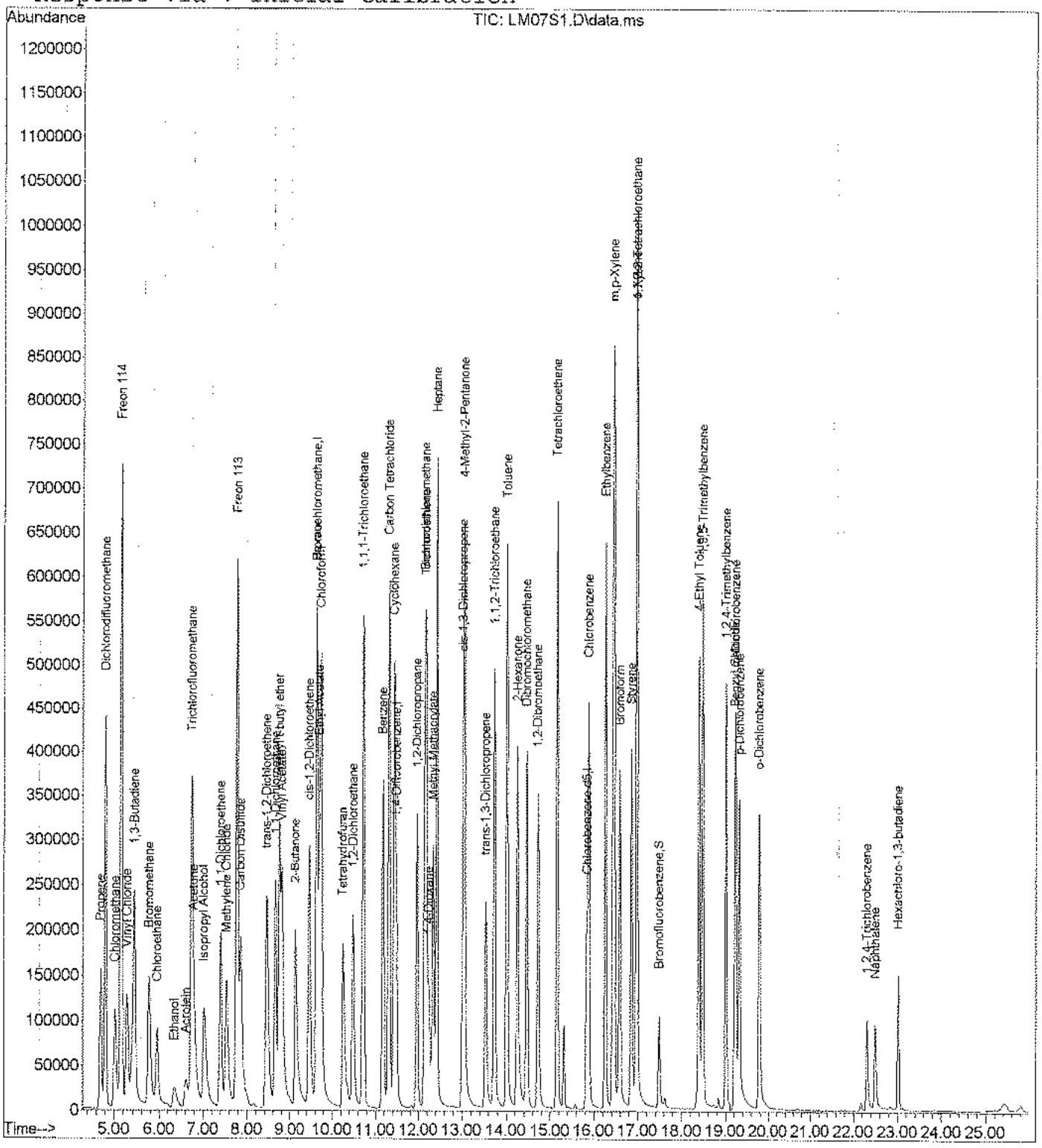
Created: Fri Mar 31 10:56:58 2017 5975-L

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM07S1.D Vial: 3
Acq Time : 03/27/2017 12:58 Operator: LMR
Sample : 1.0PPB Inst : 5975-L
Misc : 35941 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:21:59 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM07S1.D Vial: 3
Acq Time : 03/27/2017 12:58 Operator: LMR
Sample : 1.0PPB Inst : 5975-L
Misc : 35941 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:21:59 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 03 12:06:21 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	29094	1000.0000	ppt		81.05
25) 1,4-Difluorobenzene	11.48	114	516136	1000.0000	ppt		80.17
50) Chlorobenzene d5	15.84	117	481060	1000.0000	ppt		92.13
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.48	95	244026	1207.7388	ppt		120.77%
Target Compounds							Qvalue
2) Propene	4.69	41	293288	1481.3242	ppt	#	58
3) Dichlorodifluoromethane	4.80	85	772891	1489.3810	ppt		99
4) Chloromethane	5.01	50	326970	1420.1547	ppt		97
5) Freon 114	5.15	135	575463	1474.5759	ppt	#	57
6) Vinyl Chloride	5.28	62	387343	1489.6729	ppt		97
7) 1,3-Butadiene	5.44	54	355376	1493.6134	ppt	#	73
8) Bromomethane	5.76	94	339978	1566.5038	ppt		99
9) Chloroethane	5.95	64	211124	1437.2480	ppt	#	86
10) Acrolein	6.61	56	129021	57871.0678	ppt	m	64
11) Acetone	6.79	43	416998	1268.7515	ppt		95
12) Trichlorofluoromethane	6.74	101	731913	1523.3367	ppt		100
13) Ethanol	6.35	45	105117	405.9420	ppt	m	41
14) Isopropyl Alcohol	7.02	45	445410	1720.0893	ppt	#	80
15) 1,1-Dichloroethene	7.40	61	452917	1637.2631	ppt	m	83
16) Methylene Chloride	7.54	84	253189	1335.8885	ppt	#	18
17) Freon 113	7.76	151	514152	1513.0454	ppt	#	53
18) Carbon Disulfide	7.85	76	851903	1385.5393	ppt	#	57
19) trans-1,2-Dichloroethene	8.45	96	308683	1590.0315	ppt	#	73
20) 1,1-Dichloroethane	8.65	63	607389	1530.6621	ppt	#	85
21) methyl t-butyl ether	8.74	73	693616	1838.3902	ppt	#	60
22) Vinyl Acetate	8.81	86	77072	226745.2107	ppt	#	1
23) 2-Butanone	9.12	43	733216	1954.2016	ppt	#	67
24) cis-1,2-Dichloroethene	9.46	96	328438	1747.5020	ppt	#	72
26) Ethyl Acetate	9.69	61	103423	1139.7471	ppt	#	1
27) Hexane	9.63	57	544369	1834.6820	ppt	#	82
28) Chloroform	9.74	83	714133	1593.3297	ppt		98
29) Tetrahydrofuran	10.24	42	383373	1761.1253	ppt	#	61
30) 1,2-Dichloroethane	10.48	62	425478	1502.6101	ppt	#	79
31) 1,1,1-Trichloroethane	10.71	97	634416	1474.5934	ppt	#	87
32) Benzene	11.16	78	901918	1501.5640	ppt	#	60
33) Carbon Tetrachloride	11.30	117	689241	1479.3200	ppt	#	86
34) Cyclohexane	11.43	84	393324	1712.9832	ppt	#	27
35) 1,2-Dichloropropane	11.96	63	364718	1557.4720	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM07S1.D Vial: 3
Acq Time : 03/27/2017 12:58 Operator: LMR
Sample : 1.0PPB Inst : 5975-L
Misc : 35941 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:21:59 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 03 12:06:21 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.15	83	666069	1535.0701	ppt		98
37)	1,4-Dioxane	12.25	88	192886	2385.7129	ppt	#	76
38)	Trichloroethene	12.18	130	435509	1697.9805	ppt	#	60
39)	Methyl Methacrylate	12.34	69	293538	2681.7420	ppt	#	60
40)	Heptane	12.43	71	310251	2022.2571	ppt	#	34
41)	cis-1,3-Dichloropropene	13.02	75	427258	1914.4431	ppt		94
42)	4-Methyl-2-Pentanone	13.05	43	829659	2235.6505	ppt	#	72
43)	trans-1,3-Dichloropropene	13.53	75	341395	1529.7111	ppt	m	92
44)	1,1,2-Trichloroethane	13.72	97	354601	1704.2383	ppt	#	85
45)	Toluene	14.01	91	966500	2182.3896	ppt		97
46)	2-Hexanone	14.24	43	652311	3316.0404	ppt	#	75
47)	Dibromochloromethane	14.45	129	659449	1795.9402	ppt	#	32
48)	1,2-Dibromoethane	14.72	107	492999	1917.7118	ppt		97
49)	Tetrachloroethene	15.16	166	441472	1831.5673	ppt	#	83
51)	Chlorobenzene	15.88	112	714229	1822.4949	ppt	#	71
52)	Ethylbenzene	16.26	91	1008545	2342.8169	ppt		94
53)	m,p-Xylene	16.44	91	1526106	4969.9815	ppt		92
54)	Bromoform	16.58	173	445168	2118.7660	ppt		99
55)	Styrene	16.84	104	480337	3061.1337	ppt		98
56)	1,1,2,2-Tetrachloroethane	16.96	83	599321	2365.6274	ppt		99
57)	o-Xylene	16.96	91	775192	2593.8340	ppt		94
59)	4-Ethyl Toluene	18.39	105	716585	4437.8502	ppt		96
60)	1,3,5-Trimethylbenzene	18.48	105	723978	3801.5396	ppt		94
61)	1,2,4-Trimethylbenzene	19.00	105	612364	4283.6287	ppt		96
62)	Benzyl Chloride	19.21	91	388654	6120.3446	ppt		91
63)	m-Dichlorobenzene	19.23	146	410718	4132.9650	ppt		95
64)	p-Dichlorobenzene	19.32	146	438245	3719.7574	ppt	#	95
65)	o-Dichlorobenzene	19.78	146	402390	3824.8641	ppt		96
66)	1,2,4-Trichlorobenzene	22.30	180	95195	5473.4682	ppt	#	83
67)	Naphthalene	22.49	128	292392	8254.8850	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	117823	2386.9187	ppt	#	19

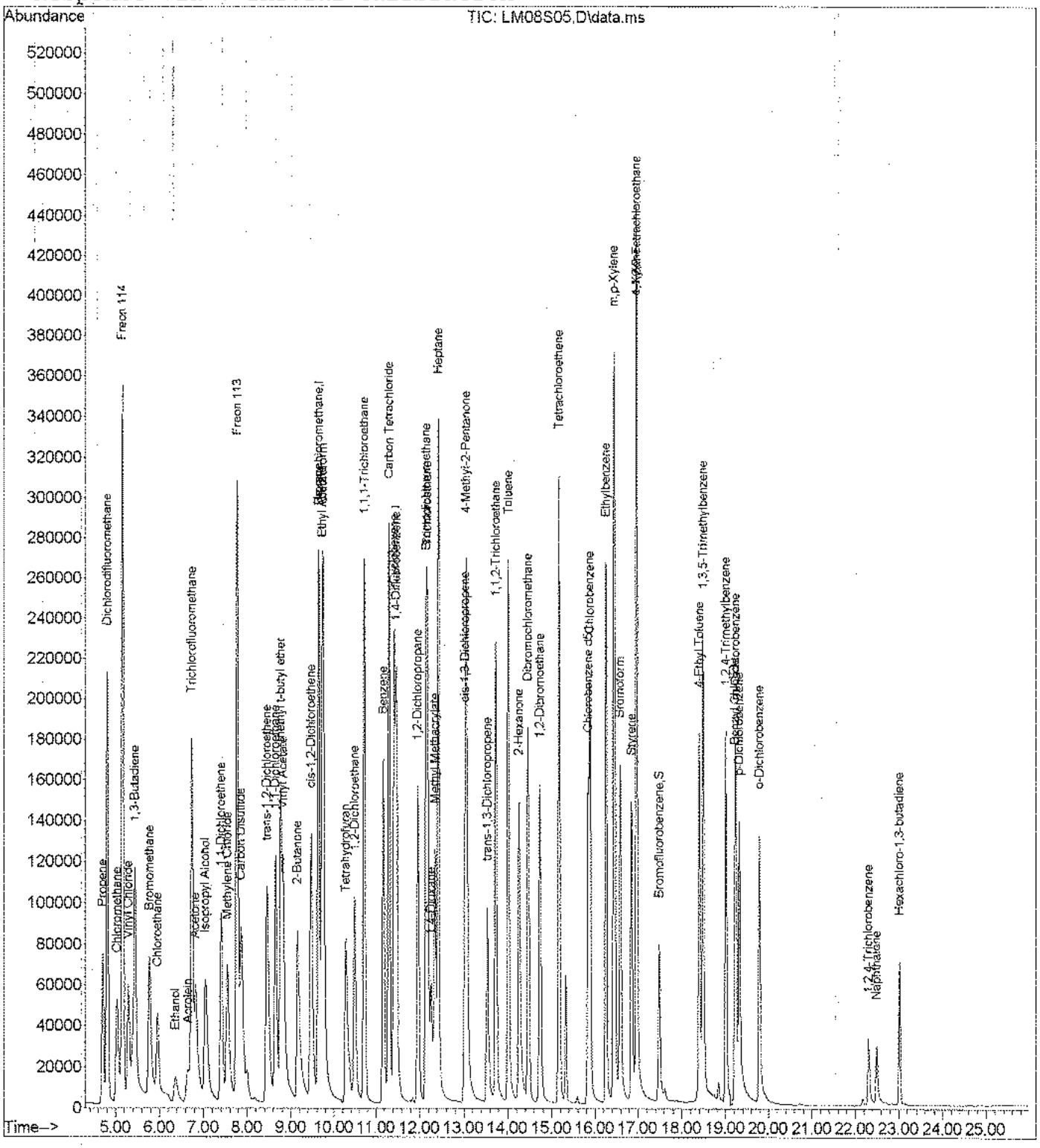
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM08S05.D Vial: 3
Acq Time : 03/27/2017 13:46 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:23:04 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM08S05.D Vial: 3
Acq Time : 03/27/2017 13:46 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:23:04 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:22:48 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	25868	1000.0000	ppt		100.00
25) 1,4-Difluorobenzene	11.48	114	476353	1000.0000	ppt		100.00
50) Chlorobenzene d5	15.84	117	414291	1000.0000	ppt		100.00
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	195526	1056.4407	ppt		105.64%
Target Compounds							Qvalue
2) Propene	4.69	41	139563	448.1748	ppt	#	59
3) Dichlorodifluoromethane	4.80	85	374138	464.4665	ppt		99
4) Chloromethane	5.03	50	157066	474.9389	ppt		97
5) Freon 114	5.15	135	277179	466.3587	ppt	#	57
6) Vinyl Chloride	5.29	62	187779	463.9646	ppt		98
7) 1,3-Butadiene	5.44	54	173442	466.1210	ppt	#	71
8) Bromomethane	5.77	94	167711	473.7250	ppt		98
9) Chloroethane	5.96	64	96052	456.5770	ppt	#	85
10) Acrolein	6.64	56	60403	458.7736	ppt	#	95
11) Acetone	6.82	43	202447	426.4919	ppt		95
12) Trichlorofluoromethane	6.74	101	357981	468.9782	ppt		100
13) Ethanol	6.37	45	48076	97.6773	ppt	#	77
14) Isopropyl Alcohol	7.05	45	229815	415.8010	ppt	#	81
15) 1,1-Dichloroethene	7.40	61	214187	484.6108	ppt	#	53
16) Methylene Chloride	7.55	84	124709	441.7938	ppt	#	17
17) Freon 113	7.77	151	251297	471.1831	ppt	#	53
18) Carbon Disulfide	7.86	76	416362	466.6146	ppt	#	60
19) trans-1,2-Dichloroethene	8.45	96	144897	468.6199	ppt	#	72
20) 1,1-Dichloroethane	8.65	63	296940	484.0070	ppt	#	85
21) methyl t-butyl ether	8.77	73	321121	500.7281	ppt	#	60
22) Vinyl Acetate	8.83	86	35301	541.9581	ppt	#	1
23) 2-Butanone	9.15	43	343510	528.2971	ppt	#	66
24) cis-1,2-Dichloroethene	9.47	96	156259	493.2141	ppt	#	72
26) Ethyl Acetate	9.72	61	44809	499.1717	ppt	#	1
27) Hexane	9.64	57	249709	486.1549	ppt	#	83
28) Chloroform	9.74	83	350419	454.2514	ppt		96
29) Tetrahydrofuran	10.27	42	179086	473.3983	ppt	#	59
30) 1,2-Dichloroethane	10.49	62	205373	452.0767	ppt	#	78
31) 1,1,1-Trichloroethane	10.71	97	305276	448.4057	ppt	#	86
32) Benzene	11.17	78	431424	441.7930	ppt	#	60
33) Carbon Tetrachloride	11.31	117	333306	447.0587	ppt	#	86
34) Cyclohexane	11.43	84	181047	472.6748	ppt	#	24
35) 1,2-Dichloropropane	11.96	63	172671	455.6486	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM08S05.D Vial: 3
Acq Time : 03/27/2017 13:46 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:23:04 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:22:48 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.15	83	319780	453.7438	ppt		98
37)	1,4-Dioxane	12.26	88	91415	493.1001	ppt	#	75
38)	Trichloroethene	12.18	130	202451	463.5144	ppt	#	60
39)	Methyl Methacrylate	12.34	69	133936	516.0459	ppt	#	66
40)	Heptane	12.43	71	143185	504.7749	ppt	#	34
41)	cis-1,3-Dichloropropene	13.02	75	192176	480.7677	ppt		94
42)	4-Methyl-2-Pentanone	13.06	43	368368	506.8143	ppt	#	71
43)	trans-1,3-Dichloropropene	13.54	75	149064	388.3104	ppt		93
44)	1,1,2-Trichloroethane	13.73	97	165750	452.0261	ppt	#	85
45)	Toluene	14.01	91	423643	490.3297	ppt		97
46)	2-Hexanone	14.26	43	266415	538.3758	ppt	#	73
47)	Dibromochloromethane	14.46	129	308863	461.5936	ppt	#	32
48)	1,2-Dibromoethane	14.72	107	224107	471.0485	ppt		98
49)	Tetrachloroethene	15.17	166	204634	460.4872	ppt	#	82
51)	Chlorobenzene	15.89	112	326025	477.5076	ppt	#	71
52)	Ethylbenzene	16.26	91	428903	515.3969	ppt		94
53)	m,p-Xylene	16.45	91	663416	1098.0522	ppt		92
54)	Bromoform	16.59	173	203069	481.8470	ppt		99
55)	Styrene	16.85	104	192524	562.6382	ppt		99
56)	1,1,2,2-Tetrachloroethane	16.97	83	284083	486.0284	ppt		97
57)	o-Xylene	16.97	91	337228	541.2755	ppt		95
59)	4-Ethyl Toluene	18.40	105	268590	587.5614	ppt		96
60)	1,3,5-Trimethylbenzene	18.48	105	315436	583.4096	ppt		92
61)	1,2,4-Trimethylbenzene	19.01	105	252028	559.8587	ppt		96
62)	Benzyl Chloride	19.21	91	144147	606.1910	ppt		93
63)	m-Dichlorobenzene	19.23	146	166665	572.3699	ppt	#	95
64)	p-Dichlorobenzene	19.33	146	200825	591.9193	ppt		92
65)	o-Dichlorobenzene	19.78	146	171415	534.1960	ppt		96
66)	1,2,4-Trichlorobenzene	22.31	180	35021	578.7596	ppt	#	85
67)	Naphthalene	22.50	128	98802	591.5250	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	53841	478.0110	ppt	#	19

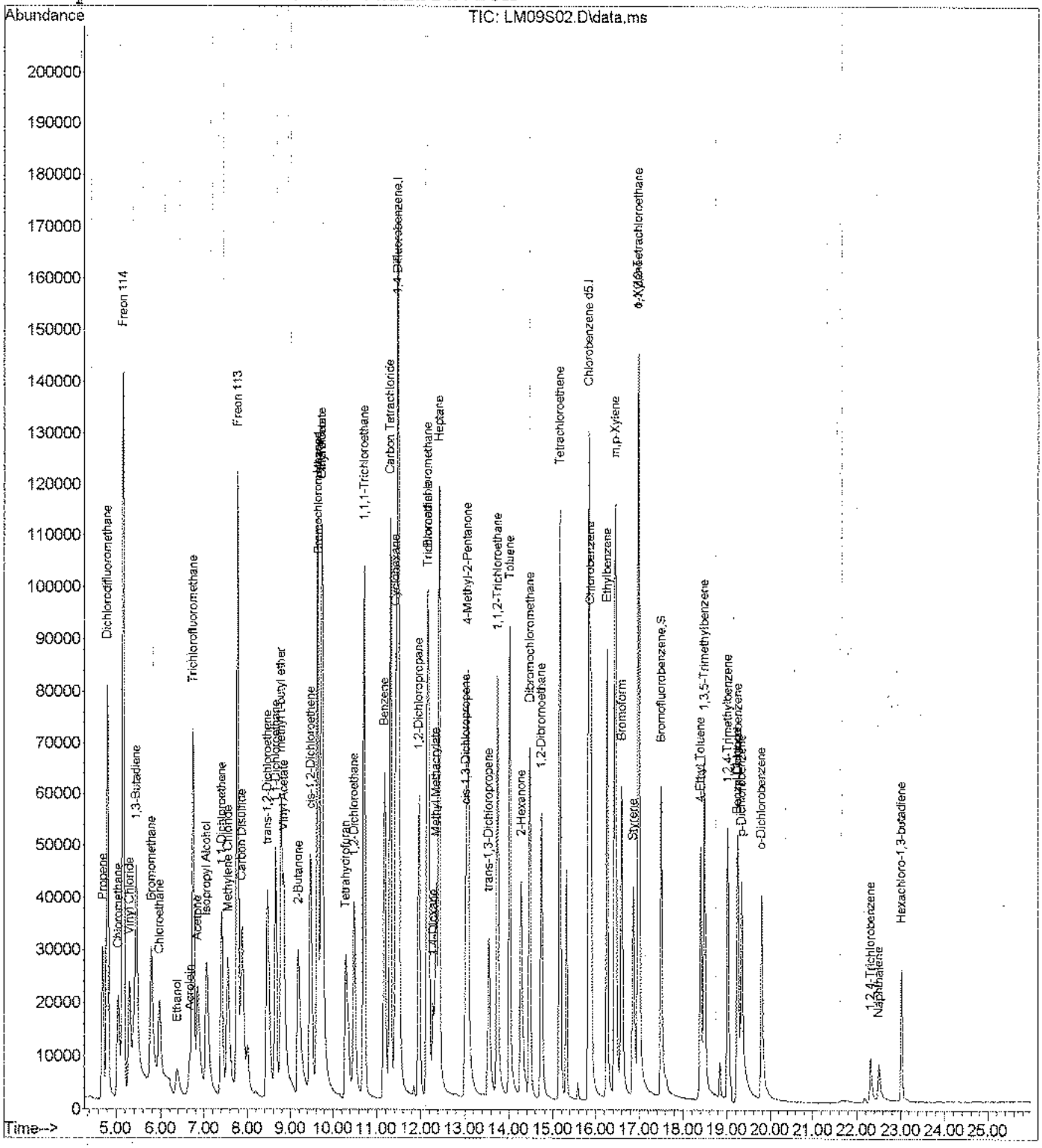
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM09S02.D Vial: 3
Acq Time : 03/27/2017 14:32 Operator: LMR
Sample : 0.2PPB Inst : 5975-L
Misc : 35941 (80mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:24:32 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM09S02.D Vial: 3
Acq Time : 03/27/2017 14:32 Operator: LMR
Sample : 0.2PPB Inst : 5975-L
Misc : 35941 (80mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:24:32 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.66	130	23413	1000.0000	ppt		90.51
25) 1,4-Difluorobenzene	11.48	114	413058	1000.0000	ppt		86.71
50) Chlorobenzene d5	15.84	117	360188	1000.0000	ppt		86.94
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	162087	1007.3145	ppt		100.73%
Target Compounds							Qvalue
2) Propene	4.70	41	55593	197.2437	ppt	#	59
3) Dichlorodifluoromethane	4.80	85	146849	201.4185	ppt		99
4) Chloromethane	5.05	50	58861	196.6478	ppt		93
5) Freon 114	5.16	135	108620	201.9182	ppt	#	56
6) Vinyl Chloride	5.31	62	74390	203.0758	ppt		100
7) 1,3-Butadiene	5.45	54	68076	202.1362	ppt	#	63
8) Bromomethane	5.79	94	64598	201.5996	ppt		99
9) Chloroethane	5.97	64	38795	203.7460	ppt	#	86
10) Acrolein	6.67	56	22471	190.5245	ppt	#	91
11) Acetone	6.85	43	81968	190.7874	ppt		96
12) Trichlorofluoromethane	6.74	101	139892	202.4843	ppt		100
13) Ethanol	6.38	45	18851	49.6492	ppt	#	72
14) Isopropyl Alcohol	7.05	45	93819	187.5443	ppt	#	80
15) 1,1-Dichloroethene	7.41	61	81043	201.7911	ppt	#	53
16) Methylene Chloride	7.56	84	50732	198.5681	ppt	#	18
17) Freon 113	7.77	151	98135	203.2975	ppt	#	53
18) Carbon Disulfide	7.87	76	162748	201.5156	ppt	#	62
19) trans-1,2-Dichloroethene	8.46	96	55865	199.6213	ppt	#	72
20) 1,1-Dichloroethane	8.65	63	113152	203.7750	ppt	#	85
21) methyl t-butyl ether	8.78	73	116862	201.3318	ppt	#	60
22) Vinyl Acetate	8.84	86	12032	204.0903	ppt	#	1
23) 2-Butanone	9.18	43	119843	203.7420	ppt	#	68
24) cis-1,2-Dichloroethene	9.48	96	57795	201.5517	ppt	#	71
26) Ethyl Acetate	9.74	61	16467	211.5520	ppt	#	1
27) Hexane	9.64	57	89026	199.8827	ppt	#	82
28) Chloroform	9.74	83	133583	199.6998	ppt		97
29) Tetrahydrofuran	10.30	42	65007	198.1723	ppt	#	58
30) 1,2-Dichloroethane	10.49	62	78352	198.9009	ppt	#	79
31) 1,1,1-Trichloroethane	10.71	97	117114	198.3833	ppt	#	86
32) Benzene	11.17	78	164587	194.3694	ppt	#	60
33) Carbon Tetrachloride	11.30	117	128590	198.9054	ppt	#	85
34) Cyclohexane	11.42	84	64703	194.8110	ppt	#	18
35) 1,2-Dichloropropane	11.96	63	65906	200.5642	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM09S02.D Vial: 3
Acq Time : 03/27/2017 14:32 Operator: LMR
Sample : 0.2PPB Inst : 5975-L
Misc : 35941 (80mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:24:32 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.15	83	122462	200.3912	ppt		98
37)	1,4-Dioxane	12.29	88	32272	200.7527	ppt	#	80
38)	Trichloroethene	12.18	130	74881	197.7119	ppt	#	60
39)	Methyl Methacrylate	12.35	69	46849	208.1657	ppt	#	68
40)	Heptane	12.43	71	49145	199.8009	ppt	#	33
41)	cis-1,3-Dichloropropene	13.02	75	68682	198.1513	ppt	#	92
42)	4-Methyl-2-Pentanone	13.07	43	126056	200.0084	ppt	#	70
43)	trans-1,3-Dichloropropene	13.54	75	51461	161.8690	ppt	#	94
44)	1,1,2-Trichloroethane	13.74	97	63857	200.8336	ppt	#	85
45)	Toluene	14.01	91	148737	198.5295	ppt		98
46)	2-Hexanone	14.27	43	83393	194.3454	ppt	#	71
47)	Dibromochloromethane	14.47	129	116459	200.7173	ppt	#	31
48)	1,2-Dibromoethane	14.74	107	82860	200.8506	ppt		97
49)	Tetrachloroethene	15.17	166	76867	199.4792	ppt	#	82
51)	Chlorobenzene	15.89	112	122361	206.1335	ppt	#	69
52)	Ethylbenzene	16.27	91	146875	203.0051	ppt		94
53)	m,p-Xylene	16.45	91	216753	412.6467	ppt		93
54)	Bromoform	16.60	173	75880	207.0947	ppt		99
55)	Styrene	16.86	104	59429	199.7648	ppt		99
56)	1,1,2,2-Tetrachloroethane	16.98	83	105770	208.1398	ppt		98
57)	o-Xylene	16.98	91	111943	206.6655	ppt		94
59)	4-Ethyl Toluene	18.41	105	77899	196.0070	ppt		96
60)	1,3,5-Trimethylbenzene	18.49	105	95339	202.8192	ppt		89
61)	1,2,4-Trimethylbenzene	19.02	105	76896	196.4760	ppt		95
62)	Benzyl Chloride	19.23	91	36228	175.2365	ppt		94
63)	m-Dichlorobenzene	19.25	146	52085	205.7412	ppt	#	95
64)	p-Dichlorobenzene	19.33	146	64037	217.0961	ppt		97
65)	o-Dichlorobenzene	19.79	146	57299	205.3880	ppt		96
66)	1,2,4-Trichlorobenzene	22.32	180	9852	187.2709	ppt	#	86
67)	Naphthalene	22.51	128	26660	183.5878	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.03	225	19776	201.9480	ppt	#	19

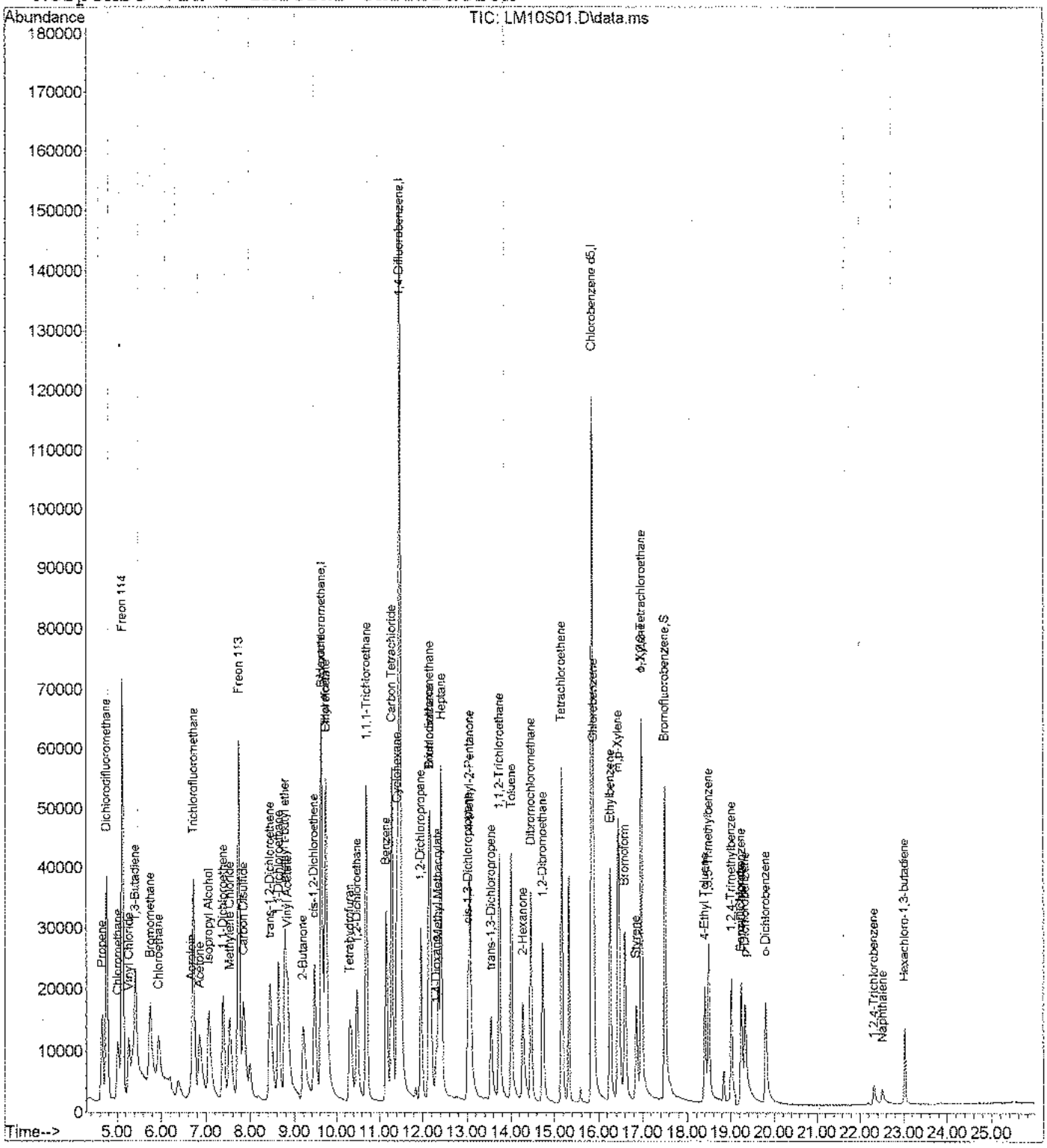
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM10S01.D Vial: 3
Acq Time : 03/27/2017 15:18 Operator: LMR
Sample : 0.1PPB Inst : 5975-L
Misc : 35941 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:25:26 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM10S01.D Vial: 3
Acq Time : 03/27/2017 15:18 Operator: LMR
Sample : 0.1PPB Inst : 5975-L
Misc : 35941 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:25:26 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:57 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	21847	1000.0000	ppt		84.46
25) 1,4-Difluorobenzene	11.48	114	383090	1000.0000	ppt		80.42
50) Chlorobenzene d5	15.84	117	339627	1000.0000	ppt		81.98
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	141843	934.8713	ppt		93.49%
Target Compounds							Qvalue
2) Propene	4.65	41	29463	112.0276	ppt	#	59
3) Dichlorodifluoromethane	4.75	85	75663	111.2185	ppt		99
4) Chloromethane	5.01	50	29689	106.2973	ppt		92
5) Freon 114	5.12	135	55087	109.7438	ppt	#	56
6) Vinyl Chloride	5.28	62	36967	108.1491	ppt		93
7) 1,3-Butadiene	5.42	54	34248	108.9810	ppt	#	63
8) Bromomethane	5.76	94	33113	110.7476	ppt		98
9) Chloroethane	5.95	64	19017	107.0337	ppt	#	86
10) Acrolein	6.67	56	10913	99.9271	ppt	#	94
11) Acetone	6.86	43	45464	113.4066	ppt		98
12) Trichlorofluoromethane	6.72	101	71176	110.4072	ppt		100
13) Ethanol	0.00	45	Not Detected				
14) Isopropyl Alcohol	7.06	45	52130	111.6776	ppt	#	73
15) 1,1-Dichloroethene	7.39	61	40707	108.6136	ppt	#	53
16) Methylene Chloride	7.54	84	26298	110.3102	ppt	#	17
17) Freon 113	7.74	151	49660	110.2504	ppt	#	54
18) Carbon Disulfide	7.85	76	83327	110.5717	ppt	#	65
19) trans-1,2-Dichloroethene	8.46	96	28339	108.5218	ppt	#	74
20) 1,1-Dichloroethane	8.64	63	55880	107.8476	ppt	#	86
21) methyl t-butyl ether	8.79	73	56798	104.8666	ppt	#	60
22) Vinyl Acetate	8.84	86	5100	92.7086	ppt	#	1
23) 2-Butanone	9.20	43	58634	106.8274	ppt	#	66
24) cis-1,2-Dichloroethene	9.47	96	28505	106.5326	ppt	#	70
26) Ethyl Acetate	9.74	61	7719	106.9237	ppt	#	1
27) Hexane	9.63	57	42001	101.6783	ppt	#	83
28) Chloroform	9.73	83	66973	107.9534	ppt		98
29) Tetrahydrofuran	10.31	42	31158	102.4148	ppt	#	58
30) 1,2-Dichloroethane	10.49	62	39347	107.6982	ppt	#	79
31) 1,1,1-Trichloroethane	10.70	97	59342	108.3849	ppt	#	86
32) Benzene	11.16	78	84472	107.5611	ppt	#	60
33) Carbon Tetrachloride	11.29	117	65258	108.8387	ppt	#	86
34) Cyclohexane	11.42	84	31769	103.1342	ppt	#	10
35) 1,2-Dichloropropane	11.96	63	32486	106.5946	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM10S01.D Vial: 3
Acq Time : 03/27/2017 15:18 Operator: LMR
Sample : 0.1PPB Inst : 5975-L
Misc : 35941 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:25:26 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:57 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.15	83	61475	108.4641	ppt		97
37)	1,4-Dioxane	12.31	88	13888	93.1505	ppt	#	75
38)	Trichloroethene	12.18	130	37195	105.8903	ppt	#	60
39)	Methyl Methacrylate	12.36	69	23042	110.3924	ppt	#	64
40)	Heptane	12.42	71	22472	98.5077	ppt	#	28
41)	cis-1,3-Dichloropropene	13.02	75	32905	102.3590	ppt	#	92
42)	4-Methyl-2-Pentanone	13.07	43	58025	99.2682	ppt	#	70
43)	trans-1,3-Dichloropropene	13.54	75	24484	87.7939	ppt	#	93
44)	1,1,2-Trichloroethane	13.73	97	31623	107.2361	ppt	#	83
45)	Toluene	14.01	91	69869	100.5543	ppt		97
46)	2-Hexanone	14.28	43	36457	91.6085	ppt	#	69
47)	Dibromochloromethane	14.46	129	56815	105.5808	ppt	#	30
48)	1,2-Dibromoethane	14.73	107	40120	104.8574	ppt		97
49)	Tetrachloroethene	15.17	166	37763	105.6658	ppt	#	81
51)	Chlorobenzene	15.89	112	59480	106.2683	ppt	#	67
52)	Ethylbenzene	16.27	91	66648	97.6952	ppt		94
53)	m,p-Xylene	16.45	91	92799	187.3629	ppt		92
54)	Bromoform	16.59	173	36875	106.7335	ppt		99
55)	Styrene	16.86	104	25356	90.3917	ppt		98
56)	1,1,2,2-Tetrachloroethane	16.98	83	50615	105.6328	ppt		98
57)	o-Xylene	16.97	91	48627	95.2085	ppt		95
59)	4-Ethyl Toluene	18.41	105	30000	80.0549	ppt		97
60)	1,3,5-Trimethylbenzene	18.49	105	38440	86.7259	ppt		89
61)	1,2,4-Trimethylbenzene	19.02	105	33296	90.2246	ppt		95
62)	Benzyl Chloride	19.23	91	15107	77.4971	ppt	#	88
63)	m-Dichlorobenzene	19.25	146	22259	93.2484	ppt		93
64)	p-Dichlorobenzene	19.33	146	28557	102.6740	ppt		91
65)	o-Dichlorobenzene	19.80	146	26034	98.9683	ppt		94
66)	1,2,4-Trichlorobenzene	22.32	180	4228	85.2330	ppt	#	84
67)	Naphthalene	22.51	128	10167	74.2512	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	9856	106.7404	ppt	#	19

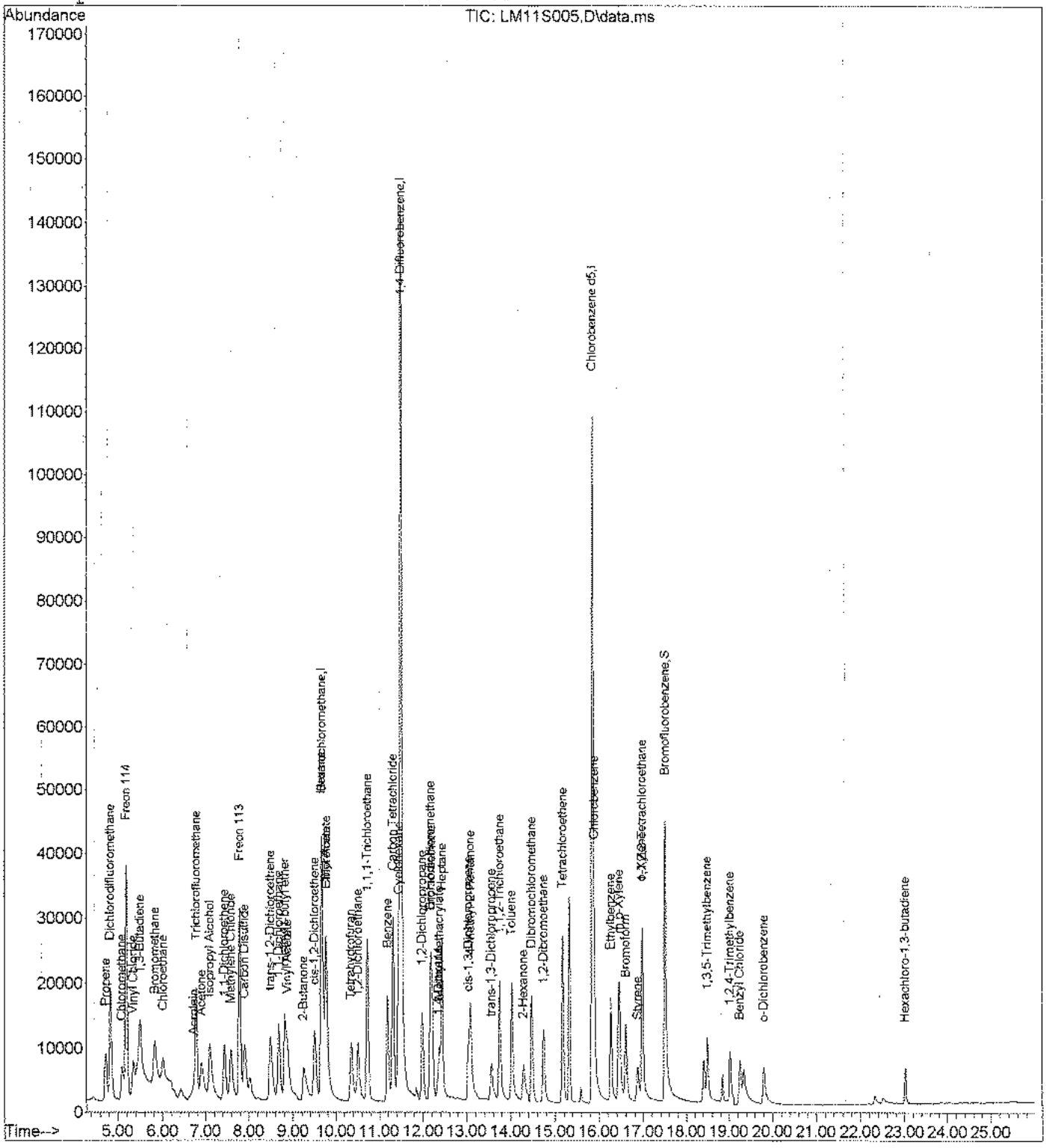
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM11S005.D Vial: 3
Acq Time : 03/27/2017 16:04 Operator: LMR
Sample : 0.05PPB Inst : 5975-L
Misc : 35941 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:26:03 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM11S005.D Vial: 3
Acq Time : 03/27/2017 16:04 Operator: LMR
Sample : 0.05PPB Inst : 5975-L
Misc : 35941 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:26:03 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:25:50 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.67	130	21952	1000.0000	ppt		84.86
25) 1,4-Difluorobenzene	11.49	114	349527	1000.0000	ppt		73.38
50) Chlorobenzene d5	15.85	117	313654	1000.0000	ppt		75.71
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	121329	865.8844	ppt		86.59%
Target Compounds							Qvalue
2) Propene	4.72	41	15324	57.9880	ppt	#	57
3) Dichlorodifluoromethane	4.83	85	37552	54.9344	ppt		98
4) Chloromethane	5.09	50	15784	56.2421	ppt		95
5) Freon 114	5.19	135	27725	54.9693	ppt	#	57
6) Vinyl Chloride	5.34	62	19307	56.2136	ppt		92
7) 1,3-Butadiene	5.49	54	17653	55.9051	ppt	#	38
8) Bromomethane	5.83	94	16272	54.1620	ppt		100
9) Chloroethane	6.01	64	9868	55.2746	ppt	#	90
10) Acrolein	6.71	56	4920	45.8386	ppt	#	94
11) Acetone	6.90	43	25739	63.8969	ppt		99
12) Trichlorofluoromethane	6.77	101	35401	54.6509	ppt		100
13) Ethanol	0.00	45		Not Detected			
14) Isopropyl Alcohol	7.10	45	32771	69.8692	ppt	#	76
15) 1,1-Dichloroethene	7.44	61	20193	53.3733	ppt	#	52
16) Methylene Chloride	7.58	84	14648	61.1489	ppt	#	15
17) Freon 113	7.78	151	24474	54.0749	ppt	#	51
18) Carbon Disulfide	7.90	76	41822	55.2307	ppt	#	59
19) trans-1,2-Dichloroethene	8.49	96	14324	54.5902	ppt	#	74
20) 1,1-Dichloroethane	8.68	63	27447	52.7189	ppt	#	85
21) methyl t-butyl ether	8.82	73	26710	49.0790	ppt	#	60
22) Vinyl Acetate	8.88	86	2533	45.8250	ppt	#	1
23) 2-Butanone	9.24	43	23515	42.6379	ppt	#	70
24) cis-1,2-Dichloroethene	9.50	96	13695	50.9379	ppt	#	71
26) Ethyl Acetate	9.77	61	2672	40.5667	ppt	#	1
27) Hexane	9.65	57	19473	51.6680	ppt	#	80
28) Chloroform	9.76	83	32804	57.9540	ppt		97
29) Tetrahydrofuran	10.34	42	15307	55.1446	ppt	#	58
30) 1,2-Dichloroethane	10.51	62	19333	57.9984	ppt	#	78
31) 1,1,1-Trichloroethane	10.73	97	29158	58.3693	ppt	#	85
32) Benzene	11.19	78	43585	60.8275	ppt	#	60
33) Carbon Tetrachloride	11.32	117	31996	58.4878	ppt	#	86
34) Cyclohexane	11.44	84	15479	55.0760	ppt	#	5
35) 1,2-Dichloropropane	11.98	63	15734	56.5846	ppt	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM11S005.D Vial: 3
Acq Time : 03/27/2017 16:04 Operator: LMR
Sample : 0.05PPB Inst : 5975-L
Misc : 35941 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:26:03 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:25:50 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.16	83	29312	56.6830	ppt	#	97
37)	1,4-Dioxane	12.34	88	7606	55.9142	ppt		94
38)	Trichloroethene	12.20	130	17711	55.2630	ppt	#	60
39)	Methyl Methacrylate	12.38	69	7421	38.9674	ppt	#	65
40)	Heptane	12.43	71	10375	49.8467	ppt	#	26
41)	cis-1,3-Dichloropropene	13.04	75	15217	51.8816	ppt	#	90
42)	4-Methyl-2-Pentanone	13.08	43	25070	47.0077	ppt	#	70
43)	trans-1,3-Dichloropropene	13.55	75	11110	46.4696	ppt	#	92
44)	1,1,2-Trichloroethane	13.75	97	15160	56.3453	ppt	#	83
45)	Toluene	14.02	91	31341	49.4367	ppt		97
46)	2-Hexanone	14.29	43	14866	40.9420	ppt	#	69
47)	Dibromochloromethane	14.47	129	27196	55.3920	ppt	#	28
48)	1,2-Dibromoethane	14.74	107	18305	52.4358	ppt		97
49)	Tetrachloroethene	15.17	166	18066	55.4051	ppt	#	82
51)	Chlorobenzene	15.89	112	27157	52.5371	ppt	#	62
52)	Ethylbenzene	16.27	91	29407	46.6754	ppt		94
53)	m,p-Xylene	16.45	91	38690	84.5844	ppt		92
54)	Bromoform	16.61	173	16333	51.1901	ppt		99
55)	Styrene	16.87	104	9884	38.1533	ppt		95
56)	1,1,2,2-Tetrachloroethane	16.98	83	23185	52.3936	ppt		97
57)	o-Xylene	16.98	91	20294	43.0246	ppt		94
59)	4-Ethyl Toluene	0.00	105		Not Detected			
60)	1,3,5-Trimethylbenzene	18.49	105	16346	39.9327	ppt		86
61)	1,2,4-Trimethylbenzene	19.02	105	14044	41.2074	ppt		96
62)	Benzyl Chloride	19.23	91	6561	36.4442	ppt	#	87
63)	m-Dichlorobenzene	0.00	146		Not Detected			
64)	p-Dichlorobenzene	0.00	146		Not Detected			
65)	o-Dichlorobenzene	19.80	146	10143	41.7516	ppt		93
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	0.00	128		Not Detected			
68)	Hexachloro-1,3-butadiene	23.03	225	4545	53.2983	ppt	#	19

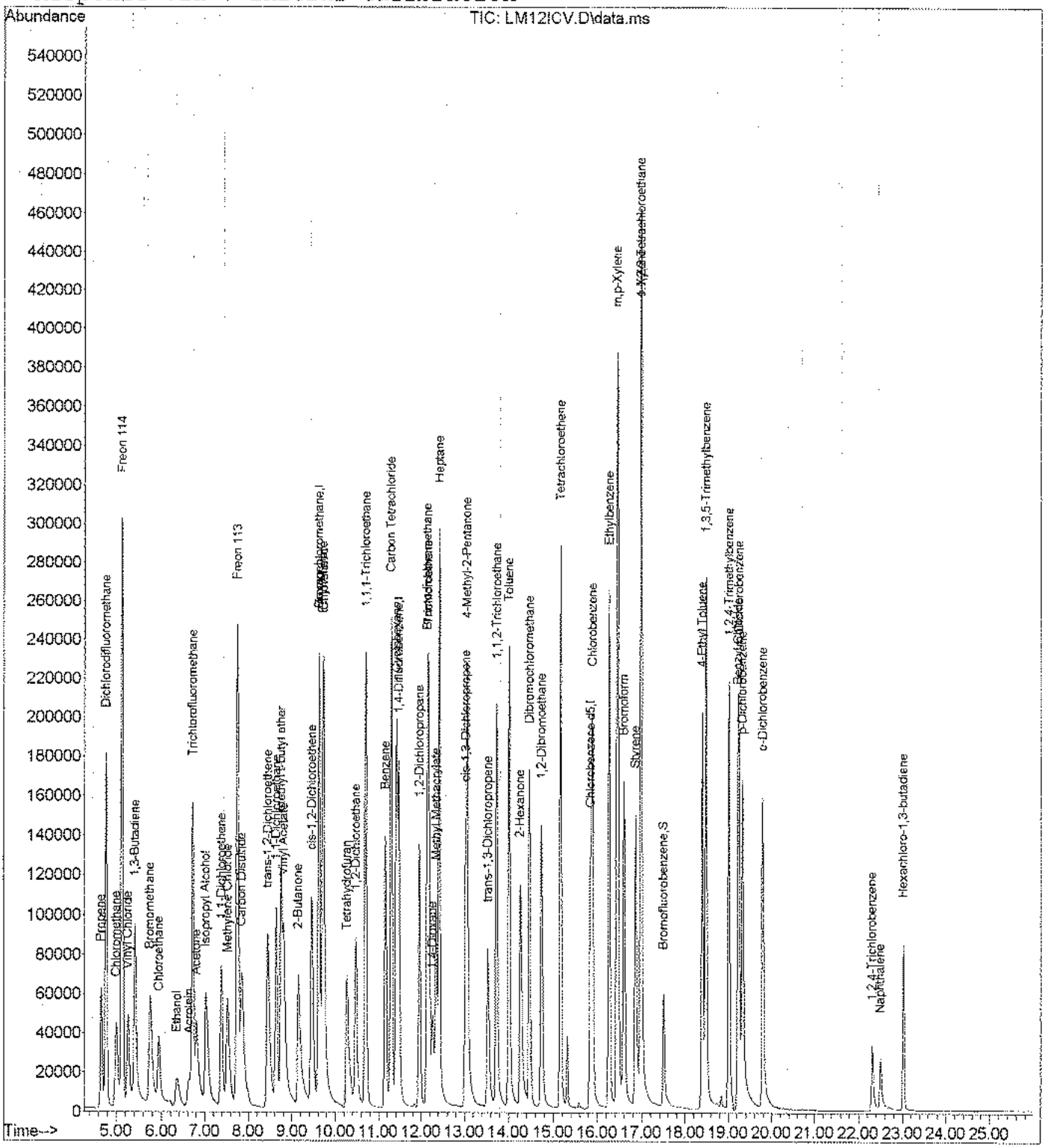
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM12ICV.D Vial: 2
Acq Time : 03/27/2017 16:52 Operator: LMR
Sample : 0.5 PPB ICV Inst : 5975-L
Misc : 36126 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:27:54 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM12ICV.D Vial: 2
Acq Time : 03/27/2017 16:52 Operator: LMR
Sample : 0.5 PPB ICV Inst : 5975-L
Misc : 36126 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:27:54 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.63	130	21982	1000.0000	ppt		84.98
25) 1,4-Difluorobenzene	11.47	114	399227	1000.0000	ppt		83.81
50) Chlorobenzene d5	15.84	117	332984	1000.0000	ppt		80.37
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	149346	1003.9599	ppt		100.40%
Target Compounds							Qvalue
2) Propene	4.67	41	116644	440.7935	ppt	#	59
3) Dichlorodifluoromethane	4.77	85	317216	463.4185	ppt		98
4) Chloromethane	5.00	50	133955	476.6616	ppt		97
5) Freon 114	5.13	135	235153	465.5925	ppt	#	56
6) Vinyl Chloride	5.26	62	154153	448.2141	ppt		96
7) 1,3-Butadiene	5.41	54	144443	456.8110	ppt	#	80
8) Bromomethane	5.75	94	140236	466.1438	ppt		100
9) Chloroethane	5.94	64	81286	454.6937	ppt	#	88
10) Acrolein	6.64	56	50577	492.0261	ppt	#	96
11) Acetone	6.81	43	164111	406.8486	ppt		93
12) Trichlorofluoromethane	6.72	101	304603	469.5939	ppt		100
13) Ethanol	6.36	45	63926	885.2971	ppt	#	77
14) Isopropyl Alcohol	7.03	45	213500	454.5700	ppt	#	76
15) 1,1-Dichloroethene	7.39	61	169954	447.0899	ppt	#	53
16) Methylene Chloride	7.53	84	100726	419.9127	ppt	#	15
17) Freon 113	7.75	151	198649	438.3131	ppt	#	53
18) Carbon Disulfide	7.85	76	367259	484.3455	ppt	#	57
19) trans-1,2-Dichloroethene	8.44	96	127681	485.9406	ppt	#	72
20) 1,1-Dichloroethane	8.63	63	249965	479.4660	ppt	#	85
21) methyl t-butyl ether	8.75	73	262336	481.3786	ppt	#	60
22) Vinyl Acetate	8.81	86	27420	495.3838	ppt	#	1
23) 2-Butanone	9.15	43	288146	521.7594	ppt	#	66
24) cis-1,2-Dichloroethene	9.46	96	129418	480.7073	ppt	#	71
26) Ethyl Acetate	9.71	61	40147	533.6381	ppt	#	1
27) Hexane	9.63	57	208162	483.5606	ppt	#	82
28) Chloroform	9.73	83	274280	424.2402	ppt		97
29) Tetrahydrofuran	10.27	42	161141	508.2532	ppt	#	58
30) 1,2-Dichloroethane	10.47	62	178346	468.4261	ppt	#	79
31) 1,1,1-Trichloroethane	10.70	97	261476	458.2678	ppt	#	86
32) Benzene	11.16	78	362172	442.5256	ppt	#	60
33) Carbon Tetrachloride	11.29	117	289812	463.8172	ppt	#	86
34) Cyclohexane	11.42	84	149452	465.5667	ppt	#	22
35) 1,2-Dichloropropane	11.96	63	151294	476.3667	ppt	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM12ICV.D Vial: 2
Acq Time : 03/27/2017 16:52 Operator: LMR
Sample : 0.5 PPB ICV Inst : 5975-L
Misc : 36126 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:27:54 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.14	83	285553	483.4540	ppt		98
37)	1,4-Dioxane	12.26	88	76272	490.8985	ppt	#	75
38)	Trichloroethene	12.18	130	174768	477.4350	ppt	#	60
39)	Methyl Methacrylate	12.34	69	114668	527.1598	ppt	#	66
40)	Heptane	12.42	71	121968	513.0446	ppt	#	32
41)	cis-1,3-Dichloropropene	13.02	75	170177	507.9792	ppt	#	93
42)	4-Methyl-2-Pentanone	13.06	43	327544	537.7069	ppt	#	70
43)	trans-1,3-Dichloropropene	13.54	75	132947	522.7703	ppt	#	93
44)	1,1,2-Trichloroethane	13.73	97	157719	513.2193	ppt	#	85
45)	Toluene	14.01	91	376170	519.4950	ppt		97
46)	2-Hexanone	14.26	43	217842	525.2638	ppt	#	72
47)	Dibromochloromethane	14.46	129	291351	519.5405	ppt	#	32
48)	1,2-Dibromoethane	14.73	107	214868	538.8786	ppt		96
49)	Tetrachloroethene	15.17	166	195796	525.7176	ppt	#	83
51)	Chlorobenzene	15.89	112	322254	587.2322	ppt	#	71
52)	Ethylbenzene	16.27	91	426357	637.4385	ppt		94
53)	m,p-Xylene	16.45	91	697670	1436.7103	ppt		92
54)	Bromoform	16.59	173	206571	609.8415	ppt		99
55)	Styrene	16.86	104	201283	731.8694	ppt		99
56)	1,1,2,2-Tetrachloroethane	16.98	83	313647	667.6359	ppt		98
57)	o-Xylene	16.97	91	366594	732.0862	ppt		94
59)	4-Ethyl Toluene	18.41	105	301368	820.2433	ppt		96
60)	1,3,5-Trimethylbenzene	18.49	105	372573	857.3454	ppt		93
61)	1,2,4-Trimethylbenzene	19.02	105	296730	820.1121	ppt		96
62)	Benzyl Chloride	19.22	91	170482	891.9993	ppt	#	90
63)	m-Dichlorobenzene	19.24	146	206030	880.3289	ppt		95
64)	p-Dichlorobenzene	19.33	146	232691	853.3092	ppt	#	94
65)	o-Dichlorobenzene	19.79	146	204241	791.9118	ppt		95
66)	1,2,4-Trichlorobenzene	22.31	180	34213	703.4658	ppt	#	86
67)	Naphthalene	22.50	128	88662	660.4303	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	65652	725.1952	ppt	#	19

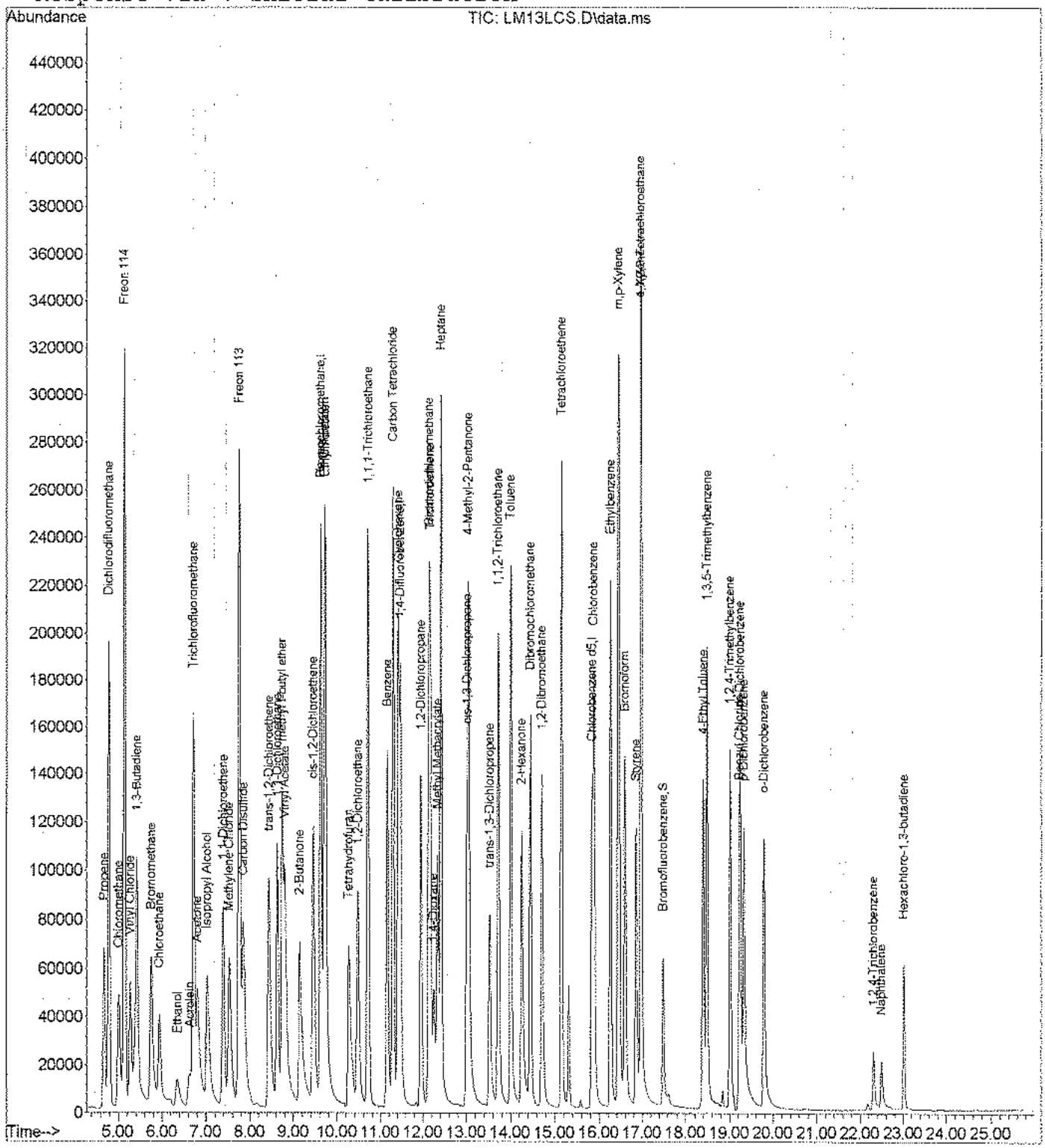
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM13LCS.D Vial: 3
Acq Time : 03/27/2017 17:40 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 29 15:32:13 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM13LCS.D Vial: 3
Acq Time : 03/27/2017 17:40 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 29 15:32:13 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.63	130	23119	1000.0000	ppt		89.37
25) 1,4-Difluorobenzene	11.47	114	408234	1000.0000	ppt		85.70
50) Chlorobenzene d5	15.84	117	352315	1000.0000	ppt		85.04
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	163891	1041.2862	ppt		104.13%
Target Compounds							Qvalue
2) Propene	4.68	41	126048	452.9048	ppt	#	59
3) Dichlorodifluoromethane	4.78	85	337876	469.3251	ppt		99
4) Chloromethane	5.01	50	144516	488.9510	ppt		96
5) Freon 114	5.14	135	247329	465.6168	ppt	#	55
6) Vinyl Chloride	5.27	62	166959	461.5742	ppt		96
7) 1,3-Butadiene	5.42	54	153599	461.8773	ppt	#	68
8) Bromomethane	5.76	94	149386	472.1374	ppt		99
9) Chloroethane	5.94	64	97395	518.0099	ppt	#	87
10) Acrolein	6.64	56	49225	455.3223	ppt	#	97
11) Acetone	6.80	43	181875	428.7127	ppt		95
12) Trichlorofluoromethane	6.72	101	321616	471.4375	ppt		100
13) Ethanol	6.36	45	48788	642.4254	ppt	#	73
14) Isopropyl Alcohol	7.03	45	193249	391.2175	ppt	#	72
15) 1,1-Dichloroethene	7.39	61	190316	476.0328	ppt	#	53
16) Methylene Chloride	7.52	84	111844	443.3312	ppt	#	16
17) Freon 113	7.75	151	224240	470.4455	ppt	#	52
18) Carbon Disulfide	7.84	76	374242	469.2816	ppt	#	58
19) trans-1,2-Dichloroethene	8.44	96	126820	458.9262	ppt	#	71
20) 1,1-Dichloroethane	8.63	63	264921	483.1624	ppt	#	85
21) methyl t-butyl ether	8.75	73	270796	472.4646	ppt	#	60
22) Vinyl Acetate	8.81	86	29661	509.5166	ppt	#	1
23) 2-Butanone	9.15	43	299852	516.2532	ppt	#	66
24) cis-1,2-Dichloroethene	9.46	96	136989	483.8045	ppt	#	71
26) Ethyl Acetate	9.71	61	40539	526.9598	ppt	#	1
27) Hexane	9.63	57	219139	497.8286	ppt	#	83
28) Chloroform	9.73	83	313686	474.4861	ppt		97
29) Tetrahydrofuran	10.26	42	156322	482.1752	ppt	#	60
30) 1,2-Dichloroethane	10.47	62	184017	472.6574	ppt	#	78
31) 1,1,1-Trichloroethane	10.70	97	271501	465.3392	ppt	#	86
32) Benzene	11.16	78	374207	447.1428	ppt	#	60
33) Carbon Tetrachloride	11.29	117	300380	470.1238	ppt	#	86
34) Cyclohexane	11.42	84	157729	480.5100	ppt	#	22
35) 1,2-Dichloropropane	11.95	63	155161	477.7635	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM13LCS.D Vial: 3
Acq Time : 03/27/2017 17:40 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 29 15:32:13 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.14	83	286756	474.7792	ppt		98
37)	1,4-Dioxane	12.25	88	78431	493.6567	ppt	#	75
38)	Trichloroethene	12.17	130	177565	474.3735	ppt	#	60
39)	Methyl Methacrylate	12.34	69	116667	524.5161	ppt	#	67
40)	Heptane	12.42	71	124846	513.5640	ppt	#	31
41)	cis-1,3-Dichloropropene	13.02	75	165640	483.5274	ppt		94
42)	4-Methyl-2-Pentanone	13.05	43	321570	516.2525	ppt	#	70
43)	trans-1,3-Dichloropropene	13.53	75	130084	500.2268	ppt	#	92
44)	1,1,2-Trichloroethane	13.72	97	150748	479.7128	ppt	#	84
45)	Toluene	14.00	91	365140	493.1367	ppt		97
46)	2-Hexanone	14.25	43	221283	521.7887	ppt	#	72
47)	Dibromochloromethane	14.45	129	278511	485.6865	ppt	#	32
48)	1,2-Dibromoethane	14.72	107	200909	492.7531	ppt		98
49)	Tetrachloroethene	15.16	166	182462	479.1063	ppt	#	83
51)	Chlorobenzene	15.88	112	288418	496.7366	ppt	#	71
52)	Ethylbenzene	16.26	91	365279	516.1570	ppt		94
53)	m,p-Xylene	16.44	91	581592	1131.9567	ppt		93
54)	Bromoform	16.59	173	182957	510.4920	ppt		99
55)	Styrene	16.85	104	158005	542.9871	ppt		98
56)	1,1,2,2-Tetrachloroethane	16.97	83	255667	514.3580	ppt		98
57)	o-Xylene	16.96	91	298839	564.0354	ppt		93
59)	4-Ethyl Toluene	18.40	105	210002	540.2083	ppt		96
60)	1,3,5-Trimethylbenzene	18.48	105	270461	588.2221	ppt		93
61)	1,2,4-Trimethylbenzene	19.01	105	210609	550.1497	ppt		95
62)	Benzyl Chloride	19.21	91	121425	600.4631	ppt		94
63)	m-Dichlorobenzene	19.23	146	144312	582.7861	ppt		95
64)	p-Dichlorobenzene	19.33	146	166277	576.3035	ppt		98
65)	o-Dichlorobenzene	19.79	146	148071	542.6204	ppt		96
66)	1,2,4-Trichlorobenzene	22.32	180	27526	534.9179	ppt	#	82
67)	Naphthalene	22.50	128	71271	501.7583	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	47104	491.7643	ppt	#	19

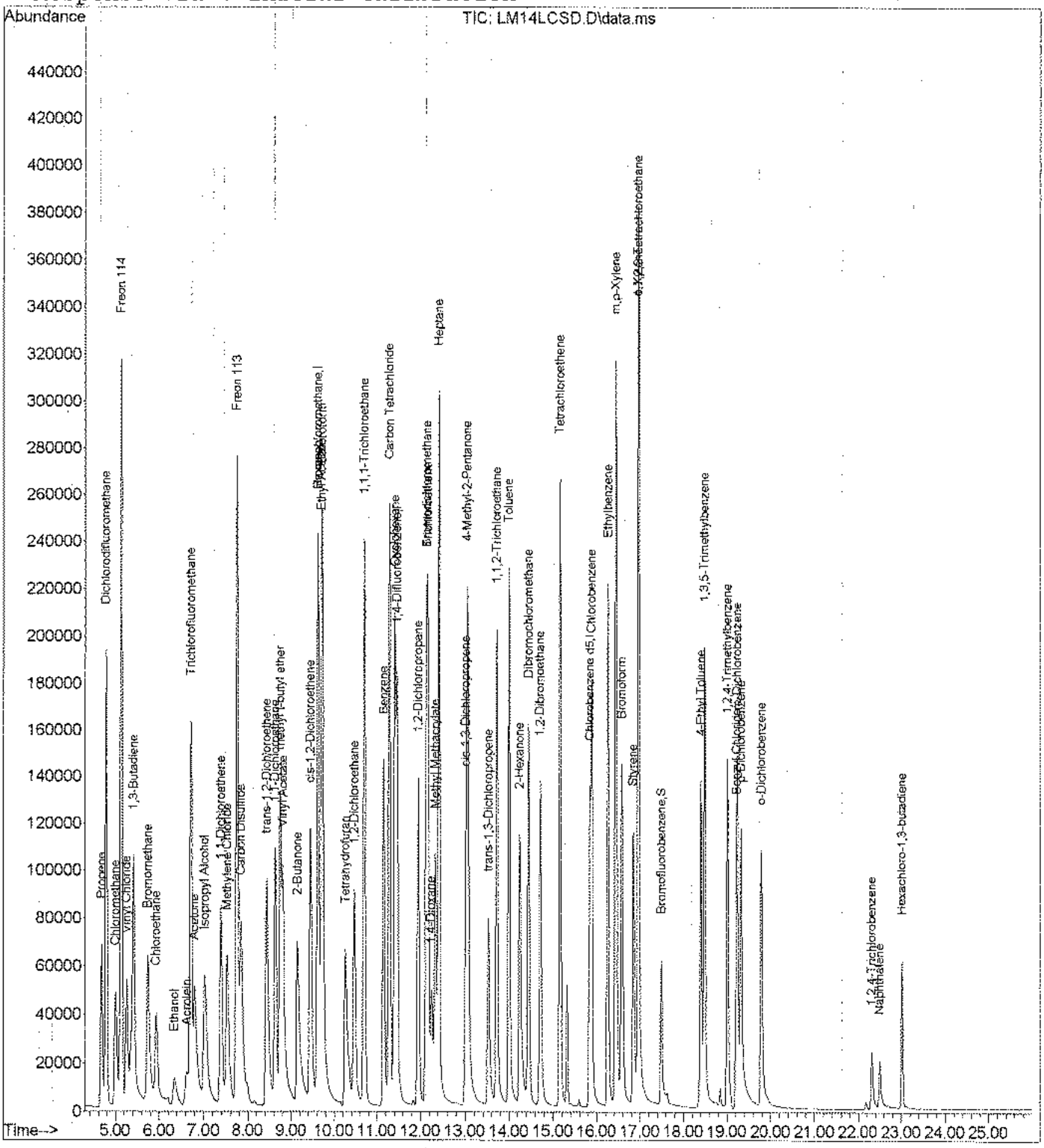
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM14LCSD.D Vial: 3
Acq Time : 03/27/2017 18:28 Operator: LMR
Sample : QD Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:29:09 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM14LCSD.D Vial: 3
Acq Time : 03/27/2017 18:28 Operator: LMR
Sample : QD Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:29:09 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.62	130	22549	1000.0000	ppt		87.17
25) 1,4-Difluorobenzene	11.46	114	411356	1000.0000	ppt		86.36
50) Chlorobenzene d5	15.83	117	352279	1000.0000	ppt		85.03
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	159379	1012.7225	ppt		101.27%
Target Compounds							Qvalue
2) Propene	4.67	41	126082	464.4787	ppt	#	59
3) Dichlorodifluoromethane	4.77	85	334230	475.9963	ppt		99
4) Chloromethane	5.00	50	143055	496.2428	ppt		99
5) Freon 114	5.13	135	244178	471.3048	ppt	#	55
6) Vinyl Chloride	5.26	62	164643	466.6773	ppt		98
7) 1,3-Butadiene	5.41	54	152203	469.2488	ppt	#	70
8) Bromomethane	5.75	94	148333	480.6601	ppt		98
9) Chloroethane	5.93	64	86465	471.5020	ppt	#	87
10) Acrolein	6.63	56	51599	489.3462	ppt	#	94
11) Acetone	6.80	43	179118	432.8867	ppt		95
12) Trichlorofluoromethane	6.72	101	319029	479.4666	ppt		100
13) Ethanol	6.35	45	43330	584.9788	ppt	#	71
14) Isopropyl Alcohol	7.02	45	195346	405.4593	ppt	#	73
15) 1,1-Dichloroethene	7.38	61	188949	484.5604	ppt	#	53
16) Methylene Chloride	7.52	84	109803	446.2431	ppt	#	16
17) Freon 113	7.74	151	221259	475.9254	ppt	#	53
18) Carbon Disulfide	7.84	76	372449	478.8391	ppt	#	61
19) trans-1,2-Dichloroethene	8.44	96	130019	482.3960	ppt	#	72
20) 1,1-Dichloroethane	8.63	63	264463	494.5195	ppt	#	85
21) methyl t-butyl ether	8.74	73	270006	482.9945	ppt	#	60
22) Vinyl Acetate	8.81	86	28674	505.0130	ppt	#	1
23) 2-Butanone	9.14	43	288155	508.6555	ppt	#	67
24) cis-1,2-Dichloroethene	9.45	96	135464	490.5123	ppt	#	71
26) Ethyl Acetate	9.70	61	36772	474.3655	ppt	#	1
27) Hexane	9.62	57	217765	490.9526	ppt	#	83
28) Chloroform	9.72	83	309258	464.2380	ppt		97
29) Tetrahydrofuran	10.26	42	154151	471.8701	ppt	#	59
30) 1,2-Dichloroethane	10.46	62	181489	462.6261	ppt	#	79
31) 1,1,1-Trichloroethane	10.70	97	269717	458.7730	ppt	#	86
32) Benzene	11.16	78	371275	440.2723	ppt	#	59
33) Carbon Tetrachloride	11.29	117	295933	459.6486	ppt	#	86
34) Cyclohexane	11.41	84	155799	471.0282	ppt	#	21
35) 1,2-Dichloropropane	11.95	63	153856	470.1497	ppt	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM14LCSD.D Vial: 3
Acq Time : 03/27/2017 18:28 Operator: LMR
Sample : QD Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:29:09 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.13	83	286533	470.8094	ppt		98
37)	1,4-Dioxane	12.25	88	77724	485.4939	ppt	#	76
38)	Trichloroethene	12.17	130	176167	467.0668	ppt	#	60
39)	Methyl Methacrylate	12.34	69	115990	517.5147	ppt	#	66
40)	Heptane	12.42	71	123520	504.2531	ppt	#	31
41)	cis-1,3-Dichloropropene	13.01	75	165418	479.2145	ppt	#	93
42)	4-Methyl-2-Pentanone	13.05	43	323393	515.2389	ppt	#	70
43)	trans-1,3-Dichloropropene	13.52	75	126741	483.6726	ppt		94
44)	1,1,2-Trichloroethane	13.71	97	149249	471.3380	ppt	#	84
45)	Toluene	14.00	91	362116	485.3410	ppt		97
46)	2-Hexanone	14.25	43	219038	512.5750	ppt	#	72
47)	Dibromochloromethane	14.44	129	275688	477.1147	ppt	#	32
48)	1,2-Dibromoethane	14.71	107	196886	479.2213	ppt		98
49)	Tetrachloroethene	15.16	166	178670	465.5887	ppt	#	82
51)	Chlorobenzene	15.88	112	285966	492.5639	ppt	#	71
52)	Ethylbenzene	16.26	91	361938	511.4883	ppt		93
53)	m,p-Xylene	16.44	91	576993	1123.1204	ppt		93
54)	Bromoform	16.58	173	181687	507.0002	ppt		99
55)	Styrene	16.85	104	158720	545.5000	ppt		99
56)	1,1,2,2-Tetrachloroethane	16.97	83	256436	515.9578	ppt		99
57)	o-Xylene	16.96	91	293448	553.9169	ppt		95
59)	4-Ethyl Toluene	18.40	105	207145	532.9134	ppt		96
60)	1,3,5-Trimethylbenzene	18.48	105	269320	585.8004	ppt		91
61)	1,2,4-Trimethylbenzene	19.01	105	208305	544.1869	ppt		95
62)	Benzyl Chloride	19.21	91	119772	592.3493	ppt	#	89
63)	m-Dichlorobenzene	19.24	146	143014	577.6033	ppt		95
64)	p-Dichlorobenzene	19.32	146	164677	570.8164	ppt		98
65)	o-Dichlorobenzene	19.79	146	146965	538.6224	ppt		95
66)	1,2,4-Trichlorobenzene	22.32	180	25679	499.0758	ppt	#	86
67)	Naphthalene	22.50	128	69972	492.6635	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	46448	484.9652	ppt	#	19

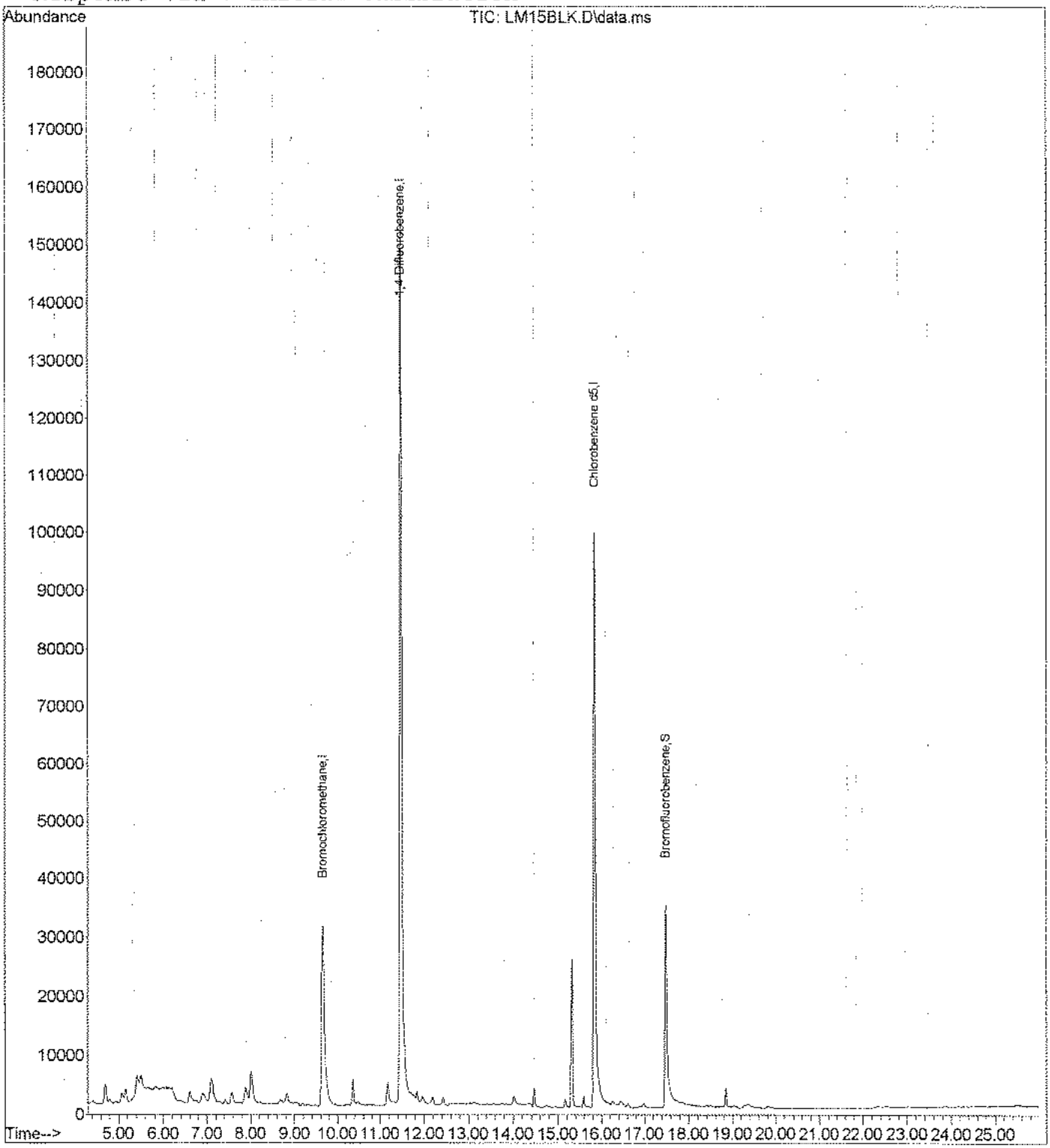
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM15BLK.D Vial: 1
Acq Time : 03/27/2017 19:16 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:29:52 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM15BLK.D Vial: 1
Acq Time : 03/27/2017 19:16 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:29:52 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Area%
1) Bromochloromethane	9.65	130	24960	1000.0000	ppt	96.49
25) 1,4-Difluorobenzene	11.48	114	397795	1000.0000	ppt	83.51
50) Chlorobenzene d5	15.84	117	313666	1000.0000	ppt	75.71
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.50	95	100525	717.3858	ppt	71.74%
Target Compounds						Qvalue
2) Propene	0.00	41		Not Detected		
3) Dichlorodifluoromethane	0.00	85		Not Detected		
4) Chloromethane	0.00	50		Not Detected		
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	0.00	54		Not Detected		
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	0.00	56		Not Detected		
11) Acetone	0.00	43		Not Detected		
12) Trichlorofluoromethane	0.00	101		Not Detected		
13) Ethanol	0.00	45		Not Detected		
14) Isopropyl Alcohol	0.00	45		Not Detected		
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	0.00	84		Not Detected		
17) Freon 113	0.00	151		Not Detected		
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	0.00	86		Not Detected		
23) 2-Butanone	0.00	43		Not Detected		
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	0.00	61		Not Detected		
27) Hexane	0.00	57		Not Detected		
28) Chloroform	0.00	83		Not Detected		
29) Tetrahydrofuran	0.00	42		Not Detected		
30) 1,2-Dichloroethane	0.00	62		Not Detected		
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	0.00	78		Not Detected		
33) Carbon Tetrachloride	0.00	117		Not Detected		
34) Cyclohexane	0.00	84		Not Detected		
35) 1,2-Dichloropropane	0.00	63		Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM15BLK.D Vial: 1
Acq Time : 03/27/2017 19:16 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:29:52 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected	
37)	1,4-Dioxane	0.00	88		Not Detected	
38)	Trichloroethene	0.00	130		Not Detected	
39)	Methyl Methacrylate	0.00	69		Not Detected	
40)	Heptane	0.00	71		Not Detected	
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected	
42)	4-Methyl-2-Pentanone	0.00	43		Not Detected	
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected	
44)	1,1,2-Trichloroethane	0.00	97		Not Detected	
45)	Toluene	0.00	91		Not Detected	
46)	2-Hexanone	0.00	43		Not Detected	
47)	Dibromochloromethane	0.00	129		Not Detected	
48)	1,2-Dibromoethane	0.00	107		Not Detected	
49)	Tetrachloroethene	0.00	166		Not Detected	
51)	Chlorobenzene	0.00	112		Not Detected	
52)	Ethylbenzene	0.00	91		Not Detected	
53)	m,p-Xylene	0.00	91		Not Detected	
54)	Bromoform	0.00	173		Not Detected	
55)	Styrene	0.00	104		Not Detected	
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57)	o-Xylene	0.00	91		Not Detected	
59)	4-Ethyl Toluene	0.00	105		Not Detected	
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61)	1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62)	Benzyl Chloride	0.00	91		Not Detected	
63)	m-Dichlorobenzene	0.00	146		Not Detected	
64)	p-Dichlorobenzene	0.00	146		Not Detected	
65)	o-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67)	Naphthalene	0.00	128		Not Detected	
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected	

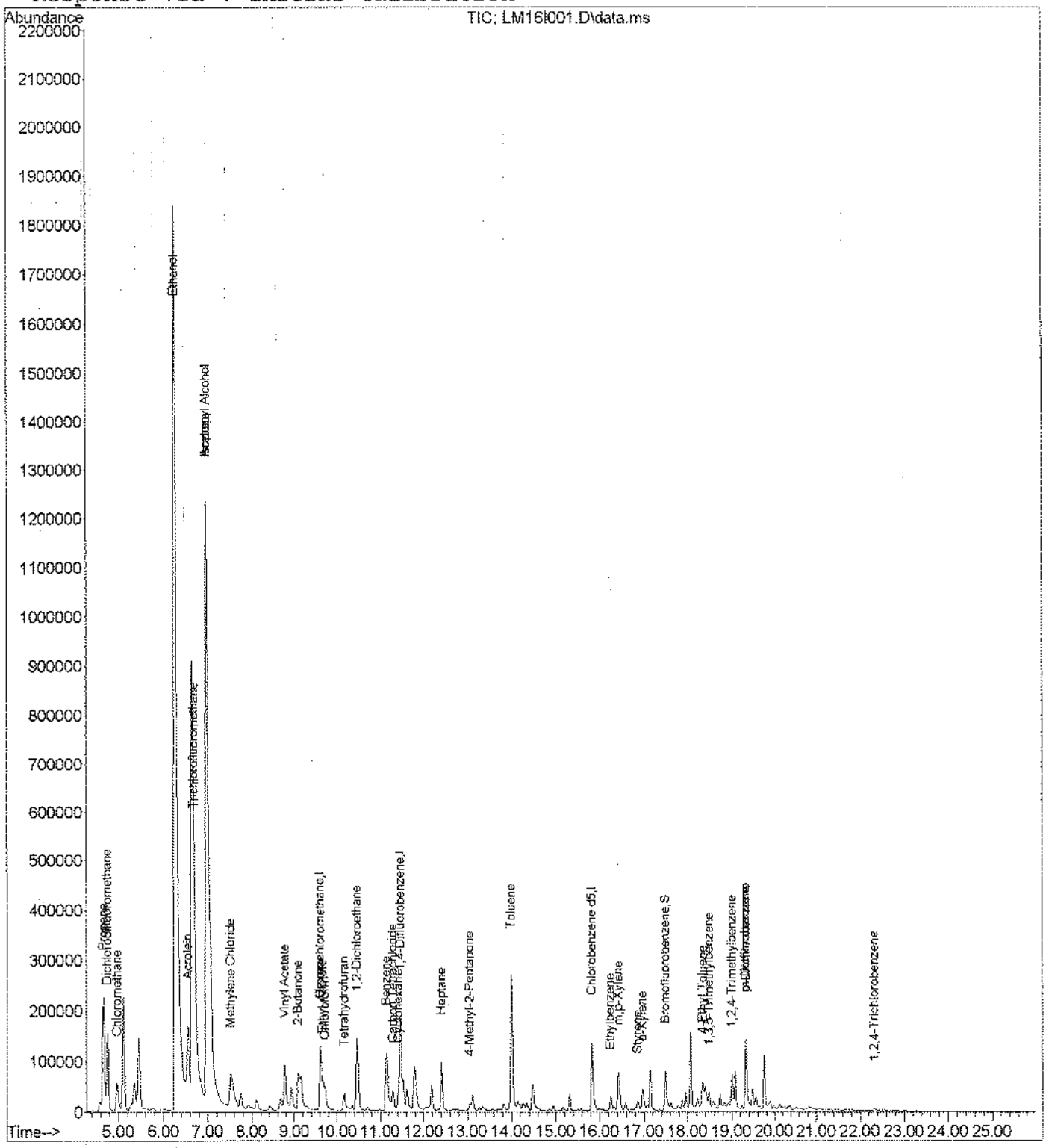
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM16I001.D Vial: 4
Acq Time : 03/27/2017 20:07 Operator: LMR
Sample : 1707721001 Inst : 5975-L
Misc : A-0027H-031017-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:30:06 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM16I001.D Vial: 4
Acq Time : 03/27/2017 20:07 Operator: LMR
Sample : 1707721001 Inst : 5975-L
Misc : A-0027H-031017-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:30:06 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.61	130	28647	1000.0000	ppt		110.74
25) 1,4-Difluorobenzene	11.46	114	436604	1000.0000	ppt		91.66
50) Chlorobenzene d5	15.83	117	385672	1000.0000	ppt		93.09
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	192397	1116.6738	ppt		111.67%
Target Compounds							Qvalue
2) Propene	4.67	41	324623	941.3262	ppt	#	33
3) Dichlorodifluoromethane	4.76	85	257019	288.1188	ppt		99
4) Chloromethane	4.97	50	144887	395.6113	ppt		97
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	0.00	54		Not Detected			
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	6.56	56	102415	764.5162	ppt	#	82
11) Acetone	6.98	43	647169	1231.1215	ppt	#	60
12) Trichlorofluoromethane	6.71	101	129130	152.7578	ppt		100
13) Ethanol	6.26	45	5714821	60729.8514	ppt	#	76
14) Isopropyl Alcohol	6.98	45	4429549	7236.8642	ppt	#	91
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	7.51	84	56763	181.5812	ppt	#	15
17) Freon 113	0.00	151		Not Detected			
18) Carbon Disulfide	0.00	76		Not Detected			
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	8.78	86	21772	301.8289	ppt	#	1
23) 2-Butanone	9.10	43	313981	436.2637	ppt	#	66
24) cis-1,2-Dichloroethene	0.00	96		Not Detected			
26) Ethyl Acetate	9.68	61	19814	240.8231	ppt	#	1
27) Hexane	9.61	57	95250	202.3236	ppt	#	79
28) Chloroform	9.72	83	39701	56.1502	ppt		98
29) Tetrahydrofuran	10.16	42	28743	82.8969	ppt	#	27
30) 1,2-Dichloroethane	10.46	62	219914	528.1567	ppt	#	78
31) 1,1,1-Trichloroethane	0.00	97		Not Detected			
32) Benzene	11.15	78	144280	161.1988	ppt	#	57
33) Carbon Tetrachloride	11.29	117	36713	53.7258	ppt	#	86
34) Cyclohexane	11.41	84	24715	70.4000	ppt	#	1
35) 1,2-Dichloropropane	0.00	63		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM16I001.D Vial: 4
Acq Time : 03/27/2017 20:07 Operator: LMR
Sample : 1707721001 Inst : 5975-L
Misc : A-0027H-031017-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:30:06 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected			
37)	1,4-Dioxane	0.00	88		Not Detected			
38)	Trichloroethene	0.00	130		Not Detected			
39)	Methyl Methacrylate	0.00	69		Not Detected			
40)	Heptane	12.41	71	39416	151.6052	ppt	#	24
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected			
42)	4-Methyl-2-Pentanone	13.05	43	30198	45.3301	ppt	#	65
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected			
44)	1,1,2-Trichloroethane	0.00	97		Not Detected			
45)	Toluene	14.00	91	414550	523.4875	ppt		98
46)	2-Hexanone	0.00	43		Not Detected			
47)	Dibromochloromethane	0.00	129		Not Detected			
48)	1,2-Dibromoethane	0.00	107		Not Detected			
49)	Tetrachloroethene	0.00	166		Not Detected			
51)	Chlorobenzene	0.00	112		Not Detected			
52)	Ethylbenzene	16.25	91	49759	64.2306	ppt		93
53)	m,p-Xylene	16.43	91	122623	218.0200	ppt		94
54)	Bromoform	0.00	173		Not Detected			
55)	Styrene	16.85	104	21563	67.6926	ppt		98
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected			
57)	o-Xylene	16.96	91	53478	92.2056	ppt		96
59)	4-Ethyl Toluene	18.34	105	70685	166.1032	ppt		98
60)	1,3,5-Trimethylbenzene	18.48	105	39048	77.5798	ppt		88
61)	1,2,4-Trimethylbenzene	19.01	105	88929	212.2073	ppt		94
62)	Benzyl Chloride	0.00	91		Not Detected			
63)	m-Dichlorobenzene	19.33	146	185576	684.6073	ppt		97
64)	p-Dichlorobenzene	19.33	146	185576	587.5623	ppt		97
65)	o-Dichlorobenzene	19.33	146	161955	542.1676	ppt		98
66)	1,2,4-Trichlorobenzene	22.32	180	5742	101.9343	ppt	#	84
67)	Naphthalene	0.00	128		Not Detected			
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected			

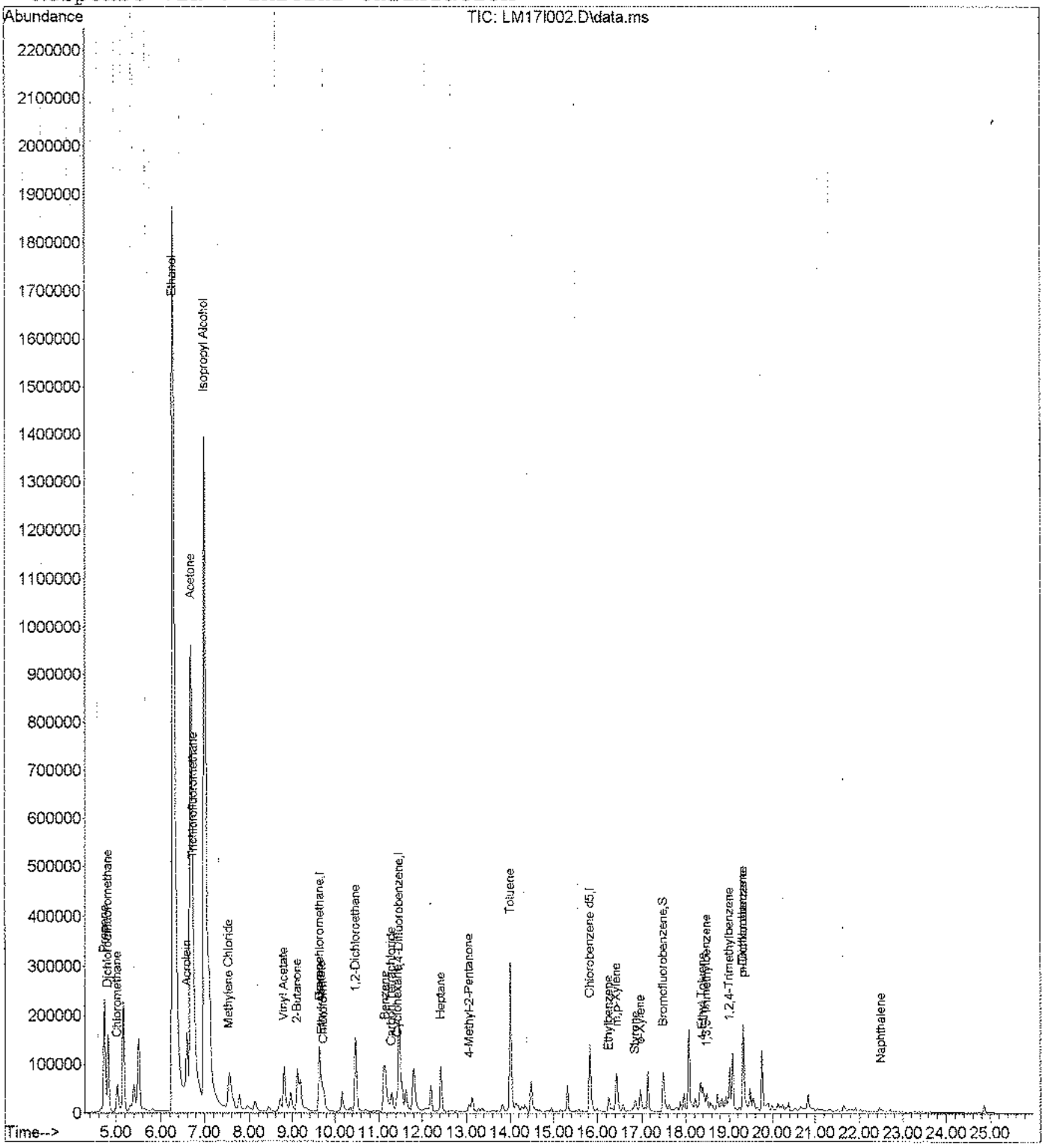
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM17I002.D Vial: 5
Acq Time : 03/27/2017 20:57 Operator: LMR
Sample : 1707721002 Inst : 5975-L
Misc : A-0027H-031017-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:30:42 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM17I002.D Vial: 5
Acq Time : 03/27/2017 20:57 Operator: LMR
Sample : 1707721002 Inst : 5975-L
Misc : A-0027H-031017-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:30:42 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	29855	1000.0000	ppt		115.41
25) 1,4-Difluorobenzene	11.48	114	442128	1000.0000	ppt		92.82
50) Chlorobenzene d5	15.84	117	394784	1000.0000	ppt		95.29
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	195946	1111.0228	ppt		111.10%
Target Compounds							Qvalue
2) Propene	4.74	41	330868	920.6143	ppt	#	34
3) Dichlorodifluoromethane	4.82	85	259862	279.5189	ppt		98
4) Chloromethane	5.03	50	148666	389.5050	ppt		97
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	0.00	54		Not Detected			
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	6.60	56	101001	723.4539	ppt	#	82
11) Acetone	6.68	43	3447240	6292.4068	ppt		98
12) Trichlorofluoromethane	6.75	101	128146	145.4600	ppt		100
13) Ethanol	6.28	45	5720736	58332.8997	ppt	#	76
14) Isopropyl Alcohol	6.99	45	4807095	7535.9098	ppt		97
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	7.54	84	61585	189.0351	ppt	#	16
17) Freon 113	0.00	151		Not Detected			
18) Carbon Disulfide	0.00	76		Not Detected			
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	8.80	86	19386	257.8771	ppt	#	1
23) 2-Butanone	9.11	43	336280	448.3414	ppt	#	66
24) cis-1,2-Dichloroethene	0.00	96		Not Detected			
26) Ethyl Acetate	9.69	61	20240	242.9272	ppt	#	1
27) Hexane	9.64	57	95358	200.0223	ppt	#	75
28) Chloroform	9.74	83	39118	54.6344	ppt		97
29) Tetrahydrofuran	0.00	42		Not Detected			
30) 1,2-Dichloroethane	10.47	62	223956	531.1441	ppt	#	78
31) 1,1,1-Trichloroethane	0.00	97		Not Detected			
32) Benzene	11.16	78	109528	120.8428	ppt	#	57
33) Carbon Tetrachloride	11.30	117	35605	51.4533	ppt	#	84
34) Cyclohexane	11.43	84	24003	67.5177	ppt	#	1
35) 1,2-Dichloropropane	0.00	63		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM17I002.D Vial: 5
Acq Time : 03/27/2017 20:57 Operator: LMR
Sample : 1707721002 Inst : 5975-L
Misc : A-0027H-031017-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:30:42 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected			
37)	1,4-Dioxane	0.00	88		Not Detected			
38)	Trichloroethene	0.00	130		Not Detected			
39)	Methyl Methacrylate	0.00	69		Not Detected			
40)	Heptane	12.42	71	37835	143.7060	ppt	#	19
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected			
42)	4-Methyl-2-Pentanone	13.06	43	35024	51.9175	ppt	#	63
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected			
44)	1,1,2-Trichloroethane	0.00	97		Not Detected			
45)	Toluene	14.01	91	469747	585.7780	ppt		96
46)	2-Hexanone	0.00	43		Not Detected			
47)	Dibromochloromethane	0.00	129		Not Detected			
48)	1,2-Dibromoethane	0.00	107		Not Detected			
49)	Tetrachloroethene	0.00	166		Not Detected			
51)	Chlorobenzene	0.00	112		Not Detected			
52)	Ethylbenzene	16.26	91	53583	67.5703	ppt		93
53)	m,p-Xylene	16.44	91	129444	224.8355	ppt		95
54)	Bromoform	0.00	173		Not Detected			
55)	Styrene	16.85	104	27727	85.0341	ppt		98
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected			
57)	o-Xylene	16.96	91	55987	94.3035	ppt		96
59)	4-Ethyl Toluene	18.39	105	34287	78.7116	ppt	#	42
60)	1,3,5-Trimethylbenzene	18.48	105	39557	76.7771	ppt		87
61)	1,2,4-Trimethylbenzene	19.01	105	113816	265.3254	ppt		95
62)	Benzyl Chloride	0.00	91		Not Detected			
63)	m-Dichlorobenzene	19.33	146	229340	826.5290	ppt		97
64)	p-Dichlorobenzene	19.33	146	229340	709.3662	ppt		96
65)	o-Dichlorobenzene	19.33	146	205670	672.6183	ppt		99
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	22.51	128	9955	62.5453	ppt	#	71
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected			

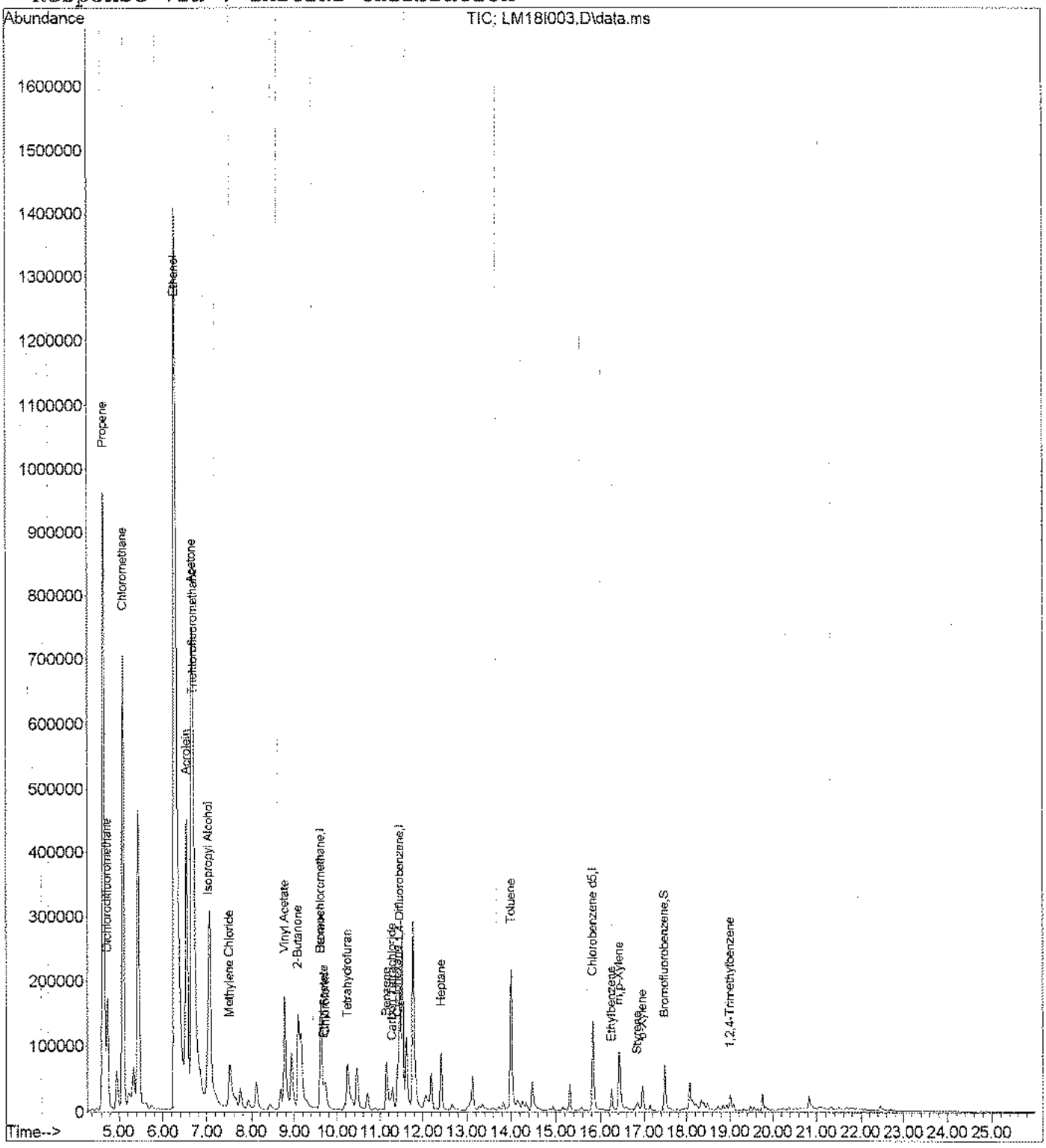
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM18I003.D Vial: 6
Acq Time : 03/27/2017 21:47 Operator: LMR
Sample : 1707721003 Inst : 5975-L
Misc : A-0013H-031017-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:31:13 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM18I003.D Vial: 6
Acq Time : 03/27/2017 21:47 Operator: LMR
Sample : 1707721003 Inst : 5975-L
Misc : A-0013H-031017-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:31:13 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	9.63	130	28184	1000.0000 ppt	108.95
25) 1,4-Difluorobenzene	11.47	114	436535	1000.0000 ppt	91.64
50) Chlorobenzene d5	15.84	117	382675	1000.0000 ppt	92.37
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	17.48	95	178259	1042.7195 ppt	104.27%
Target Compounds					Qvalue
2) Propene	4.65	41	1462919	4311.7905 ppt #	30
3) Dichlorodifluoromethane	4.74	85	295674	336.8961 ppt	99
4) Chloromethane	5.09	50	46097	127.9347 ppt #	71
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	6.55	56	256635	1947.2222 ppt #	76
11) Acetone	6.67	43	2641131	5106.8095 ppt	94
12) Trichlorofluoromethane	6.70	101	116633	140.2408 ppt	100
13) Ethanol	6.27	45	4764386	51461.5715 ppt #	76
14) Isopropyl Alcohol	7.04	45	419038	695.8583 ppt #	64
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	7.51	84	96766	314.6334 ppt #	15
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	8.79	86	46441	654.3958 ppt #	1
23) 2-Butanone	9.09	43	600226	847.6900 ppt #	67
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	9.69	61	11195	136.0876 ppt #	1
27) Hexane	9.62	57	139483	296.3272 ppt #	83
28) Chloroform	9.73	83	40697	57.5680 ppt	99
29) Tetrahydrofuran	10.23	42	149153	430.2361 ppt #	58
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	11.16	78	121158	135.3869 ppt #	57
33) Carbon Tetrachloride	11.29	117	32556	47.6499 ppt #	86
34) Cyclohexane	11.42	84	48562	138.3495 ppt #	1
35) 1,2-Dichloropropane	0.00	63		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM18I003.D Vial: 6
Acq Time : 03/27/2017 21:47 Operator: LMR
Sample : 1707721003 Inst : 5975-L
Misc : A-0013H-031017-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:31:13 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	12.42	71	37337	143.6314 ppt #	28
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	
45) Toluene	14.01	91	342929	433.1140 ppt	97
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	16.26	91	55684	72.4417 ppt	94
53) m,p-Xylene	16.43	91	155370	278.4067 ppt	94
54) Bromoform	0.00	173		Not Detected	
55) Styrene	16.85	104	16055	50.7961 ppt	99
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	16.96	91	49826	86.5817 ppt	94
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	19.01	105	35586	85.5823 ppt	93
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

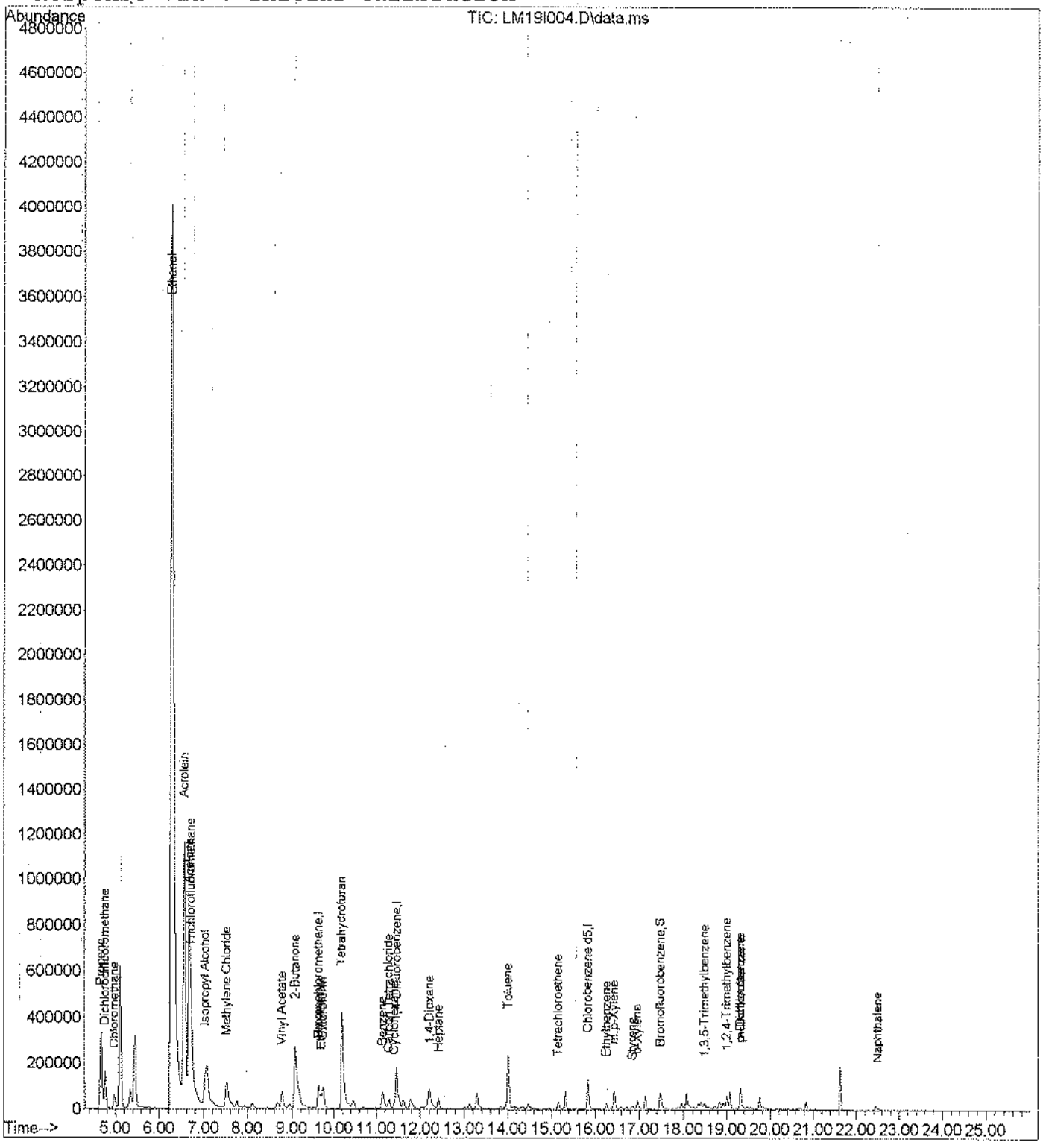
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM19I004.D Vial: 7
Acq Time : 03/27/2017 22:36 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:31:57 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM19I004.D Vial: 7
Acq Time : 03/27/2017 22:36 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:31:57 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	9.63	130	28546	1000.0000 ppt	110.35
25) 1,4-Difluorobenzene	11.47	114	427894	1000.0000 ppt	89.83
50) Chlorobenzene d5	15.84	117	381191	1000.0000 ppt	92.01
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	17.48	95	179585	1054.5655 ppt	105.46%
Target Compounds					Qvalue
2) Propene	4.67	41	503163	1464.2102 ppt #	32
3) Dichlorodifluoromethane	4.76	85	266781	300.1201 ppt	99
4) Chloromethane	4.97	50	157783	432.3479 ppt	98
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	6.57	56	476948	3572.9590 ppt #	69
11) Acetone	6.67	43	2738915	5228.7230 ppt	96
12) Trichlorofluoromethane	6.72	101	128446	152.4863 ppt	100
13) Ethanol	6.28	45	13036256	139022.9032 ppt #	76
14) Isopropyl Alcohol	7.03	45	523783	858.7687 ppt #	64
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	7.52	84	160893	516.5074 ppt #	16
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	8.78	86	14178	197.2474 ppt #	1
23) 2-Butanone	9.08	43	1026598	1431.4627 ppt #	66
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	9.69	61	17043	211.3603 ppt #	1
27) Hexane	9.63	57	68758	149.0241 ppt #	75
28) Chloroform	9.74	83	134601	194.2449 ppt	98
29) Tetrahydrofuran	10.19	42	782807	2303.6286 ppt #	60
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	11.16	78	110714	126.2147 ppt #	59
33) Carbon Tetrachloride	11.29	117	42287	63.1424 ppt #	86
34) Cyclohexane	11.42	84	20495	59.5678 ppt #	1
35) 1,2-Dichloropropane	0.00	63		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM19I004.D Vial: 7
Acq Time : 03/27/2017 22:36 Operator: LMR
Sample : 1707721004 Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:31:57 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

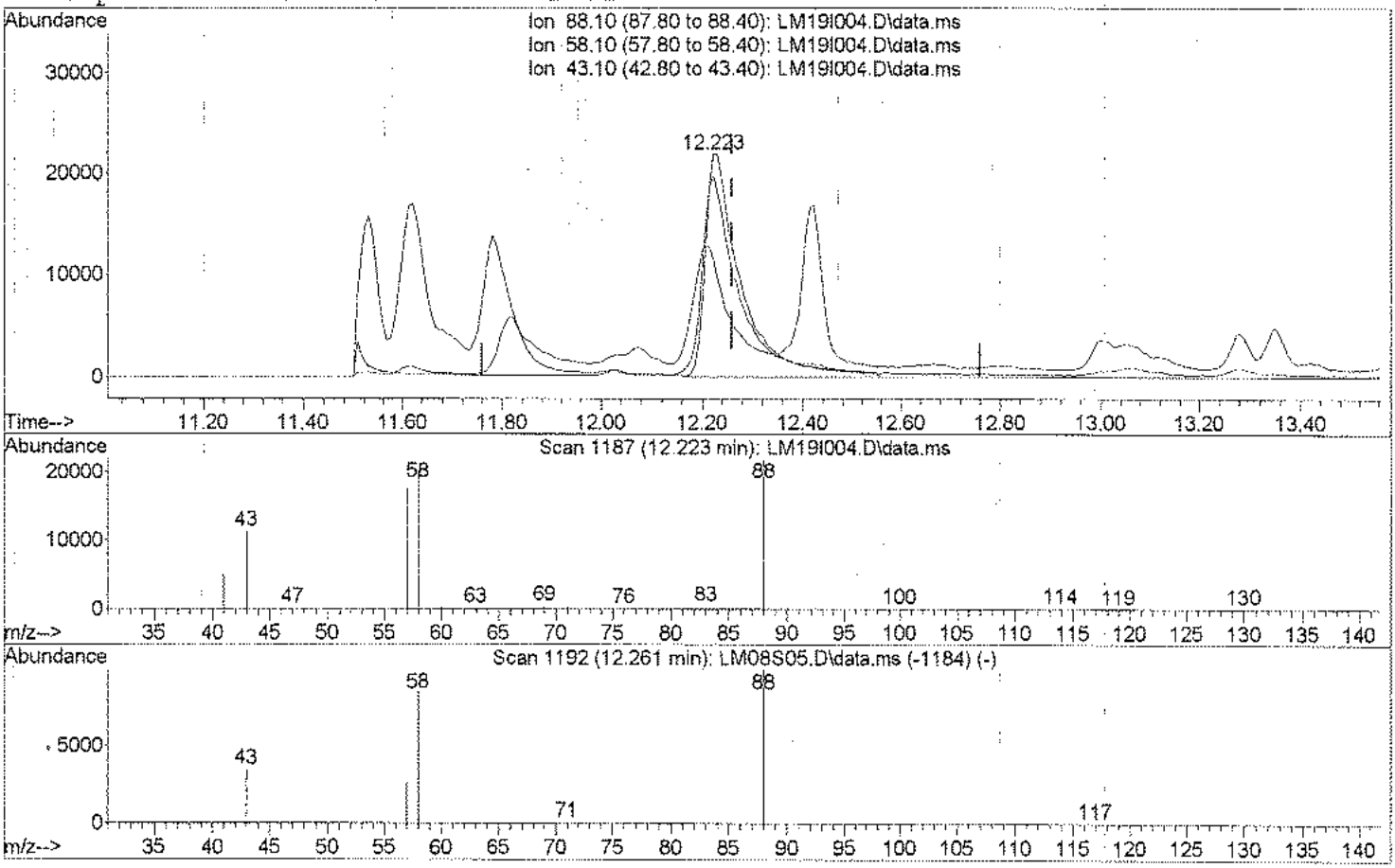
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected			
37)	1,4-Dioxane	12.22	88	108482	651.4303	ppt	#	59
38)	Trichloroethene	0.00	130		Not Detected			
39)	Methyl Methacrylate	0.00	69		Not Detected			
40)	Heptane	12.42	71	19793	77.6792	ppt	#	11
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected			
42)	4-Methyl-2-Pentanone	0.00	43		Not Detected			
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected			
44)	1,1,2-Trichloroethane	0.00	97		Not Detected			
45)	Toluene	14.01	91	369810	476.4963	ppt		97
46)	2-Hexanone	0.00	43		Not Detected			
47)	Dibromochloromethane	0.00	129		Not Detected			
48)	1,2-Dibromoethane	0.00	107		Not Detected			
49)	Tetrachloroethene	15.16	166	22013	55.1457	ppt	#	83
51)	Chlorobenzene	0.00	112		Not Detected			
52)	Ethylbenzene	16.26	91	45658	59.6297	ppt		93
53)	m,p-Xylene	16.43	91	140172	252.1513	ppt		94
54)	Bromoform	0.00	173		Not Detected			
55)	Styrene	16.85	104	16542	52.5406	ppt		98
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected			
57)	o-Xylene	16.96	91	52015	90.7374	ppt		94
59)	4-Ethyl Toluene	0.00	105		Not Detected			
60)	1,3,5-Trimethylbenzene	18.48	105	26038	52.3399	ppt		93
61)	1,2,4-Trimethylbenzene	19.01	105	74501	179.8683	ppt		94
62)	Benzyl Chloride	0.00	91		Not Detected			
63)	m-Dichlorobenzene	19.33	146	124262	463.8030	ppt		95
64)	p-Dichlorobenzene	19.33	146	124262	398.0576	ppt		95
65)	o-Dichlorobenzene	19.33	146	111242	376.7762	ppt		96
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	22.51	128	22149	144.1200	ppt	#	71
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM19I004.D
Acq On : 03/27/2017 22:36
Operator : LMR
Sample : 1707721004
Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 28 10:31:57 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM19I004.D\data.ms

(37) 1,4-Dioxane

12.223min (-0.038) 651.43 ppt

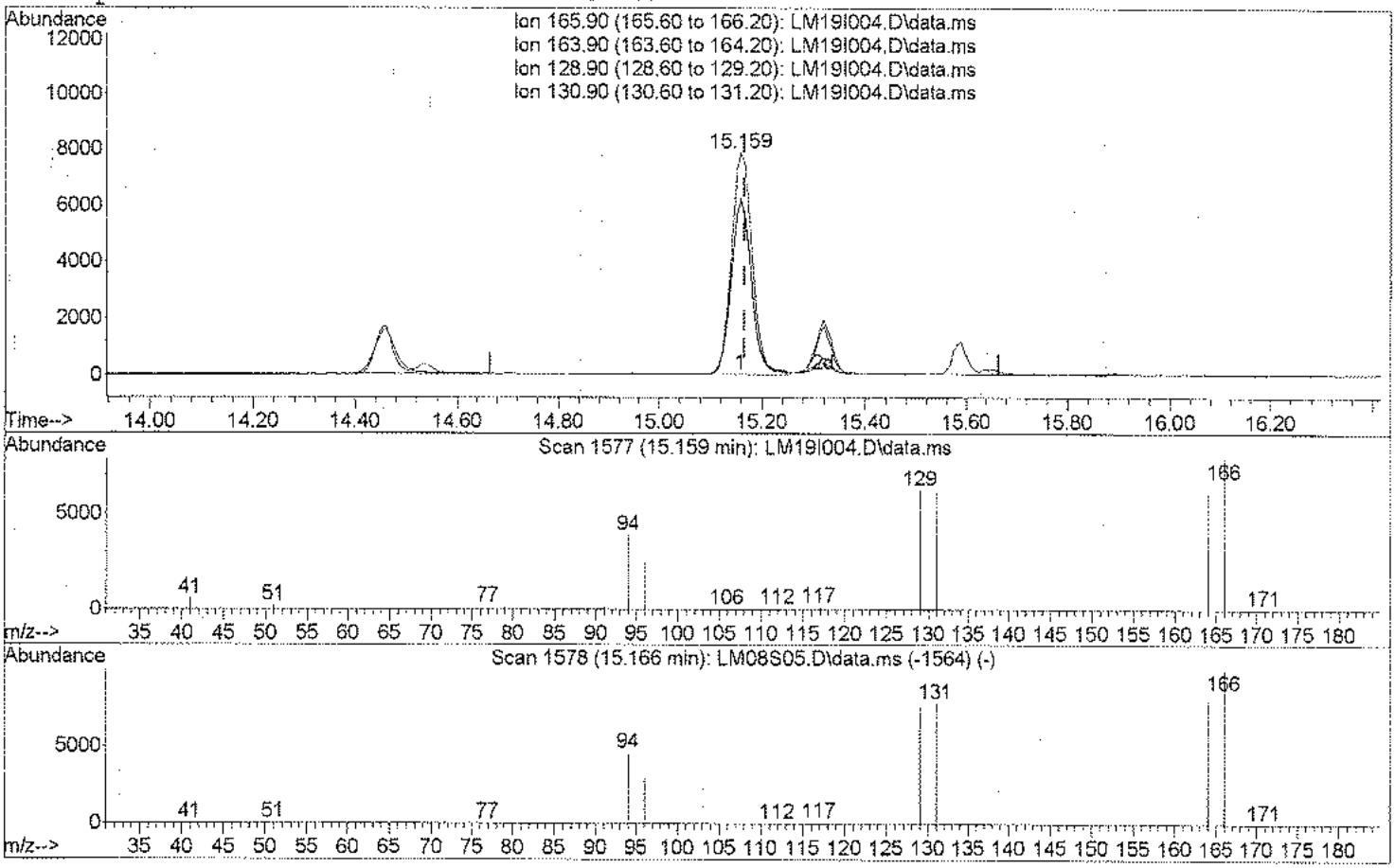
response 108482

Ion	Exp%	Act%
88.10	100.00	100.00
58.10	59.50	85.34#
43.10	23.70	51.86#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM19I004.D
Acq On : 03/27/2017 22:36
Operator : LMR
Sample : 1707721004
Inst : 5975-L
Misc : A-0025H-031417-TO-001-BAS
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 28 10:31:57 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM19I004.D\data.ms

(49) Tetrachloroethene

15.159min (-0.007) 55.15 ppt

response 22013

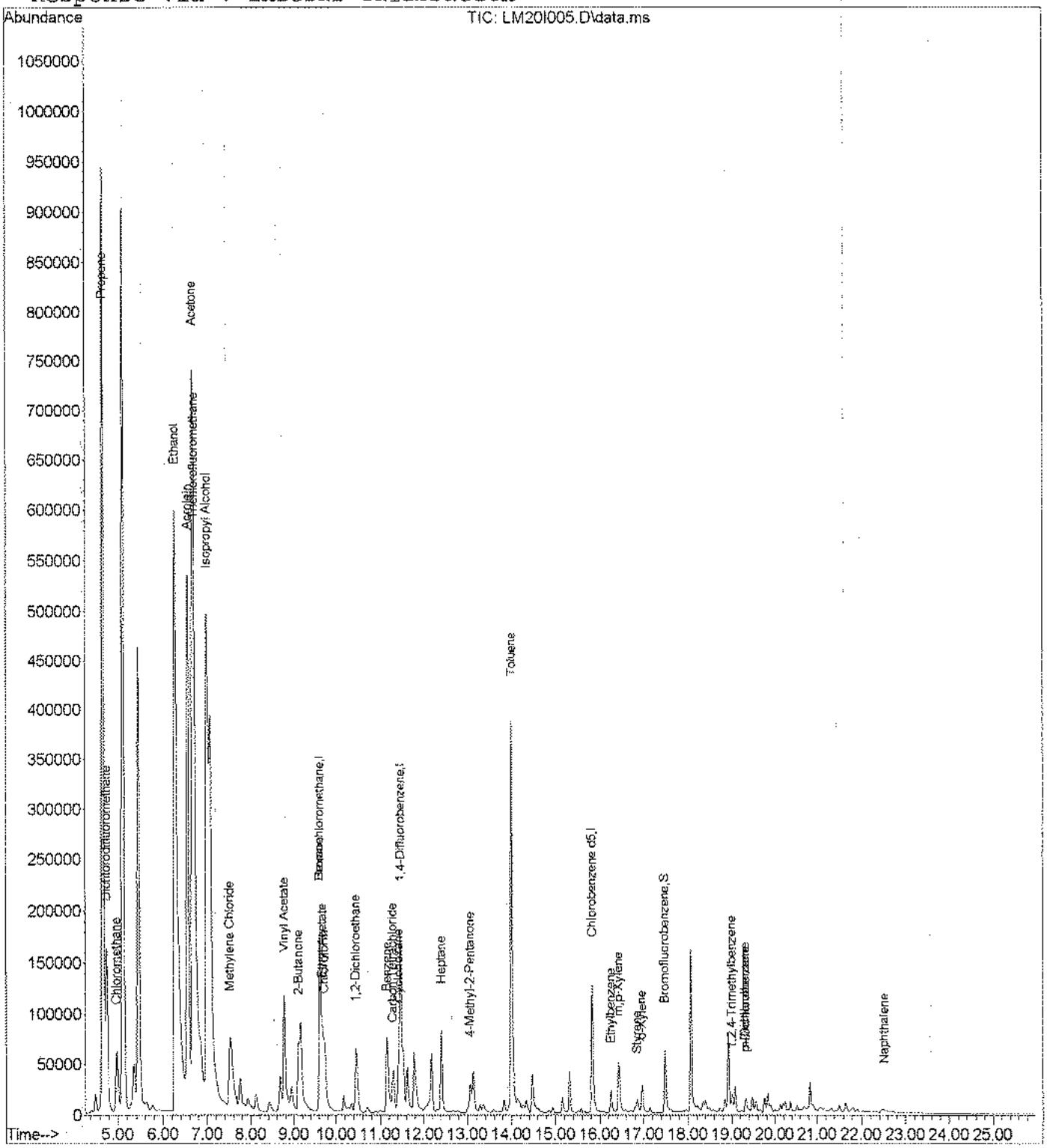
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	77.77
128.90	57.40	76.53#
130.90	56.90	77.02#

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM20I005.D Vial: 8
Acq Time : 03/27/2017 23:26 Operator: LMR
Sample : 1707721005 Inst : 5975-L
Misc : A-0004H-031417-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:32:43 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM20I005.D Vial: 8
Acq Time : 03/27/2017 23:26 Operator: LMR
Sample : 1707721005 Inst : 5975-L
Misc : A-0004H-031417-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:32:43 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.62	130	27522	1000.0000	ppt		106.39
25) 1,4-Difluorobenzene	11.47	114	421284	1000.0000	ppt		88.44
50) Chlorobenzene d5	15.83	117	365294	1000.0000	ppt		88.17
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.48	95	164264	1006.5746	ppt		100.66%
Target Compounds							Qvalue
2) Propene	4.68	41	1351049	4077.8487	ppt	#	30
3) Dichlorodifluoromethane	4.76	85	263645	307.6274	ppt		99
4) Chloromethane	4.98	50	156550	444.9298	ppt		98
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	0.00	54		Not Detected			
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	6.57	56	225581	1752.7694	ppt	#	72
11) Acetone	6.67	43	2749797	5444.8132	ppt		98
12) Trichlorofluoromethane	6.72	101	114342	140.7931	ppt		100
13) Ethanol	6.27	45	2142136	23694.4037	ppt	#	75
14) Isopropyl Alcohol	6.99	45	2136367	3633.0045	ppt	#	87
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	7.52	84	98971	329.5434	ppt	#	15
17) Freon 113	0.00	151		Not Detected			
18) Carbon Disulfide	0.00	76		Not Detected			
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	8.79	86	18095	261.1080	ppt	#	1
23) 2-Butanone	9.11	43	291851	422.0910	ppt	#	64
24) cis-1,2-Dichloroethene	0.00	96		Not Detected			
26) Ethyl Acetate	9.68	61	30631	385.8334	ppt	#	1
27) Hexane	9.62	57	148640	327.2126	ppt	#	78
28) Chloroform	9.73	83	67755	99.3125	ppt		98
29) Tetrahydrofuran	0.00	42		Not Detected			
30) 1,2-Dichloroethane	10.46	62	25017	62.2670	ppt	#	79
31) 1,1,1-Trichloroethane	0.00	97		Not Detected			
32) Benzene	11.16	78	129669	150.1429	ppt	#	58
33) Carbon Tetrachloride	11.30	117	43952	66.6583	ppt	#	86
34) Cyclohexane	11.42	84	38783	114.4897	ppt	#	1
35) 1,2-Dichloropropane	0.00	63		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM20I005.D Vial: 8
Acq Time : 03/27/2017 23:26 Operator: LMR
Sample : 1707721005 Inst : 5975-L
Misc : A-0004H-031417-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:32:43 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected			
37)	1,4-Dioxane	0.00	88		Not Detected			
38)	Trichloroethene	0.00	130		Not Detected			
39)	Methyl Methacrylate	0.00	69		Not Detected			
40)	Heptane	12.42	71	33823	134.8237	ppt	#	20
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected			
42)	4-Methyl-2-Pentanone	13.06	43	60053	93.4234	ppt	#	65
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected			
44)	1,1,2-Trichloroethane	0.00	97		Not Detected			
45)	Toluene	14.00	91	608603	796.4825	ppt		97
46)	2-Hexanone	0.00	43		Not Detected			
47)	Dibromochloromethane	0.00	129		Not Detected			
48)	1,2-Dibromoethane	0.00	107		Not Detected			
49)	Tetrachloroethene	0.00	166		Not Detected			
51)	Chlorobenzene	0.00	112		Not Detected			
52)	Ethylbenzene	16.26	91	39626	54.0040	ppt		93
53)	m,p-Xylene	16.43	91	88464	166.0606	ppt		94
54)	Bromoform	0.00	173		Not Detected			
55)	Styrene	16.85	104	15639	51.8342	ppt		96
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected			
57)	o-Xylene	16.96	91	35562	64.7357	ppt		95
59)	4-Ethyl Toluene	0.00	105		Not Detected			
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected			
61)	1,2,4-Trimethylbenzene	19.01	105	23770	59.8855	ppt		93
62)	Benzyl Chloride	0.00	91		Not Detected			
63)	m-Dichlorobenzene	19.32	146	20558	80.0712	ppt	#	92
64)	p-Dichlorobenzene	19.32	146	20558	68.7209	ppt	#	91
65)	o-Dichlorobenzene	0.00	146		Not Detected			
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	22.52	128	8200	55.6781	ppt	#	71
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected			

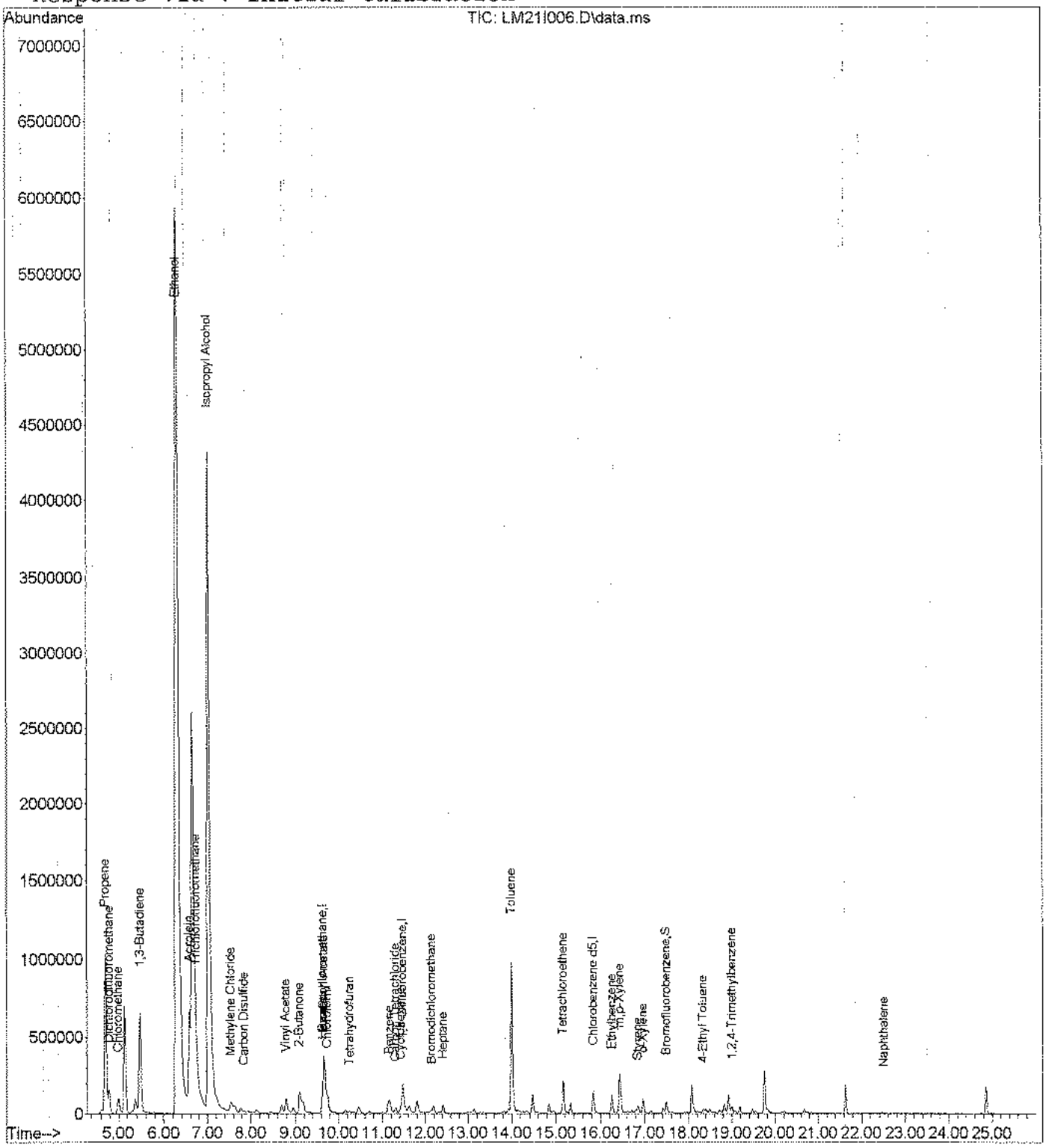
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM21I006.D Vial: 9
Acq Time : 03/28/2017 00:16 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:33:23 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM21I006.D Vial: 9
Acq Time : 03/28/2017 00:16 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:33:23 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	30217	1000.0000	ppt		116.81
25) 1,4-Difluorobenzene	11.48	114	435104	1000.0000	ppt		91.34
50) Chlorobenzene d5	15.84	117	393626	1000.0000	ppt		95.01
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.48	95	186651	1061.4332	ppt		106.14%
Target Compounds							Qvalue
2) Propene	4.71	41	1429387	3929.5108	ppt	#	30
3) Dichlorodifluoromethane	4.79	85	259010	275.2648	ppt		99
4) Chloromethane	5.00	50	259075	670.6448	ppt		98
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	5.48	54	22827	52.5176	ppt	#	1
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	6.58	56	289239	2046.9525	ppt	#	83
11) Acetone	0.00	43		Not Detected			
12) Trichlorofluoromethane	6.73	101	115142	129.1332	ppt		99
13) Ethanol	6.30	45	19657611	198042.3753	ppt	#	75
14) Isopropyl Alcohol	7.01	45	12979762	20104.1375	ppt		93
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	7.55	84	56652	171.8100	ppt	#	15
17) Freon 113	0.00	151		Not Detected			
18) Carbon Disulfide	7.84	76	48799	46.8177	ppt	#	58
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	8.80	86	18680	245.5088	ppt	#	1
23) 2-Butanone	9.09	43	529196	697.0920	ppt	#	65
24) cis-1,2-Dichloroethene	0.00	96		Not Detected			
26) Ethyl Acetate	9.67	61	125167	1526.5478	ppt	#	1
27) Hexane	9.63	57	90501	192.8989	ppt	#	42
28) Chloroform	9.74	83	131115	186.0788	ppt		96
29) Tetrahydrofuran	10.26	42	28246	81.7444	ppt	#	53
30) 1,2-Dichloroethane	0.00	62		Not Detected			
31) 1,1,1-Trichloroethane	0.00	97		Not Detected			
32) Benzene	11.16	78	119839	134.3534	ppt	#	57
33) Carbon Tetrachloride	11.31	117	36819	54.0666	ppt	#	85
34) Cyclohexane	11.42	84	30602	87.4695	ppt	#	1
35) 1,2-Dichloropropane	0.00	63		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM21I006.D Vial: 9
Acq Time : 03/28/2017 00:16 Operator: LMR
Sample : 1707721006 Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:33:23 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

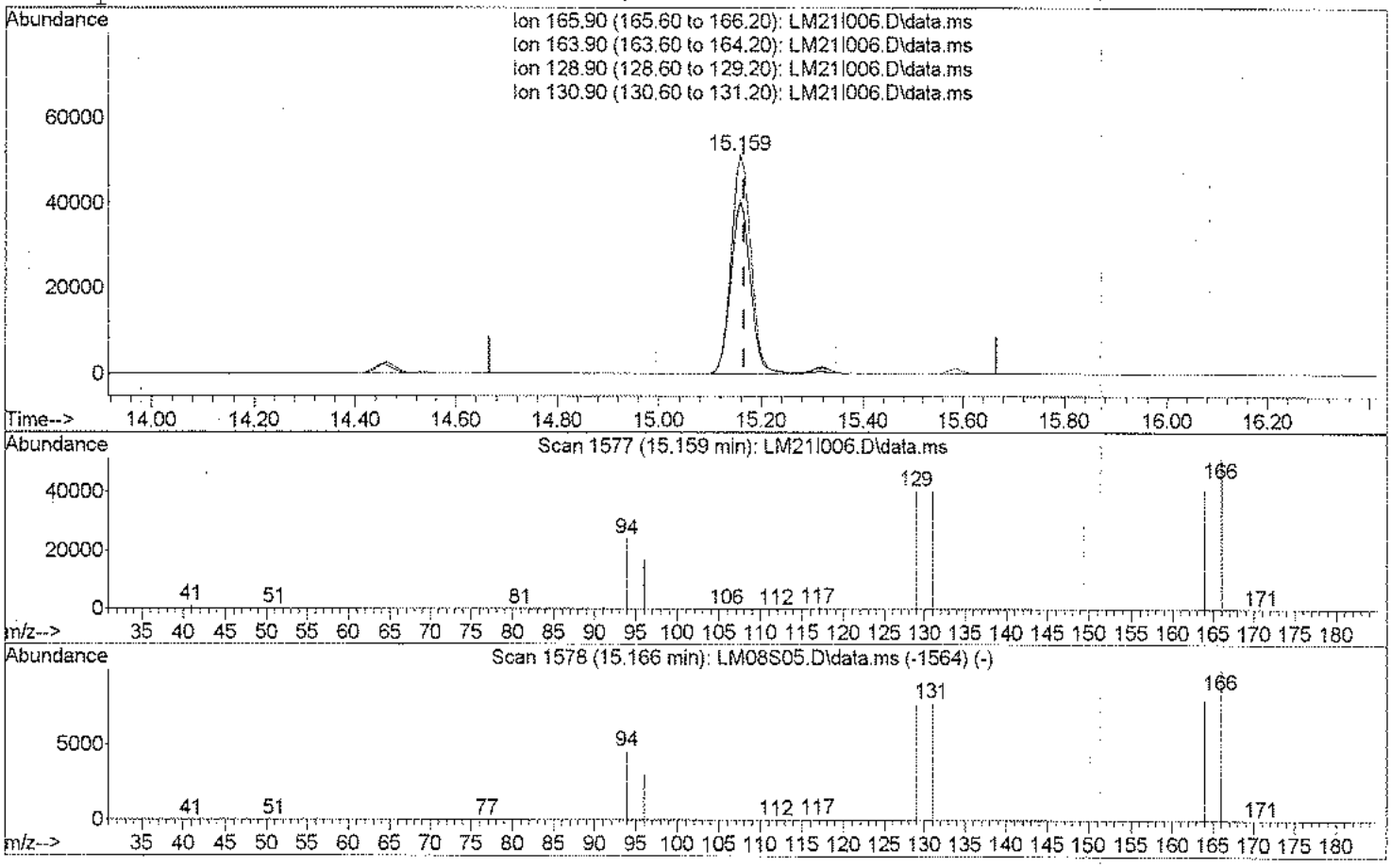
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.15	83	31074	48.2717	ppt	#	92
37)	1,4-Dioxane	0.00	88		Not Detected			
38)	Trichloroethene	0.00	130		Not Detected			
39)	Methyl Methacrylate	0.00	69		Not Detected			
40)	Heptane	12.42	71	22910	88.4222	ppt	#	1
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected			
42)	4-Methyl-2-Pentanone	0.00	43		Not Detected			
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected			
44)	1,1,2-Trichloroethane	0.00	97		Not Detected			
45)	Toluene	14.01	91	1504102	1905.9053	ppt		97
46)	2-Hexanone	0.00	43		Not Detected			
47)	Dibromochloromethane	0.00	129		Not Detected			
48)	1,2-Dibromoethane	0.00	107		Not Detected			
49)	Tetrachloroethene	15.16	166	139010	342.4693	ppt	#	82
51)	Chlorobenzene	0.00	112		Not Detected			
52)	Ethylbenzene	16.26	91	173180	219.0293	ppt		94
53)	m,p-Xylene	16.43	91	422690	736.3440	ppt		95
54)	Bromoform	0.00	173		Not Detected			
55)	Styrene	16.84	104	54175	166.6345	ppt		99
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected			
57)	o-Xylene	16.96	91	122436	206.8357	ppt		96
59)	4-Ethyl Toluene	18.34	105	36368	83.7345	ppt		99
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected			
61)	1,2,4-Trimethylbenzene	19.00	105	65581	153.3308	ppt		93
62)	Benzyl Chloride	0.00	91		Not Detected			
63)	m-Dichlorobenzene	0.00	146		Not Detected			
64)	p-Dichlorobenzene	0.00	146		Not Detected			
65)	o-Dichlorobenzene	0.00	146		Not Detected			
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	22.51	128	11213	70.6563	ppt	#	71
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM21I006.D
Acq On : 03/28/2017 00:16
Operator : LMR
Sample : 1707721006
Inst : 5975-L
Misc : A-0012H-031417-TO-001-BAS
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 28 10:33:23 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM21I006.D\data.ms

(49) Tetrachloroethene

15.159min (-0.007) 342.47 ppt

response 139010

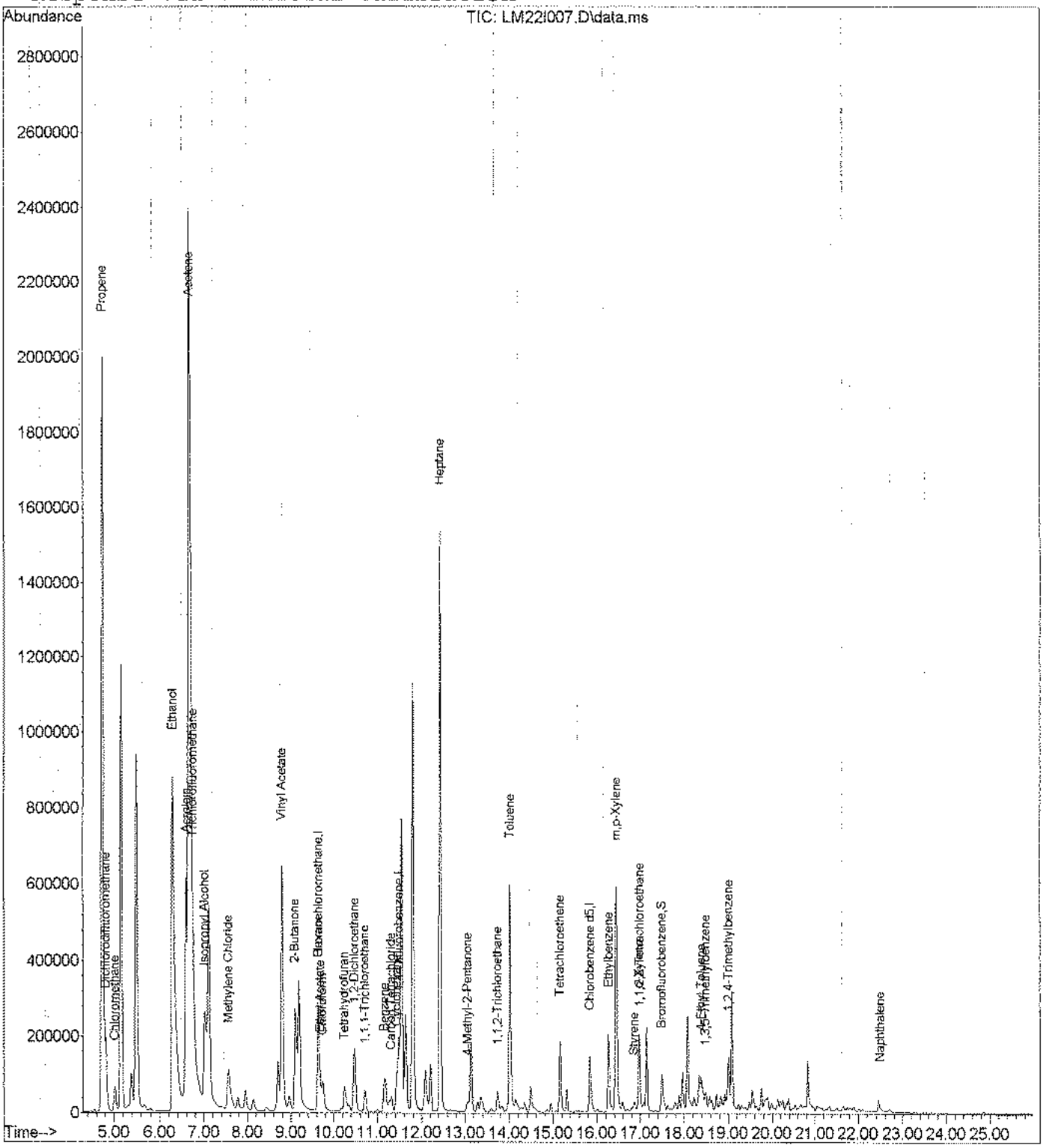
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	78.88
128.90	57.40	77.65#
130.90	56.90	77.52#

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM22I007.D Vial: 10
Acq Time : 03/28/2017 01:06 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:34:21 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM22I007.D Vial: 10
Acq Time : 03/28/2017 01:06 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:34:21 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.64	130	30262	1000.0000 ppt		116.99
25) 1,4-Difluorobenzene	11.48	114	444426	1000.0000 ppt		93.30
50) Chlorobenzene d5	15.84	117	403749	1000.0000 ppt		97.46
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.49	95	209162	1159.6247 ppt		115.96%
Target Compounds						Qvalue
2) Propene	4.73	41	2857417	7843.6102 ppt	#	29
3) Dichlorodifluoromethane	4.81	85	316813	336.1947 ppt		99
4) Chloromethane	5.01	50	161953	418.6102 ppt		97
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	0.00	54		Not Detected		
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	6.59	56	276926	1956.8988 ppt	#	85
11) Acetone	6.66	43	8610137	15505.1074 ppt		96
12) Trichlorofluoromethane	6.74	101	116324	130.2648 ppt		100
13) Ethanol	6.28	45	2934805	29522.9913 ppt	#	76
14) Isopropyl Alcohol	7.01	45	1010702	1563.1317 ppt	#	64
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	7.55	84	66630	201.7701 ppt	#	20
17) Freon 113	0.00	151		Not Detected		
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	8.80	86	57407	753.3708 ppt	#	1
23) 2-Butanone	9.10	43	849278	1117.0616 ppt	#	73
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	9.69	61	23066	275.4143 ppt	#	1
27) Hexane	9.64	57	246602	514.5961 ppt	#	86
28) Chloroform	9.75	83	97745	135.8103 ppt		98
29) Tetrahydrofuran	10.24	42	141057	399.6586 ppt	#	58
30) 1,2-Dichloroethane	10.48	62	166437	392.6884 ppt	#	79
31) 1,1,1-Trichloroethane	10.72	97	52117	82.0517 ppt	#	86
32) Benzene	11.17	78	148250	162.7192 ppt	#	59
33) Carbon Tetrachloride	11.32	117	38104	54.7799 ppt	#	85
34) Cyclohexane	11.43	84	77017	215.5198 ppt	#	9
35) 1,2-Dichloropropane	0.00	63		Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM22I007.D Vial: 10
Acq Time : 03/28/2017 01:06 Operator: LMR
Sample : 1707721007 Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:34:21 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

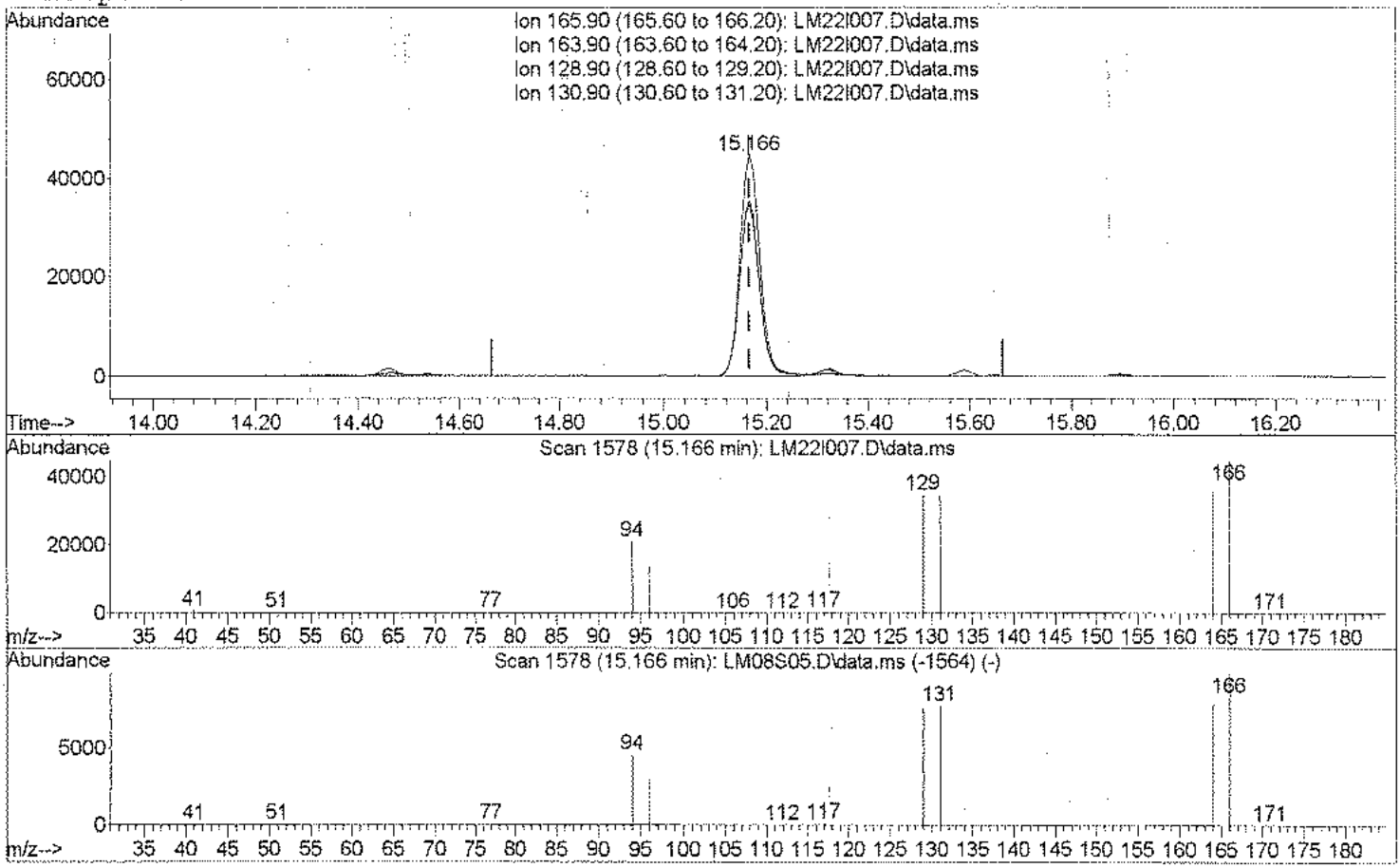
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected			
37)	1,4-Dioxane	0.00	88		Not Detected			
38)	Trichloroethene	0.00	130		Not Detected			
39)	Methyl Methacrylate	0.00	69		Not Detected			
40)	Heptane	12.43	71	638833	2413.8876	ppt	#	31
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected			
42)	4-Methyl-2-Pentanone	13.06	43	34435	50.7804	ppt	#	69
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected			
44)	1,1,2-Trichloroethane	13.74	97	41037	119.9541	ppt	#	84
45)	Toluene	14.01	91	923193	1145.2760	ppt		97
46)	2-Hexanone	0.00	43		Not Detected			
47)	Dibromochloromethane	0.00	129		Not Detected			
48)	1,2-Dibromoethane	0.00	107		Not Detected			
49)	Tetrachloroethene	15.17	166	121158	292.2276	ppt	#	82
51)	Chlorobenzene	0.00	112		Not Detected			
52)	Ethylbenzene	16.27	91	336761	415.2394	ppt		93
53)	m,p-Xylene	16.44	91	954185	1620.5546	ppt		95
54)	Bromoform	0.00	173		Not Detected			
55)	Styrene	16.85	104	22963	68.8600	ppt		98
56)	1,1,2,2-Tetrachloroethane	16.99	83	30759	53.9986	ppt	#	27
57)	o-Xylene	16.97	91	253836	418.0633	ppt		95
59)	4-Ethyl Toluene	18.40	105	57221	128.4437	ppt		98
60)	1,3,5-Trimethylbenzene	18.48	105	44426	84.3128	ppt		93
61)	1,2,4-Trimethylbenzene	19.01	105	163981	373.7810	ppt		95
62)	Benzyl Chloride	0.00	91		Not Detected			
63)	m-Dichlorobenzene	0.00	146		Not Detected			
64)	p-Dichlorobenzene	0.00	146		Not Detected			
65)	o-Dichlorobenzene	0.00	146		Not Detected			
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	22.51	128	14575	89.5385	ppt	#	71
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM22I007.D
Acq On : 03/28/2017 01:06
Operator : LMR
Sample : 1707721007
Inst : 5975-L
Misc : A-0026H-031617-TO-001-LIV
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 28 10:34:21 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM22I007.D\data.ms

(49) Tetrachloroethene

15.166min (+ 0.000) 292.23 ppt

response 121158

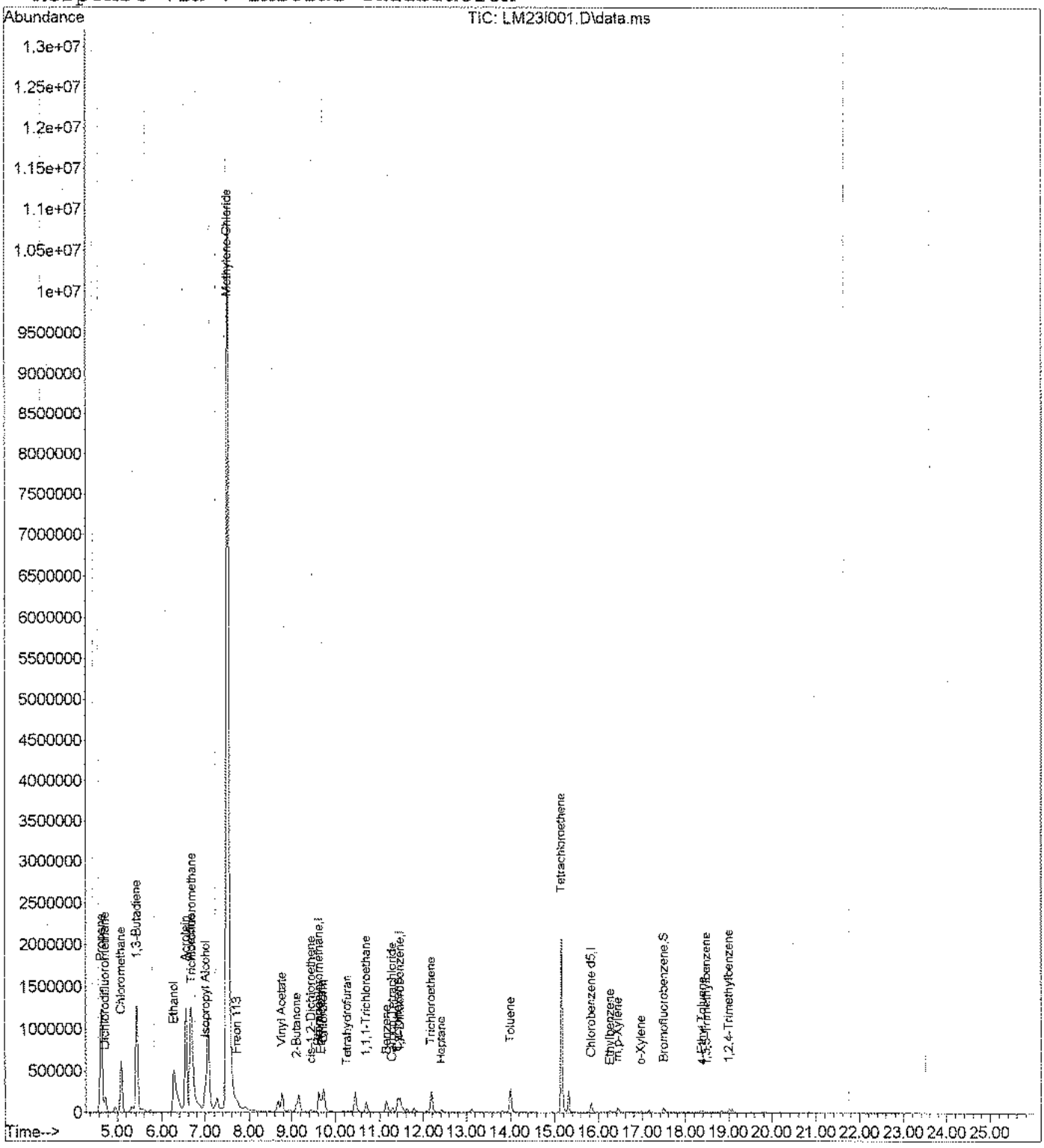
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	79.46
128.90	57.40	77.63#
130.90	56.90	77.30#

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM23I001.D Vial: 12
Acq Time : 03/28/2017 01:56 Operator: LMR
Sample : 1708400001 Inst : 5975-L
Misc : A 040H IA 001 032317 F1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:36:50 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM23I001.D Vial: 12
Acq Time : 03/28/2017 01:56 Operator: LMR
Sample : 1708400001 Inst : 5975-L
Misc : A 040H IA 001 032317 F1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:36:50 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.63	130	24937	1000.0000	ppt		96.40
25) 1,4-Difluorobenzene	11.47	114	387582	1000.0000	ppt		81.36
50) Chlorobenzene d5	15.84	117	329551	1000.0000	ppt		79.55
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	141104	958.4353	ppt		95.84%
Target Compounds							Qvalue
2) Propene	4.64	41	2022100	6735.9434	ppt	#	29
3) Dichlorodifluoromethane	4.73	85	352623	454.1004	ppt		99
4) Chloromethane	5.09	50	45905	143.9906	ppt	#	71
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	5.43	54	29352	81.8278	ppt	#	1
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	6.54	56	519547	4455.3610	ppt	#	64
11) Acetone	6.66	43	4101203	8962.5049	ppt		97
12) Trichlorofluoromethane	6.69	101	230791	313.6391	ppt		100
13) Ethanol	6.27	45	1954638	23861.6717	ppt	#	75
14) Isopropyl Alcohol	7.00	45	1408384	2643.3029	ppt	#	64
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	7.50	84	19860303	72983.7718	ppt	#	17
17) Freon 113	7.73	151	40772	79.3018	ppt	#	55
18) Carbon Disulfide	0.00	76		Not Detected			
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	8.77	86	19218	306.0593	ppt	#	1
23) 2-Butanone	9.10	43	466179	744.1036	ppt	#	62
24) cis-1,2-Dichloroethene	9.46	96	25220	82.5761	ppt	#	71
26) Ethyl Acetate	9.68	61	46486	636.4616	ppt	#	1
27) Hexane	9.62	57	225957	540.6691	ppt	#	78
28) Chloroform	9.73	83	429163	683.7483	ppt		98
29) Tetrahydrofuran	10.27	42	24693	80.2240	ppt	#	56
30) 1,2-Dichloroethane	0.00	62		Not Detected			
31) 1,1,1-Trichloroethane	10.71	97	145243	262.2038	ppt	#	86
32) Benzene	11.16	78	290406	365.4984	ppt	#	60
33) Carbon Tetrachloride	11.29	117	59749	98.4957	ppt	#	85
34) Cyclohexane	11.42	84	143427	460.2220	ppt	#	18
35) 1,2-Dichloropropane	0.00	63		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM23I001.D Vial: 12
Acq Time : 03/28/2017 01:56 Operator: LMR
Sample : 1708400001 Inst : 5975-L
Misc : A 040H IA 001 032317 F1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:36:50 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

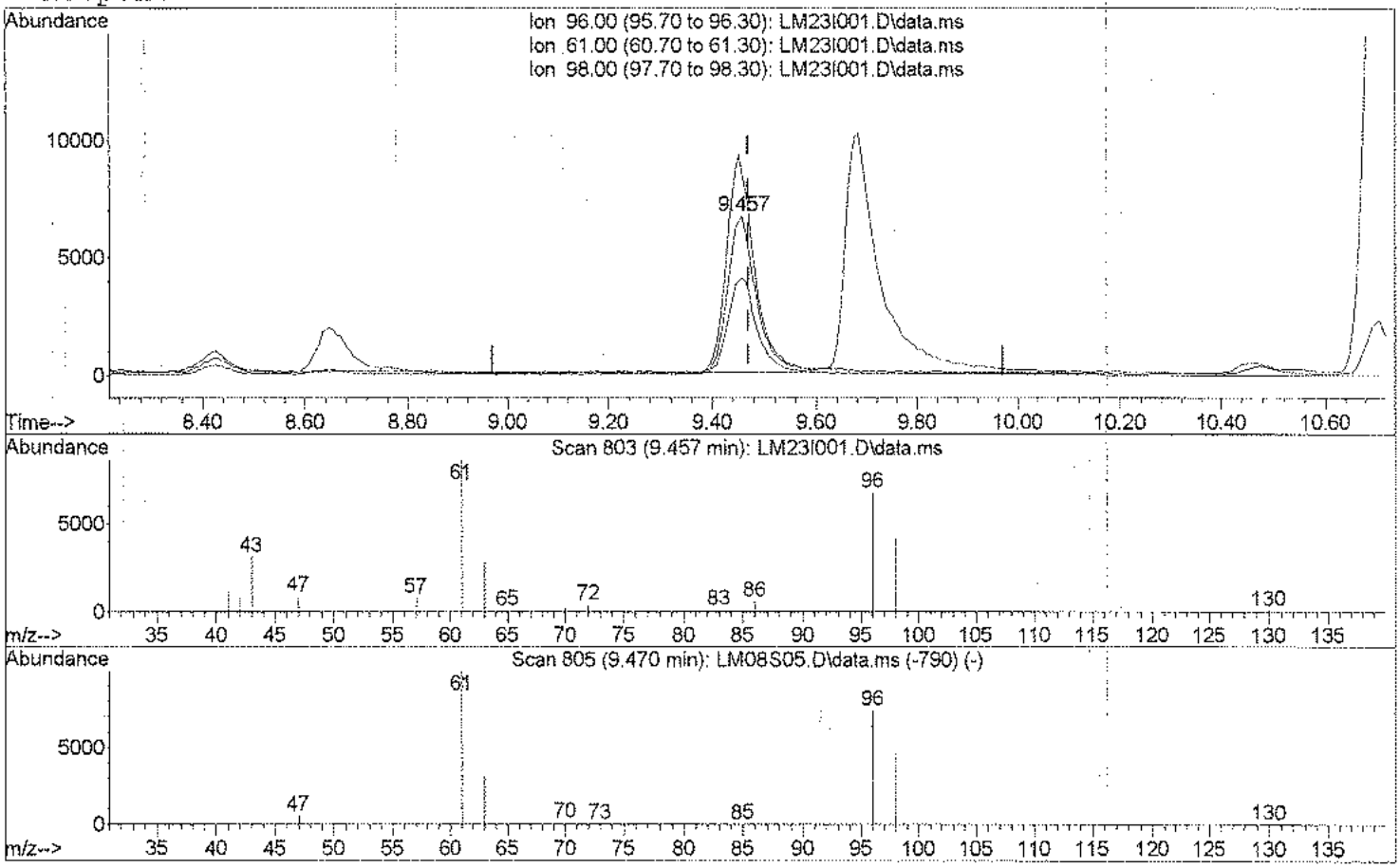
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected		
37)	1,4-Dioxane	0.00	88		Not Detected		
38)	Trichloroethene	12.17	130	198073	557.3576 ppt	#	60
39)	Methyl Methacrylate	0.00	69		Not Detected		
40)	Heptane	12.42	71	14598	63.2498 ppt	#	17
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected		
42)	4-Methyl-2-Pentanone	0.00	43		Not Detected		
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected		
44)	1,1,2-Trichloroethane	0.00	97		Not Detected		
45)	Toluene	14.01	91	448291	637.6957 ppt		97
46)	2-Hexanone	0.00	43		Not Detected		
47)	Dibromochloromethane	0.00	129		Not Detected		
48)	1,2-Dibromoethane	0.00	107		Not Detected		
49)	Tetrachloroethene	15.16	166	1343273	3715.0899 ppt	#	83
51)	Chlorobenzene	0.00	112		Not Detected		
52)	Ethylbenzene	16.26	91	37931	57.3007 ppt		93
53)	m,p-Xylene	16.43	91	96123	200.0079 ppt		94
54)	Bromoform	0.00	173		Not Detected		
55)	Styrene	0.00	104		Not Detected		
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected		
57)	o-Xylene	16.96	91	30674	61.8939 ppt		95
59)	4-Ethyl Toluene	18.40	105	19511	53.6569 ppt		98
60)	1,3,5-Trimethylbenzene	18.48	105	21213	49.3227 ppt		85
61)	1,2,4-Trimethylbenzene	19.01	105	67870	189.5354 ppt		95
62)	Benzyl Chloride	0.00	91		Not Detected		
63)	m-Dichlorobenzene	0.00	146		Not Detected		
64)	p-Dichlorobenzene	0.00	146		Not Detected		
65)	o-Dichlorobenzene	0.00	146		Not Detected		
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected		
67)	Naphthalene	0.00	128		Not Detected		
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM23I001.D
Acq On : 03/28/2017 01:56
Operator : LMR
Sample : 1708400001
Inst : 5975-L
Misc : A 040H IA 001 032317 F1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 28 10:36:50 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM23I001.D\data.ms

(24) cis-1,2-Dichloroethene

9.457min (-0.012) 82.58 ppt

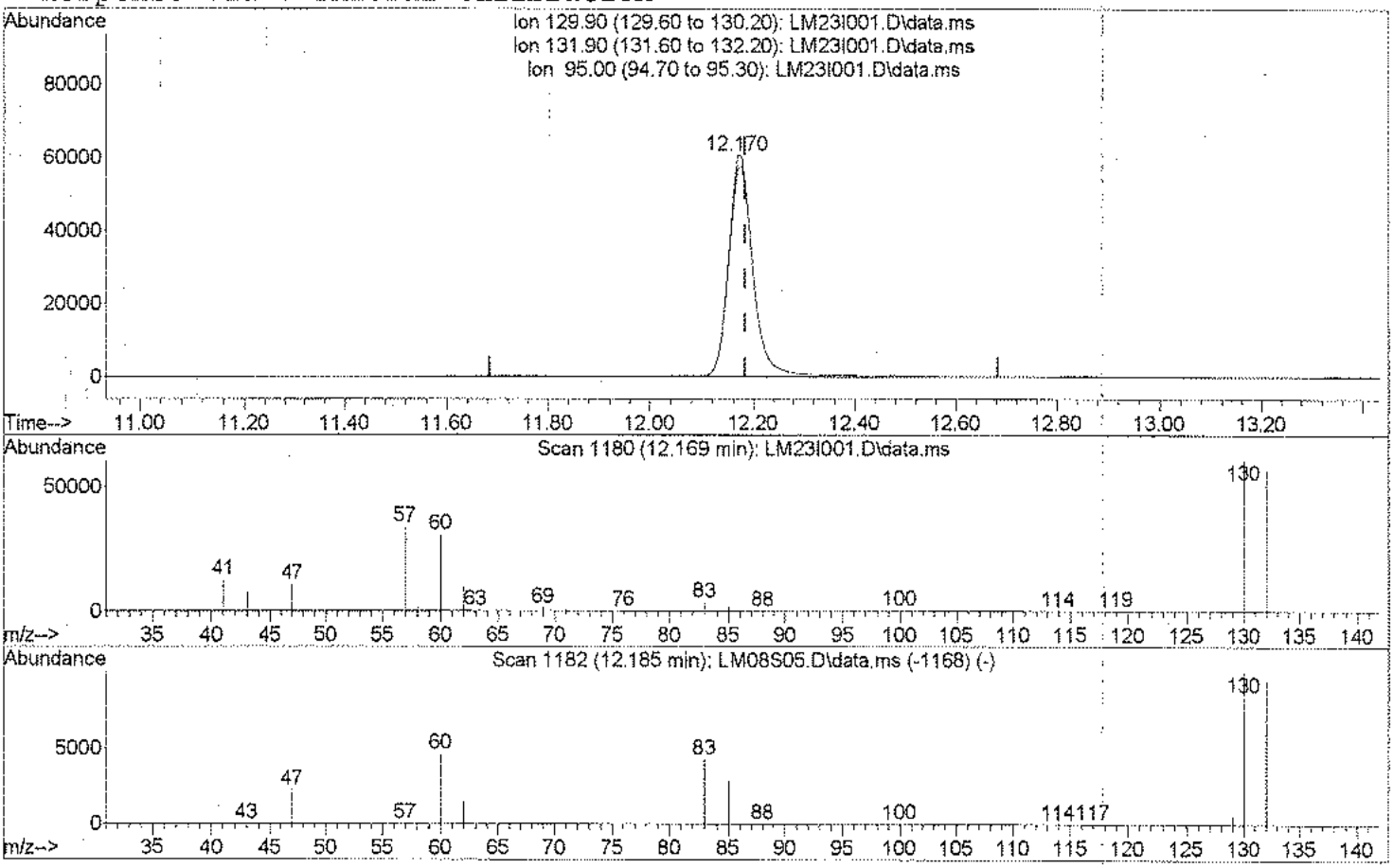
response 25220

Ion	Exp%	Act%
96.00	100.00	100.00
61.00	90.70	138.20#
98.00	64.90	64.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM23I001.D
Acq On : 03/28/2017 01:56
Operator : LMR
Sample : 1708400001
Inst : 5975-L
Misc : A 040H IA 001 032317 F1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 28 10:36:50 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM23I001.D\data.ms

(38) Trichloroethene

12.169min (-0.015) 557.36 ppt

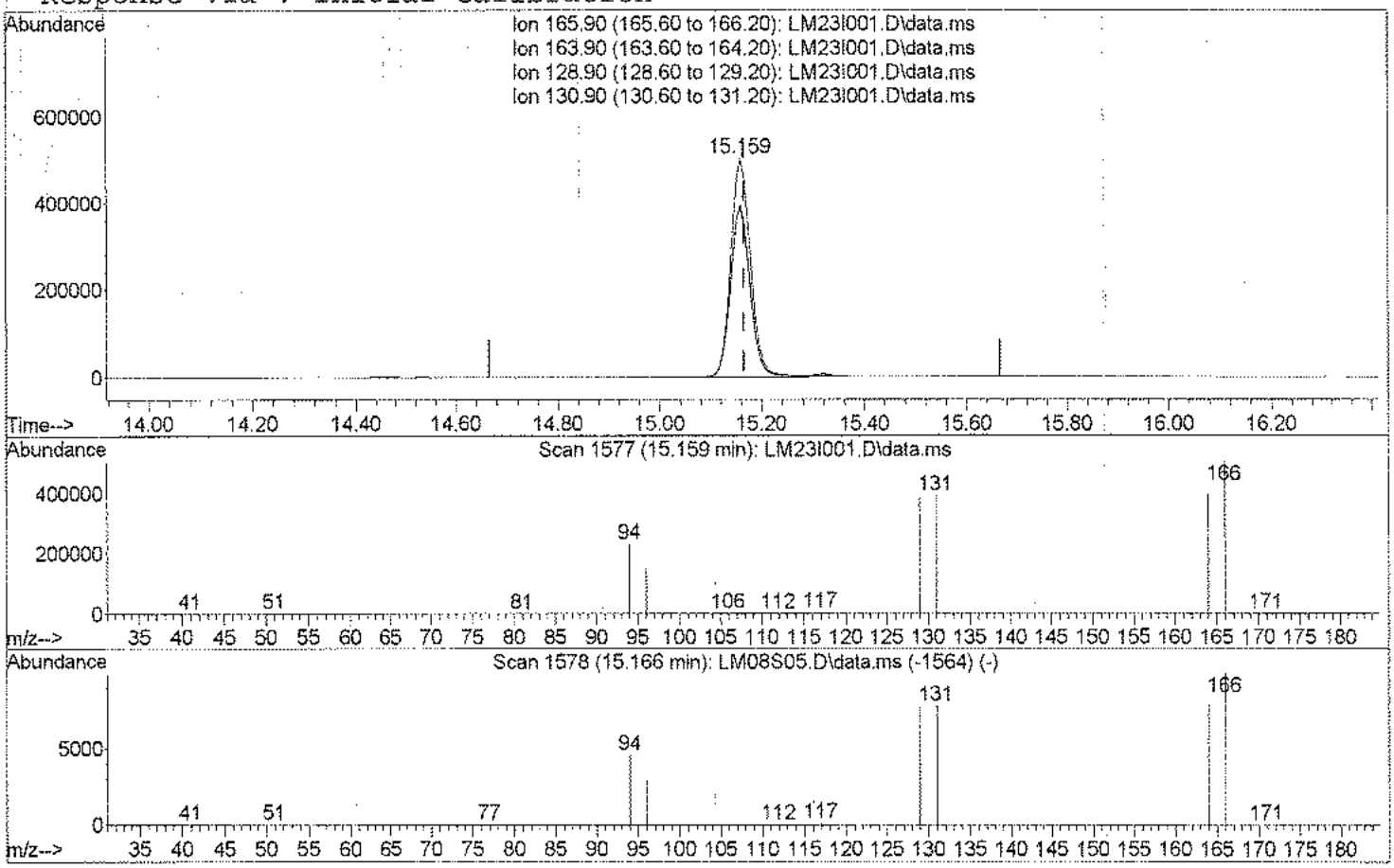
response 198073

Ion	Exp%	Act%
129.90	100.00	100.00
131.90	96.40	95.99
95.00	77.10	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM23I001.D
Acq On : 03/28/2017 01:56
Operator : LMR
Sample : 1708400001
Inst : 5975-L
Misc : A 040H IA 001 032317 F1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 28 10:36:50 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM23I001.D\data.ms

(49) Tetrachloroethene

15.159min (-0.007) 3715.09 ppt

response 1343273

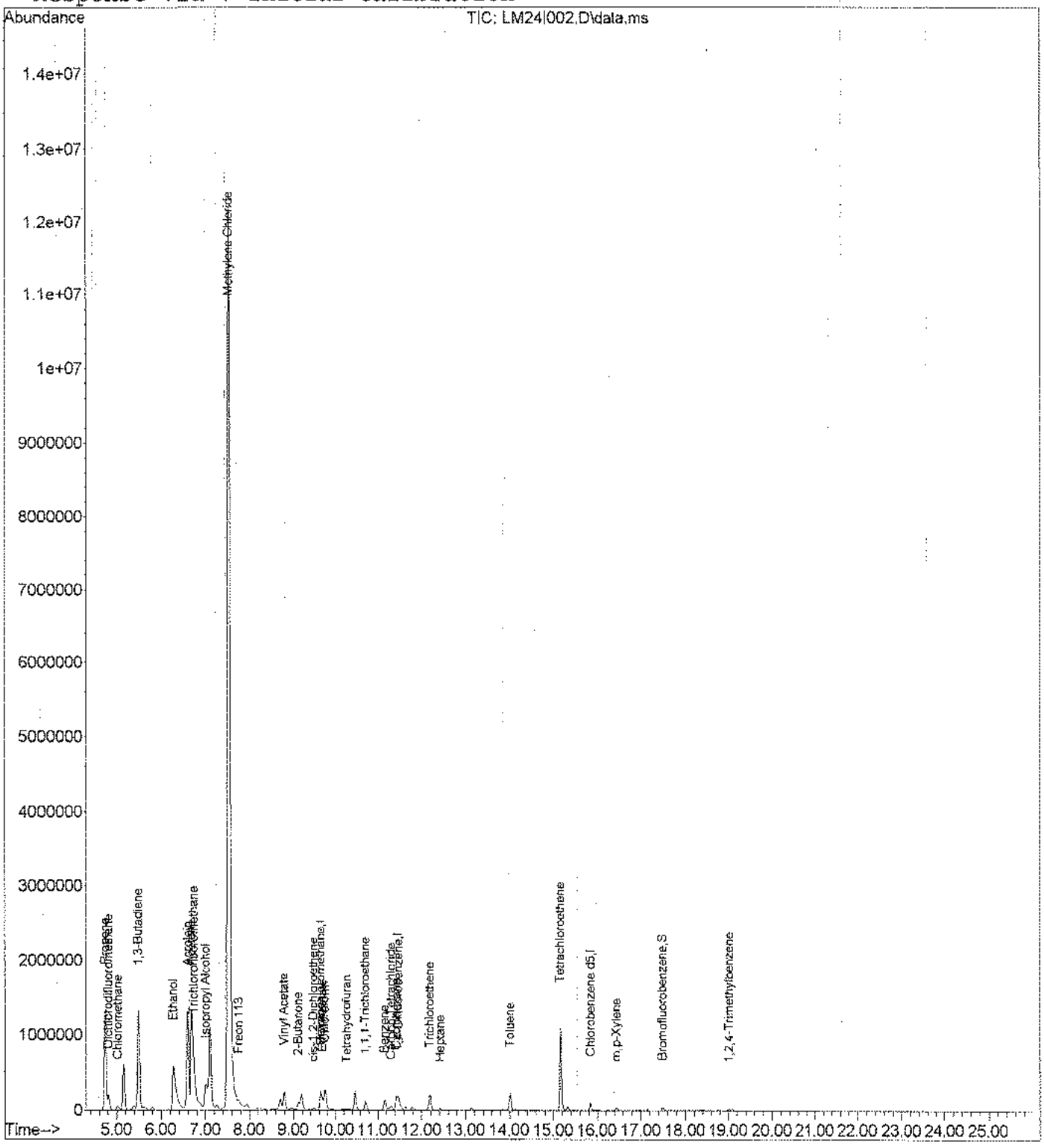
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	78.28
128.90	57.40	76.93#
130.90	56.90	77.15#

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM24I002.D Vial: 13
Acq Time : 03/28/2017 02:45 Operator: LMR
Sample : 1708400002 Inst : 5975-L
Misc : A 040H IA 002 032317 F2 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:37:08 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM24I002.D Vial: 13
Acq Time : 03/28/2017 02:45 Operator: LMR
Sample : 1708400002 Inst : 5975-L
Misc : A 040H IA 002 032317 F2 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:37:08 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	25349	1000.0000	ppt		97.99
25) 1,4-Difluorobenzene	11.47	114	375959	1000.0000	ppt		78.92
50) Chlorobenzene d5	15.84	117	298583	1000.0000	ppt		72.07
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	122927	921.5700	ppt		92.16%
Target Compounds							Qvalue
2) Propene	4.72	41	1840702	6032.0184	ppt	#	29
3) Dichlorodifluoromethane	4.80	85	330343	418.4945	ppt		99
4) Chloromethane	5.01	50	133333	411.4293	ppt		98
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	5.49	54	27308	74.8921	ppt	#	1
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	6.59	56	526466	4441.3169	ppt	#	66
11) Acetone	6.68	43	4660953	10020.1965	ppt		94
12) Trichlorofluoromethane	6.74	101	230638	308.3369	ppt		100
13) Ethanol	6.28	45	2071883	24881.8765	ppt	#	75
14) Isopropyl Alcohol	7.00	45	1453357	2683.3760	ppt	#	64
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	7.53	84	20298637	73382.1928	ppt	#	14
17) Freon 113	7.76	151	41039	78.5238	ppt	#	54
18) Carbon Disulfide	0.00	76		Not Detected			
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	8.79	86	17734	277.8353	ppt	#	1
23) 2-Butanone	9.11	43	293275	460.5100	ppt	#	78
24) cis-1,2-Dichloroethene	9.47	96	21039	67.7669	ppt	#	71
26) Ethyl Acetate	9.69	61	45977	648.9538	ppt	#	1
27) Hexane	9.64	57	211937	522.8001	ppt	#	46
28) Chloroform	9.75	83	414411	680.6571	ppt		97
29) Tetrahydrofuran	10.27	42	21076	70.5898	ppt	#	56
30) 1,2-Dichloroethane	0.00	62		Not Detected			
31) 1,1,1-Trichloroethane	10.71	97	137751	256.3667	ppt	#	86
32) Benzene	11.17	78	292891	380.0222	ppt	#	60
33) Carbon Tetrachloride	11.31	117	59310	100.7947	ppt	#	86
34) Cyclohexane	11.43	84	141273	467.3247	ppt	#	18
35) 1,2-Dichloropropane	0.00	63		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM24I002.D Vial: 13
Acq Time : 03/28/2017 02:45 Operator: LMR
Sample : 1708400002 Inst : 5975-L
Misc : A 040H IA 002 032317 F2 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:37:08 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

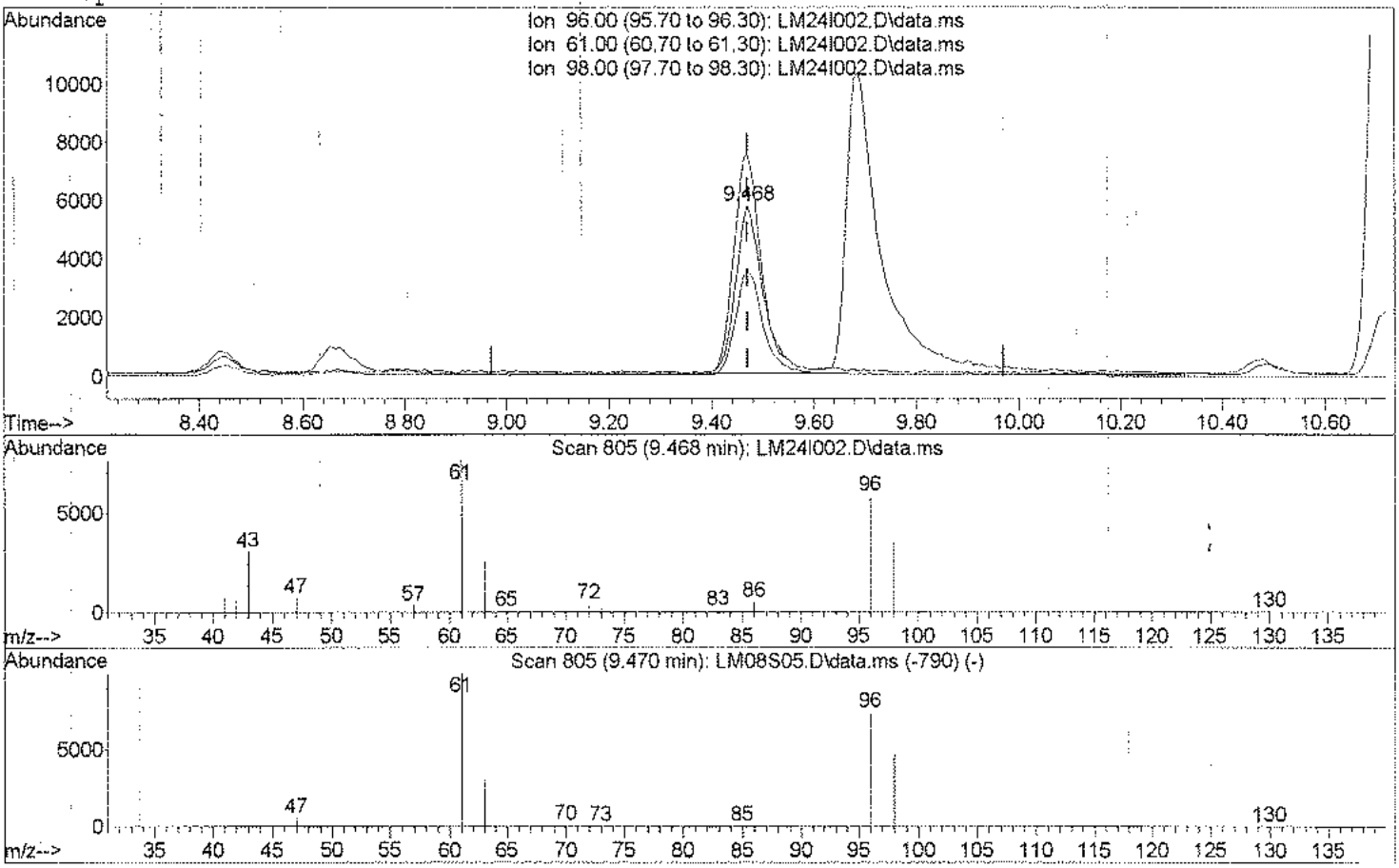
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected			
37)	1,4-Dioxane	0.00	88		Not Detected			
38)	Trichloroethene	12.18	130	163174	473.3504	ppt	#	60
39)	Methyl Methacrylate	0.00	69		Not Detected			
40)	Heptane	12.42	71	10517	46.9765	ppt	#	24
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected			
42)	4-Methyl-2-Pentanone	0.00	43		Not Detected			
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected			
44)	1,1,2-Trichloroethane	0.00	97		Not Detected			
45)	Toluene	14.01	91	354715	520.1830	ppt		97
46)	2-Hexanone	0.00	43		Not Detected			
47)	Dibromochloromethane	0.00	129		Not Detected			
48)	1,2-Dibromoethane	0.00	107		Not Detected			
49)	Tetrachloroethene	15.17	166	742674	2117.5144	ppt	#	84
51)	Chlorobenzene	0.00	112		Not Detected			
52)	Ethylbenzene	0.00	91		Not Detected			
53)	m,p-Xylene	16.44	91	56205	129.0781	ppt		94
54)	Bromoform	0.00	173		Not Detected			
55)	Styrene	0.00	104		Not Detected			
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected			
57)	o-Xylene	0.00	91		Not Detected			
59)	4-Ethyl Toluene	0.00	105		Not Detected			
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected			
61)	1,2,4-Trimethylbenzene	19.02	105	32896	101.3942	ppt		94
62)	Benzyl Chloride	0.00	91		Not Detected			
63)	m-Dichlorobenzene	0.00	146		Not Detected			
64)	p-Dichlorobenzene	0.00	146		Not Detected			
65)	o-Dichlorobenzene	0.00	146		Not Detected			
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	0.00	128		Not Detected			
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM24I002.D
Acq On : 03/28/2017 02:45
Operator : LMR
Sample : 1708400002
Inst : 5975-L
Misc : A 040H IA 002 032317 F2
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 28 10:37:08 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM24I002.D\data.ms

(24) cis-1,2-Dichloroethene

9.468min (-0.001) 67.77 ppt

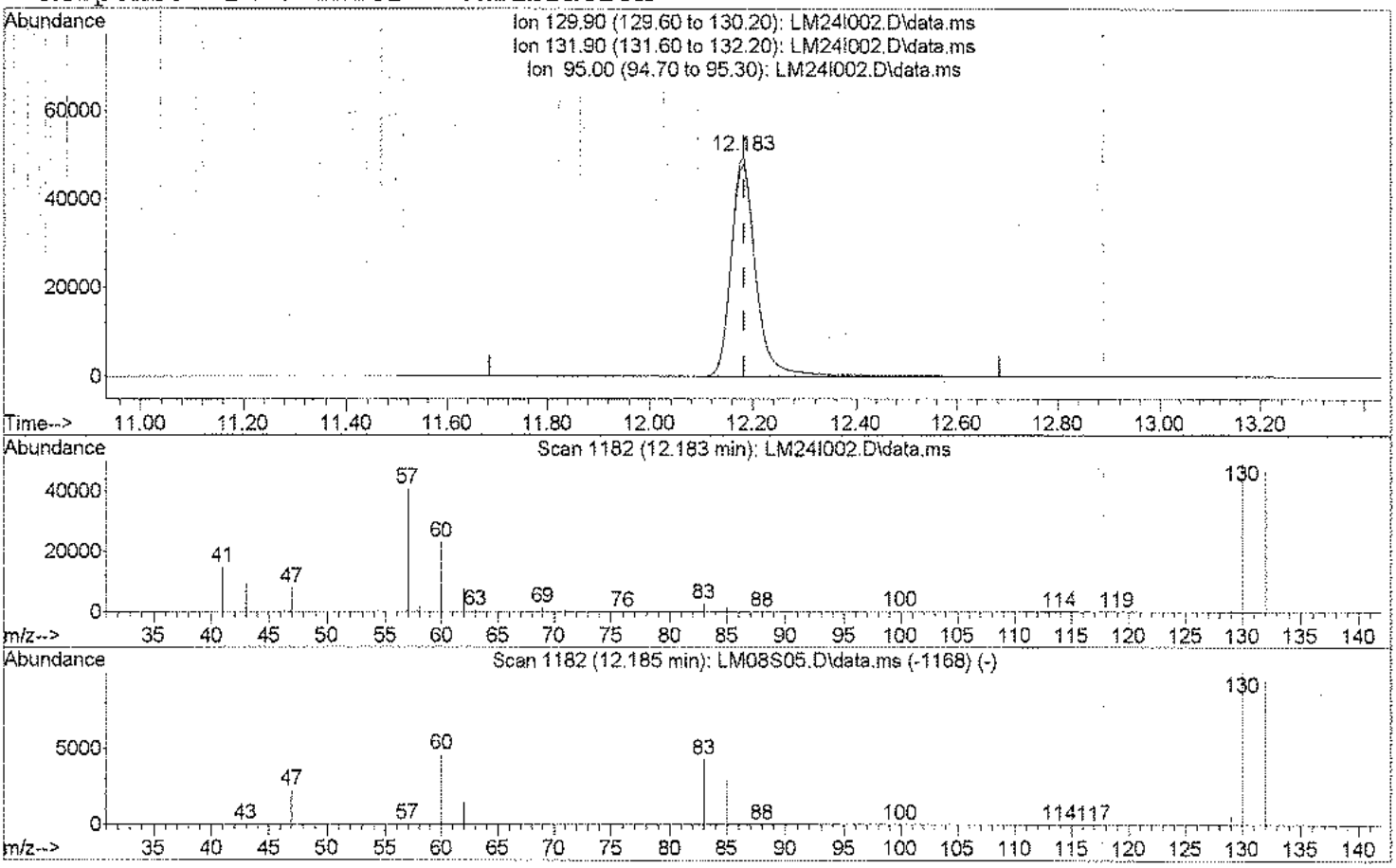
response 21039

Ion	Exp%	Act%
96.00	100.00	100.00
61.00	90.70	136.29#
98.00	64.90	63.38
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM24I002.D
Acq On : 03/28/2017 02:45
Operator : LMR
Sample : 1708400002
Inst : 5975-L
Misc : A 040H IA 002 032317 F2
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 28 10:37:08 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM24I002.D\data.ms

(38) Trichloroethene

12.183min (-0.001) 473.35 ppt

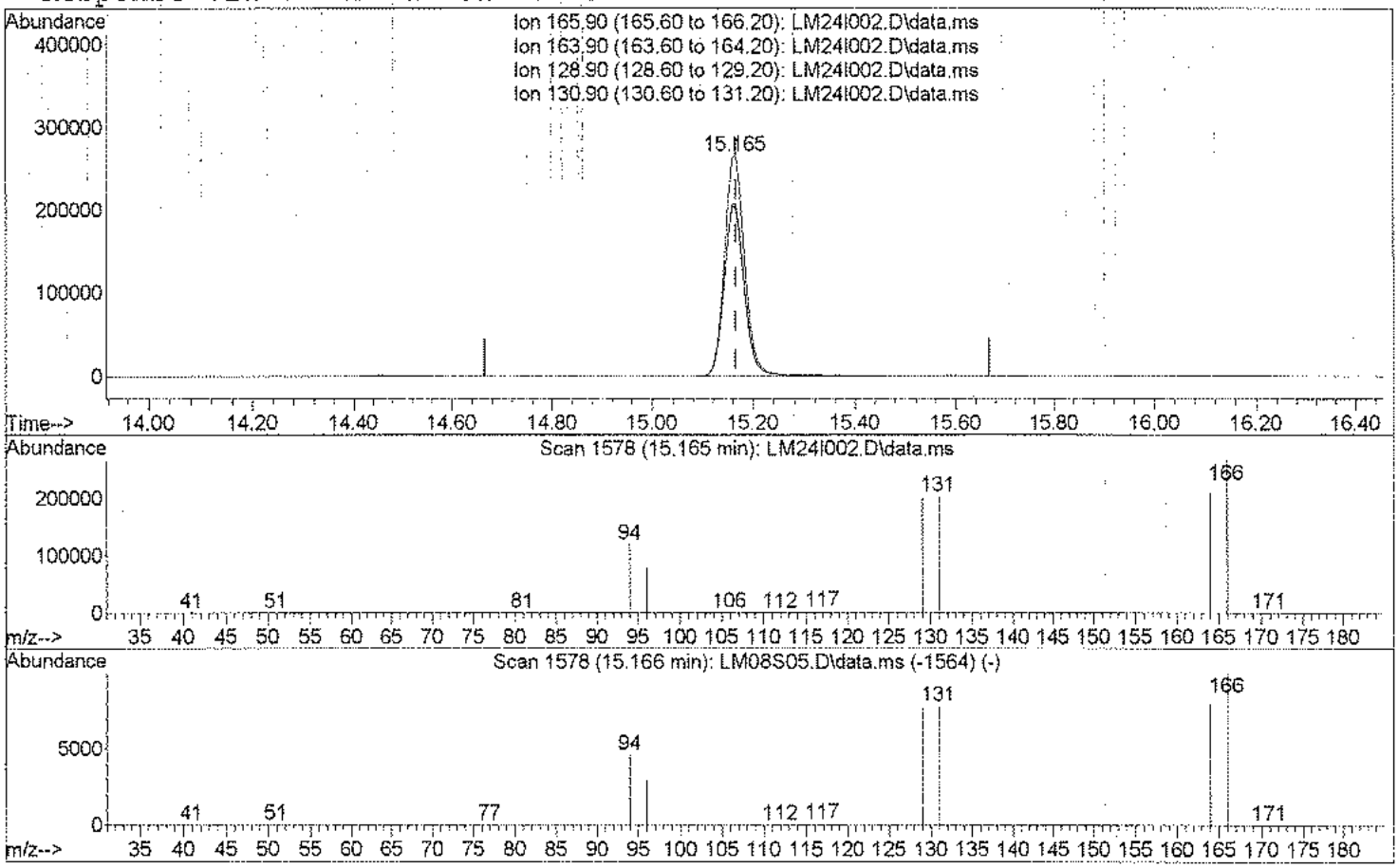
response 163174

Ion	Exp%	Act%
129.90	100.00	100.00
131.90	96.40	97.14
95.00	77.10	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM24I002.D
Acq On : 03/28/2017 02:45
Operator : LMR
Sample : 1708400002
Inst : 5975-L
Misc : A 040H IA 002 032317 F2
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 28 10:37:08 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM24I002.D\data.ms

(49) Tetrachloroethene

15.165min (-0.001) 2117.51 ppt

response 742674

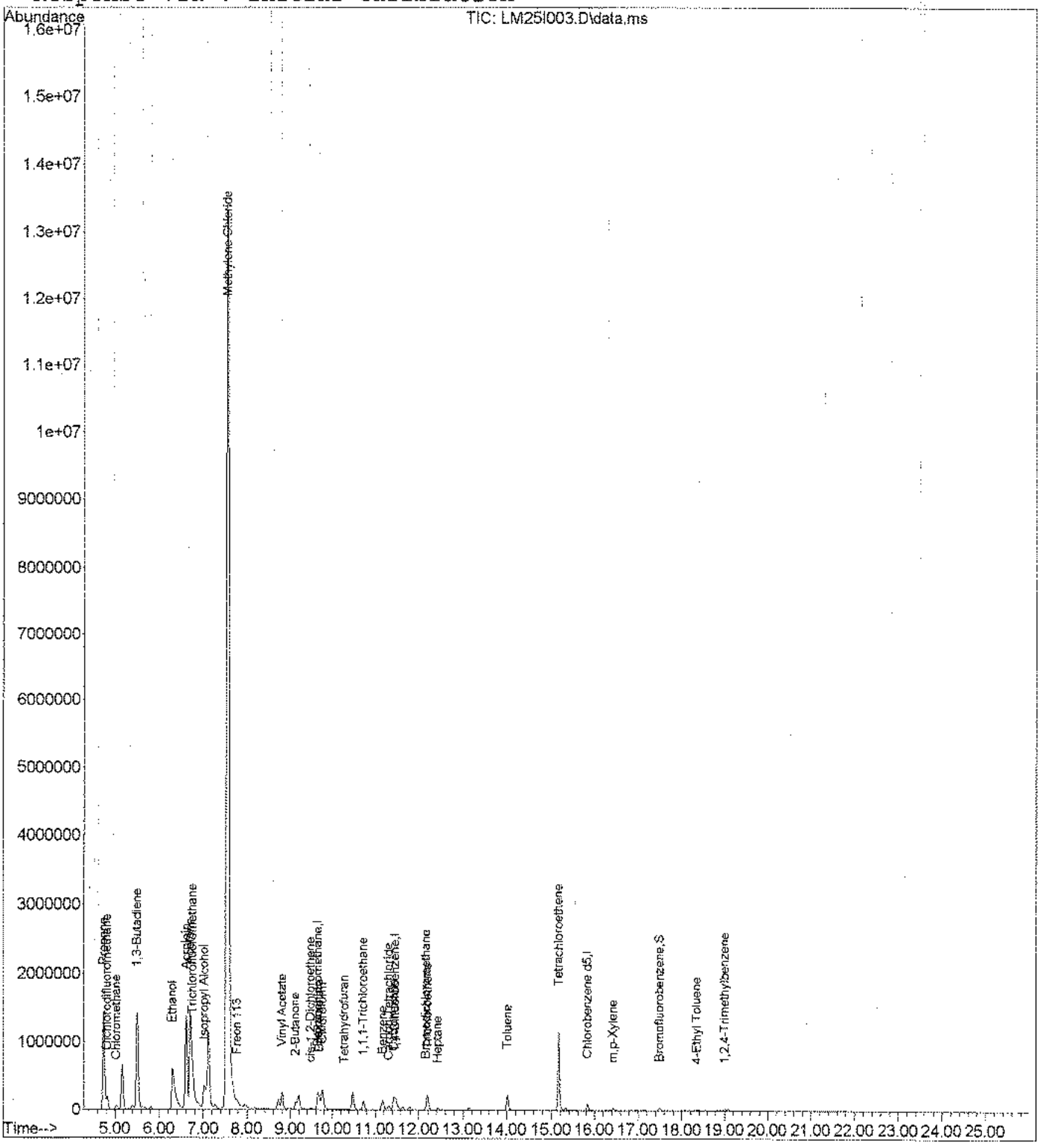
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	77.66
128.90	57.40	76.32#
130.90	56.90	76.49#

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM25I003.D Vial: 14
Acq Time : 03/28/2017 03:34 Operator: LMR
Sample : 1708400003 Inst : 5975-L
Misc : A 040H IA 003 032317 F3 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:37:25 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM25I003.D Vial: 14
Acq Time : 03/28/2017 03:34 Operator: LMR
Sample : 1708400003 Inst : 5975-L
Misc : A 040H IA 003 032317 F3 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:37:25 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.65	130	24222	1000.0000	ppt		93.64
25) 1,4-Difluorobenzene	11.48	114	363435	1000.0000	ppt		76.30
50) Chlorobenzene d5	15.84	117	289055	1000.0000	ppt		69.77
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	120983	936.8930	ppt		93.69%
Target Compounds							Qvalue
2) Propene	4.74	41	2054053	7044.3617	ppt	#	29
3) Dichlorodifluoromethane	4.82	85	334753	443.8129	ppt		99
4) Chloromethane	5.03	50	157968	510.1261	ppt		98
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	5.51	54	30389	87.2195	ppt	#	1
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	6.61	56	568227	5016.6538	ppt	#	66
11) Acetone	6.70	43	5076893	11422.2157	ppt		94
12) Trichlorofluoromethane	6.75	101	242971	339.9382	ppt		100
13) Ethanol	6.30	45	2196882	27610.5759	ppt	#	76
14) Isopropyl Alcohol	7.03	45	1505776	2909.5139	ppt	#	64
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	7.55	84	22927427	86742.1053	ppt	#	16
17) Freon 113	7.78	151	43096	86.2963	ppt	#	52
18) Carbon Disulfide	0.00	76		Not Detected			
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	8.81	86	18835	308.8142	ppt	#	1
23) 2-Butanone	9.13	43	528082	867.7932	ppt	#	62
24) cis-1,2-Dichloroethene	9.49	96	22057	74.3515	ppt	#	71
26) Ethyl Acetate	9.69	61	49353	720.6103	ppt	#	1
27) Hexane	9.65	57	227346	580.1361	ppt	#	44
28) Chloroform	9.76	83	447272	759.9456	ppt		98
29) Tetrahydrofuran	10.28	42	22505	77.9734	ppt	#	55
30) 1,2-Dichloroethane	0.00	62		Not Detected			
31) 1,1,1-Trichloroethane	10.73	97	146793	282.6090	ppt	#	85
32) Benzene	11.18	78	312059	418.8451	ppt	#	59
33) Carbon Tetrachloride	11.32	117	62347	109.6072	ppt	#	86
34) Cyclohexane	11.44	84	149501	511.5845	ppt	#	17
35) 1,2-Dichloropropane	0.00	63		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM25I003.D Vial: 14
Acq Time : 03/28/2017 03:34 Operator: LMR
Sample : 1708400003 Inst : 5975-L
Misc : A 040H IA 003 032317 F3 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:37:25 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

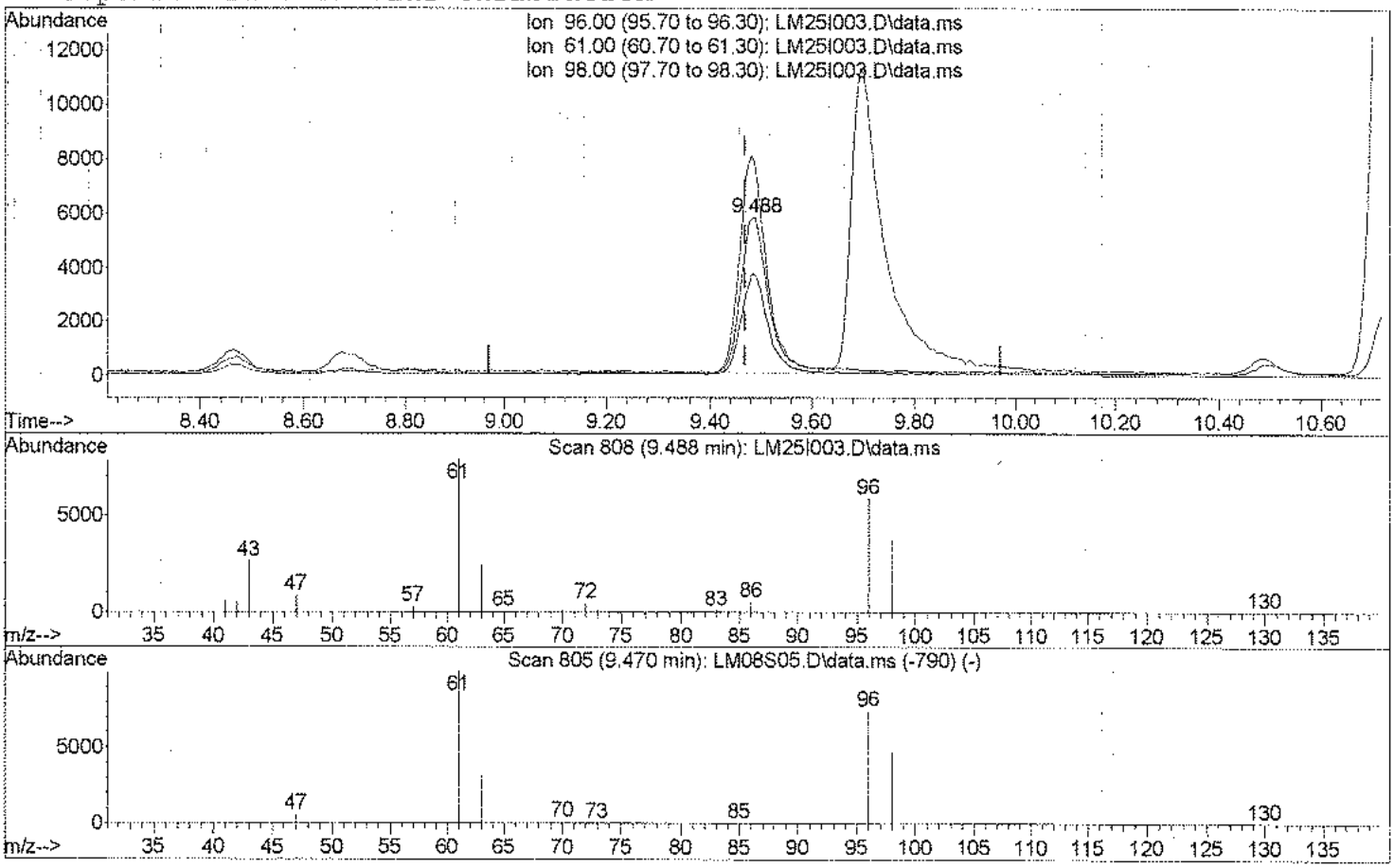
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.15	83	25574	47.5620	ppt	#	85
37)	1,4-Dioxane	0.00	88		Not Detected			
38)	Trichloroethene	12.19	130	174061	522.3324	ppt	#	60
39)	Methyl Methacrylate	0.00	69		Not Detected			
40)	Heptane	12.43	71	11050	51.0581	ppt	#	23
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected			
42)	4-Methyl-2-Pentanone	0.00	43		Not Detected			
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected			
44)	1,1,2-Trichloroethane	0.00	97		Not Detected			
45)	Toluene	14.01	91	360385	546.7100	ppt		97
46)	2-Hexanone	0.00	43		Not Detected			
47)	Dibromochloromethane	0.00	129		Not Detected			
48)	1,2-Dibromoethane	0.00	107		Not Detected			
49)	Tetrachloroethene	15.17	166	781007	2303.5456	ppt	#	83
51)	Chlorobenzene	0.00	112		Not Detected			
52)	Ethylbenzene	0.00	91		Not Detected			
53)	m,p-Xylene	16.44	91	56215	133.3565	ppt		95
54)	Bromoform	0.00	173		Not Detected			
55)	Styrene	0.00	104		Not Detected			
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected			
57)	o-Xylene	0.00	91		Not Detected			
59)	4-Ethyl Toluene	18.35	105	19413	60.8669	ppt		100
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected			
61)	1,2,4-Trimethylbenzene	19.01	105	35891	114.2721	ppt		94
62)	Benzyl Chloride	0.00	91		Not Detected			
63)	m-Dichlorobenzene	0.00	146		Not Detected			
64)	p-Dichlorobenzene	0.00	146		Not Detected			
65)	o-Dichlorobenzene	0.00	146		Not Detected			
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	0.00	128		Not Detected			
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM25I003.D
Acq On : 03/28/2017 03:34
Operator : LMR
Sample : 1708400003
Inst : 5975-L
Misc : A 040H IA 003 032317 F3
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 28 10:37:25 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM25I003.D\data.ms

(24) cis-1,2-Dichloroethene

9.488min (+ 0.019) 74.35 ppt

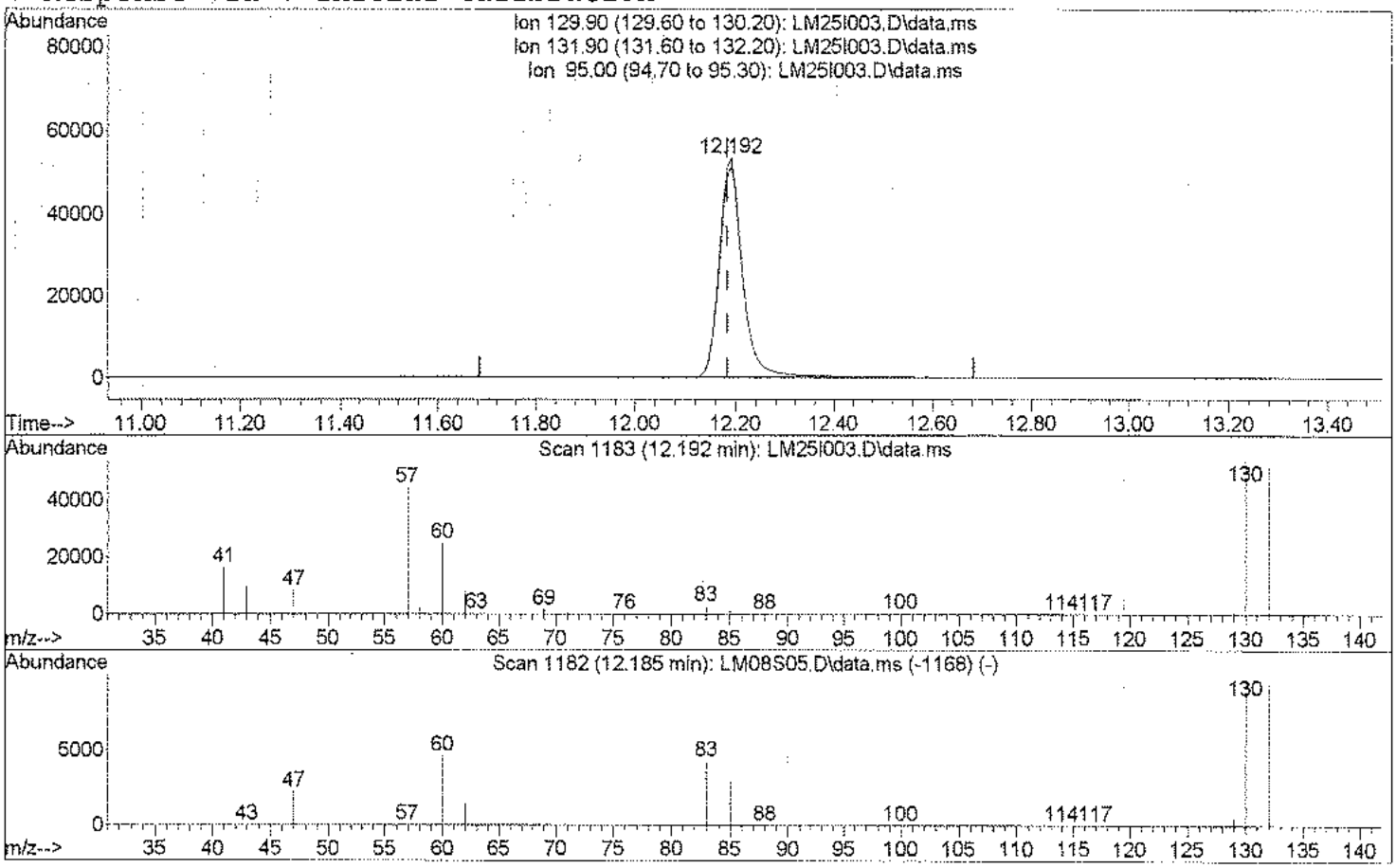
response 22057

Ion	Exp%	Act%
96.00	100.00	100.00
61.00	90.70	137.12#
98.00	64.90	63.64
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM25I003.D
Acq On : 03/28/2017 03:34
Operator : LMR
Sample : 1708400003
Inst : 5975-L
Misc : A 040H IA 003 032317 F3
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 28 10:37:25 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM25I003.D\data.ms

(38) Trichloroethene

12.192min (+ 0.008) 522.33 ppt

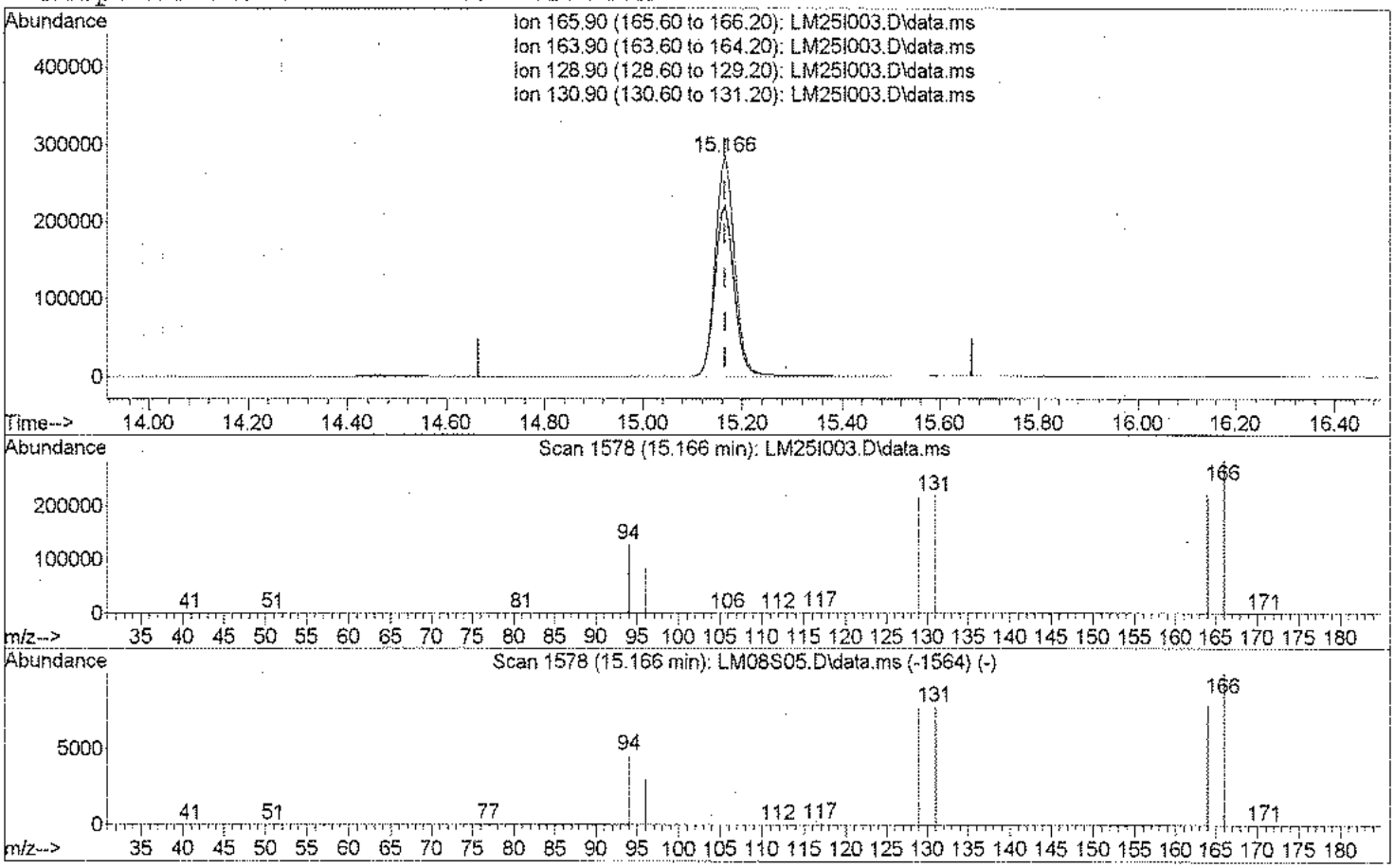
response 174061

Ion	Exp%	Act%
129.90	100.00	100.00
131.90	96.40	95.79
95.00	77.10	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM25I003.D
Acq On : 03/28/2017 03:34
Operator : LMR
Sample : 1708400003
Inst : 5975-L
Misc : A 040H IA 003 032317 F3
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 28 10:37:25 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM25I003.D\data.ms

(49) Tetrachloroethene

15.166min (+ 0.000) 2303.55 ppt

response 781007

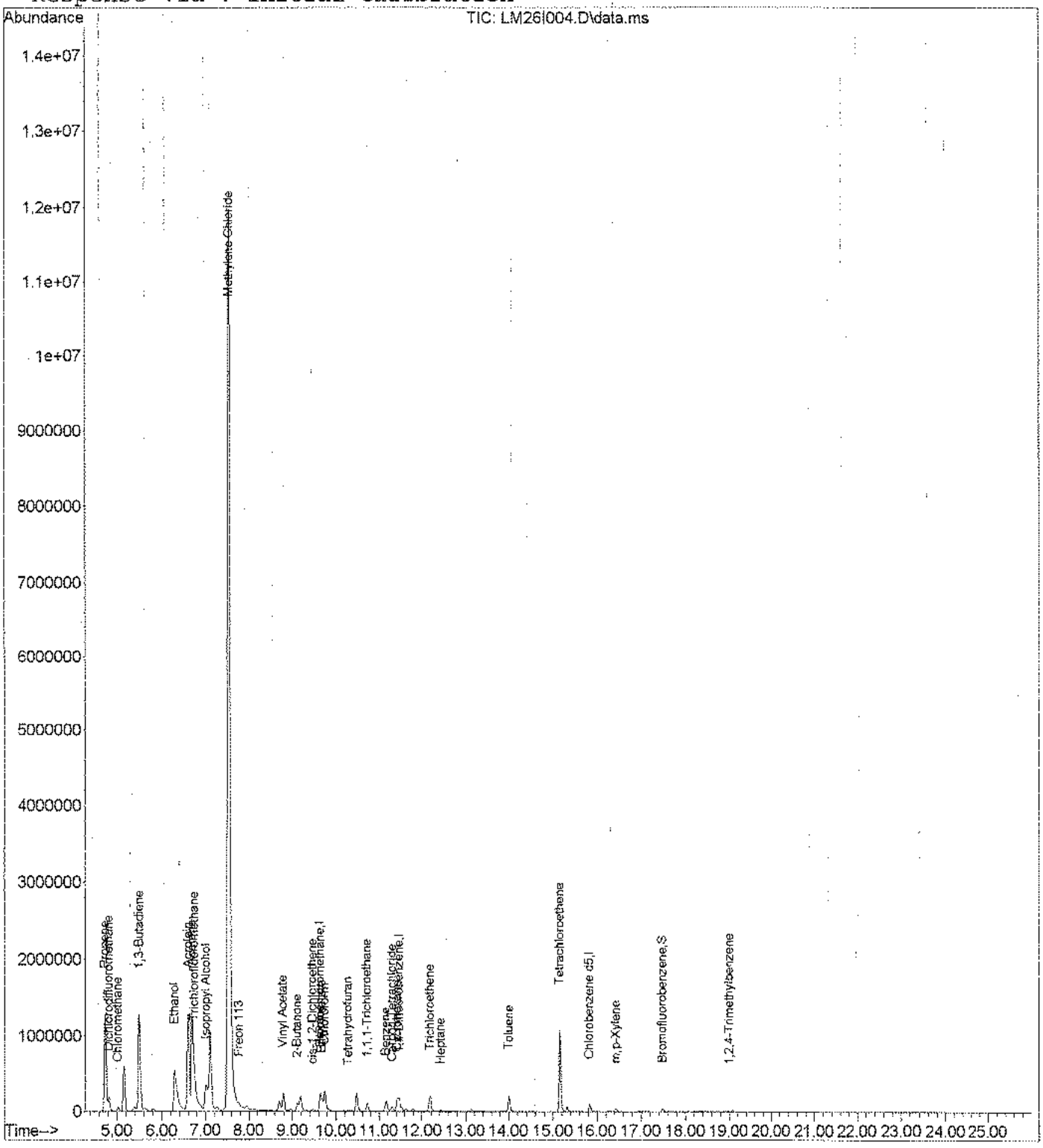
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	77.43
128.90	57.40	77.15#
130.90	56.90	76.35#

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM26I004.D Vial: 15
Acq Time : 03/28/2017 04:23 Operator: LMR
Sample : 1708400004 Inst : 5975-L
Misc : A 040H IA 004 032317 F4 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:37:51 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM26I004.D Vial: 15
Acq Time : 03/28/2017 04:23 Operator: LMR
Sample : 1708400004 Inst : 5975-L
Misc : A 040H IA 004 032317 F4 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:37:51 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	23684	1000.0000	ppt		91.56
25) 1,4-Difluorobenzene	11.48	114	353301	1000.0000	ppt		74.17
50) Chlorobenzene d5	15.83	117	280918	1000.0000	ppt		67.81
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.48	95	115014	916.4679	ppt		91.65%
Target Compounds							Qvalue
2) Propene	4.73	41	1803500	6325.5908	ppt	#	29
3) Dichlorodifluoromethane	4.82	85	314774	426.8048	ppt		99
4) Chloromethane	5.02	50	125997	416.1248	ppt		97
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	5.50	54	27241	79.9604	ppt	#	1
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	6.60	56	512839	4630.5039	ppt	#	71
11) Acetone	6.68	43	4555996	10483.1217	ppt		94
12) Trichlorofluoromethane	6.75	101	223835	320.2790	ppt		99
13) Ethanol	6.28	45	1960508	25199.5219	ppt	#	76
14) Isopropyl Alcohol	7.01	45	1505231	2974.5287	ppt	#	80
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	7.54	84	20067132	77645.2503	ppt	#	14
17) Freon 113	7.77	151	39613	81.1237	ppt	#	53
18) Carbon Disulfide	0.00	76		Not Detected			
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	8.80	86	16548	277.4802	ppt	#	1
23) 2-Butanone	9.11	43	291638	490.1330	ppt	#	78
24) cis-1,2-Dichloroethene	9.47	96	20121	69.3662	ppt	#	70
26) Ethyl Acetate	9.68	61	46044	691.5790	ppt	#	1
27) Hexane	9.64	57	205782	540.1717	ppt	#	45
28) Chloroform	9.74	83	405600	708.9093	ppt		97
29) Tetrahydrofuran	10.27	42	20813	74.1795	ppt	#	55
30) 1,2-Dichloroethane	0.00	62		Not Detected			
31) 1,1,1-Trichloroethane	10.71	97	132499	262.4068	ppt	#	86
32) Benzene	11.17	78	284822	393.2531	ppt	#	59
33) Carbon Tetrachloride	11.31	117	57231	103.4992	ppt	#	86
34) Cyclohexane	11.43	84	135646	477.4877	ppt	#	16
35) 1,2-Dichloropropane	0.00	63		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM26I004.D Vial: 15
Acq Time : 03/28/2017 04:23 Operator: LMR
Sample : 1708400004 Inst : 5975-L
Misc : A 040H IA 004 032317 F4 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:37:51 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

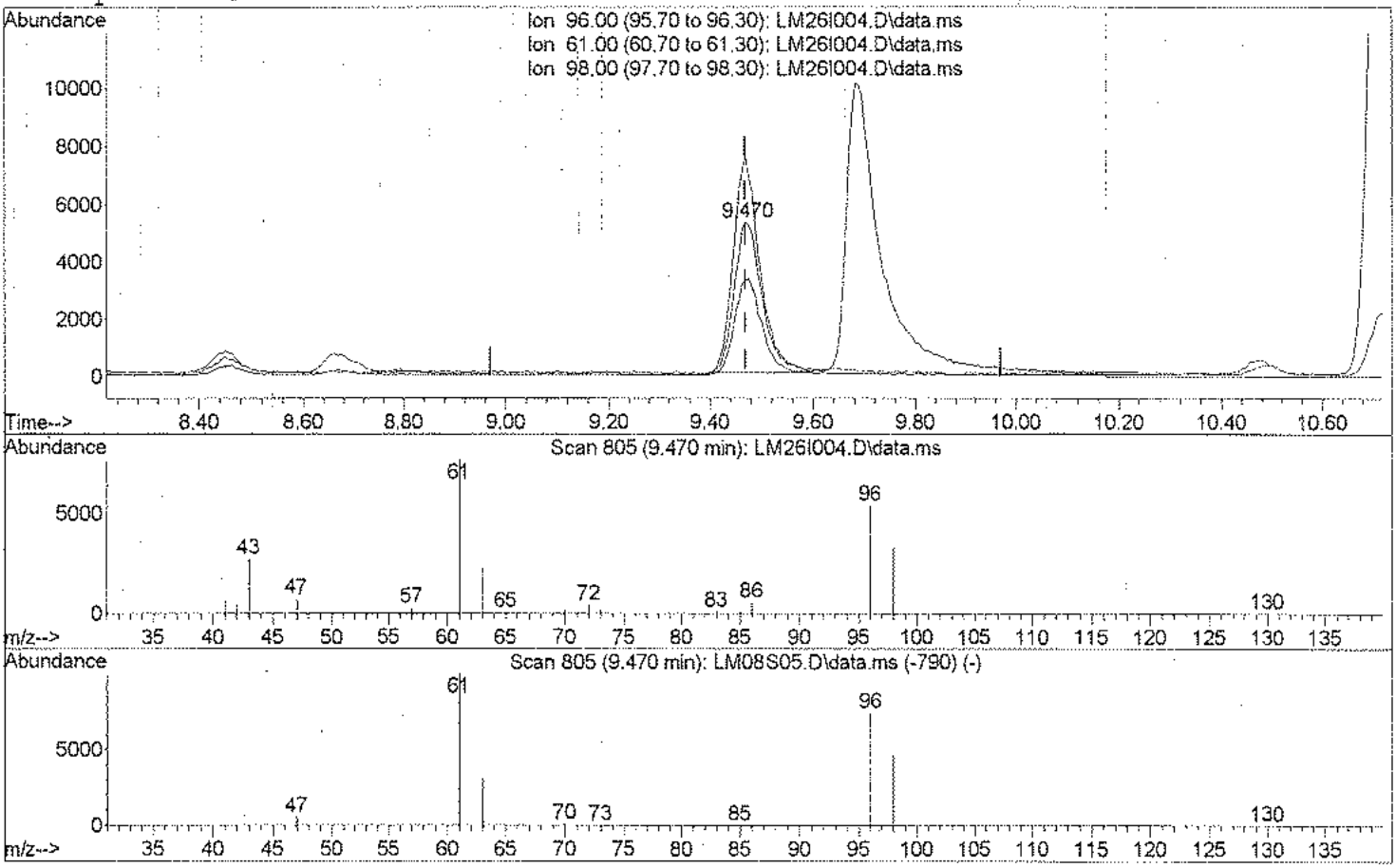
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	0.00	83		Not Detected			
37)	1,4-Dioxane	0.00	88		Not Detected			
38)	Trichloroethene	12.18	130	158147	488.1894	ppt	#	60
39)	Methyl Methacrylate	0.00	69		Not Detected			
40)	Heptane	12.42	71	10078	47.9026	ppt	#	15
41)	cis-1,3-Dichloropropene	0.00	75		Not Detected			
42)	4-Methyl-2-Pentanone	0.00	43		Not Detected			
43)	trans-1,3-Dichloropropene	0.00	75		Not Detected			
44)	1,1,2-Trichloroethane	0.00	97		Not Detected			
45)	Toluene	14.01	91	329007	513.4254	ppt		98
46)	2-Hexanone	0.00	43		Not Detected			
47)	Dibromochloromethane	0.00	129		Not Detected			
48)	1,2-Dibromoethane	0.00	107		Not Detected			
49)	Tetrachloroethene	15.16	166	706969	2144.9844	ppt	#	83
51)	Chlorobenzene	0.00	112		Not Detected			
52)	Ethylbenzene	0.00	91		Not Detected			
53)	m,p-Xylene	16.43	91	53515	130.6287	ppt		93
54)	Bromoform	0.00	173		Not Detected			
55)	Styrene	0.00	104		Not Detected			
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected			
57)	o-Xylene	0.00	91		Not Detected			
59)	4-Ethyl Toluene	0.00	105		Not Detected			
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected			
61)	1,2,4-Trimethylbenzene	19.01	105	32316	105.8701	ppt		95
62)	Benzyl Chloride	0.00	91		Not Detected			
63)	m-Dichlorobenzene	0.00	146		Not Detected			
64)	p-Dichlorobenzene	0.00	146		Not Detected			
65)	o-Dichlorobenzene	0.00	146		Not Detected			
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	0.00	128		Not Detected			
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM26I004.D
Acq On : 03/28/2017 04:23
Operator : LMR
Sample : 1708400004
Inst : 5975-L
Misc : A 040H IA 004 032317 F4
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 28 10:37:51 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM26I004.D\data.ms

(24) cis-1,2-Dichloroethene

9.470min (0.000) 69.37 ppt

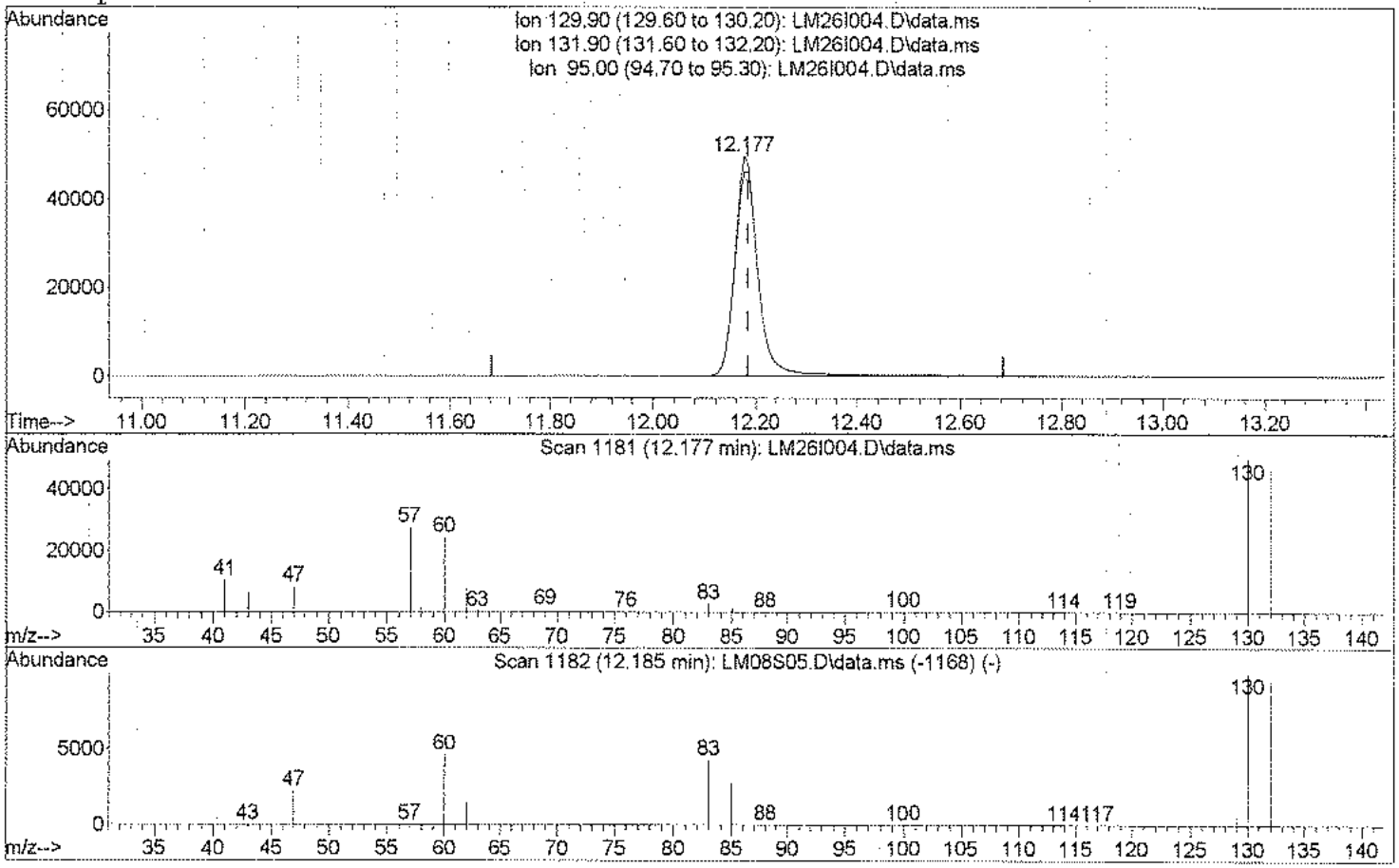
response 20121

Ion	Exp%	Act%
96.00	100.00	100.00
61.00	90.70	137.95#
98.00	64.90	63.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM26I004.D
Acq On : 03/28/2017 04:23
Operator : LMR
Sample : 1708400004
Inst : 5975-L
Misc : A 040H IA 004 032317 F4
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 28 10:37:51 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM26I004.D\data.ms

(38) Trichloroethene

12.177min (-0.008) 488.19 ppt

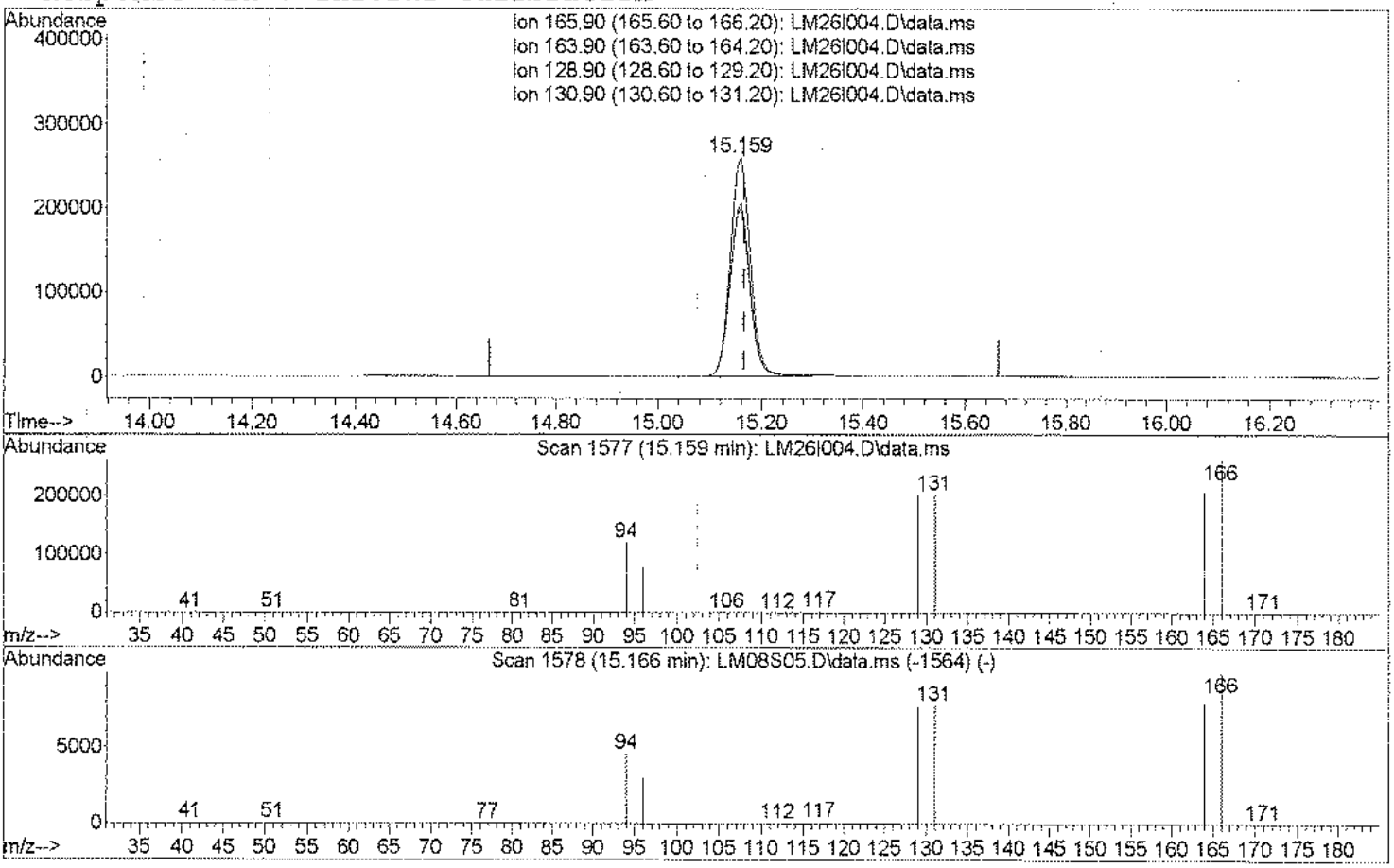
response 158147

Ion	Exp%	Act%
129.90	100.00	100.00
131.90	96.40	95.34
95.00	77.10	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\MAR17L\27MAR17L\
Data File : LM26I004.D
Acq On : 03/28/2017 04:23
Operator : LMR
Sample : 1708400004
Inst : 5975-L
Misc : A 040H IA 004 032317 F4
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 28 10:37:51 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



TIC: LM26I004.D\data.ms

(49) Tetrachloroethene

15.159min (-0.007) 2144.98 ppt

response 706969

Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	78.74
128.90	57.40	76.93#
130.90	56.90	77.27#

SIM

Analyst Notebook

187783

TO15
Instrument : See Batch Worklist
HBN: See Batch Worklist
Column: DB-1
Inst. Program: Initial 40 °C for 4 min; 10 °C/min to 220 °C hold for 3 mins.
Run time: 26 min for 5975-K, 25 min for 5975-L
Carrier Gas: Helium
Cold Trap Dehydration
Initial Calibration Curve is : TO15LSIM17 (HBN 187783)

The following compounds in the CCS were outside of +/_30%: NA

Dilutions: NA

Notes: Compounds requested: Vinyl Chloride, Cis-1,2-Dichloroethene, 1,4-Dioxane, Trichloroethene, Tetrachloroethene.

Analyst Signature:

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, USA 84123 | PHONE +1 801 266 7700 | FAX +1 801 268 9992
ALS GROUP USA, CORP. Part of the ALS Laboratory Group · A Campbell Brothers Limited Company

Response Factor Report 5975-L

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response Via : Initial Calibration

Calibration Files
50 =LM11S005.D 100 =LM10S01.D 200 =LM09S02.D 500 =LM08S05.D
1000=LM07S1.D

		Compound	50	100	200	500	1000	Avg		%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)		Propene	1.396	1.349	1.187	1.079	1.008	1.204	E1	13.91
3)		Dichlorodifluoro...	3.421	3.463	3.136	2.893	2.657	3.114	E1	11.07
4)		Chloromethane	1.438	1.359	1.257	1.214	1.124	1.278	E1	9.61
5)		Freon 114	2.526	2.521	2.320	2.143	1.978	2.298	E1	10.41
6)		Vinyl Chloride	1.759	1.692	1.589	1.452	1.331	1.565	E1	11.15
7)		1,3-Butadiene	1.608	1.568	1.454	1.341	1.221	1.438	E1	11.12
8)		Bromomethane	1.483	1.516	1.380	1.297	1.169	1.369	E1	10.33
9)		Chloroethane	8.991	8.705	8.285	7.426	7.257	8.133		9.43
10)		Acrolein	4.483	4.995	4.799	4.670	4.435	4.676		4.93
11)		Acetone	2.345	2.081	1.750	1.565	1.433	1.835	E1	20.43
12)		Trichlorofluorom...	3.225	3.258	2.987	2.768	2.516	2.951	E1	10.63
13)		Ethanol	1.473	3.595	4.026	3.717	3.613	3.285		31.28
14)		Isopropyl Alcohol	2.986	2.386	2.004	1.777	1.531	2.137	E1	26.65
15)		1,1-Dichloroethene	1.840	1.863	1.731	1.656	1.557	1.729	E1	7.39
16)		Methylene Chloride	1.335	1.204	1.083	0.964	0.870	1.091	E1	16.95
17)		Freon 113	2.230	2.273	2.096	1.943	1.767	2.062	E1	10.14
18)		Carbon Disulfide	3.810	3.814	3.476	3.219	2.928	3.449	E1	11.12
19)		trans-1,2-Dichlo...	1.305	1.297	1.193	1.120	1.061	1.195	E1	8.98
20)		1,1-Dichloroethane	2.501	2.558	2.416	2.296	2.088	2.372	E1	7.88
21)		methyl t-butyl e...	2.433	2.600	2.496	2.483	2.384	2.479	E1	3.25
22)		Vinyl Acetate	2.308	2.334	2.570	2.729	2.649	2.518		7.49
23)		2-Butanone	2.142	2.684	2.559	2.656	2.520	2.512	E1	8.66
24)		cis-1,2-Dichloro...	1.248	1.305	1.234	1.208	1.129	1.225	E1	5.24
25)	I	1,4-Difluorobenzene	----------ISTD----------							
26)		Ethyl Acetate	0.153	0.201	0.199	0.188	0.200	0.188		10.92
27)		Hexane	1.114	1.096	1.078	1.048	1.055	1.078		2.57
28)		Chloroform	1.877	1.748	1.617	1.471	1.384	1.619		12.37
29)		Tetrahydrofuran	0.876	0.813	0.787	0.752	0.743	0.794		6.76
30)		1,2-Dichloroethane	1.106	1.027	0.948	0.862	0.824	0.954		12.16
31)		1,1,1-Trichloroe...	1.668	1.549	1.418	1.282	1.229	1.429		12.78
32)		Benzene	2.494	2.205	1.992	1.811	1.747	2.050		14.89
33)		Carbon Tetrachlo...	1.831	1.703	1.557	1.399	1.335	1.565		13.17
34)		Cyclohexane	0.886	0.829	0.783	0.760	0.762	0.804		6.65
35)		1,2-Dichloropropane	0.900	0.848	0.798	0.725	0.707	0.796		10.25
36)		Bromodichloromet...	1.677	1.605	1.482	1.343	1.290	1.479		11.17
37)		1,4-Dioxane	0.435	0.363	0.391	0.384	0.374	0.389		7.15
38)		Trichloroethene	1.013	0.971	0.906	0.850	0.844	0.917		8.12
39)		Methyl Methacrylate	0.425	0.601	0.567	0.562	0.569	0.545		12.66
40)		Heptane	0.594	0.587	0.595	0.601	0.601	0.595		1.02
41)		cis-1,3-Dichloro...	0.871	0.859	0.831	0.807	0.828	0.839		3.05
42)		4-Methyl-2-Penta...	1.435	1.515	1.526	1.547	1.607	1.526		4.09
43)		trans-1,3-Dichlo...	0.636	0.639	0.623	0.626	0.661	0.637		2.39
44)		1,1,2-Trichloroe...	0.867	0.825	0.773	0.696	0.687	0.770		10.26

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM

45)		Toluene	1.793	1.824	1.800	1.779	1.873	1.814	2.02
46)		2-Hexanone	0.851	0.952	1.009	1.119	1.264	1.039	15.29
47)		Dibromochloromet...	1.556	1.483	1.410	1.297	1.278	1.405	8.49
48)		1,2-Dibromoethane	1.047	1.047	1.003	0.941	0.955	0.999	5.00
49)		Tetrachloroethene	1.034	0.986	0.930	0.859	0.855	0.933	8.38
50)	I	Chlorobenzene d5	----------ISTD----------						
51)		Chlorobenzene	1.732	1.751	1.699	1.574	1.485	1.648	6.94
52)		Ethylbenzene	1.875	1.962	2.039	2.071	2.097	2.009	4.48
53)		m,p-Xylene	1.234	1.366	1.504	1.601	1.586	1.458	10.73
54)		Bromoform	1.041	1.086	1.053	0.980	0.925	1.017	6.29
55)		Styrene	0.630	0.747	0.825	0.929	0.998	0.826	17.66
56)		1,1,2,2-Tetrachl...	1.478	1.490	1.468	1.371	1.246	1.411	7.35
57)		o-Xylene	1.294	1.432	1.554	1.628	1.611	1.504	9.33
58)	S	Bromofluorobenzene	0.387	0.418	0.450	0.472	0.507	0.447	10.47
59)		4-Ethyl Toluene	0.766	0.883	1.081	1.297	1.490	1.103	26.78
60)		1,3,5-Trimethylb...	1.042	1.132	1.323	1.523	1.505	1.305	16.56
61)		1,2,4-Trimethylb...	0.896	0.980	1.067	1.217	1.273	1.087	14.54
62)		Benzyl Chloride	0.418	0.445	0.503	0.696	0.808	0.574	29.61
63)		m-Dichlorobenzene	0.477	0.655	0.723	0.805	0.854	0.703	20.93
64)		p-Dichlorobenzene	0.484	0.841	0.889	0.969	0.911	0.819	23.52
65)		o-Dichlorobenzene	0.647	0.767	0.795	0.828	0.836	0.775	9.89
66)		1,2,4-Trichlorob...	0.102	0.124	0.137	0.169	0.198	0.146	25.85
67)		Naphthalene	0.262	0.299	0.370	0.477	0.608	0.403	34.91
68)		Hexachloro-1,3-b...	0.290	0.290	0.275	0.260	0.245	0.272	7.20

(#) = Out of Range

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response Via : Initial Calibration

CC Data File: LM13LCS.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	Bromochloromethane	1.000	1.000	0.0	89
2		Propene	12.038	10.904	9.4	90
3		Dichlorodifluoromethane	31.140	29.229	6.1	90
4		Chloromethane	12.784	12.502	2.2	92
5		Freon 114	22.976	21.396	6.9	89
6		Vinyl Chloride	15.646	14.443	7.7	89
7		1,3-Butadiene	14.384	13.288	7.6	89
8		Bromomethane	13.686	12.923	5.6	89
9		Chloroethane	8.133	8.426	-3.6	101
10		Acrolein	4.676	4.258	8.9	81
11		Acetone	18.350	15.734	14.3	90
12		Trichlorofluoromethane	29.508	27.823	5.7	90
13		Ethanol	3.285	4.221	-28.5	101
14		Isopropyl Alcohol	21.366	16.718	21.8	84
15		1,1-Dichloroethene	17.293	16.464	4.8	89
16		Methylene Chloride	10.912	9.676	11.3	90
17		Freon 113	20.617	19.399	5.9	89
18		Carbon Disulfide	34.495	32.375	6.1	90
19		trans-1,2-Dichloroethene	11.953	10.971	8.2	88
20		1,1-Dichloroethane	23.717	22.918	3.4	89
21		methyl t-butyl ether	24.792	23.426	5.5	84
22		Vinyl Acetate	2.518	2.566	-1.9	84
23		2-Butanone	25.123	25.940	-3.3	87
24		cis-1,2-Dichloroethene	12.247	11.851	3.2	88
25	I	1,4-Difluorobenzene	1.000	1.000	0.0	86
26		Ethyl Acetate	0.188	0.199	-5.4	90
27		Hexane	1.078	1.074	0.4	88
28		Chloroform	1.619	1.537	5.1	90
29		Tetrahydrofuran	0.794	0.766	3.6	87
30		1,2-Dichloroethane	0.954	0.902	5.5	90
31		1,1,1-Trichloroethane	1.429	1.330	6.9	89
32		Benzene	2.050	1.833	10.6	87
33		Carbon Tetrachloride	1.565	1.472	6.0	90
34		Cyclohexane	0.804	0.773	3.9	87
35		1,2-Dichloropropane	0.796	0.760	4.4	90
36		Bromodichloromethane	1.479	1.405	5.0	90
37		1,4-Dioxane	0.389	0.384	1.3	86
38		Trichloroethene	0.917	0.870	5.1	88
39		Methyl Methacrylate	0.545	0.572	-4.9	87
40		Heptane	0.595	0.612	-2.7	87
41		cis-1,3-Dichloropropene	0.839	0.811	3.3	86
42		4-Methyl-2-Pentanone	1.526	1.575	-3.3	87
43		trans-1,3-Dichloropropene	0.637	0.637	-0.0	87
44		1,1,2-Trichloroethane	0.770	0.739	4.1	91
45		Toluene	1.814	1.789	1.4	86
46		2-Hexanone	1.039	1.084	-4.4	83
47		Dibromochloromethane	1.405	1.364	2.9	90
48		1,2-Dibromoethane	0.999	0.984	1.4	90
49		Tetrachloroethene	0.933	0.894	4.2	89
50	I	Chlorobenzene d5	1.000	1.000	0.0	85
51		Chlorobenzene	1.648	1.637	0.7	88
52		Ethylbenzene	2.009	2.074	-3.2	85
53		m,p-Xylene	1.458	3.302	-126.4#	88
54		Bromoform	1.017	1.039	-2.1	90
55		Styrene	0.826	0.897	-8.6	82
56		1,1,2,2-Tetrachloroethane	1.411	1.451	-2.9	90
57		o-Xylene	1.504	1.696	-12.8	89

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response Via : Initial Calibration

CC Data File: LM13LCS.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
58	S	Bromofluorobenzene	0.447	0.465	-4.1	84
59		4-Ethyl Toluene	1.103	1.192	-8.0	78
60		1,3,5-Trimethylbenzene	1.305	1.535	-17.6	86
61		1,2,4-Trimethylbenzene	1.087	1.196	-10.0	84
62		Benzyl Chloride	0.574	0.689	-20.1	84
63		m-Dichlorobenzene	0.703	0.819	-16.6	87
64		p-Dichlorobenzene	0.819	0.944	-15.3	83
65		o-Dichlorobenzene	0.775	0.841	-8.5	86
66		1,2,4-Trichlorobenzene	0.146	0.156	-7.0	79
67		Naphthalene	0.403	0.405	-0.4	72
68		Hexachloro-1,3-butadiene	0.272	0.267	1.6	87

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GC/MS QA-QC Check Report

Tune File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM13LCS.D
Tune Time : 27 Mar 2017 5:40 pm

Daily Calibration File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM13LCS.D

			23119	408234	352315
File	Sample	Surrogate Recovery %	Internal Standard Responses		
LM13LCS.D					
	QC	104	23119	408234	352315
LM14LCSD.D					
	QD	101	22549	411356	352279
LM15BLK.D					
	BL-	72	24960	397795	313666
LM16I001.D					
	1707721001	112	28647	436604	385672
LM17I002.D					
	1707721002	111	29855	442128	394784
LM18I003.D					
	1707721003	104	28184	436535	382675
LM19I004.D					
	1707721004	105	28546	427894	381191
LM20I005.D					
	1707721005	101	27522	421284	365294
LM21I006.D					
	1707721006	106	30217	435104	393626
LM22I007.D					
	1707721007	116	30262	444426	403749
M23I001.D					
	1708400001	96	24937	387582	329551
M24I002.D					
	1708400002	92	25349	375959	298583
M25I003.D					
	1708400003	94	24222	363435	289055
M26I004.D					
	1708400004	92	23684	353301	280918

fails) - fails 24hr time check * - fails criteria

Created: Fri Mar 31 11:19:23 2017 5975-L

XVA SLC AOU-1 (700 South 1600 East PCE Plume)

Data Package Completeness Review Checklist

SDG: 1709321

Date Received: 04/17/17

Required Documentation	Yes	No	Comments
1. Cover letter complete with the following information:	X		Cover is Case Narrative.
• Title of report and laboratory unique report identification (sample delivery group number)	X		Title of report and project name are absent. SDG ID present.
• Project name, site location		X	
• Name and location of laboratory and second-site or subcontracted laboratory	X		
• Client name and address	X		Client name was included. No address was present for the client on the cover letter.
• Statement of authenticity and official signature and title of person authorizing report release	X		Electronic signature at the end of "Analytical Results" section
2. Summary of samples received that correlates field sample IDs with the laboratory IDs	X		
3. Laboratory qualifier flags and definitions	X		
4. Preparation and/or analytical methods	X		
5. Sample results for each analyte (dry weight basis for soils)			
• Date received	X		
• Date analyzed (and time of analysis if the holding time is less than or equal to 48 hours)	X		
• Percent solids results for soil samples			N/A
• Dilution factor (provide both diluted and undiluted results when available)	X		
• Sample-specific reporting limit adjusted for sample size, dilution/concentration	X		
• Sample-specific MDL adjusted for sample size, dilution/concentration	X		MDL and RL only in ppb
• Units	X		
6. Case Narrative that addresses the following information at a minimum:		X	See comment for Item 1 above
• Sample receipt discrepancies	X		See Sample Acceptance Check Form for any noted discrepancies
• Descriptions of all non conformances in the sample receipt, handling, preparation, analytical and reporting processes and the corrective action taken in each occurrence	X		
• Identification and justification for sample dilution	X		No dilutions.
• Sample cooler temperature at time of receipt			N/A

Required Documentation	Yes	No	Comments
• Final residual vacuum of each sample canister immediately prior to analysis, or upon receipt (Air analyses only)	X		On "Sample Acceptance Check Form".
7. Surrogate percent recoveries (surrogate result, target concentration, percent recovery)	X		
8. MS/MSD and LCS spike concentrations, native sample results, spiked sample results, percent recoveries, and RPDs between the MS and MSD results (associated QC limits must also be provided)	X		*MS/MSDs not applicable to Air analyses.*
9. Method blank results	X		
10. Analytical batch reference number that cross references samples to QC sample analyses	X		Batch ID present.
11. Executed COC and sample receipt checklist	X		
12. Analytical sequence or laboratory run log that contains sufficient information to correlate samples reported in the summary results to the associated method QC information, such as initial and continuing calibration analyses	X		
13. Calibration blank results for inorganic analyses (required in hardcopy format only)			N/A
14. Inductively coupled plasma (ICP) interference check sample for inorganic analyses, true and measured concentrations and percent recoveries (required in hardcopy format only)			N/A
15. Reporting Limit Check Standard for inorganic analyses, true and measured concentrations and percent recoveries (if applicable, required in hardcopy format only)			N/A
16. Post-digestion spike recoveries for inorganic analyses, (if applicable; required in hardcopy format only)			N/A
17. Internal Standard recovery and retention time information, as applicable.	X		
18. Initial calibration summary, including standard concentrations, response factors, average response factors, RSDs or correlation coefficients, and calibration plots or equations, if applicable (required in hardcopy format only)	X		
19. Continuing calibration verification summary, including expected and recovered concentrations and percent differences (required in hardcopy format only)	X		
20. Instrument tuning and mass calibration information for ICP/mass spectrometry analyses	X		
21. All associated instrument printouts for all samples, standards, and QC samples (e.g., raw data) necessary to re-calculate results as well as all manual integrations (if performed)	X		
22. Sample preparation logs that include the following information			*Not applicable to Air analyses*
• Preparation start and end times			N/A
• Beginning and ending temperatures of water baths and digestion blocks			N/A

Data package complete and ready for Validation *Mark Fesler* Date: 5/5/17

signature

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

Case Narrative

Method:	**TO15**	**Client:**	CH2M Hill
Analysis:	**VOA**		
Preparation SOP #:	**IH-AN-014**	**Matrix:**	**Air**
Work Order:	**1709321**		

Analysis / Method: Method TO15 is an EPA method used in the analysis of air samples for volatile organics by GC/MS, which have been sampled in a silonized canister.

General Set Information: ALS received four summa canisters for VOA analysis. The samples were analyzed within thirty days of sampling. Recoveries of target analytes are reported on the Sample Analysis Data Sheet in units of ppb v/v and $\mu g/m^3$.

Sample Preparation: This method has no extraction procedure for air samples. The sample preparation date is the same as the date of analysis. Two hundred milliliters of air sample and 100 milliliters of Internal Standard were trapped using an Entech 7100 microscale purge and trap concentrator.

Instrument Calibration: The GC/MS was hardware tuned to meet the criteria for 4-Bromofluorobenzene as specified in the SOP. This tune check is valid for 24 hours.

Initial and Continuing Calibration Verification: The initial calibration curve, which was analyzed prior to sample analysis, met the specified criteria of the SOP. For the initial calibration curve, the %RSD of the response factors for the TO-15 analytes were checked.

A continuing calibration standard (CCS) was analyzed prior to sample analysis. The CCS met the criteria as specified in the SOP.

Method Blank Analysis: A laboratory method blank was prepared using 200 milliliters of humidified ultra high purity nitrogen and 100 milliliters of Internal Standards and analyzed prior to sample analysis. The blank was free of volatile organic contaminants.

Data Qualifier Codes: A "J" qualifier indicates that the result is greater than the MDL but less than the PQL. Analytes found in field samples, which also appear in the method blank above the PQL are reported with a "B" qualifier in the flag column. The "E" qualifier indicates a reported value above the analytical linear range.

LCS/LCSD: An LCS and LCSD pair was analyzed for the analytical batch.

Dilutions: None.

NC/CAR: None.

Miscellaneous Comments: Instrument designation is HP5972-L. Field samples were analyzed using auto sampler positions that were free from volatile contaminants. The "E" qualifier indicates a reported value above the analytical linear range.

Sample Calculations: Target Compounds

Relative Response Factor: $$\mathbf{RRF} = \left[\frac{\mathbf{A_x}}{\mathbf{A_{is}}}\right]\left[\frac{\mathbf{C_{is}}}{\mathbf{C_x}}\right]$$

Where $\mathbf{A_x}$ is the area of the characteristic ion for the compound to be measured, $\mathbf{A_{is}}$ is the area of the characteristic ion for the internal standard , $\mathbf{C_{is}}$ is the concentration of the internal standard, and $\mathbf{C_x}$ is the concentration of the compound to be measured.

Concentration in ppb v/v: $$C = \left[\frac{\mathbf{(A_x)\,(I_s)\,(Df)}}{\mathbf{(A_{is})\,(RRF)}}\right]$$

Concentration in ug/m^3 : $C =$ **ppb v/v (MW/24.45)**

Where $\mathbf{I_s}$ is the amount of internal standard spiked in ppb, **Df** is a dilution factor (1 if no dilutions are made), **RRF** is the relative response factor (assumed to be 1 for non target analytes) and **MW** is the molecular weight of the compound of interest.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

Case Narrative

Method:	**TO15**	**Client:**	CH2M
Analysis:	**VOA**		
Preparation SOP #:	**IH-AN-014 (SIM)**	**Matrix:**	**Air**
Work Order:	**1709321 (SIM)**		

Analysis / Method: Method TO15 is an EPA method used in the analysis of air samples for volatile organics by GC/MS, which have been sampled in a silonized canister.

General Set Information: ALS received four summa canisters for VOA analysis. The samples were analyzed within thirty days of sampling. Recoveries of target analytes are reported on the Sample Analysis Data Sheet in units of ppb v/v and μg/m³.

Sample Preparation: This method has no extraction procedure for air samples. The sample preparation date is the same as the date of analysis. Two hundred milliliters of air sample and 50 milliliters of Internal Standard were trapped using an Entech 7100 microscale purge and trap concentrator.

Instrument Calibration: 4-Bromofluorobenzene calibration is not required for SIM analysis.

Initial and Continuing Calibration Verification: The initial calibration curve, which was analyzed prior to sample analysis, met the specified criteria of the SOP. For the initial calibration curve, the %RSD of the response factors for the TO-15 analytes were checked.

A continuing calibration standard (CCS) was analyzed prior to sample analysis. The CCS met the criteria as specified in the SOP.

Method Blank Analysis: A laboratory method blank was prepared using 200 milliliters of humidified ultra high purity nitrogen and 50 milliliters of Internal Standards and analyzed prior to sample analysis. The blank was free of volatile organic contaminants.

Data Qualifier Codes: Analytes found in field samples, which also appear in the method blank above the PQL are reported with a "B" qualifier in the flag column. The "E" qualifier indicates a reported value above the analytical linear range.

LCS/LCSD: An LCS and LCSD pair was analyzed for the analytical batch.

Dilutions: None

NC/CAR: None.

Miscellaneous Comments: Instrument designation is HP5972-L. Field samples were analyzed using auto sampler positions that were free from volatile contaminants. The "E" qualifier indicates a reported value above the analytical linear range.

Sample Calculations: Target Compounds

Relative Response Factor: $$\mathbf{RRF} = \left[\frac{\mathbf{A_x}}{\mathbf{A_{is}}}\right]\left[\frac{\mathbf{C_{is}}}{\mathbf{C_x}}\right]$$

Where $\mathbf{A_x}$ is the area of the characteristic ion for the compound to be measured, $\mathbf{A_{is}}$ is the area of the characteristic ion for the internal standard , $\mathbf{C_{is}}$ is the concentration of the internal standard, and $\mathbf{C_x}$ is the concentration of the compound to be measured.

Concentration in ppb v/v: $$C = \left[\frac{\mathbf{(A_x)\ (I_s)\ (Df)}}{\mathbf{(A_{is})\ (RRF)}}\right]$$

Concentration in ug/m^3 : $$C = \mathbf{ppb\ v/v\ (MW/24.45)}$$

Where $\mathbf{I_s}$ is the amount of internal standard spiked in ppb, **Df** is a dilution factor (1 if no dilutions are made), **RRF** is the relative response factor (assumed to be 1 for non target analytes) and **MW** is the molecular weight of the compound of interest.

ANALYTICAL REPORT

Report Date: April 14, 2017

Mark Cichy
CH2MHILL
2525 Airpark Dr.
Redding, CA 96001

Phone: (530) 229-3274

E-mail: mark.cichy@ch2m.com

Workorder: **34-1709321**
Project ID: VA AOU1 (SLC, UT) 032317
Purchase Order: 10006-7-107234
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
A-0001H-032317-TO-001-BAS	1709321001	03/23/17	03/31/17	AOU1 (SLC, UT)
A-0001H-032317-TO-002-BAS	1709321002	03/23/17	03/31/17	AOU1 (SLC, UT)
A-0002H-032317-TO-001-BAS	1709321003	03/23/17	03/31/17	AOU1 (SLC, UT)
A-0029H-033117-TO-001-BAS	1709321004	03/31/17	03/31/17	AOU1 (SLC, UT)

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0001H-032317-TO-001-BAS** | Sampling Site: AOU1 (SLC, UT) | Collected: 03/23/2017
Lab ID: 1709321001 | Media: Summa 6 Liter Canister | Received: 03/31/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3557 (HBN: 188619) | **Percent Solid:** NA
Analyzed: 04/10/2017 17:39 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.56**	**2.7**	0.15	0.50	1	
Chloromethane	ND	<0.31	0.15	0.50	1	U
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.25	1.4	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**63**	**150**	0.30	1.0	1	E
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	**0.56**	**1.9**	0.15	0.50	1	
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**28**	**82**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	**5.8**	**21**	0.30	1.0	1	
Hexane	0.22	0.78	0.15	0.50	1	J
Chloroform	0.26	1.3	0.15	0.50	1	J
Tetrahydrofuran	ND	<0.44	0.15	0.50	1	U
1,2-Dichloroethane	0.32	1.3	0.15	0.50	1	J
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	0.17	1.1	0.15	0.50	1	J
Benzene	0.2	0.65	0.15	0.50	1	J
Cyclohexane	ND	<0.52	0.15	0.50	1	U
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	**0.56**	**2.3**	0.15	0.50	1	
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	**0.70**	**2.9**	0.15	0.50	1	
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**1.1**	**4.3**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0001H-032317-TO-001-BAS** | Sampling Site: AOU1 (SLC, UT) | Collected: 03/23/2017
Lab ID: 1709321001 | Media: Summa 6 Liter Canister | Received: 03/31/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3557 (HBN: 188619) | **Percent Solid:** NA
Analyzed: 04/10/2017 17:39 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	**0.58**	**2.5**	0.15	0.50	1	
m,p-Xylene	**2.2**	**9.4**	0.15	0.50	1	
o-Xylene	**0.56**	**2.4**	0.15	0.50	1	
Styrene	0.4	1.7	0.30	1.0	1	J
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3556 (HBN: 188525) | **Percent Solid:** NA
Analyzed: 04/11/2017 13:59 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	**0.068**	**0.17**	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	**0.16**	**1.1**	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0001H-032317-TO-002-BAS** | Sampling Site: AOU1 (SLC, UT) | Collected: 03/23/2017
Lab ID: 1709321002 | Media: Summa 6 Liter Canister | Received: 03/31/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3557 (HBN: 188619) | **Percent Solid:** NA
Analyzed: 04/10/2017 18:34 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.56**	**2.8**	0.15	0.50	1	
Chloromethane	**0.67**	**1.4**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.26	1.4	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**62**	**150**	0.30	1.0	1	E
Carbon disulfide	0.15	0.47	0.15	0.50	1	J
Methylene chloride	**0.75**	**2.6**	0.15	0.50	1	
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**28**	**82**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	**6.0**	**22**	0.30	1.0	1	
Hexane	0.23	0.80	0.15	0.50	1	J
Chloroform	0.27	1.3	0.15	0.50	1	J
Tetrahydrofuran	ND	<0.44	0.15	0.50	1	U
1,2-Dichloroethane	0.33	1.3	0.15	0.50	1	J
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	0.17	1.1	0.15	0.50	1	J
Benzene	0.2	0.65	0.15	0.50	1	J
Cyclohexane	ND	<0.52	0.15	0.50	1	U
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	**0.56**	**2.3**	0.15	0.50	1	
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	**0.77**	**3.1**	0.15	0.50	1	
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**1.1**	**4.2**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0001H-032317-TO-002-BAS** | Sampling Site: AOU1 (SLC, UT) | Collected: 03/23/2017
Lab ID: 1709321002 | Media: Summa 6 Liter Canister | Received: 03/31/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3557 (HBN: 188619) | **Percent Solid:** NA
Analyzed: 04/10/2017 18:34 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	**0.60**	**2.6**	0.15	0.50	1	
m,p-Xylene	**2.3**	**9.9**	0.15	0.50	1	
o-Xylene	**0.56**	**2.4**	0.15	0.50	1	
Styrene	0.51	2.2	0.30	1.0	1	J
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3556 (HBN: 188525) | **Percent Solid:** NA
Analyzed: 04/11/2017 14:54 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	**0.074**	**0.19**	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	**0.16**	**1.1**	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0002H-032317-TO-001-BAS** | Sampling Site: AOU1 (SLC, UT) | Collected: 03/23/2017
Lab ID: 1709321003 | Media: Summa 6 Liter Canister | Received: 03/31/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3557 (HBN: 188619) | **Percent Solid:** NA
Analyzed: 04/10/2017 19:28 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.57**	**2.8**	0.15	0.50	1	
Chloromethane	**0.89**	**1.8**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.34	1.9	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**26**	**63**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	**2.5**	**8.6**	0.15	0.50	1	
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**1.0**	**3.0**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	**5.1**	**18**	0.30	1.0	1	
Hexane	0.26	0.92	0.15	0.50	1	J
Chloroform	0.27	1.3	0.15	0.50	1	J
Tetrahydrofuran	**1.2**	**3.4**	0.15	0.50	1	
1,2-Dichloroethane	ND	<0.61	0.15	0.50	1	U
1,1,1-Trichloroethane	**0.53**	**2.9**	0.15	0.50	1	
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.17	0.55	0.15	0.50	1	J
Cyclohexane	0.28	0.96	0.15	0.50	1	J
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	0.18	0.72	0.15	0.50	1	J
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**1.7**	**6.3**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0002H-032317-TO-001-BAS** | Sampling Site: AOU1 (SLC, UT) | Collected: 03/23/2017
Lab ID: 1709321003 | Media: Summa 6 Liter Canister | Received: 03/31/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3557 (HBN: 188619) | **Percent Solid:** NA
Analyzed: 04/10/2017 19:28 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	0.17	0.72	0.15	0.50	1	J
m,p-Xylene	**1.2**	**5.4**	0.15	0.50	1	
o-Xylene	0.22	0.97	0.15	0.50	1	J
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3556 (HBN: 188525) | **Percent Solid:** NA
Analyzed: 04/11/2017 15:46 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	**0.053**	**0.29**	0.050	1	
Tetrachloroethene	**0.21**	**1.4**	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0029H-033117-TO-001-BAS** | Sampling Site: AOU1 (SLC, UT) | Collected: 03/31/2017
Lab ID: 1709321004 | Media: Summa 6 Liter Canister | Received: 03/31/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3557 (HBN: 188619) | **Percent Solid:** NA
Analyzed: 04/10/2017 20:20 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	**0.60**	**3.0**	0.15	0.50	1	
Chloromethane	**0.62**	**1.3**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.38	2.1	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**12**	**29**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	**5.5**	**19**	0.15	0.50	1	
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**7.1**	**21**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	ND	<1.1	0.30	1.0	1	U
Hexane	**0.68**	**2.4**	0.15	0.50	1	
Chloroform	0.18	0.88	0.15	0.50	1	J
Tetrahydrofuran	**0.63**	**1.8**	0.15	0.50	1	
1,2-Dichloroethane	ND	<0.61	0.15	0.50	1	U
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.41	1.3	0.15	0.50	1	J
Cyclohexane	0.19	0.64	0.15	0.50	1	J
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	**1.6**	**6.4**	0.15	0.50	1	
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**14**	**52**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0029H-033117-TO-001-BAS** | Sampling Site: AOU1 (SLC, UT) | Collected: 03/31/2017
Lab ID: 1709321004 | Media: Summa 6 Liter Canister | Received: 03/31/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3557 (HBN: 188619) | **Percent Solid:** NA
Analyzed: 04/10/2017 20:20 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	ND	<0.65	0.15	0.50	1	U
m,p-Xylene	**0.51**	**2.2**	0.15	0.50	1	
o-Xylene	ND	<0.65	0.15	0.50	1	U
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3556 (HBN: 188525) | **Percent Solid:** NA
Analyzed: 04/11/2017 16:39 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	**0.29**	**2.0**	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

Comments

Workorder: 1709321

Compound flagged with an "E" qualifier had no peak saturation and is considered to be an estimated value.

Quality Control: EPA TO-15 - (HBN: 188619)

The following compounds in the CCV were outside of +/-30%: Freon 114, Freon 113, Carbon Tetrachloride, Dibromochloromethane and Tetrachloroethane.

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
EPA TO-15	/S/ Lisa M. Reid 04/14/2017 10:40	/S/ Jorden Baum 04/14/2017 11:36
EPA TO-15 SIM	/S/ Lisa M. Reid 04/12/2017 10:51	/S/ Jorden Baum 04/12/2017 11:36

Laboratory Contact Information

ALS Environmental
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Salt Lake City, Utah 84123

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Email: alslt.lab@ALSGlobal.com
Web: www.alsslc.com

General Lab Comments

The results provided in this report relate only to the items tested.
Samples were received in acceptable condition unless otherwise noted.
Samples have not been blank corrected unless otherwise noted.
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ANAB (DoD ELAP)	ADE-1420	http://www.anab.org/accredited-organizations/
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdw/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
	Kansas	E-10416	http://www.kdheks.gov/lipo/index.html
Industrial Hygiene	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
Lead Testing:			
CPSC	ANAB (ISO 17025, CPSC)	ADE-1420	http://www.anab.org/accredited-organizations/
Soil, Dust, Paint ,Air	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	http://www.aclasscorp.com

ANALYTICAL REPORT

Workorder: 34-1709321
Client: CH2M
Project Manager: Kevin W. Griffiths

Result Symbol Definitions

MDL = Method Detection Limit, a statistical estimate of method/media/instrument sensitivity.
RL = Reporting Limit, a verified value of method/media/instrument sensitivity.
CRDL = Contract Required Detection Limit
Reg. Limit = Regulatory Limit.
ND = Not Detected, testing result not detected above the MDL or RL.
< This testing result is less than the numerical value.
** No result could be reported, see sample comments for details.

Qualifier Symbol Definitions

U = Qualifier indicates that the analyte was not detected above the MDL.
J = Qualifier Indicates that the analyte value is between the MDL and the RL. It is also used to indicate an estimated value for tentatively identified compounds in mass spectrometry where a 1:1 response is assumed.
B = Qualifier indicates that the analyte was detected in the blank.
E = Qualifier indicates that the analyte result exceeds calibration range.
P = Qualifier indicates that the RPD between the two columns is greater than 40%.

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1709321

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15 SIM
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3556 (HBN: 188525)
		Prepared By:	NA	**Analyzed By:**	Lisa M. Reid

Blank

MB: 543966
Analyzed: 04/11/2017 13:05
Units: ppb

Analyte	Result	MDL	RL
Vinyl chloride	ND	NA	0.0500
cis-1,2-Dichloroethene	ND	NA	0.0500
Trichloroethene	ND	NA	0.0500
Tetrachloroethene	ND	NA	0.0500
1,4-Dioxane	ND	NA	0.0500

Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS: 543967
Analyzed: 04/11/2017 10:41
Dilution: 1
Units: ppb

LCSD: 543968
Analyzed: 04/11/2017 11:29
Dilution: 1
Units: ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Vinyl chloride	0.460	0.500	92.0	66.9	144.4	0.469	93.9	2.02	0.0	25.0
cis-1,2-Dichloroethene	0.493	0.500	98.7	52.2	167.4	0.496	99.2	0.511	0.0	25.0
Trichloroethene	0.459	0.500	91.9	33.8	166.6	0.467	93.3	1.52	0.0	25.0
Tetrachloroethene	0.466	0.500	93.1	63.6	150.7	0.475	95.0	2.01	0.0	25.0
1,4-Dioxane	0.477	0.500	95.4	70.0	130.0	0.484	96.7	1.36	0.0	25.0

Surrogate Recoveries

Surrogate	4-Bromofluorobenzene	
QC Limits	48.8	151.8
Units	ppb	

Lab ID	Result	Target	% Recovery
543967-LCS	1.15	1.00	115
543968-LCSD	1.09	1.00	109
543966-MB	0.819	1.00	81.9
1709321001	1.11	1.00	111
1709321002	1.17	1.00	117
1709321003	1.07	1.00	107
1709321004	1.03	1.00	103

Quality Control Sample
Batch Report

Analysis Information

Workorder: **1709321**

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15 SIM
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3556 (HBN: 188525)
		Prepared By:	NA	**Analyzed By:**	Lisa M. Reid

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Lisa M. Reid	/S/ Jorden Baum
04/12/2017 10:51	04/12/2017 11:36

Symbols and Definitions

* - Analyte above reporting limit or outside of control limits
▲ - Sample result is greater than 4 times the spike added
◆ - Sample and Matrix Duplicate less than 5 times the reporting limit
● - Result is above the calibration range
- The Matrix Spike, Matrix Spike duplicate or Matrix Duplicate is reported for your information only. The sample matrix may be inappropriate for the method selected.

RPD - Relative % Difference (Spike / Spike Duplicate)
ND - Not Detected (U - Qualifier also flags analyte as not detected)
NA - Not Applicable
QC results are not adjusted for moisture correction, where applicable

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1709321

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3557 (HBN: 188619)
		Prepared By:	NA	**Analyzed By:**	Lisa M. Reid

Blank

MB: 544176
Analyzed: 04/10/2017 16:45

Units: ppb

Analyte	Result	MDL	RL
Dichlorodifluoromethane	ND	0.15	0.500
Chloromethane	ND	0.15	0.500
Freon 114	ND	0.15	0.500
1,3-Butadiene	ND	0.15	0.500
Bromomethane	ND	0.15	0.500
Chloroethane	ND	0.15	0.500
Freon 11	ND	0.15	0.500
Freon 113	ND	0.15	0.500
1,1-Dichloroethene	ND	0.15	0.500
Acetone	ND	0.3	1.00
Carbon disulfide	ND	0.15	0.500
Methylene chloride	ND	0.15	0.500
trans-1,2-Dichloroethene	ND	0.15	0.500
Methyl t-butyl ether	ND	0.15	0.500
Vinyl acetate	ND	0.2	0.500
2-Butanone	ND	0.15	0.500
1,1-Dichloroethane	ND	0.15	0.500
Ethyl acetate	ND	0.3	1.00
Hexane	ND	0.15	0.500
Chloroform	ND	0.15	0.500
Tetrahydrofuran	ND	0.15	0.500
1,2-Dichloroethane	ND	0.15	0.500
1,1,1-Trichloroethane	ND	0.15	0.500
Carbon tetrachloride	ND	0.15	0.500
Benzene	ND	0.15	0.500
Cyclohexane	ND	0.15	0.500
1,2-Dichloropropane	ND	0.15	0.500
Bromodichloromethane	ND	0.15	0.500
Heptane	ND	0.15	0.500
cis-1,3-Dichloropropene	ND	0.15	0.500
4-Methyl-2-pentanone	ND	0.15	0.500
trans-1,3-Dichloropropene	ND	0.15	0.500
1,1,2-Trichloroethane	ND	0.15	0.500
Toluene	ND	0.15	0.500
2-Hexanone	ND	0.32	1.00
Dibromochloromethane	ND	0.15	0.500
1,2-Dibromoethane	ND	0.15	0.500

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1709321

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3557 (HBN: 188619)
		Prepared By:	NA	**Analyzed By:**	Lisa M. Reid

Blank

MB: 544176
Analyzed: 04/10/2017 16:45
Units: ppb

Analyte	Result	MDL	RL
Chlorobenzene	ND	0.15	0.500
Ethyl benzene	ND	0.15	0.500
m,p-Xylene	ND	0.15	0.500
o-Xylene	ND	0.15	0.500
Styrene	ND	0.3	1.00
Bromoform	ND	0.3	1.00
1,1,2,2-Tetrachloroethane	ND	0.15	0.500
4-Ethyl toluene	ND	0.3	1.00
1,3,5-Trimethylbenzene	ND	0.3	1.00
1,2,4-Trimethylbenzene	ND	0.3	1.00
1,3-Dichlorobenzene	ND	0.3	1.00
1,4-Dichlorobenzene	ND	0.3	1.00
Benzyl chloride	ND	0.37	1.00
1,2-Dichlorobenzene	ND	0.3	1.00
1,2,4-Trichlorobenzene	ND	0.42	1.00
Hexachlorobutadiene	ND	0.3	1.00

Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS: 544177
Analyzed: 04/10/2017 14:12
Dilution: 1
Units: ppb

LCSD: 544178
Analyzed: 04/10/2017 15:02
Dilution: 1
Units: ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Dichlorodifluoromethane	12.2	10.0	122	44.8	152.0	12.0	120	1.88	0.0	25.0
Chloromethane	10.8	10.0	108	37.3	153.2	10.6	106	1.83	0.0	25.0
Freon 114	13.1	10.0	131	54.2	145.9	12.7	127	3.18	0.0	25.0
1,3-Butadiene	10.7	10.0	107	49.0	147.5	10.5	105	1.60	0.0	25.0
Bromomethane	12.0	10.0	120	51.7	149.4	12.0	120	0.200	0.0	25.0
Chloroethane	10.8	10.0	108	51.1	144.9	10.4	104	3.66	0.0	25.0
Freon 11	12.5	10.0	125	47.8	148.9	12.1	121	2.63	0.0	25.0
Freon 113	13.3	10.0	133	69.0	133.4	13.1	131	1.47	0.0	25.0
1,1-Dichloroethene	11.4	10.0	114	53.6	144.6	11.2	112	1.65	0.0	25.0
Acetone	9.83	10.0	98.3	30.7	150.8	9.79	97.9	0.456	0.0	25.0
Carbon disulfide	11.4	10.0	114	60.9	136.3	11.2	112	1.79	0.0	25.0
Methylene chloride	11.3	10.0	113	59.2	132.9	11.1	111	1.33	0.0	25.0
trans-1,2-Dichloroethene	12.1	10.0	121	62.5	139.3	12.0	120	0.683	0.0	25.0
Methyl t-butyl ether	11.7	10.0	117	66.1	138.6	11.7	117	0.0429	0.0	25.0
Vinyl acetate	12.3	10.0	123	53.4	155.7	12.3	123	0.0570	0.0	25.0

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1709321

Limits:	Historical/Performance	**Preparation:**	NA
Basis:	ALS Laboratory Group	**Batch:**	NA
		Prepared By:	NA
Analysis:	EPA TO-15		
Batch:	IVOA/3557 (HBN: 188619)		
Analyzed By:	Lisa M. Reid		

Laboratory Control Sample - Laboratory Control Sample Duplicate

	LCS: 544177	LCSD: 544178
Analyzed:	04/10/2017 14:12	04/10/2017 15:02
Dilution:	1	1
Units:	ppb	ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
2-Butanone	10.2	10.0	102	57.2	147.8	10.0	100	1.14	0.0	25.0
1,1-Dichloroethane	11.2	10.0	112	62.2	134.2	11.0	110	1.87	0.0	25.0
Ethyl acetate	11.8	10.0	118	54.4	150.1	11.9	119	1.10	0.0	25.0
Hexane	11.4	10.0	114	60.2	142.1	11.3	113	1.13	0.0	25.0
Chloroform	13.0	10.0	130	64.6	131.2	12.6	126	2.62	0.0	25.0
Tetrahydrofuran	10.5	10.0	105	64.2	147.0	10.3	103	1.78	0.0	25.0
1,2-Dichloroethane	12.3	10.0	123	52.7	143.7	12.0	120	2.33	0.0	25.0
1,1,1-Trichloroethane	13.0	10.0	130	61.5	137.3	12.6	126	2.88	0.0	25.0
Carbon tetrachloride	13.8	10.0	138	57.9	143.2	13.3	133	3.53	0.0	25.0
Benzene	12.1	10.0	121	56.5	143.5	11.9	119	2.09	0.0	25.0
Cyclohexane	13.0	10.0	130	61.8	131.9	12.6	126	2.60	0.0	25.0
1,2-Dichloropropane	11.4	10.0	114	59.7	139.7	11.2	112	2.20	0.0	25.0
Bromodichloromethane	12.5	10.0	125	63.3	136.4	12.2	122	2.57	0.0	25.0
Heptane	12.7	10.0	127	59.0	148.1	12.3	123	3.02	0.0	25.0
cis-1,3-Dichloropropene	12.1	10.0	121	65.9	142.6	11.8	118	2.49	0.0	25.0
4-Methyl-2-pentanone	10.3	10.0	103	62.1	149.0	10.1	101	2.09	0.0	25.0
trans-1,3-Dichloropropene	12.3	10.0	123	64.7	145.3	11.8	118	3.54	0.0	25.0
1,1,2-Trichloroethane	12.5	10.0	125	68.3	134.4	12.1	121	3.17	0.0	25.0
Toluene	12.6	10.0	126	66.1	146.5	12.1	121	3.77	0.0	25.0
2-Hexanone	11.0	10.0	110	58.5	162.0	10.6	106	3.60	0.0	25.0
Dibromochloromethane	13.4	10.0	134	68.0	141.8	12.9	129	3.56	0.0	25.0
1,2-Dibromoethane	12.9	10.0	129	72.6	136.7	12.4	124	3.75	0.0	25.0
Chlorobenzene	10.7	10.0	107	67.4	134.7	10.4	104	2.88	0.0	25.0
Ethyl benzene	10.3	10.0	103	64.2	147.4	9.49	94.9	7.85	0.0	25.0
m,p-Xylene	18.4	20.0	91.8	62.3	145.6	17.1	85.4	7.21	0.0	25.0
o-Xylene	9.53	10.0	95.3	60.8	147.6	9.10	91.0	4.58	0.0	25.0
Styrene	9.15	10.0	91.5	60.9	160.8	8.37	83.7	8.90	0.0	25.0
Bromoform	9.08	10.0	90.8	50.0	155.2	8.78	87.8	3.38	0.0	25.0
1,1,2,2-Tetrachloroethane	9.64	10.0	96.4	49.5	150.8	9.13	91.3	5.47	0.0	25.0
4-Ethyl toluene	11.9	10.0	119	57.1	161.2	11.3	113	5.30	0.0	25.0
1,3,5-Trimethylbenzene	8.96	10.0	89.6	54.1	155.1	8.73	87.3	2.55	0.0	25.0
1,2,4-Trimethylbenzene	11.3	10.0	113	50.4	163.6	10.3	103	9.14	0.0	25.0
1,3-Dichlorobenzene	9.78	10.0	97.8	53.9	158.0	9.81	98.1	0.326	0.0	25.0
1,4-Dichlorobenzene	9.22	10.0	92.2	52.0	161.4	8.97	89.7	2.66	0.0	25.0
Benzyl chloride	10.1	10.0	101	30.4	196.3	9.58	95.8	5.64	0.0	25.0
1,2-Dichlorobenzene	10.8	10.0	108	49.3	164.0	9.42	94.2	13.5	0.0	25.0
1,2,4-Trichlorobenzene	9.79	10.0	97.9	76.7	167.6	9.29	92.9	5.15	0.0	25.0

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1709321

Limits:	Historical/Performance	**Preparation:**	NA
Basis:	ALS Laboratory Group	**Batch:**	NA
		Prepared By:	NA
Analysis:	EPA TO-15		
Batch:	IVOA/3557 (HBN: 188619)		
Analyzed By:	Lisa M. Reid		

Laboratory Control Sample - Laboratory Control Sample Duplicate

	LCS: 544177	LCSD: 544178
	Analyzed: 04/10/2017 14:12	Analyzed: 04/10/2017 15:02
	Dilution: 1	Dilution: 1
	Units: ppb	Units: ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Hexachlorobutadiene	9.26	10.0	92.6	72.9	153.7	8.90	89.0	3.91	0.0	25.0

Surrogate Recoveries

Surrogate	4-Bromofluorobenzene	
QC Limits	67.7	129.9
Units	ppb	

Lab ID	Result	Target	% Recovery
544177-LCS	20.2	20.0	101
544178-LCSD	19.8	20.0	98.8
544176-MB	20.9	20.0	105
1709321001	21.7	20.0	109
1709321002	21.8	20.0	109
1709321003	21.4	20.0	107
1709321004	21.4	20.0	107
1709670001	21.4	20.0	107
1709670002	21.3	20.0	107
1709670003	21.3	20.0	106
1709670004	21.3	20.0	107
1709670005	21.2	20.0	106
1709670006	21.2	20.0	106
1710039001	24.4	20.0	122

Comments

The following compounds in the CCV were outside of +/-30%: Freon 114, Freon 113, Carbon Tetrachloride, Dibromochloromethane and Tetrachloroethane.

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Lisa M. Reid	/S/ Jorden Baum
04/14/2017 10:40	04/14/2017 11:36

Symbols and Definitions

* - Analyte above reporting limit or outside of control limits
▲ - Sample result is greater than 4 times the spike added
◓ - Sample and Matrix Duplicate less than 5 times the reporting limit
● - Result is above the calibration range
- The Matrix Spike, Matrix Spike duplicate or Matrix Duplicate is reported for your information only. The sample matrix may be inappropriate for the method selected.

RPD - Relative % Difference (Spike / Spike Duplicate)
ND - Not Detected (U - Qualifier also flags analyte as not detected)
NA - Not Applicable
QC results are not adjusted for moisture correction, where applicable

1709321

ANALYTICAL REQUEST FORM

1709321

1. ☒ REGULAR Status

☐ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____ DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date _____ Purchase Order No. 10006-7-107234

3. Company Name CHCM HILL
Address 4246 S. Riverboat Rd Suite 210
Taylorsville, UT 84123
Person to Contact Mark Cichy
Telephone (530) 229-3274
Fax Telephone ( )
E-mail Address Mark.Cichy@CHCM.com
Billing Address (if different from above)

4. Quote No. EQ020655-R17-0003
ALS Project Manager Kevin Griffith

5. Sample Collection
Sampling Site HA AOU1 (SLC, UT)
Industrial Process Residential Indoor Air
Date of Collection
Time Collected
Date of Shipment Dropped off @ Lab
Chain of Custody No. 002

6. How did you first learn about ALS?

7. REQUEST FOR ANALYSES 6 Liter Summa's

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
0001H-032317-TO-001-BAS	Indoor Air		Sim TO-15 (HOCs)*	5+6	000805
0002H-032317-TO-002-BAS	"		Sim TO-15 (HOCs)*	5+6	0190
0003H-032317-TO-003-BAS	"		Sim TO-15 (HOCs)*	5+6	0133
0004H-032317-TO-004-BAS	"		Sim TO-15 (HOCs)*	5+6	0091

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % 5. µg/m³ 6. ppbV (other) Please indicate one or more units in the column entitled Units**

Comments EDD type: Lapspec 7 Data Deliverable: Level 4

* HC, 1,4-Dioxane, TCE, PCE, cis-1,2-DCE by TO-15 Sim

Possible Contamination and/or Chemical Hazards None

7. Chain of Custody (Optional)

Relinquished by		Date/Time	3/31/17 @ 15:54
Received by		Date/Time	03/31/17 15:54
Relinquished by		Date/Time	
Received by		Date/Time	

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
ALS Environmental

ALS Environmental
Field Chain-of-Custody Record

CoC #: 002

Page 1 of 1

Client Name & Address:	Project Name & No.:
Arcadis CHZM HILL 4246 S. Riverboat Rd. Suite 210 Taylorsville, UT	ADU-1 7005. 1600 E PCE Plume
	ALS Quote No: 8DQ20655-R17-0003
	Report to: Mark Cichy
Phone: 385-474-8505	Report to e-mail: Mark.Cichy@CHZM.com
e-mail: Quin.Bingham@chzm.com	Bill to: PO# 10006-7-107234

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: TO-15 (SIM)*	Preservation Code	Sample Matrix Code	Remarks
A-0001H-032317-TO-001-BAS	0001H	—	3/23/17 1112	1		1 Canister: 000805			Final P: -7.48 in Hg
A-0001H-032317-TO-002-BAS	0001H	—	3/23/17 1112	1		1 Canister: 0190			Final P: -8.23 in Hg
A-0002H-032317-TO-001-BAS	0002H	—	3/23/17 1432	1		1 Canister: 0133			Final P: -8.03 in Hg
A-0029H-033117-TO-001-BAS	0029H	—	3/31/17 1458	1		1 Canister: 0291			Final P: -6.11 in Hg

Matrix Codes: W) Water B) Bulk L) Liquid F) Filter S) Soil G) Wipe C) Solid M) Media

Preservation Codes: 1) Cool to 4°C 2) HCl to pH<2, 4°C 3) H_2SO_4 to pH<2, 4°C 4) HNO_3 to pH<2, 4°C 5) NaOH to pH>12, 4°C 6) ZnOAc/NaOH to pH>9, 4°C

Possible Hazard Identification
☑ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Archive ____ Months
☑ Disposal by Lab
(fees assessed for samples retained > 3 months)

Data Deliverable:
☐ Level 1 ☐ Level 3
☐ Level 2 ☑ Level 4
EDD Type: LabSpec 7

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days (Rush)
☐ 3 Days (Rush) ☑ 14 Days
(Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	3/31/17 ~~3/24/14~~	1554 ~~14:30~~		8-31-17	15:54
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Shipped to:
ALS Environmental
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
WEB: www.alsglobal.com

* VC, cis-1,2-DCE, TCE, PCE, 1,4-Dioxane by TO-15 SIM

ALS Environmental

Sample Acceptance Check Form

Client: CH2MHill Work order:

Project: VA AOU1 (SLC, UT)

Sample(s) received on: 3/31/2017 Date opened: 4/3/2017 by: Julie Warath/Kevin Gr

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☒	☐	
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

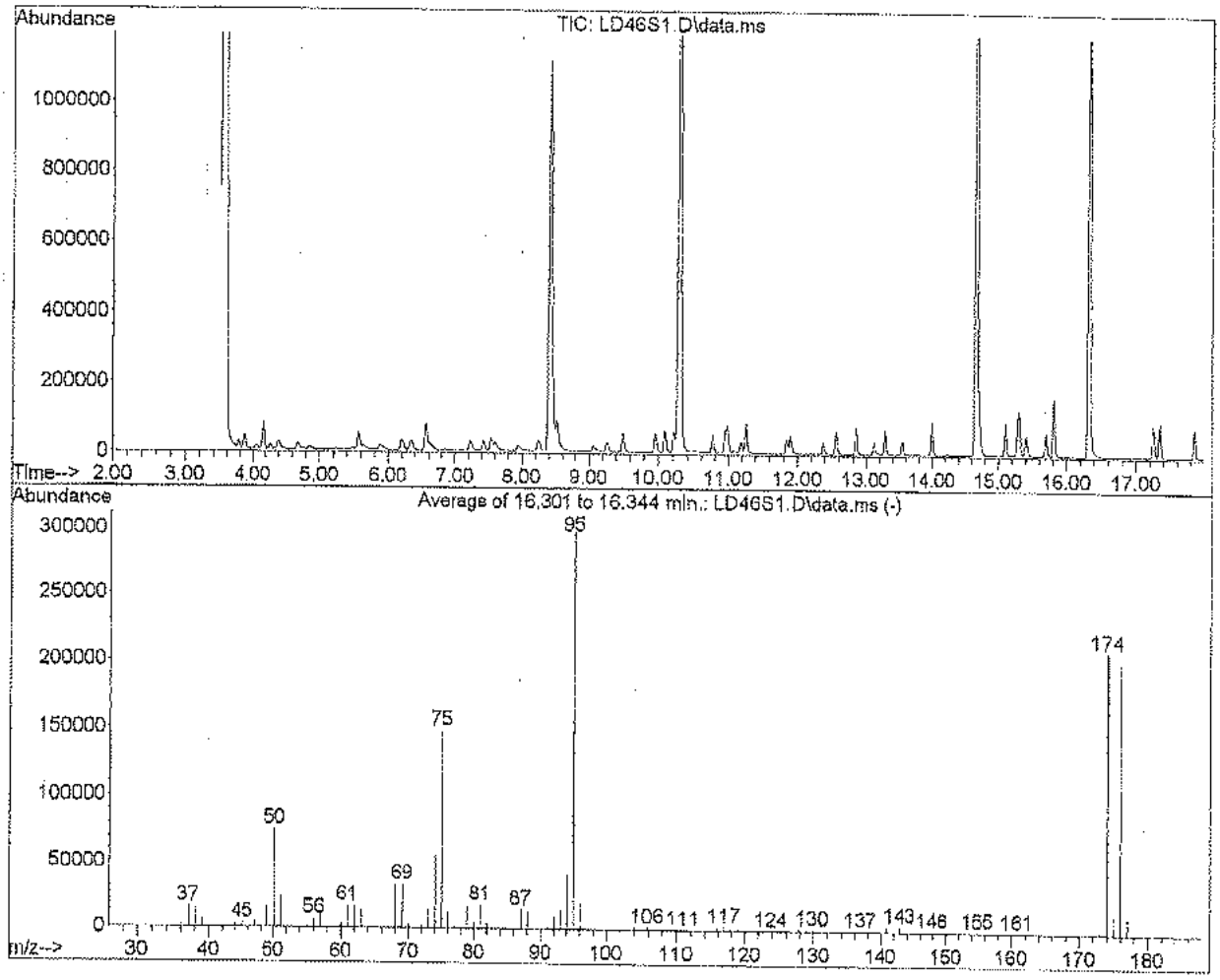
Client Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
A-0001H-032317-TO-001-BAS	Summa Can					Pressure on Receipt -8
A-0001H-032317-TO-002-BAS	Summa Can					Pressure on Receipt -10
A-0002H-032317-TO-001-BAS	Summa Can					Pressure on Receipt -8
A-0029H-033114-TO-001-BAS	Summa Can					Pressure on Receipt -7

Explain any discrepancies: (include lab sample ID numbers): _____

BFB

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD46S1.D Vial: 1
Acq Time : 11/14/2016 14:59 Operator: LMR
Sample : 1.0 PPB STD Inst : 5975-L
Misc : 34279 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15



Peak Apex is scan: Average of 16.301 to 16.344 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	30	25.03	74683	PASS
75	95	30	66	49.77	148469	PASS
95	95	100	100	100.00	298322	PASS
96	95	5	9	6.63	19788	PASS
173	174	0.00	2	0.77	1605	PASS
174	95	50	120	70.15	209285	PASS
175	174	5	9	7.23	15124	PASS
176	174	93	101	96.41	201776	PASS
177	176	5	9	6.58	13275	PASS

Average of 16.301 to 16.344 min.: LD46S1.D\data.ms
1.0 PPB STD
Modified:subtracted

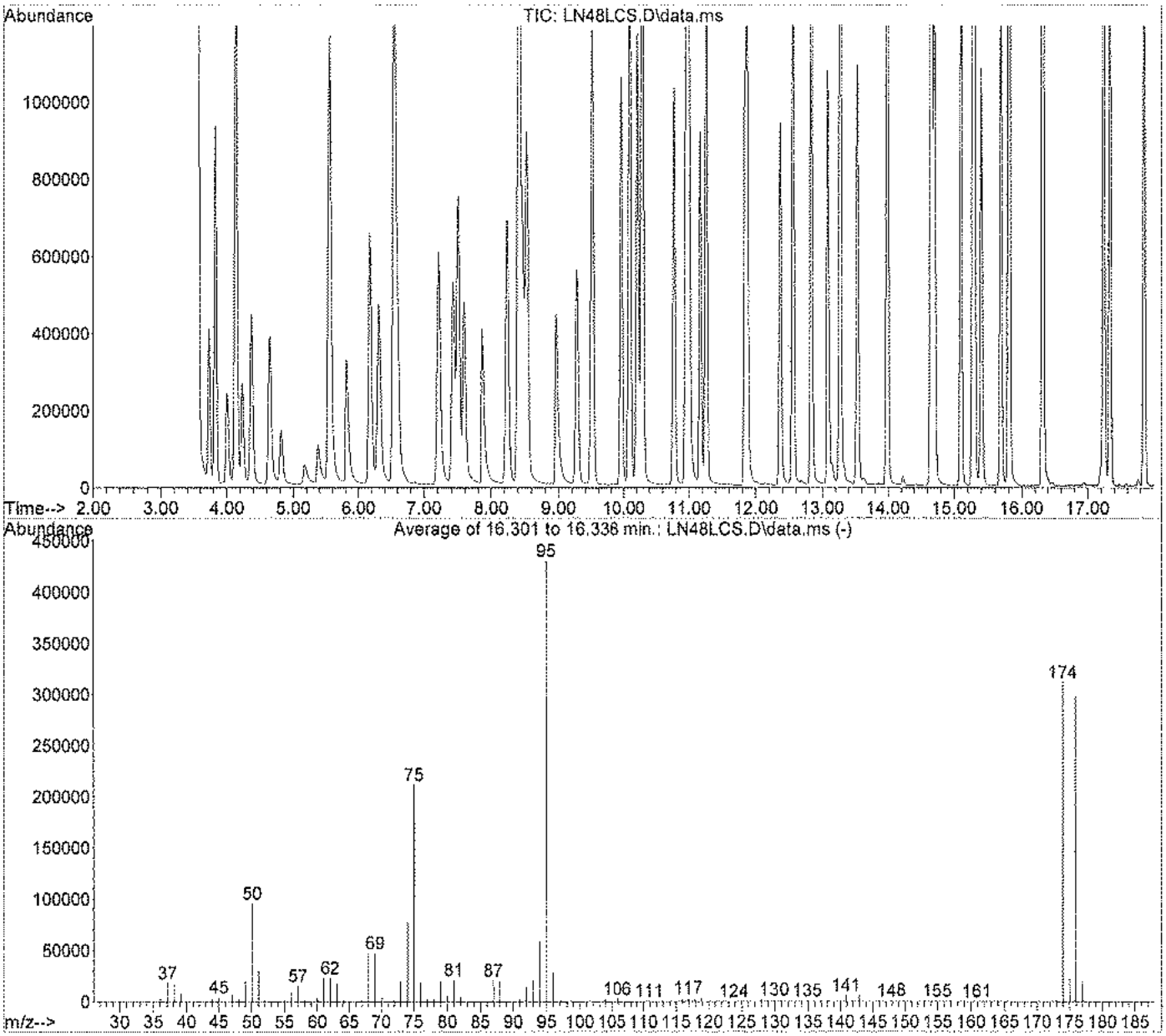
m/z	Abundance
36.05	2535.0
37.10	15856.0
38.10	15031.0
39.05	6061.0
43.00	109.0
44.00	2487.0
45.05	3561.0
46.10	348.0
47.05	5340.0
48.00	1981.0
49.00	15784.0
50.10	74683.0
51.10	23504.0
52.00	1036.0
55.00	958.0
56.05	7054.0
57.00	12149.0
58.00	497.0
60.00	3069.0
61.00	17075.0
62.00	16901.0
63.05	13798.0
64.00	1260.0
64.90	43.0
65.20	25.0
67.00	765.0
68.00	32927.0
69.00	33575.0
70.00	2887.0
70.90	40.0
71.10	49.0
72.00	1721.0
73.00	14165.0
74.05	55491.0
75.00	148469.0
76.05	12950.0
77.05	1681.0
78.00	1123.0
78.90	16829.0
79.95	4583.0
80.90	18022.0
81.95	3915.0
82.95	524.0
86.00	349.0
87.00	15158.0
88.00	14467.0
90.95	1793.0
92.00	10028.0
93.00	14797.0
94.00	41548.0
95.00	298322.0
96.05	19788.0
97.00	588.0
102.90	227.0
103.95	2143.0
104.70	19.0
104.90	586.0
105.90	2192.0
106.90	382.0
109.95	351.0
110.95	568.0
111.85	323.0
112.95	554.0
114.90	379.0
115.90	1647.0
116.95	2941.0
117.90	1624.0
118.90	2365.0
119.90	20.0
122.80	38.0
123.00	50.0
123.85	242.0
124.90	110.0
125.70	22.0
125.90	151.0
126.85	63.0
127.85	1272.0
128.95	592.0
129.85	1354.0
130.95	472.0
133.90	86.0
134.85	754.0
135.90	117.0
136.90	755.0
138.75	71.0
139.95	265.0
140.90	4235.0

141.85	472.0
142.90	4333.0
143.95	220.0
144.95	355.0
145.90	468.0
146.90	165.0
147.85	777.0
148.90	170.0
149.85	282.0
151.85	85.0
152.90	185.0
153.90	181.0
154.95	692.0
156.90	453.0
158.85	322.0
160.85	269.0
169.55	58.0
170.25	53.0
170.60	33.0
170.90	102.0
171.25	176.0
171.65	163.0
171.80	38.0
172.00	283.0
172.20	74.0
172.90	1605.0
173.95	209285.0
174.95	15124.0
175.90	201776.0
177.00	13275.0
177.80	52.0
177.95	334.0

BFB

Data File : I:\L - 5975-L\2017\APR17L\10APR17L\LN48LCS.D Vial: 2
Acq Time : 04/10/2017 14:12 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15



Peak Apex is scan: Average of 16.301 to 16.338 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	30	22.27	95859	PASS
75	95	30	66	49.13	211448	PASS
95	95	100	100	100.00	430427	PASS
96	95	5	9	6.66	28656	PASS
173	174	0.00	2	0.70	2176	PASS
174	95	50	120	72.55	312256	PASS
175	174	5	9	7.18	22418	PASS
176	174	93	101	95.61	298560	PASS
177	176	5	9	6.63	19804	PASS

Average of 16.301 to 16.338 min.: LN48LCS.D\data.ms
QC
Modified:subtracted

m/z	Abundance
36.05	2950.0
37.10	18179.0
38.10	17628.0
39.10	7000.0
42.95	337.0
44.00	2401.0
45.05	4224.0
46.05	438.0
47.05	6592.0
48.00	2559.0
49.00	19754.0
50.10	95859.0
51.05	30582.0
52.00	1263.0
55.05	1292.0
56.00	8665.0
57.05	15298.0
58.05	726.0
60.00	4269.0
61.00	22906.0
62.00	23020.0
63.05	17562.0
64.05	1614.0
65.00	228.0
67.00	1049.0
68.00	46215.0
69.05	47273.0
70.05	3755.0
71.05	131.0
72.00	2123.0
73.00	19506.0
74.05	77430.0
75.05	211448.0
76.05	18727.0
77.05	2365.0
78.00	1827.0
78.95	19641.0
80.00	5517.0
80.95	21168.0
81.95	4626.0
82.95	570.0
86.00	559.0
87.00	20265.0
88.00	19911.0
90.95	2192.0
92.00	14100.0
93.00	20939.0
94.00	58518.0
95.00	430427.0
96.00	28656.0
97.05	925.0
102.95	100.0
103.90	2805.0
104.95	844.0
105.90	2843.0
106.95	573.0
109.90	467.0
110.90	753.0
111.90	514.0
112.85	684.0
114.90	580.0
115.90	2145.0
116.90	3708.0
117.90	2320.0
118.90	3275.0
119.85	83.0
121.85	47.0
122.85	157.0
123.85	384.0
124.85	171.0
125.90	218.0
126.75	69.0
126.95	56.0
127.90	1906.0
128.90	932.0
129.90	2062.0
130.95	765.0
131.70	22.0
133.85	91.0
134.90	1175.0
135.85	144.0
136.95	1075.0
138.85	46.0
139.05	126.0
139.85	386.0
140.90	6279.0
141.90	668.0
142.90	6277.0
143.80	96.0

143.95	262.0
144.85	531.0
145.95	709.0
146.95	287.0
147.90	1157.0
148.85	337.0
149.90	497.0
151.95	151.0
152.90	293.0
153.90	247.0
154.90	1055.0
155.90	52.0
156.90	707.0
158.90	493.0
160.90	504.0
170.15	56.0
170.55	95.0
170.80	28.0
170.90	26.0
171.05	50.0
172.00	536.0
172.20	66.0
172.95	2176.0
174.00	312256.0
175.00	22418.0
175.95	298560.0
177.00	19804.0
177.95	502.0

Response Factor Report 5975-L

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15
Last Update : Thu Nov 17 11:38:44 2016
Response Via : Initial Calibration

Calibration Files
.5 =LD55S05.D 1 =LD46S1.D 2 =LD47S2.D 5 =LD48S5.D 10 =LD49S10.D 20 =LD50S20.D
50 =LD51S50.D

		Compound	.5	1	2	5	10	20	50	Avg		%RSD
.)	I	Bromochloromethane	----------	ISTD	----------							
2)		Propene	3.002	2.075	2.638	2.835	2.909	2.756	2.607	2.689		11.34
3)		Dichlorodifluo...	9.843	6.054	7.570	8.243	8.611	8.343	8.322	8.141		14.08
4)		Chloromethane	3.185	2.361	3.056	3.383	3.262	3.372	3.231	3.121		11.32
5)		Freon 114	6.870	4.480	5.321	5.756	5.876	5.836	6.025	5.738		12.63
6)		Vinyl Chloride	3.689	2.513	3.129	3.348	3.390	3.394	3.309	3.253		11.25
7)		1,3-Butadiene	2.756	1.932	2.596	2.802	2.934	2.845	2.828	2.671		12.79
8)		Bromomethane	3.717	2.272	2.799	2.961	2.978	3.074	3.087	2.984		14.33
9)		Chloroethane	2.179	1.357	1.531	1.580	1.629	1.636	1.609	1.646		15.43
10)		Acrolein	1.628	1.050	1.305	1.540	1.585	1.590	1.611	1.473		14.70
11)		Acetone	7.117	3.887	4.745	5.021	5.474	5.330	5.229	5.258		18.56
12)		Trichlorofluor...	1.166	0.721	0.893	0.958	0.996	1.006	1.054	0.971	E1	14.29
13)		Ethanol		0.379	0.949	1.074	1.165	1.156	1.258	0.997		32.07
14)		Isopropyl Alcohol		4.377	5.106	5.813	6.264	6.008	6.306	5.646		13.44
15)		1,1-Dichloroet...	6.439	4.191	5.097	5.638	5.915	5.803	5.825	5.558		12.98
16)		Methylene Chlo...	3.586	2.309	2.664	2.859	2.963	2.865	2.788	2.862		13.43
17)		Freon 113	6.165	3.800	4.608	5.005	5.235	5.130	5.503	5.064		14.53
18)		Carbon Disulfide	9.726	6.008	7.407	8.072	8.208	8.052	7.990	7.923		13.93
19)		trans-1,2-Dich...	3.369	2.332	2.834	3.105	3.292	3.186	3.168	3.041		11.69
20)		1,1-Dichloroet...	6.769	4.664	5.545	6.026	6.329	6.060	6.038	5.919		11.23
21)		methyl t-butyl...	8.839	5.138	6.608	7.528	8.128	7.908	7.295	7.349		16.30
22)		Vinyl Acetate	0.832	0.486	0.663	0.761	0.857	0.842	0.750	0.742		17.75
23)		2-Butanone	7.145	4.579	5.760	7.057	7.656	7.578	7.321	6.728		16.91
24)		cis-1,2-Dichlo...	3.778	2.544	3.038	3.447	3.619	3.508	3.473	3.344		12.52
25)	I	1,4-Difluorobenzene	----------	ISTD	----------							
26)		Ethyl Acetate	0.083	0.053	0.080	0.080	0.089	0.099	0.090	0.082		17.58
27)		Hexane	0.525	0.342	0.433	0.466	0.504	0.541	0.592	0.486		16.80
28)		Chloroform	0.622	0.416	0.524	0.553	0.584	0.622	0.663	0.569		14.43
29)		Tetrahydrofuran	0.319	0.206	0.302	0.335	0.371	0.404	0.458	0.342		23.54

Response Factor Report 5975-L

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15

)	1,2-Dichloroet...	0.435	0.287	0.365	0.388	0.414	0.457	0.539	0.412	19.06
L)	1,1,1-Trichlor...	0.641	0.422	0.527	0.560	0.605	0.669	0.835	0.608	21.22
2)	Benzene	0.827	0.548	0.687	0.750	0.788	0.818	0.809	0.747	13.38
3)	Carbon Tetrach...	0.728	0.469	0.587	0.648	0.690	0.712	0.955	0.684	21.78
4)	Cyclohexane	0.363	0.246	0.322	0.352	0.372	0.386	0.313	0.336	14.19
5)	1,2-Dichloropr...	0.332	0.238	0.289	0.309	0.335	0.360	0.408	0.324	16.58
6)	Bromodichlorom...	0.658	0.432	0.542	0.601	0.648	0.731	0.929	0.649	24.07
7)	1,4-Dioxane	0.211	0.094	0.153	0.184	0.198	0.214	0.248	0.186	26.80 TIC
8)	Trichloroethene	0.446	0.284	0.352	0.395	0.421	0.462	0.622	0.426	24.71
9)	Methyl Methacr...	0.304	0.181	0.223	0.260	0.283	0.298	0.260	0.258	16.87 TIC
0)	Heptane	0.290	0.184	0.246	0.272	0.277	0.261	0.255	0.255	13.48
1)	cis-1,3-Dichlo...	0.445	0.263	0.361	0.412	0.456	0.502	0.581	0.432	23.47
2)	4-Methyl-2-Pen...	0.738	0.467	0.677	0.763	0.812	0.815	0.889	0.737	18.55
3)	trans-1,3-Dich...	0.424	0.230	0.314	0.366	0.413	0.458	0.473	0.383	22.56
4)	1,1,2-Trichlor...	0.370	0.240	0.310	0.330	0.358	0.389	0.423	0.346	17.24
5)	Toluene	1.073	0.613	0.850	0.944	1.002	0.982	0.959	0.918	16.36
6)	2-Hexanone	0.691	0.372	0.551	0.681	0.747	0.687	0.550	0.611	21.14
7)	Dibromochlorom...	0.783	0.460	0.591	0.666	0.725	0.739	0.939	0.700	21.57
8)	1,2-Dibromoethane	0.658	0.342	0.464	0.513	0.559	0.613	0.593	0.535	19.93
9)	Tetrachloroethene	0.478	0.274	0.366	0.401	0.441	0.494	0.656	0.444	26.87
0) I	Chlorobenzene d5	----------ISTD----------								
1)	Chlorobenzene	0.962	0.525	0.688	0.740	0.774	0.743	0.845	0.754	17.87
2)	Ethylbenzene	1.531	0.883	1.179	1.237	1.148	1.004	1.279	1.180	17.53
3)	m,p-Xylene	1.202	0.712	0.923	0.883	0.756	0.785	1.175	0.920	21.51
4)	Bromoform		0.358	0.461	0.403	0.421	0.505	0.765	0.485	30.06
5)	Styrene	0.991	0.500	0.716	0.779	0.681	0.677	0.894	0.748	21.35
6)	1,1,2,2-Tetrac...	0.951	0.580	0.746	0.772	0.700	0.788	0.725	0.752	14.82
7)	o-Xylene	1.199	0.733	0.983	1.018	0.898	1.017	1.261	1.016	17.47
8) S	Bromofluoroben...	0.524	0.519	0.523	0.527	0.506	0.461	0.612	0.525	8.56
9)	4-Ethyl Toluene	1.426	0.843	1.247	1.411	1.389	1.302	1.167	1.255	16.30
0)	1,3,5-Trimethy...	1.173	0.747	1.032	1.056	0.903	0.960	1.241	1.016	16.34
1)	1,2,4-Trimethy...	1.198	0.639	0.965	1.092	1.034	0.871	0.920	0.960	18.66
2)	Benzyl Chloride		0.360	0.623	0.815	0.807	0.782	0.969	0.726	28.98 EST
3)	m-Dichlorobenzene		0.472	0.648	0.704	0.680	0.685	0.859	0.675	18.37
4)	p-Dichlorobenzene		0.463	0.649	0.652	0.681	0.760	0.806	0.669	17.74
5)	o-Dichlorobenzene		0.444	0.627	0.699	0.658	0.641	0.741	0.635	16.13
6)	1,2,4-Trichlor...		0.113	0.202	0.277	0.310	0.327	0.198	0.238	34.22 EST
7)	Naphthalene		0.351	0.649	0.878	0.947	0.800	0.434	0.677	35.89 TIC
8)	Hexachloro-1,3...		0.124	0.181	0.204	0.214	0.233	0.121	0.180	26.32 EST

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15

#) = Out of Range

Continuing Calibration Report 5975-L

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15
Last Update : Thu Apr 13 10:33:25 2017
Response Via : Initial Calibration

CC Data File: LN48LCS.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	Bromochloromethane	1.000	1.000	0.0	132
2		Propene	2.689	2.558	4.9	116
3		Dichlorodifluoromethane	8.141	9.919	-21.8	153#
4		Chloromethane	3.121	3.371	-8.0	137
5		Freon 114	5.738	7.502	-30.8#	169#
6		Vinyl Chloride	3.253	3.633	-11.7	142
7		1,3-Butadiene	2.671	2.861	-7.1	129
8		Bromomethane	2.984	3.586	-20.2	159#
9		Chloroethane	1.646	1.776	-7.9	144
10		Acrolein	1.473	1.595	-8.3	133
11		Acetone	5.258	5.170	1.7	125
12		Trichlorofluoromethane	9.707	12.099	-24.6	161#
13		Ethanol	0.997	1.051	-5.4	119
14		Isopropyl Alcohol	5.646	5.702	-1.0	121
15		1,1-Dichloroethene	5.558	6.318	-13.7	141
16		Methylene Chloride	2.862	3.221	-12.5	144
17		Freon 113	5.064	6.716	-32.6#	170#
18		Carbon Disulfide	7.923	9.019	-13.8	146
19		trans-1,2-Dichloroethene	3.041	3.665	-20.5	147
20		1,1-Dichloroethane	5.919	6.636	-12.1	139
21		methyl t-butyl ether	7.349	8.565	-16.5	140
22		Vinyl Acetate	0.742	0.911	-22.8	141
23		2-Butanone	6.728	6.830	-1.5	118
24		cis-1,2-Dichloroethene	3.344	4.019	-20.2	147
25	I	1,4-Difluorobenzene	1.000	1.000	0.0	120
26		Ethyl Acetate	0.082	0.097	-18.0	131
27		Hexane	0.486	0.555	-14.1	132
28		Chloroform	0.569	0.738	-29.7	151#
29		Tetrahydrofuran	0.342	0.359	-4.9	116
30		1,2-Dichloroethane	0.412	0.508	-23.2	147
31		1,1,1-Trichloroethane	0.608	0.790	-29.8	156#
32		Benzene	0.747	0.907	-21.4	138
33		Carbon Tetrachloride	0.684	0.944	-37.9#	164#
34		Cyclohexane	0.336	0.436	-29.7	141
35		1,2-Dichloropropane	0.324	0.371	-14.4	133
36		Bromodichloromethane	0.649	0.810	-25.0	150
37		1,4-Dioxane	0.186	0.215	-15.8	130
38		Trichloroethene	0.426	0.556	-30.6#	158#
39		Methyl Methacrylate	0.258	0.321	-24.2	136
40		Heptane	0.255	0.323	-26.6	140
41		cis-1,3-Dichloropropene	0.432	0.523	-21.3	138
42		4-Methyl-2-Pentanone	0.737	0.760	-3.1	112
43		trans-1,3-Dichloropropene	0.383	0.470	-22.8	136
44		1,1,2-Trichloroethane	0.346	0.432	-24.8	144
45		Toluene	0.918	1.152	-25.5	138
46		2-Hexanone	0.611	0.673	-10.0	108
47		Dibromochloromethane	0.700	0.939	-34.0#	155#
48		1,2-Dibromoethane	0.535	0.689	-28.9	148
49		Tetrachloroethene	0.444	0.578	-30.1#	157#
50	I	Chlorobenzene d5	1.000	1.000	0.0	119
51		Chlorobenzene	0.754	0.810	-7.4	124
52		Ethylbenzene	1.180	1.211	-2.6	125
53		m,p-Xylene	0.920	0.844	8.2	132
54		Bromoform	0.485	0.441	9.2	124
55		Styrene	0.748	0.685	8.5	119
56		1,1,2,2-Tetrachloroethane	0.752	0.725	3.6	123
57		o-Xylene	1.016	0.968	4.7	128

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LU16.m
Title : TO-15
Last Update : Thu Apr 13 10:33:25 2017
Response Via : Initial Calibration

CC Data File: LN48LCS.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	
58	S	Bromofluorobenzene	0.525	0.530	-1.0	124	
59		4-Ethyl Toluene	1.255	1.492	-18.9	127	
60		1,3,5-Trimethylbenzene	1.016	0.910	10.4	120	
61		1,2,4-Trimethylbenzene	0.960	1.084	-13.0	124	
62		Benzyl Chloride	0.726	0.736	-1.3	108	
63		m-Dichlorobenzene	0.675	0.660	2.2	115	
64		p-Dichlorobenzene	0.669	0.616	7.8	107	
65		o-Dichlorobenzene	0.635	0.685	-7.8	123	
66		1,2,4-Trichlorobenzene	0.238	0.233	2.1	89	
67		Naphthalene	0.677	0.727	-7.4	91	
68		Hexachloro-1,3-butadiene	0.180	0.166	7.4	92	

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GC/MS QA-QC Check Report

Tune File : I:\L - 5975-L\2017\APR17L\10APR17L\LN48LCS.D
Tune Time : 10 Apr 2017 2:12 pm

Daily Calibration File : I:\L - 5975-L\2017\APR17L\10APR17L\LN48LCS.D

			250240	2747090	2369290
File	Sample	Surrogate Recovery %	Internal Standard Responses		
LN48LCS.D					
	QC	101	250240	2747089	2369285
LN49LCSD.D					
	QD-	99	245888	2730214	2361858
LN50RLVS.D					
	RLVS	106	225024	2719386	2243496
LN51IBLK.D					
	BL-	105	204864	2574476	2105463
LN52I001.D					
	1709321001	109	226112	2506213	2086626
LN53I002.D					
	1709321002	109	236608	2613694	2168715
LN54I003.D					
	1709321003	107	247616	2735415	2338964
LN55I004.D					
	1709321004	107	228800	2673357	2262067

(fails) - fails 24hr time check * - fails criteria

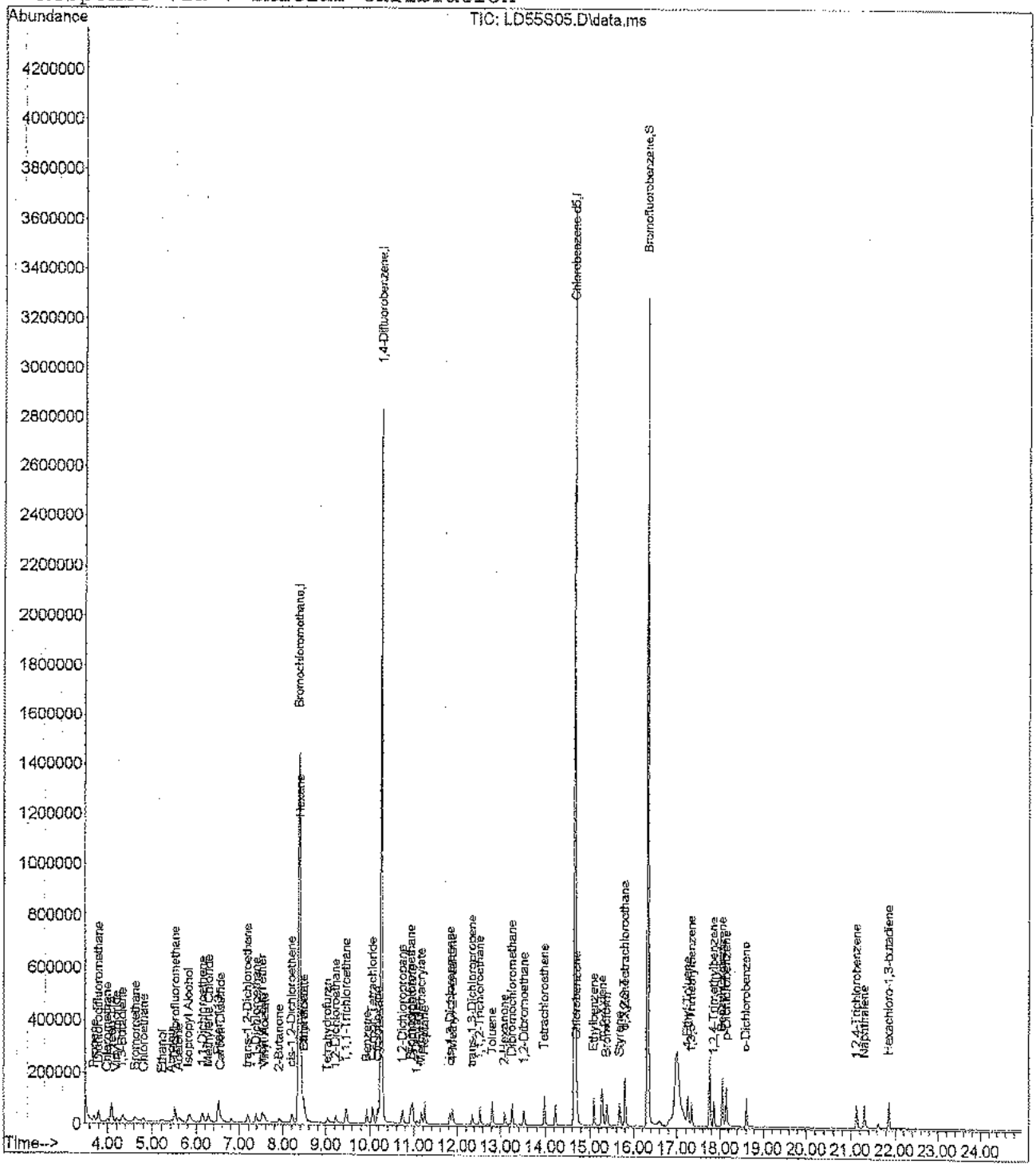
Created: Fri Apr 14 10:50:53 2017 5975-L

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD55S05.D Vial: 2
Acq Time : 11/15/2016 09:18 Operator: LMR
Sample : 0.5 PPB STD Inst : 5975-L
Misc : 33932 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 09:57:28 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD55S05.D Vial: 2
Acq Time : 11/15/2016 09:18 Operator: LMR
Sample : 0.5 PPB STD Inst : 5975-L
Misc : 33932 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 09:57:28 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:53 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.37	130	258880	20.0000	ppb		137.03
25) 1,4-Difluorobenzene	10.26	114	3215583	20.0000	ppb		140.33
50) Chlorobenzene d5	14.66	117	2528459	20.0000	ppb		126.60
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.31	95	1324513	20.6540	ppb		103.27%
Target Compounds							Qvalue
2) Propene	3.70	41	19428	0.5680	ppb		98
3) Dichlorodifluoromethane	3.80	85	63703	0.6339	ppb		99
4) Chloromethane	3.99	50	20612	0.5159	ppb		95
5) Freon 114	4.10	135	44463	0.6298	ppb	#	61
6) Vinyl Chloride	4.20	62	23872	0.5846	ppb		94
7) 1,3-Butadiene	4.34	54	17839	0.5256	ppb	#	73
8) Bromomethane	4.63	94	24054	0.6598	ppb		99
9) Chloroethane	4.80	64	14101	0.7043	ppb	#	86
10) Acrolein	5.44	56	10535	0.5757	ppb	#	92
11) Acetone	5.60	43	46064	0.7276	ppb		92
12) Trichlorofluoromethane	5.51	101	75457	0.6372	ppb		100
13) Ethanol	5.21	45	10284	0.8410	ppb	#	59
14) Isopropyl Alcohol	5.83	45	91602	1.2835	ppb	#	96
15) 1,1-Dichloroethene	6.14	61	41675	0.6042	ppb	#	69
16) Methylene Chloride	6.29	84	23210	0.6564	ppb	#	47
17) Freon 113	6.51	151	39897	0.6481	ppb	#	53
18) Carbon Disulfide	6.57	76	62944	0.6441	ppb	#	57
19) trans-1,2-Dichloroethene	7.18	96	21806	0.5711	ppb	#	69
20) 1,1-Dichloroethane	7.38	63	43808	0.5912	ppb		94
21) methyl t-butyl ether	7.52	73	57204	0.6258	ppb	#	83
22) Vinyl Acetate	7.57	86	5387	0.5766	ppb	#	1
23) 2-Butanone	7.91	43	46245	0.5475	ppb	#	70
24) cis-1,2-Dichloroethene	8.19	96	24454	0.5847	ppb	#	67
26) Ethyl Acetate	8.49	61	6706	0.5206	ppb	#	1
27) Hexane	8.39	57	42207	0.5742	ppb	#	89
28) Chloroform	8.49	83	49994	0.5762	ppb		99
29) Tetrahydrofuran	9.03	42	25635	0.4928	ppb	#	59
30) 1,2-Dichloroethane	9.24	62	34956	0.5689	ppb	#	91
31) 1,1,1-Trichloroethane	9.46	97	51569	0.5765	ppb	#	88
32) Benzene	9.93	78	66471	0.5756	ppb	#	91
33) Carbon Tetrachloride	10.06	117	58542	0.5862	ppb		98
34) Cyclohexane	10.19	84	29201	0.5414	ppb	#	41
35) 1,2-Dichloropropane	10.74	63	26671	0.5418	ppb	#	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD55S05.D Vial: 2
Acq Time : 11/15/2016 09:18 Operator: LMR
Sample : 0.5 PPB STD Inst : 5975-L
Misc : 33932 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 09:57:28 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:53 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	10.92	83	52858	0.5565	ppb		99
37)	1,4-Dioxane	11.06	88	16974	0.6257	ppb	#	85
38)	Trichloroethene	10.96	130	35850	0.5823	ppb		93
39)	Methyl Methacrylate	11.17	69	24420	0.6099	ppb		94
40)	Heptane	11.25	71	23308	0.5847	ppb	#	42
41)	cis-1,3-Dichloropropene	11.83	75	35803	0.5580	ppb		96
42)	4-Methyl-2-Pentanone	11.88	43	59326	0.5221	ppb	#	76
43)	trans-1,3-Dichloropropene	12.35	75	34063	0.5949	ppb	#	93
44)	1,1,2-Trichloroethane	12.54	97	29765	0.5689	ppb	#	84
45)	Toluene	12.82	91	86292	0.6111	ppb		98
46)	2-Hexanone	13.09	43	55589	0.5689	ppb	#	82
47)	Dibromochloromethane	13.25	129	62949	0.6155	ppb		99
48)	1,2-Dibromoethane	13.52	107	52919	0.6608	ppb		100
49)	Tetrachloroethene	13.98	166	38434	0.6048	ppb	#	77
51)	Chlorobenzene	14.70	112	60785	0.6928	ppb		99
52)	Ethylbenzene	15.09	91	96797	0.7024	ppb		94
53)	m,p-Xylene	15.28	91	152007	1.4812	ppb		96
54)	Bromoform	15.39	173	49560	0.9129	ppb		98
55)	Styrene	15.69	104	62627	0.7386	ppb		97
56)	1,1,2,2-Tetrachloroethane	15.80	83	60099	0.6629	ppb	#	90
57)	o-Xylene	15.80	91	75791	0.6448	ppb		95
59)	4-Ethyl Toluene	17.24	105	90163	0.5758	ppb		98
60)	1,3,5-Trimethylbenzene	17.34	105	74160	0.6243	ppb		100
61)	1,2,4-Trimethylbenzene	17.86	105	75723	0.6509	ppb		94
62)	Benzyl Chloride	18.05	91	80301	0.9376	ppb		91
63)	m-Dichlorobenzene	18.06	146	75975	0.9423	ppb	#	94
64)	p-Dichlorobenzene	18.15	146	83457	1.0298	ppb	#	94
65)	o-Dichlorobenzene	18.62	146	64676	0.8334	ppb	#	94
66)	1,2,4-Trichlorobenzene	21.13	180	34202	1.0998	ppb	#	94
67)	Naphthalene	21.31	128	107279	1.1700	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	16931	0.6998	ppb		98

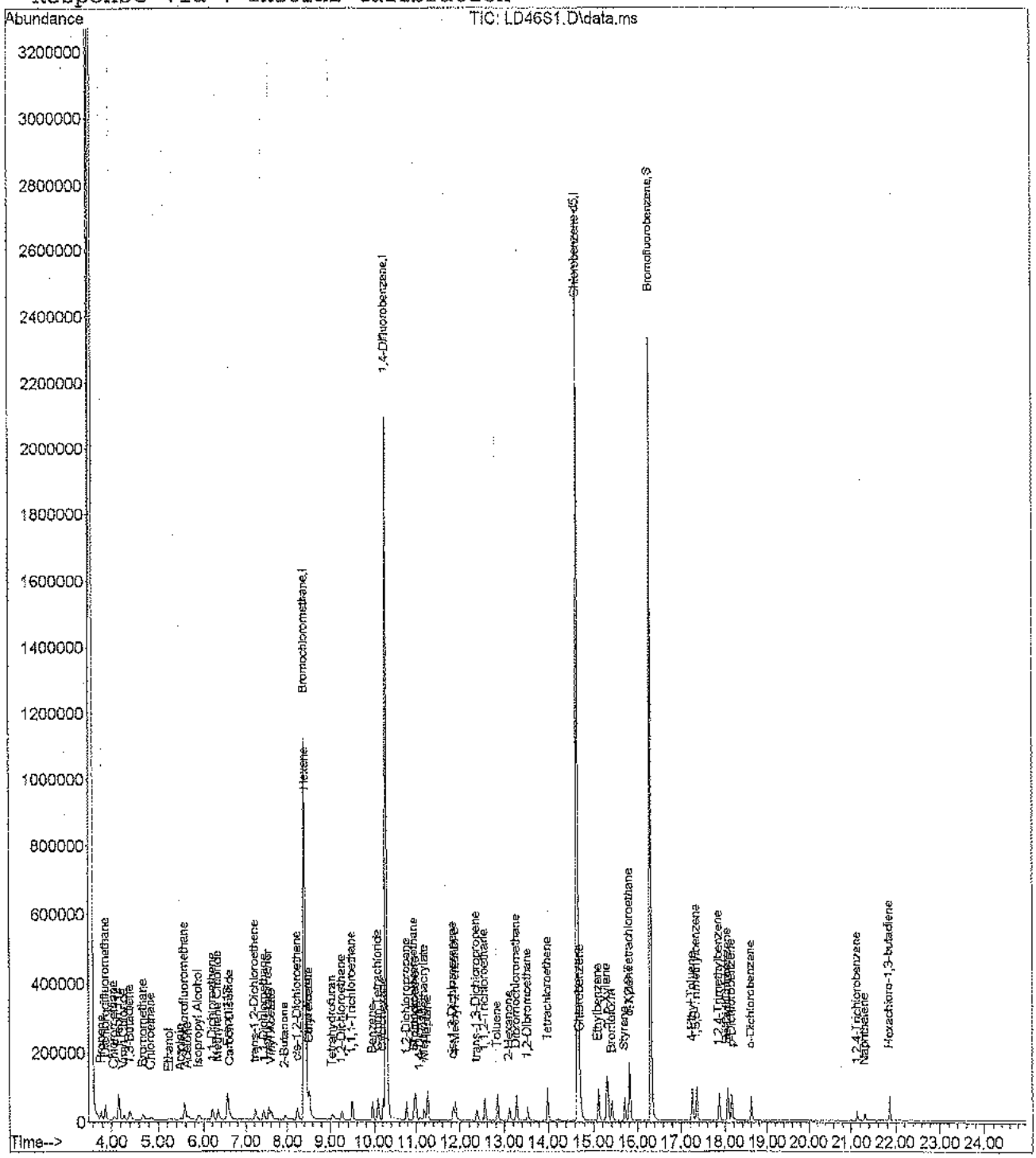
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD46S1.D Vial: 1
Acq Time : 11/14/2016 14:59 Operator: LMR
Sample : 1.0 PPB STD Inst : 5975-L
Misc : 34279 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:11 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD46S1.D Vial: 1
Acq Time : 11/14/2016 14:59 Operator: LMR
Sample : 1.0 PPB STD Inst : 5975-L
Misc : 34279 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:11 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:00 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.41	130	186560	20.0000	ppb		109.55
25) 1,4-Difluorobenzene	10.28	114	2280289	20.0000	ppb		114.80
50) Chlorobenzene d5	14.67	117	1852246	20.0000	ppb		108.41
System Monitoring Compounds							**%Recovery**
58) Bromofluorobenzene	16.32	95	960540	20.2308	ppb		101.15%
Target Compounds							**Qvalue**
2) Propene	3.77	41	19359	0.7810	ppb		97
3) Dichlorodifluoromethane	3.86	85	56472	0.7334	ppb		99
4) Chloromethane	4.06	50	22021	0.7557	ppb		98
5) Freon 114	4.17	135	41789	0.7321	ppb	#	55
6) Vinyl Chloride	4.27	62	23441	0.7439	ppb		95
7) 1,3-Butadiene	4.40	54	18023	0.6734	ppb	#	71
8) Bromomethane	4.69	94	21194	0.6977	ppb		95
9) Chloroethane	4.85	64	12654	0.7860	ppb	#	85
10) Acrolein	5.48	56	9790	0.6986	ppb	#	84
11) Acetone	5.64	43	36255	0.7473	ppb	#	76
12) Trichlorofluoromethane	5.57	101	67264	0.6877	ppb		97
13) Ethanol	5.24	45	3539	0.3128	ppb	#	93
14) Isopropyl Alcohol	5.88	45	40825	0.7300	ppb		100
15) 1,1-Dichloroethene	6.20	61	39090	0.7122	ppb	#	68
16) Methylene Chloride	6.33	84	21534	0.7557	ppb	#	41
17) Freon 113	6.56	151	35449	0.6873	ppb	#	44
18) Carbon Disulfide	6.63	76	56041	0.7185	ppb	#	56
19) trans-1,2-Dichloroethene	7.23	96	21749	0.7078	ppb	#	68
20) 1,1-Dichloroethane	7.43	63	43508	0.7415	ppb	#	93
21) methyl t-butyl ether	7.55	73	47927	0.6244	ppb	#	74
22) Vinyl Acetate	7.62	86	4530	0.5908	ppb	#	1
23) 2-Butanone	7.94	43	42717	0.6750	ppb	#	68
24) cis-1,2-Dichloroethene	8.24	96	23733	0.7126	ppb	#	74
26) Ethyl Acetate	8.52	61	6044	0.6288	ppb	#	1
27) Hexane	8.43	57	38994	0.7145	ppb	#	87
28) Chloroform	8.52	83	47384	0.7106	ppb		99
29) Tetrahydrofuran	9.05	42	23433	0.6361	ppb	#	62
30) 1,2-Dichloroethane	9.27	62	32779	0.6979	ppb	#	86
31) 1,1,1-Trichloroethane	9.50	97	48063	0.7089	ppb	#	86
32) Benzene	9.96	78	62536	0.7156	ppb	#	91
33) Carbon Tetrachloride	10.09	117	53423	0.6839	ppb		100
34) Cyclohexane	10.21	84	28008	0.6843	ppb	#	35
35) 1,2-Dichloropropane	10.77	63	27112	0.7225	ppb	#	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD46S1.D Vial: 1
Acq Time : 11/14/2016 14:59 Operator: LMR
Sample : 1.0 PPB STD Inst : 5975-L
Misc : 34279 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:11 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:00 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	10.95	83	49242	0.6801	ppb		97
37)	1,4-Dioxane	11.08	88	10732	0.6146	ppb	#	80
38)	Trichloroethene	10.99	130	32397	0.6778	ppb		92
39)	Methyl Methacrylate	11.19	69	20667	0.6799	ppb		94
40)	Heptane	11.26	71	21025	0.7045	ppb	#	32
41)	cis-1,3-Dichloropropene	11.84	75	30027	0.6264	ppb		95
42)	4-Methyl-2-Pentanone	11.90	43	53220	0.7006	ppb	#	73
43)	trans-1,3-Dichloropropene	12.36	75	26207	0.6124	ppb	#	92
44)	1,1,2-Trichloroethane	12.55	97	27383	0.6943	ppb	#	85
45)	Toluene	12.83	91	69906	0.6462	ppb		97
46)	2-Hexanone	13.11	43	42391	0.6421	ppb	#	74
47)	Dibromochloromethane	13.28	129	52467	0.6657	ppb		97
48)	1,2-Dibromoethane	13.54	107	38959	0.6375	ppb		100
49)	Tetrachloroethene	14.00	166	31275	0.6216	ppb	#	75
51)	Chlorobenzene	14.72	112	48612	0.6796	ppb		96
52)	Ethylbenzene	15.11	91	81755	0.6952	ppb		94
53)	m,p-Xylene	15.30	91	131896	1.5270	ppb		98
54)	Bromoform	15.41	173	33116	0.7250	ppb		97
55)	Styrene	15.69	104	46337	0.6646	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.81	83	53681	0.7285	ppb	#	92
57)	o-Xylene	15.81	91	67859	0.6964	ppb		96
59)	4-Ethyl Toluene	17.25	105	78115	0.5951	ppb		97
60)	1,3,5-Trimethylbenzene	17.34	105	69198	0.6889	ppb		97
61)	1,2,4-Trimethylbenzene	17.86	105	59145	0.6087	ppb		97
62)	Benzyl Chloride	18.05	91	33338	0.4717	ppb		93
63)	m-Dichlorobenzene	18.07	146	43689	0.6276	ppb	#	92
64)	p-Dichlorobenzene	18.16	146	42919	0.6231	ppb	#	92
65)	o-Dichlorobenzene	18.62	146	41114	0.6089	ppb	#	93
66)	1,2,4-Trichlorobenzene	21.14	180	10501	0.4042	ppb	#	93
67)	Naphthalene	21.31	128	32519	0.4615	ppb		96
68)	Hexachloro-1,3-butadiene	21.86	225	11513	0.5100	ppb		98

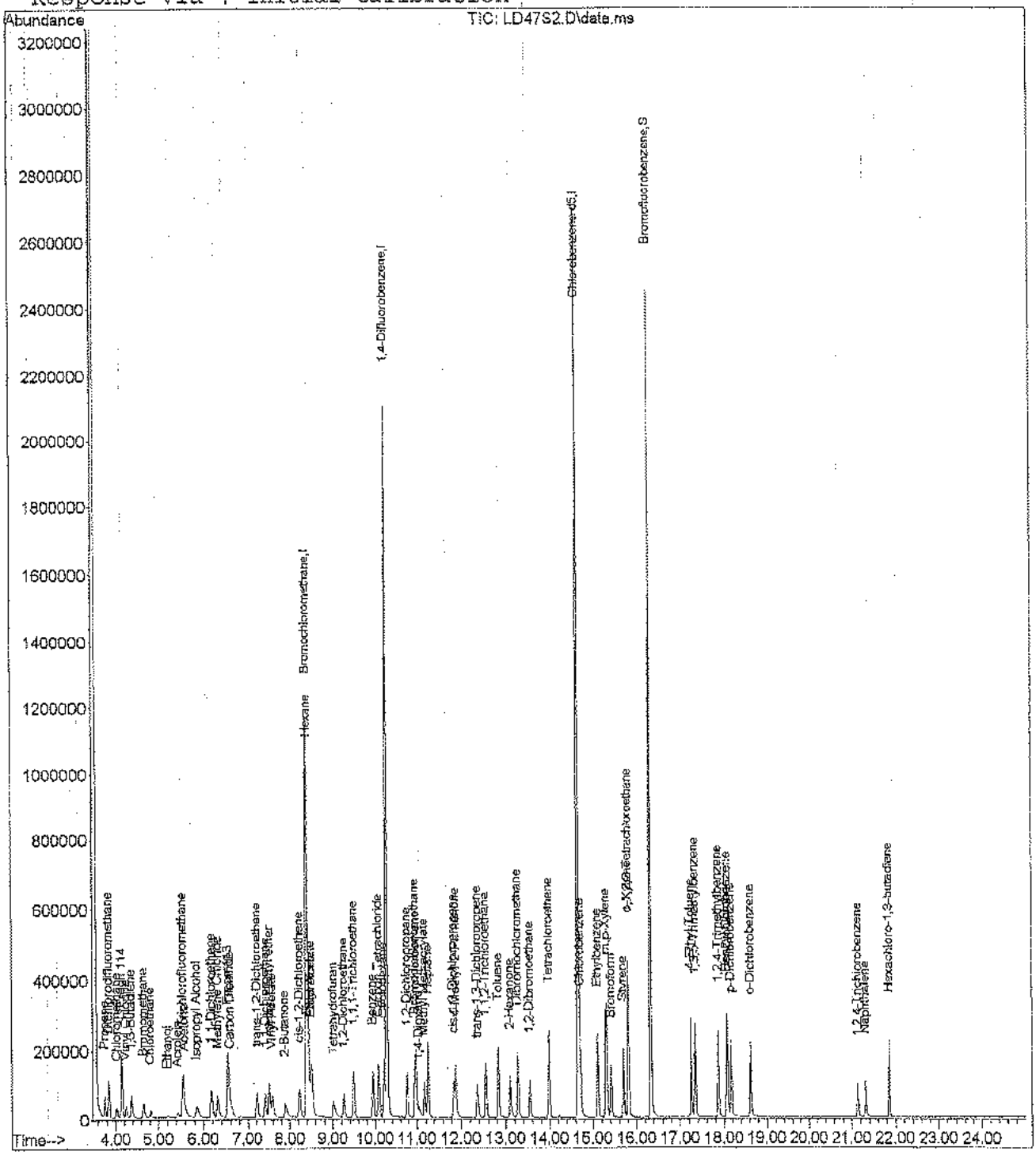
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD47S2.D Vial: 1
Acq Time : 11/14/2016 15:45 Operator: LMR
Sample : 2.0 PPB STD Inst : 5975-L
Misc : 34279 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:32 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD47S2.D Vial: 1
Acq Time : 11/14/2016 15:45 Operator: LMR
Sample : 2.0 PPB STD Inst : 5975-L
Misc : 34279 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:32 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:23 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.40	130	186496	20.0000	ppb		109.51
25) 1,4-Difluorobenzene	10.28	114	2233768	20.0000	ppb		112.46
50) Chlorobenzene d5	14.67	117	1859073	20.0000	ppb		108.81
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	972589	20.6065	ppb		103.03%
Target Compounds							Qvalue
2) Propene	3.76	41	49192	2.1100	ppb		98
3) Dichlorodifluoromethane	3.85	85	141177	1.9865	ppb		98
4) Chloromethane	4.02	50	56999	2.0813	ppb		100
5) Freon 114	4.15	135	99233	1.8661	ppb	#	53
6) Vinyl Chloride	4.24	62	58347	2.0056	ppb		95
7) 1,3-Butadiene	4.38	54	48422	1.9632	ppb	#	81
8) Bromomethane	4.65	94	52192	1.8688	ppb		96
9) Chloroethane	4.82	64	28558	1.9098	ppb	#	87
10) Acrolein	5.43	56	24335	1.8665	ppb	#	97
11) Acetone	5.59	43	88484	1.9421	ppb	#	87
12) Trichlorofluoromethane	5.55	101	166596	1.8464	ppb		100
13) Ethanol	5.21	45	17699	1.8172	ppb	#	74
14) Isopropyl Alcohol	5.85	45	95223	1.8101	ppb	#	98
15) 1,1-Dichloroethene	6.18	61	95052	1.8609	ppb	#	69
16) Methylene Chloride	6.32	84	49676	1.8738	ppb	#	41
17) Freon 113	6.55	151	85934	1.8047	ppb	#	44
18) Carbon Disulfide	6.60	76	138135	1.9057	ppb	#	65
19) trans-1,2-Dichloroethene	7.22	96	52847	1.8423	ppb	#	68
20) 1,1-Dichloroethane	7.41	63	103418	1.8914	ppb	#	95
21) methyl t-butyl ether	7.52	73	123245	1.7497	ppb	#	77
22) Vinyl Acetate	7.59	86	12357	1.7477	ppb	#	1
23) 2-Butanone	7.89	43	107431	1.8158	ppb	#	68
24) cis-1,2-Dichloroethene	8.23	96	56661	1.8236	ppb	#	69
26) Ethyl Acetate	8.49	61	17920	2.0612	ppb	#	1
27) Hexane	8.42	57	96691	1.9205	ppb	#	85
28) Chloroform	8.51	83	117020	1.9103	ppb		98
29) Tetrahydrofuran	9.02	42	67461	2.0111	ppb	#	58
30) 1,2-Dichloroethane	9.25	62	81478	1.8854	ppb	#	89
31) 1,1,1-Trichloroethane	9.49	97	117647	1.8787	ppb	#	86
32) Benzene	9.95	78	153466	1.9095	ppb	#	91
33) Carbon Tetrachloride	10.09	117	131138	1.8253	ppb		100
34) Cyclohexane	10.21	84	71927	1.9304	ppb	#	38
35) 1,2-Dichloropropane	10.76	63	64612	1.8697	ppb	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD47S2.D Vial: 1
Acq Time : 11/14/2016 15:45 Operator: LMR
Sample : 2.0 PPB STD Inst : 5975-L
Misc : 34279 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:32 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:23 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.94	83	121041	1.8103	ppb		99
37) 1,4-Dioxane	11.04	88	34179	2.1691	ppb	#	75
38) Trichloroethene	10.98	130	78670	1.7906	ppb	#	91
39) Methyl Methacrylate	11.17	69	49839	1.7996	ppb	#	82
40) Heptane	11.26	71	54886	2.0162	ppb	#	34
41) cis-1,3-Dichloropropene	11.84	75	80719	1.8266	ppb		94
42) 4-Methyl-2-Pentanone	11.88	43	151127	2.1626	ppb	#	74
43) trans-1,3-Dichloropropene	12.36	75	70241	1.7752	ppb		95
44) 1,1,2-Trichloroethane	12.55	97	69152	1.8995	ppb	#	86
45) Toluene	12.83	91	189917	1.9386	ppb		99
46) 2-Hexanone	13.09	43	123138	2.0351	ppb	#	80
47) Dibromochloromethane	13.27	129	131962	1.8134	ppb		98
48) 1,2-Dibromoethane	13.54	107	103633	1.8508	ppb		96
49) Tetrachloroethene	13.99	166	81693	1.7805	ppb	#	77
51) Chlorobenzene	14.71	112	127946	1.9224	ppb		97
52) Ethylbenzene	15.11	91	219105	2.0250	ppb		97
53) m,p-Xylene	15.30	91	343238	4.3154	ppb		97
54) Bromoform	15.41	173	85699	2.0200	ppb		99
55) Styrene	15.69	104	133148	2.0973	ppb		98
56) 1,1,2,2-Tetrachloroethane	15.82	83	138654	2.0280	ppb		99
57) o-Xylene	15.81	91	182705	2.0384	ppb		97
59) 4-Ethyl Toluene	17.25	105	231840	1.9361	ppb		98
60) 1,3,5-Trimethylbenzene	17.34	105	191779	2.0902	ppb		96
61) 1,2,4-Trimethylbenzene	17.87	105	179437	2.0371	ppb		97
62) Benzyl Chloride	18.06	91	115872	1.7410	ppb		93
63) m-Dichlorobenzene	18.08	146	120447	1.8919	ppb	#	94
64) p-Dichlorobenzene	18.17	146	120570	1.8977	ppb		96
65) o-Dichlorobenzene	18.62	146	116602	1.9033	ppb	#	95
66) 1,2,4-Trichlorobenzene	21.13	180	37565	1.5819	ppb	#	95
67) Naphthalene	21.31	128	120705	1.8781	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	33722	1.6494	ppb		97

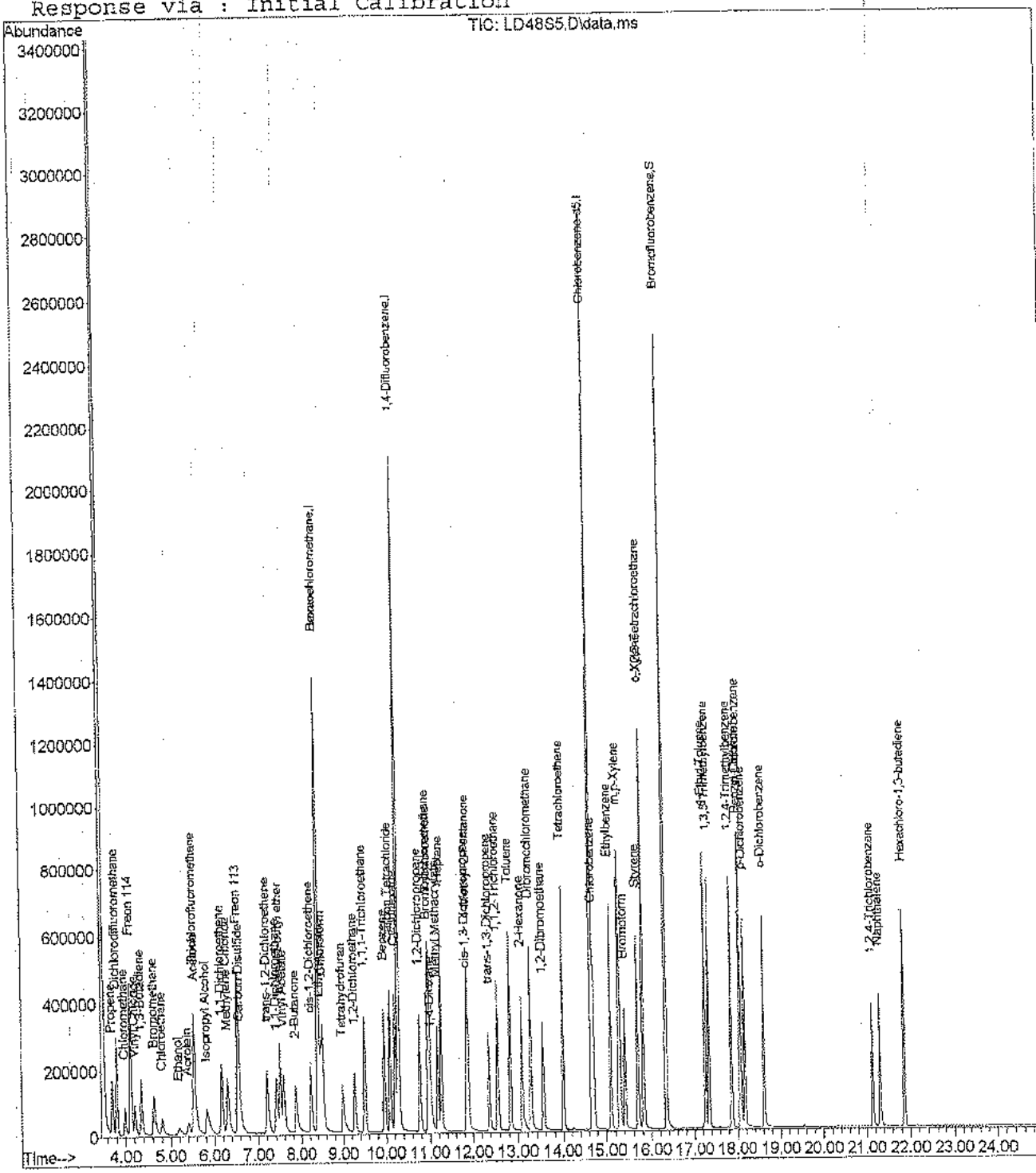
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD48S5.D Vial: 1
Acq Time : 11/14/2016 16:33 Operator: LMR
Sample : 5.0 PPB STD Inst : 5975-L
Misc : 34279 (100mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:54 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD48S5.D Vial: 1
Acq Time : 11/14/2016 16:33 Operator: LMR
Sample : 5.0 PPB STD Inst : 5975-L
Misc : 34279 (100mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:54 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:43 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.41	130	184832	20.0000	ppb		108.53
25) 1,4-Difluorobenzene	10.29	114	2275314	20.0000	ppb		114.55
50) Chlorobenzene d5	14.67	117	1904764	20.0000	ppb		111.48
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	1004638	20.9178	ppb		104.59%
Target Compounds							Qvalue
2) Propene	3.72	41	130993	5.8206	ppb		97
3) Dichlorodifluoromethane	3.82	85	380907	5.6673	ppb		99
4) Chloromethane	3.99	50	156300	5.9342	ppb		98
5) Freon 114	4.12	135	265965	5.2903	ppb	#	54
6) Vinyl Chloride	4.22	62	154703	5.5623	ppb		97
7) 1,3-Butadiene	4.35	54	129486	5.5173	ppb		83
8) Bromomethane	4.63	94	136799	5.2261	ppb		98
9) Chloroethane	4.80	64	73022	5.1343	ppb	#	86
10) Acrolein	5.39	56	71141	5.7815	ppb	#	96
11) Acetone	5.56	43	231992	5.3026	ppb		90
12) Trichlorofluoromethane	5.54	101	442582	5.1970	ppb		99
13) Ethanol	5.18	45	49643	5.5597	ppb	#	53
14) Isopropyl Alcohol	5.83	45	268622	5.3796	ppb	#	98
15) 1,1-Dichloroethene	6.16	61	260535	5.3828	ppb	#	69
16) Methylene Chloride	6.30	84	132086	5.2381	ppb	#	42
17) Freon 113	6.54	151	231271	5.1573	ppb	#	45
18) Carbon Disulfide	6.59	76	372988	5.4255	ppb	#	65
19) trans-1,2-Dichloroethene	7.21	96	143483	5.2794	ppb	#	68
20) 1,1-Dichloroethane	7.42	63	278451	5.3487	ppb		95
21) methyl t-butyl ether	7.50	73	347839	5.2825	ppb	#	75
22) Vinyl Acetate	7.59	86	35166	5.2845	ppb	#	1
23) 2-Butanone	7.88	43	326071	5.7910	ppb	#	67
24) cis-1,2-Dichloroethene	8.24	96	159277	5.4355	ppb	#	70
26) Ethyl Acetate	8.48	61	45232	5.3170	ppb	#	1
27) Hexane	8.42	57	265354	5.3765	ppb	#	85
28) Chloroform	8.53	83	314403	5.2369	ppb		99
29) Tetrahydrofuran	8.99	42	190797	5.7455	ppb	#	61
30) 1,2-Dichloroethane	9.27	62	220752	5.2199	ppb	#	88
31) 1,1,1-Trichloroethane	9.50	97	318364	5.1694	ppb	#	87
32) Benzene	9.96	78	426441	5.4303	ppb	#	91
33) Carbon Tetrachloride	10.10	117	368795	5.2685	ppb		99
34) Cyclohexane	10.21	84	200340	5.5227	ppb	#	35
35) 1,2-Dichloropropane	10.77	63	175745	5.1771	ppb	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD48S5.D Vial: 1
Acq Time : 11/14/2016 16:33 Operator: LMR
Sample : 5.0 PPB STD Inst : 5975-L
Misc : 34279 (100mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:14:54 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:14:43 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.95	83	341800	5.2197	ppb		98
37) 1,4-Dioxane	11.03	88	104793	6.6772	ppb	#	75
38) Trichloroethene	10.99	130	224895	5.2631	ppb		91
39) Methyl Methacrylate	11.17	69	148141	5.5517	ppb	#	83
40) Heptane	11.27	71	154892	5.8402	ppb	#	37
41) cis-1,3-Dichloropropene	11.84	75	234488	5.4233	ppb		95
42) 4-Methyl-2-Pentanone	11.88	43	434068	6.2324	ppb	#	74
43) trans-1,3-Dichloropropene	12.38	75	208268	5.3828	ppb		94
44) 1,1,2-Trichloroethane	12.56	97	187536	5.2555	ppb	#	85
45) Toluene	12.84	91	536992	5.6331	ppb		99
46) 2-Hexanone	13.09	43	387328	6.4879	ppb	#	79
47) Dibromochloromethane	13.28	129	378728	5.3349	ppb		98
48) 1,2-Dibromoethane	13.55	107	291953	5.3312	ppb		99
49) Tetrachloroethene	14.00	166	227930	5.1079	ppb	#	76
51) Chlorobenzene	14.72	112	352483	5.3828	ppb		94
52) Ethylbenzene	15.11	91	589103	5.6482	ppb		94
53) m,p-Xylene	15.30	91	840588	10.9144	ppb		98
54) Bromoform	15.41	173	191734	4.6495	ppb		99
55) Styrene	15.70	104	371089	6.0673	ppb		99
56) 1,1,2,2-Tetrachloroethane	15.82	83	367819	5.5243	ppb		98
57) o-Xylene	15.81	91	484964	5.5662	ppb		97
59) 4-Ethyl Toluene	17.25	105	672092	5.8259	ppb		97
60) 1,3,5-Trimethylbenzene	17.34	105	503023	5.7044	ppb		96
61) 1,2,4-Trimethylbenzene	17.86	105	520003	6.1732	ppb		97
62) Benzyl Chloride	18.05	91	388021	6.0405	ppb		93
63) m-Dichlorobenzene	18.07	146	335370	5.4917	ppb	#	94
64) p-Dichlorobenzene	18.16	146	310463	5.0633	ppb	#	94
65) o-Dichlorobenzene	18.62	146	333033	5.7031	ppb	#	95
66) 1,2,4-Trichlorobenzene	21.13	180	131756	5.8102	ppb	#	96
67) Naphthalene	21.31	128	418197	6.7524	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	96997	4.9660	ppb		96

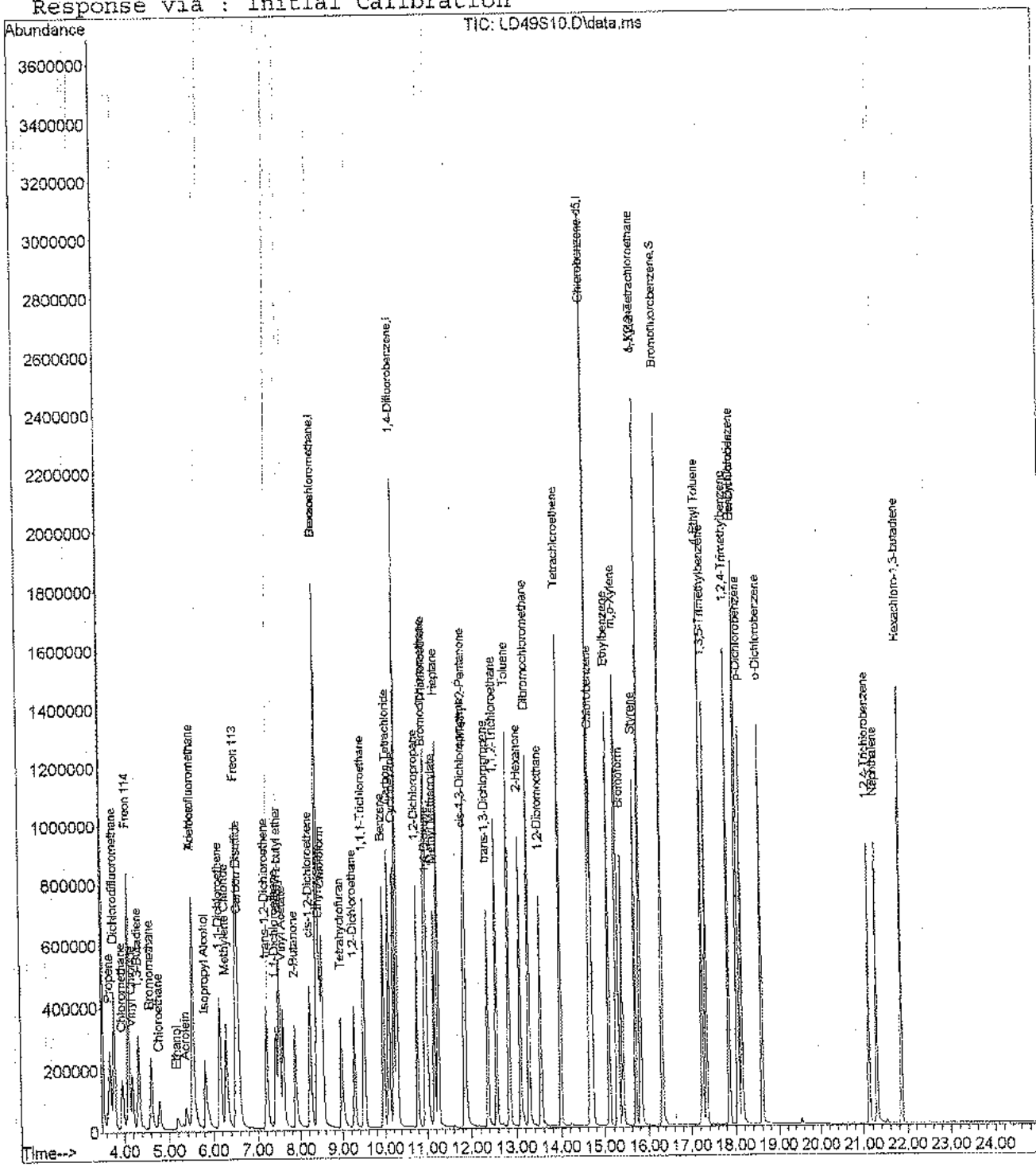
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD49S10.D Vial: 1
Acq Time : 11/14/2016 17:22 Operator: LMR
Sample : 10 PPB STD Inst : 5975-L
Misc : 34279 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:23 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD49S10.D Vial: 1
Acq Time : 11/14/2016 17:22 Operator: LMR
Sample : 10 PPB STD Inst : 5975-L
Misc : 34279 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:23 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:05 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.42	130	188928	20.0000	ppb		110.94
25) 1,4-Difluorobenzene	10.30	114	2291505	20.0000	ppb		115.37
50) Chlorobenzene d5	14.67	117	1997253	20.0000	ppb		116.89
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	1011213	20.1658	ppb		100.83%
Target Compounds							Qvalue
2) Propene	3.68	41	274803	12.0167	ppb		96
3) Dichlorodifluoromethane	3.79	85	813431	12.1804	ppb		99
4) Chloromethane	3.96	50	308128	11.5841	ppb		98
5) Freon 114	4.10	135	555096	11.1230	ppb	#	54
6) Vinyl Chloride	4.19	62	320202	11.5605	ppb		96
7) 1,3-Butadiene	4.33	54	277116	11.8209	ppb		88
8) Bromomethane	4.61	94	281314	10.9509	ppb		100
9) Chloroethane	4.79	64	153888	10.9413	ppb	#	85
10) Acrolein	5.37	56	149743	12.2262	ppb	#	98
11) Acetone	5.54	43	517102	11.7774	ppb		91
12) Trichlorofluoromethane	5.53	101	941187	11.1870	ppb		99
13) Ethanol	5.18	45	110038	12.5559	ppb	#	79
14) Isopropyl Alcohol	5.82	45	591679	11.8661	ppb		99
15) 1,1-Dichloroethene	6.16	61	558755	11.6184	ppb	#	68
16) Methylene Chloride	6.30	84	279891	11.1536	ppb	#	44
17) Freon 113	6.54	151	494545	11.1646	ppb	#	46
18) Carbon Disulfide	6.58	76	775334	11.2923	ppb	#	66
19) trans-1,2-Dichloroethene	7.21	96	310961	11.5641	ppb	#	69
20) 1,1-Dichloroethane	7.43	63	597898	11.5023	ppb		95
21) methyl t-butyl ether	7.50	73	767795	11.8771	ppb	#	76
22) Vinyl Acetate	7.60	86	80960	12.4335	ppb	#	1
23) 2-Butanone	7.87	43	723207	12.7217	ppb	#	69
24) cis-1,2-Dichloroethene	8.24	96	341821	11.6994	ppb	#	69
26) Ethyl Acetate	8.48	61	101806	12.1488	ppb	#	1
27) Hexane	8.43	57	576944	11.8810	ppb	#	84
28) Chloroform	8.53	83	669565	11.3693	ppb		98
29) Tetrahydrofuran	8.97	42	424821	12.8824	ppb	#	61
30) 1,2-Dichloroethane	9.28	62	474102	11.4301	ppb	#	88
31) 1,1,1-Trichloroethane	9.50	97	693216	11.4946	ppb	#	87
32) Benzene	9.97	78	903017	11.6599	ppb	#	90
33) Carbon Tetrachloride	10.10	117	790683	11.5432	ppb		99
34) Cyclohexane	10.22	84	426210	11.9248	ppb	#	34
35) 1,2-Dichloropropane	10.78	63	383952	11.5030	ppb	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD49S10.D Vial: 1
Acq Time : 11/14/2016 17:22 Operator: LMR
Sample : 10 PPB STD Inst : 5975-L
Misc : 34279 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:23 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:05 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.96	83	742777	11.5400	ppb		98
37) 1,4-Dioxane	11.02	88	226931	14.2251	ppb	#	75
38) Trichloroethene	10.99	130	482522	11.5146	ppb		92
39) Methyl Methacrylate	11.17	69	323681	12.3159	ppb	#	82
40) Heptane	11.27	71	316987	12.0996	ppb	#	34
41) cis-1,3-Dichloropropene	11.85	75	522812	12.3145	ppb		94
42) 4-Methyl-2-Pentanone	11.88	43	930768	13.2643	ppb	#	74
43) trans-1,3-Dichloropropene	12.37	75	472852	12.4798	ppb		93
44) 1,1,2-Trichloroethane	12.56	97	410265	11.7394	ppb	#	85
45) Toluene	12.84	91	1147609	12.2664	ppb		99
46) 2-Hexanone	13.09	43	856330	14.1992	ppb	#	80
47) Dibromochloromethane	13.28	129	830255	11.9227	ppb		99
48) 1,2-Dibromoethane	13.55	107	640472	11.9211	ppb		98
49) Tetrachloroethene	14.00	166	505309	11.6010	ppb	#	75
51) Chlorobenzene	14.72	112	772851	11.5596	ppb		96
52) Ethylbenzene	15.11	91	1146421	10.9130	ppb		96
53) m,p-Xylene	15.29	91	1510533	19.3700	ppb		99
54) Bromoform	15.41	173	420076	10.1203	ppb		99
55) Styrene	15.69	104	679767	10.9529	ppb		99
56) 1,1,2,2-Tetrachloroethane	15.81	83	698744	10.2766	ppb		98
57) o-Xylene	15.81	91	896710	10.1044	ppb		99
59) 4-Ethyl Toluene	17.25	105	1387076	11.9074	ppb		98
60) 1,3,5-Trimethylbenzene	17.34	105	901844	10.0957	ppb		98
61) 1,2,4-Trimethylbenzene	17.86	105	1032574	12.1571	ppb		99
62) Benzyl Chloride	18.05	91	806244	12.5006	ppb		93
63) m-Dichlorobenzene	18.07	146	679087	11.0710	ppb	#	95
64) p-Dichlorobenzene	18.15	146	680119	10.9743	ppb	#	95
65) o-Dichlorobenzene	18.61	146	656649	11.2658	ppb	#	95
66) 1,2,4-Trichlorobenzene	21.13	180	309910	13.5476	ppb	#	95
67) Naphthalene	21.31	128	946147	14.9393	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	214138	11.0317	ppb		96

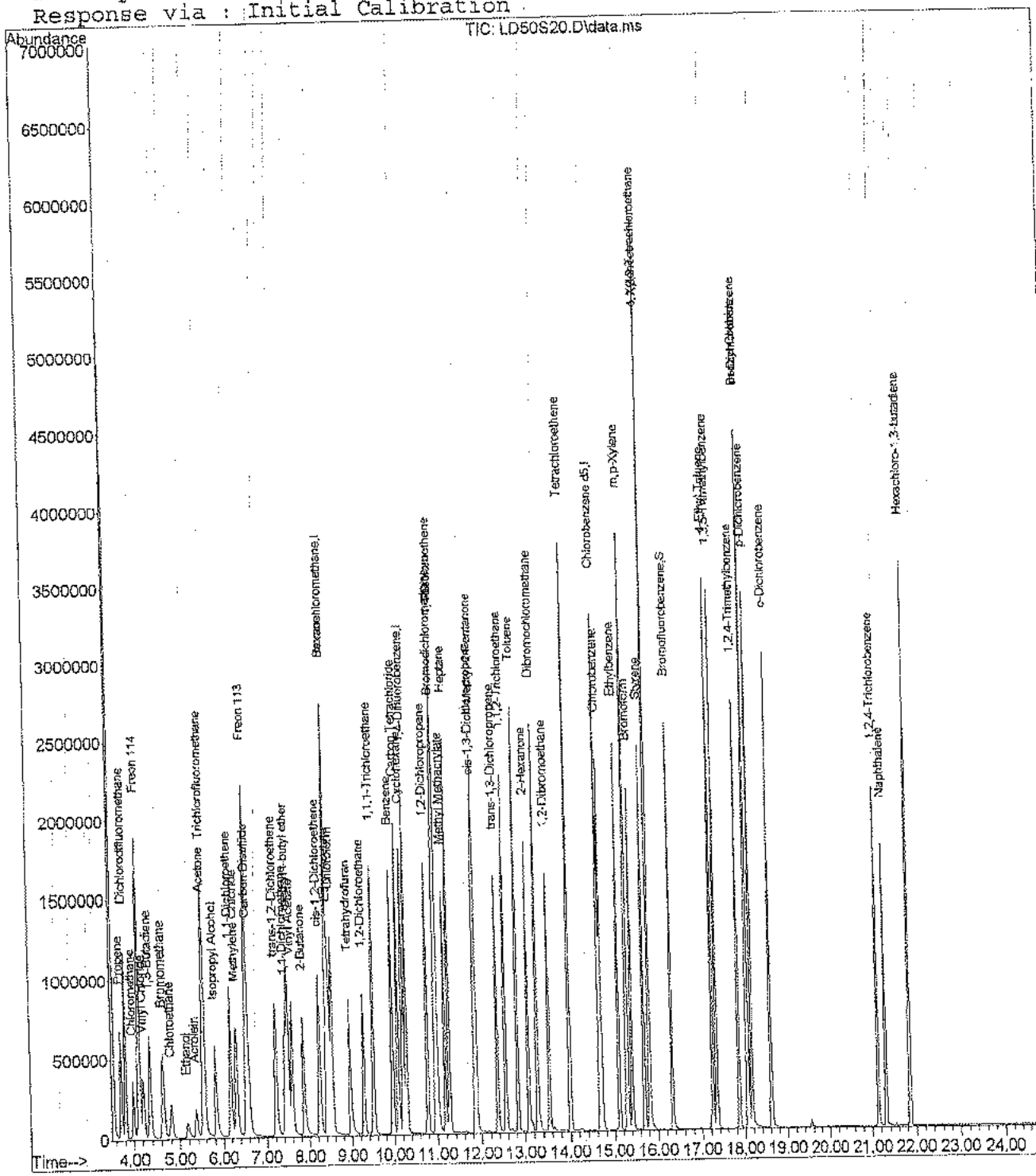
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD50S20.D Vial: 1
Acq Time : 11/14/2016 18:14 Operator: LMR
Sample : 20 PPB STD Inst : 5975-L
Misc : 34279 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:42 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD50S20.D Vial: 1
Acq Time : 11/14/2016 18:14 Operator: LMR
Sample : 20 PPB STD Inst : 5975-L
Misc : 34279 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:42 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:33 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.42	130	208960	20.0000	ppb		110.60
25) 1,4-Difluorobenzene	10.30	114	2277345	20.0000	ppb		99.38
50) Chlorobenzene d5	14.67	117	2169465	20.0000	ppb		108.62
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	999693	18.4403	ppb		92.20%
Target Compounds							Qvalue
2) Propene	3.71	41	575978	22.6025	ppb		96
3) Dichlorodifluoromethane	3.81	85	1743410	23.9186	ppb		99
4) Chloromethane	3.98	50	704548	24.2363	ppb		100
5) Freon 114	4.12	135	1219586	22.5622	ppb	#	56
6) Vinyl Chloride	4.21	62	709246	23.5030	ppb		97
7) 1,3-Butadiene	4.36	54	594564	23.1045	ppb		86
8) Bromomethane	4.63	94	642397	23.3427	ppb		98
9) Chloroethane	4.81	64	341917	22.4055	ppb	#	86
10) Acrolein	5.36	56	332273	24.8753	ppb	#	96
11) Acetone	5.52	43	1113829	22.8844	ppb		91
12) Trichlorofluoromethane	5.55	101	2102255	23.1184	ppb		99
13) Ethanol	5.16	45	241491	25.0051	ppb	#	78
14) Isopropyl Alcohol	5.81	45	1255465	22.9532	ppb		98
15) 1,1-Dichloroethene	6.17	61	1212562	23.0873	ppb	#	68
16) Methylene Chloride	6.31	84	598568	21.8094	ppb	#	45
17) Freon 113	6.55	151	1071861	22.3722	ppb	#	45
18) Carbon Disulfide	6.59	76	1682620	22.4606	ppb	#	66
19) trans-1,2-Dichloroethene	7.21	96	665727	22.6615	ppb	#	69
20) 1,1-Dichloroethane	7.44	63	1266384	22.2430	ppb		96
21) methyl t-butyl ether	7.50	73	1652410	23.5871	ppb	#	76
22) Vinyl Acetate	7.60	86	176016	25.0015	ppb	#	1
23) 2-Butanone	7.86	43	1583398	25.1263	ppb	#	69
24) cis-1,2-Dichloroethene	8.25	96	733102	22.9136	ppb	#	69
26) Ethyl Acetate	8.47	61	225361	27.6779	ppb	#	1
27) Hexane	8.42	57	1232512	25.8859	ppb	#	82
28) Chloroform	8.54	83	1416107	24.7345	ppb		99
29) Tetrahydrofuran	8.96	42	919800	28.1201	ppb	#	62
30) 1,2-Dichloroethane	9.28	62	1040172	25.8207	ppb	#	89
31) 1,1,1-Trichloroethane	9.51	97	1522897	25.9692	ppb	#	88
32) Benzene	9.97	78	1862147	24.5621	ppb	#	90
33) Carbon Tetrachloride	10.10	117	1621119	24.3886	ppb		99
34) Cyclohexane	10.22	84	878082	25.1072	ppb	#	31
35) 1,2-Dichloropropane	10.78	63	819045	25.0343	ppb	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD50S20.D Vial: 1
Acq Time : 11/14/2016 18:14 Operator: LMR
Sample : 20 PPB STD Inst : 5975-L
Misc : 34279 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 08:15:42 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 08:15:33 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	10.96	83	1664372	26.6036	ppb		98
37)	1,4-Dioxane	11.00	88	487871	30.3567	ppb	#	76
38)	Trichloroethene	10.99	130	1051365	25.8511	ppb		92
39)	Methyl Methacrylate	11.17	69	678450	26.4615	ppb	#	81
40)	Heptane	11.27	71	593587	23.1923	ppb	#	36
41)	cis-1,3-Dichloropropene	11.85	75	1143712	27.6175	ppb		95
42)	4-Methyl-2-Pentanone	11.88	43	1856296	26.3568	ppb	#	75
43)	trans-1,3-Dichloropropene	12.37	75	1042083	28.2123	ppb		95
44)	1,1,2-Trichloroethane	12.56	97	886893	25.9940	ppb	#	86
45)	Toluene	12.83	91	2237108	24.4674	ppb		99
46)	2-Hexanone	13.08	43	1565046	25.8351	ppb	#	81
47)	Dibromochloromethane	13.28	129	1682980	24.8916	ppb		99
48)	1,2-Dibromoethane	13.55	107	1395297	26.7703	ppb		98
49)	Tetrachloroethene	14.00	166	1125809	26.7739	ppb	#	73
51)	Chlorobenzene	14.72	112	1610898	22.7635	ppb		97
52)	Ethylbenzene	15.11	91	2178338	19.5760	ppb		97
53)	m,p-Xylene	15.30	91	3404623	41.1422	ppb		100
54)	Bromoform	15.41	173	1096282	25.0454	ppb		99
55)	Styrene	15.69	104	1468638	22.3392	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.81	83	1709656	23.9074	ppb		99
57)	o-Xylene	15.81	91	2205705	23.8306	ppb		97
59)	4-Ethyl Toluene	17.25	105	2824305	22.9781	ppb		99
60)	1,3,5-Trimethylbenzene	17.34	105	2082550	22.0927	ppb		98
61)	1,2,4-Trimethylbenzene	17.86	105	1889676	20.8701	ppb		100
62)	Benzyl Chloride	18.06	91	1696392	25.4601	ppb		96
63)	m-Dichlorobenzene	18.07	146	1486081	23.2252	ppb	#	95
64)	p-Dichlorobenzene	18.16	146	1649331	25.4519	ppb	#	94
65)	o-Dichlorobenzene	18.62	146	1391322	22.6365	ppb	#	95
66)	1,2,4-Trichlorobenzene	21.13	180	710311	29.6774	ppb	#	95
67)	Naphthalene	21.31	128	1736124	25.4428	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	505431	25.5096	ppb		97

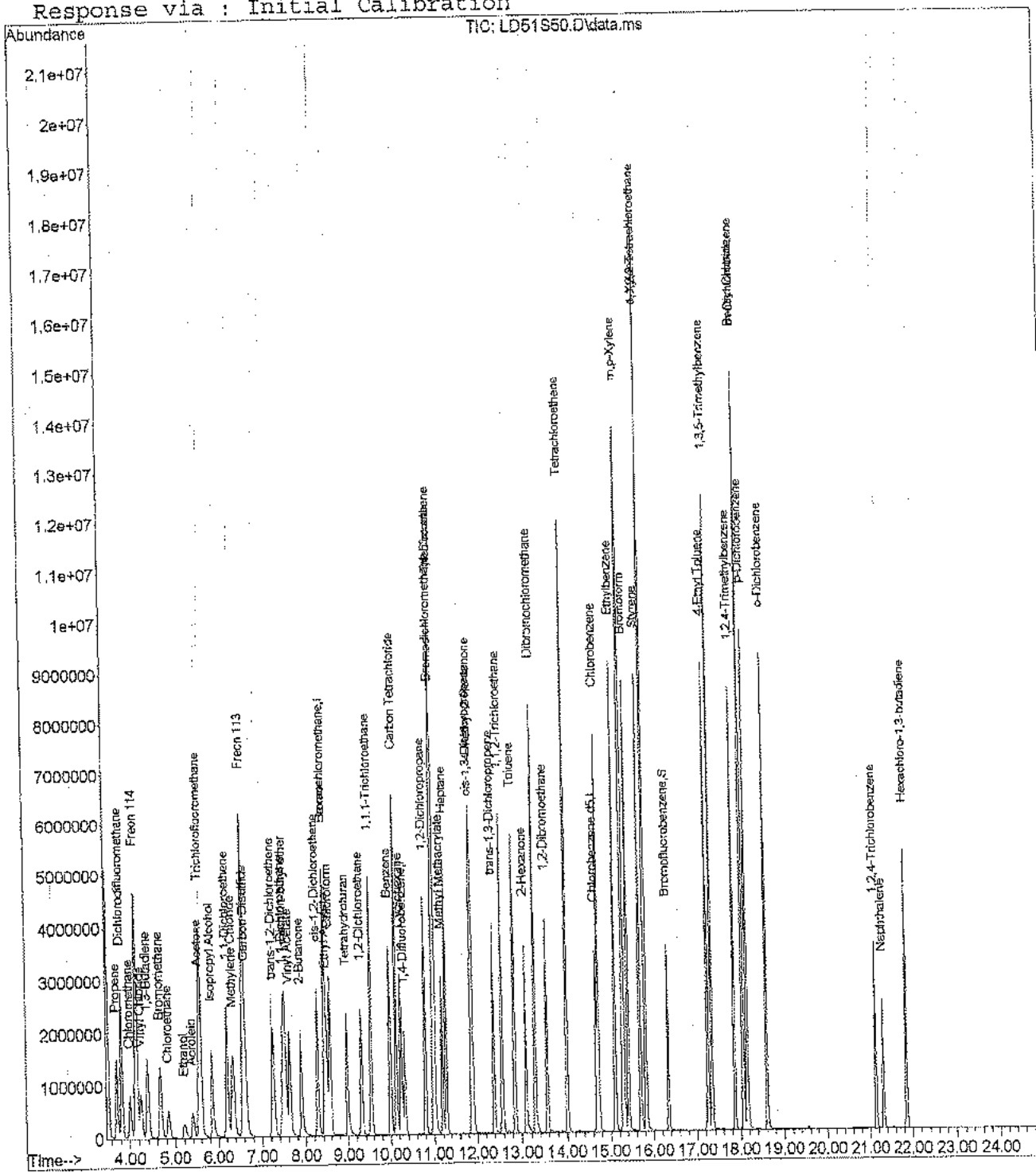
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD51S50.D Vial: 2
Acq Time : 11/14/2016 19:02 Operator: LMR
Sample : 50 PPB STD Inst : 5975-L
Misc : 34329 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 11:11:53 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Wed Nov 16 08:36:12 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD51S50.D Vial: 2
Acq Time : 11/14/2016 19:02 Operator: LMR
Sample : 50 PPB STD Inst : 5975-L
Misc : 34329 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 11:11:53 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 10:00:28 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.46	130	224384	20.0000	ppb		118.77
25) 1,4-Difluorobenzene	10.33	114	2089109	20.0000	ppb		91.17
50) Chlorobenzene d5	14.67	117	2373053	20.0000	ppb		118.82
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.33	95	1452380	24.0002	ppb		120.00%
Target Compounds							Qvalue
2) Propene	3.72	41	1462201	48.2251	ppb		96
3) Dichlorodifluoromethane	3.83	85	4668283	51.3020	ppb		99
4) Chloromethane	4.02	50	1812238	52.0563	ppb		100
5) Freon 114	4.15	135	3380003	52.9480	ppb	#	57
6) Vinyl Chloride	4.25	62	1855997	51.0014	ppb		96
7) 1,3-Butadiene	4.40	54	1586236	53.4674	ppb		88
8) Bromomethane	4.67	94	1731945	52.0358	ppb		99
9) Chloroethane	4.85	64	902748	48.7061	ppb	#	86
10) Acrolein	5.39	56	903568	55.5620	ppb	#	96
11) Acetone	5.54	43	2933358	49.6855	ppb		92
12) Trichlorofluoromethane	5.58	101	5913731	55.0936	ppb		99
13) Ethanol	5.20	45	705434	66.5607	ppb	#	80
14) Isopropyl Alcohol	5.85	45	3537314	57.1852	ppb		99
15) 1,1-Dichloroethene	6.21	61	3267451	52.8198	ppb	#	68
16) Methylene Chloride	6.35	84	1564167	48.5093	ppb	#	46
17) Freon 113	6.58	151	3087106	55.1384	ppb	#	48
18) Carbon Disulfide	6.63	76	4482101	50.4930	ppb	#	67
19) trans-1,2-Dichloroethene	7.25	96	1777047	52.4555	ppb	#	69
20) 1,1-Dichloroethane	7.48	63	3387204	51.1798	ppb		95
21) methyl t-butyl ether	7.53	73	4092141	49.5706	ppb	#	74
22) Vinyl Acetate	7.63	86	420981	50.6957	ppb	#	1
23) 2-Butanone	7.89	43	4107007	55.2206	ppb	#	70
24) cis-1,2-Dichloroethene	8.28	96	1948145	52.2637	ppb	#	69
26) Ethyl Acetate	8.50	61	468555	55.6096	ppb	#	1
27) Hexane	8.46	57	3091100	63.1611	ppb	#	85
28) Chloroform	8.58	83	3460639	59.8687	ppb		98
29) Tetrahydrofuran	8.98	42	2391650	70.9412	ppb	#	63
30) 1,2-Dichloroethane	9.31	62	2816761	68.9757	ppb	#	91
31) 1,1,1-Trichloroethane	9.54	97	4359803	73.1580	ppb	#	89
32) Benzene	9.99	78	4223933	54.9190	ppb	#	91
33) Carbon Tetrachloride	10.13	117	4986934	74.7110	ppb		99
34) Cyclohexane	10.24	84	1634272	46.0018	ppb	#	43
35) 1,2-Dichloropropane	10.80	63	2130013	65.6898	ppb	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD51S50.D Vial: 2
Acq Time : 11/14/2016 19:02 Operator: LMR
Sample : 50 PPB STD Inst : 5975-L
Misc : 34329 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 15 11:11:53 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Tue Nov 15 10:00:28 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.99	83	4853554	77.2000	ppb		99
37) 1,4-Dioxane	11.02	88	1294056	70.4696	ppb	#	78
38) Trichloroethene	11.02	130	3246994	79.0144	ppb		93
39) Methyl Methacrylate	11.19	69	1357084	50.3239	ppb		88
40) Heptane	11.28	71	1333430	50.0719	ppb	#	51
41) cis-1,3-Dichloropropene	11.86	75	3032182	71.3571	ppb		95
42) 4-Methyl-2-Pentanone	11.89	43	4641897	62.4160	ppb	#	77
43) trans-1,3-Dichloropropene	12.39	75	2471608	64.4019	ppb		95
44) 1,1,2-Trichloroethane	12.58	97	2208078	63.5054	ppb	#	85
45) Toluene	12.85	91	5006087	52.6197	ppb		99
46) 2-Hexanone	13.10	43	2872735	44.2380	ppb	#	86
47) Dibromochloromethane	13.30	129	4906331	71.1058	ppb		99
48) 1,2-Dibromoethane	13.56	107	3098877	56.5290	ppb		97
49) Tetrachloroethene	14.01	166	3426972	80.2085	ppb	#	72
51) Chlorobenzene	14.73	112	5013318	57.2082	ppb		96
52) Ethylbenzene	15.12	91	7587090	54.9513	ppb		96
53) m,p-Xylene	15.30	91	13946989	134.0511	ppb		94
54) Bromoform	15.42	173	4536672	78.2645	ppb		98
55) Styrene	15.70	104	5305506	61.7571	ppb	#	93
56) 1,1,2,2-Tetrachloroethane	15.82	83	4301616	47.9507	ppb	#	97
57) o-Xylene	15.82	91	7481897	64.7008	ppb		91
59) 4-Ethyl Toluene	17.25	105	6925497	45.9642	ppb		98
60) 1,3,5-Trimethylbenzene	17.35	105	7362818	63.4134	ppb		94
61) 1,2,4-Trimethylbenzene	17.87	105	5455442	47.5736	ppb		98
62) Benzyl Chloride	18.06	91	5750013	71.5313	ppb		94
63) m-Dichlorobenzene	18.07	146	5094937	58.6766	ppb	#	94
64) p-Dichlorobenzene	18.16	146	4783904	62.8946	ppb	#	94
65) o-Dichlorobenzene	18.62	146	4394352	60.3304	ppb	#	94
66) 1,2,4-Trichlorobenzene	21.13	180	1174013	40.2254	ppb	#	95
67) Naphthalene	21.31	128	2573229	29.9023	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	715937	31.5314	ppb		96

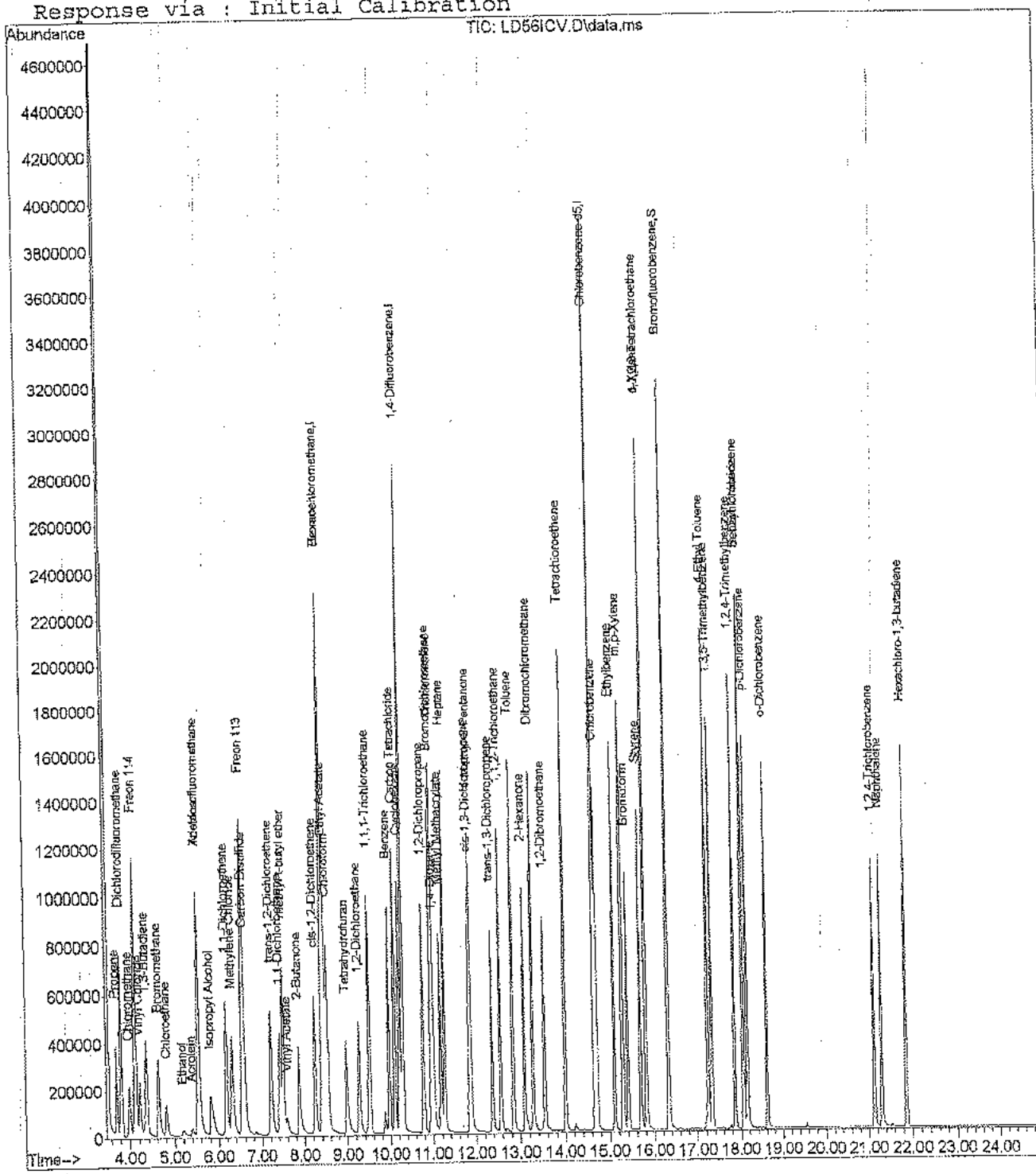
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD56ICV.D Vial: 3
Acq Time : 11/15/2016 10:07 Operator: LMR
Sample : 10.0 ICV Inst : 5975-L
Misc : 34081 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 17 11:39:57 2016 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Nov 17 11:38:44 2016
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD56ICV.D Vial: 3
Acq Time : 11/15/2016 10:07 Operator: LMR
Sample : 10.0 ICV Inst : 5975-L
Misc : 34081 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 17 11:39:57 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Nov 17 11:38:44 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.42	130	267136	20.0000	ppb		141.40
25) 1,4-Difluorobenzene	10.30	114	3040932	20.0000	ppb		132.70
50) Chlorobenzene d5	14.67	117	2608347	20.0000	ppb		130.60
System Monitoring Compounds							**%Recovery**
58) Bromofluorobenzene	16.33	95	1333499	19.4910	ppb		97.46%
Target Compounds							**Qvalue**
2) Propene	3.72	41	309949	8.6303	ppb		97
3) Dichlorodifluoromethane	3.82	85	1049377	9.6506	ppb		100
4) Chloromethane	3.99	50	389946	9.3536	ppb		99
5) Freon 114	4.13	135	738041	9.6301	ppb	#	59
6) Vinyl Chloride	4.22	62	408055	9.3917	ppb		95
7) 1,3-Butadiene	4.36	54	338499	9.4898	ppb		89
8) Bromomethane	4.64	94	389743	9.7788	ppb		97
9) Chloroethane	4.81	64	205228	9.3352	ppb	#	88
10) Acrolein	5.40	56	53098	2.6996	ppb	#	99
11) Acetone	5.54	43	647730	9.2238	ppb		96
12) Trichlorofluoromethane	5.55	101	1262832	9.7402	ppb		100
13) Ethanol	5.18	45	56312	4.2295	ppb	#	73
14) Isopropyl Alcohol	5.82	45	562514	7.4597	ppb		97
15) 1,1-Dichloroethene	6.18	61	710070	9.5645	ppb	#	69
16) Methylene Chloride	6.31	84	351365	9.1921	ppb	#	52
17) Freon 113	6.55	151	666121	9.8488	ppb	#	50
18) Carbon Disulfide	6.59	76	1043295	9.8584	ppb	#	66
19) trans-1,2-Dichloroethene	7.22	96	401745	9.8916	ppb	#	70
20) 1,1-Dichloroethane	7.43	63	745399	9.4285	ppb		95
21) methyl t-butyl ether	7.50	73	1006846	10.2572	ppb	#	79
22) Vinyl Acetate	7.60	86	13622	1.3751	ppb	#	1
23) 2-Butanone	7.86	43	827317	9.2061	ppb	#	71
24) cis-1,2-Dichloroethene	8.24	96	425156	9.5189	ppb	#	70
26) Ethyl Acetate	8.47	61	210467	16.8897	ppb	#	1
27) Hexane	8.42	57	706047	9.5520	ppb	#	79
28) Chloroform	8.53	83	837734	9.6834	ppb		98
29) Tetrahydrofuran	8.97	42	490598	9.4329	ppb	#	64
30) 1,2-Dichloroethane	9.27	62	601152	9.5930	ppb	#	91
31) 1,1,1-Trichloroethane	9.50	97	906884	9.8056	ppb	#	89
32) Benzene	9.97	78	1109403	9.7721	ppb	#	91
33) Carbon Tetrachloride	10.10	117	1040218	10.0000	ppb		99
34) Cyclohexane	10.22	84	524140	10.2528	ppb	#	38
35) 1,2-Dichloropropane	10.78	63	468111	9.4924	ppb	#	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2016\NOV16L\14NOV16L\LD56ICV.D Vial: 3
Acq Time : 11/15/2016 10:07 Operator: LMR
Sample : 10.0 ICV Inst : 5975-L
Misc : 34081 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Nov 17 11:39:57 2016 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Nov 17 11:38:44 2016
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	10.96	83	938955	9.5203	ppb		99
37) 1,4-Dioxane	11.02	88	254388	8.9912	ppb	#	76
38) Trichloroethene	10.99	130	614400	9.4851	ppb		93
39) Methyl Methacrylate	11.17	69	385860	9.8209	ppb		87
40) Heptane	11.27	71	386229	9.9617	ppb	#	36
41) cis-1,3-Dichloropropene	11.84	75	633067	9.6463	ppb		95
42) 4-Methyl-2-Pentanone	11.88	43	1024813	9.1424	ppb	#	77
43) trans-1,3-Dichloropropene	12.37	75	566666	9.7429	ppb		95
44) 1,1,2-Trichloroethane	12.56	97	504100	9.5901	ppb	#	86
45) Toluene	12.84	91	1396418	10.0088	ppb		99
46) 2-Hexanone	13.09	43	889242	9.5650	ppb	#	83
47) Dibromochloromethane	13.28	129	1040956	9.7747	ppb		99
48) 1,2-Dibromoethane	13.55	107	791418	9.7364	ppb		98
49) Tetrachloroethene	14.00	166	640567	9.4815	ppb	#	74
51) Chlorobenzene	14.72	112	957220	9.7372	ppb		96
52) Ethylbenzene	15.11	91	1376277	8.9423	ppb		96
53) m,p-Xylene	15.29	91	1848086	15.4108	ppb		98
54) Bromoform	15.41	173	516544	8.1611	ppb		99
55) Styrene	15.69	104	810662	8.3060	ppb		99
56) 1,1,2,2-Tetrachloroethane	15.81	83	841541	8.5848	ppb		99
57) o-Xylene	15.81	91	1113832	8.4099	ppb		97
59) 4-Ethyl Toluene	17.25	105	1680995	10.2687	ppb		98
60) 1,3,5-Trimethylbenzene	17.34	105	1110839	8.3830	ppb		97
61) 1,2,4-Trimethylbenzene	17.86	105	1257556	10.0468	ppb		97
62) Benzyl Chloride	18.05	91	895508	9.4566	ppb		95
63) m-Dichlorobenzene	18.06	146	846664	9.6231	ppb	#	94
64) p-Dichlorobenzene	18.15	146	845784	9.6996	ppb	#	94
65) o-Dichlorobenzene	18.61	146	782300	9.4461	ppb	#	95
66) 1,2,4-Trichlorobenzene	21.13	180	394613	12.7153	ppb	#	95
67) Naphthalene	21.31	128	1162122	13.1685	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	249010	10.6322	ppb		97

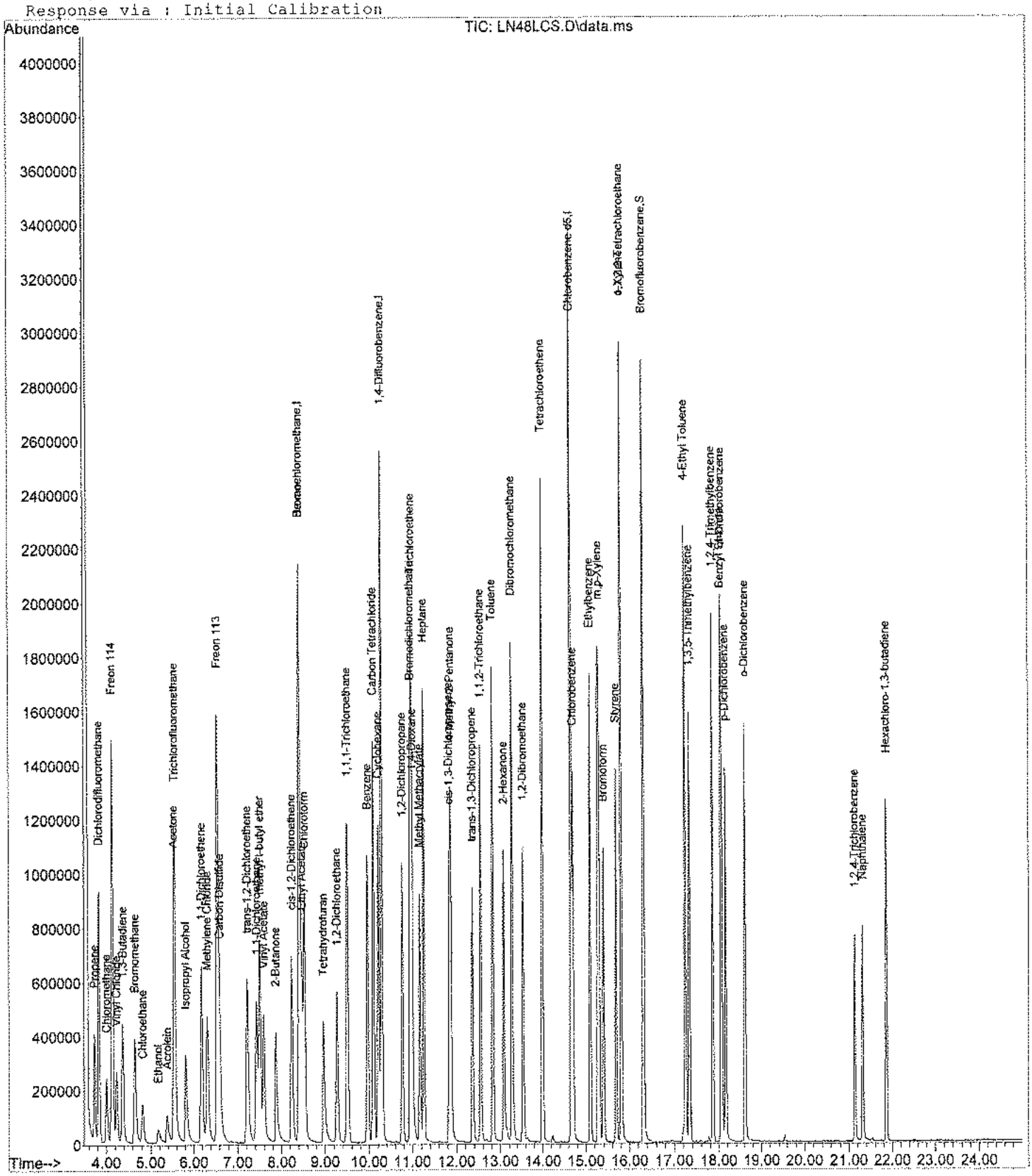
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\10APR17L\LN48LCS.D Vial: 2
Acq Time : 04/10/2017 14:12 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 10 16:17:51 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\10APR17L\LN48LCS.D Vial: 2
Acq Time : 04/10/2017 14:12 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 10 16:17:51 2017 Results File: TO15LU16.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Mon Apr 10 10:29:51 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.41	130	250240	20.0000	ppb		132.45
25) 1,4-Difluorobenzene	10.29	114	2747089	20.0000	ppb		119.88
50) Chlorobenzene d5	14.66	117	2369285	20.0000	ppb		118.63
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.32	95	1255638	20.2048	ppb		101.02%
Target Compounds							Qvalue
2) Propene	3.73	41	320006	9.5119	ppb	m	0
3) Dichlorodifluoromethane	3.83	85	1241067	12.1841	ppb	m	0
4) Chloromethane	4.01	50	421831	10.8016	ppb	m	41
5) Freon 114	4.14	135	938695	13.0752	ppb	#	67
6) Vinyl Chloride	4.23	62	454609	11.1696	ppb		96
7) 1,3-Butadiene	4.37	54	358012	10.7145	ppb		94
8) Bromomethane	4.65	94	448656	12.0171	ppb		100
9) Chloroethane	4.82	64	222156	10.7874	ppb	#	90
10) Acrolein	5.38	56	199530	10.8296	ppb	#	96
11) Acetone	5.53	43	646872	9.8335	ppb		95
12) Trichlorofluoromethane	5.55	101	1513787	12.4642	ppb		99
13) Ethanol	5.17	45	131449	10.5395	ppb	#	82
14) Isopropyl Alcohol	5.82	45	713492	10.1008	ppb		95
15) 1,1-Dichloroethene	6.18	61	790501	11.3669	ppb	#	72
16) Methylene Chloride	6.31	84	402992	11.2545	ppb	#	60
17) Freon 113	6.55	151	840262	13.2624	ppb	#	58
18) Carbon Disulfide	6.60	76	1128473	11.3832	ppb	#	66
19) trans-1,2-Dichloroethene	7.21	96	458520	12.0517	ppb	#	74
20) 1,1-Dichloroethane	7.43	63	830299	11.2115	ppb		96
21) methyl t-butyl ether	7.50	73	1071677	11.6548	ppb	#	81
22) Vinyl Acetate	7.59	86	113959	12.2809	ppb	#	1
23) 2-Butanone	7.86	43	854563	10.1514	ppb	#	74
24) cis-1,2-Dichloroethene	8.24	96	502834	12.0182	ppb	#	74
26) Ethyl Acetate	8.47	61	132887	11.8047	ppb	#	1
27) Hexane	8.42	57	762131	11.4136	ppb	#	83
28) Chloroform	8.53	83	1013722	12.9710	ppb		99
29) Tetrahydrofuran	8.96	42	492742	10.4875	ppb	#	68
30) 1,2-Dichloroethane	9.27	62	697492	12.3209	ppb	#	94
31) 1,1,1-Trichloroethane	9.50	97	1084419	12.9794	ppb	#	91
32) Benzene	9.96	78	1245367	12.1431	ppb	#	91
33) Carbon Tetrachloride	10.10	117	1296066	13.7923	ppb		99
34) Cyclohexane	10.21	84	599085	12.9723	ppb	#	47
35) 1,2-Dichloropropane	10.77	63	509720	11.4417	ppb		91
36) Bromodichloromethane	10.95	83	1113255	12.4950	ppb		99
37) 1,4-Dioxane	11.01	88	295949	11.5790	ppb	#	79
38) Trichloroethene	10.99	130	764355	13.0623	ppb		95
39) Methyl Methacrylate	11.17	69	440906	12.4223	ppb		94
40) Heptane	11.26	71	443334	12.6577	ppb	#	50
41) cis-1,3-Dichloropropene	11.84	75	718946	12.1267	ppb		96
42) 4-Methyl-2-Pentanone	11.88	43	1044002	10.3098	ppb	#	80
43) trans-1,3-Dichloropropene	12.36	75	644981	12.2756	ppb		95
44) 1,1,2-Trichloroethane	12.55	97	592832	12.4846	ppb	#	88
45) Toluene	12.83	91	1582364	12.5547	ppb		99
46) 2-Hexanone	13.08	43	924203	11.0044	ppb	#	86
47) Dibromochloromethane	13.27	129	1289107	13.3997	ppb		99
48) 1,2-Dibromoethane	13.53	107	946744	12.8932	ppb		98
49) Tetrachloroethene	13.99	166	793875	13.0076	ppb	#	75

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\10APR17L\LN48LCS.D Vial: 2
Acq Time : 04/10/2017 14:12 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 35937 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 10 16:17:51 2017 Results File: TO15LU16.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Mon Apr 10 10:29:51 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51)	Chlorobenzene	14.71	112	959055	10.7402	ppb		96
52)	Ethylbenzene	15.10	91	1434838	10.2635	ppb		96
53)	m,p-Xylene	15.29	91	1999891	18.3594	ppb		99
54)	Bromoform	15.40	173	522059	9.0805	ppb		99
55)	Styrene	15.69	104	810970	9.1476	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.81	83	858778	9.6446	ppb		98
57)	o-Xylene	15.81	91	1146498	9.5300	ppb		98
59)	4-Ethyl Toluene	17.24	105	1768060	11.8903	ppb		98
60)	1,3,5-Trimethylbenzene	17.34	105	1078308	8.9585	ppb		98
61)	1,2,4-Trimethylbenzene	17.86	105	1284525	11.2977	ppb		98
62)	Benzyl Chloride	18.04	91	871521	10.1320	ppb		95
63)	m-Dichlorobenzene	18.06	146	781310	9.7763	ppb	#	95
64)	p-Dichlorobenzene	18.15	146	729929	9.2156	ppb	#	95
65)	o-Dichlorobenzene	18.61	146	810940	10.7800	ppb	#	95
66)	1,2,4-Trichlorobenzene	21.13	180	275855	9.7855	ppb	#	95
67)	Naphthalene	21.31	128	861313	10.7446	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	196963	9.2584	ppb		96

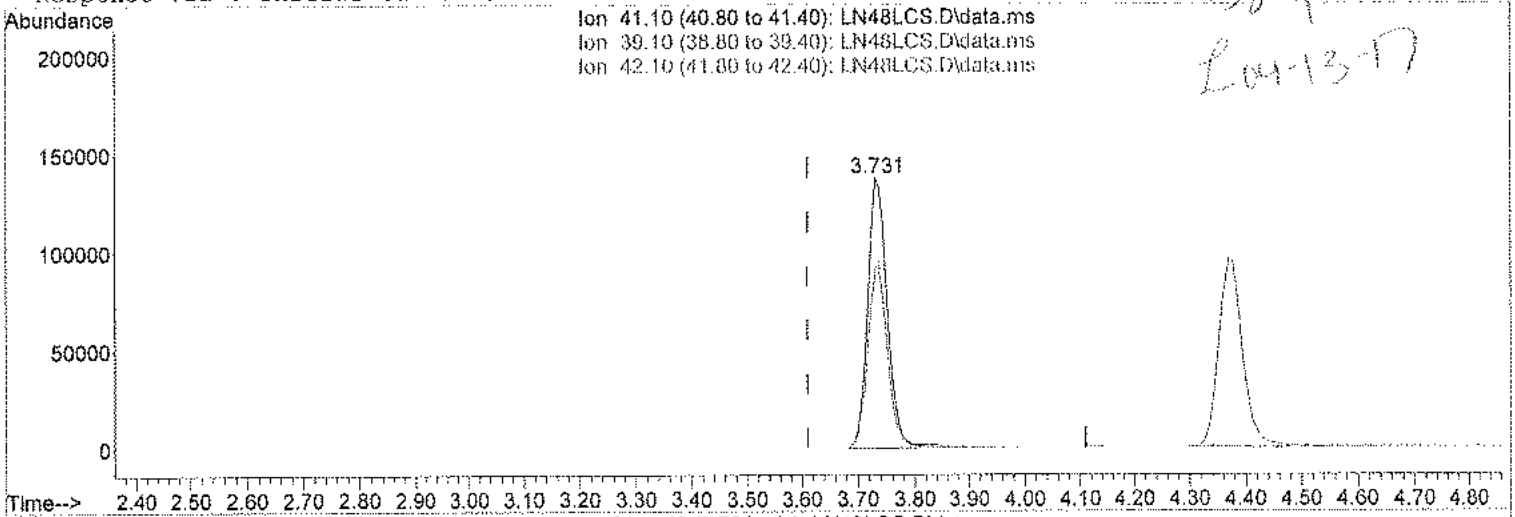
(#) = qualifier out of range (m) = manual integration

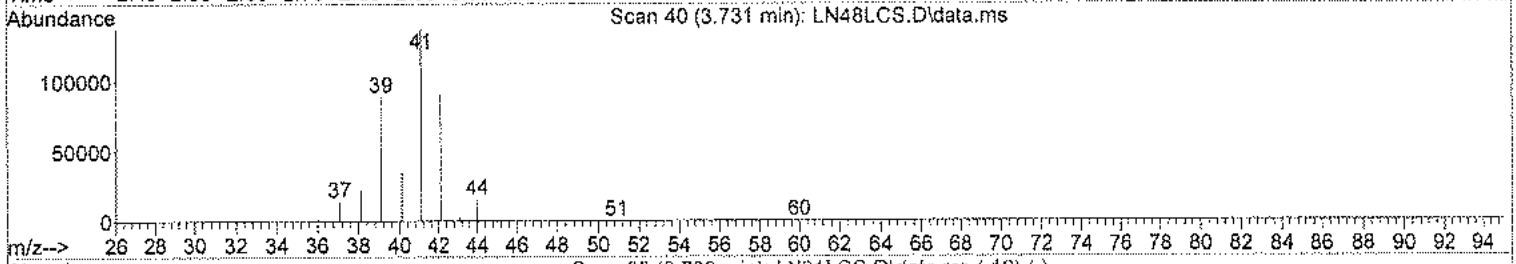
Quantitation Report (Qedit)

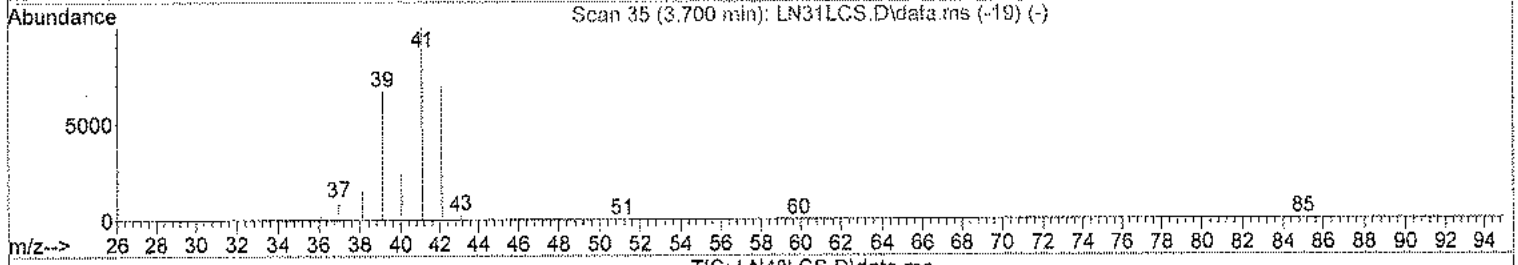
Data Path : I:\L - 5975-L\2017\APR17L\10APR17L\
Data File : LN48LCS.D
Acq On : 04/10/2017 14:12
Operator : LMR
Sample : QC
Inst : 5975-L
Misc : 35937 200 mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 10 16:17:51 2017
Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m
Quant Title : TO-15
QLast Update : Mon Apr 10 10:29:51 2017
Response via : Initial Calibration

MISS dpm
LN-13-D







TIC: LN48LCS.D\data.ms

(2) Propene

3.731min (+ 0.120) 9.51 ppb m

response 320006

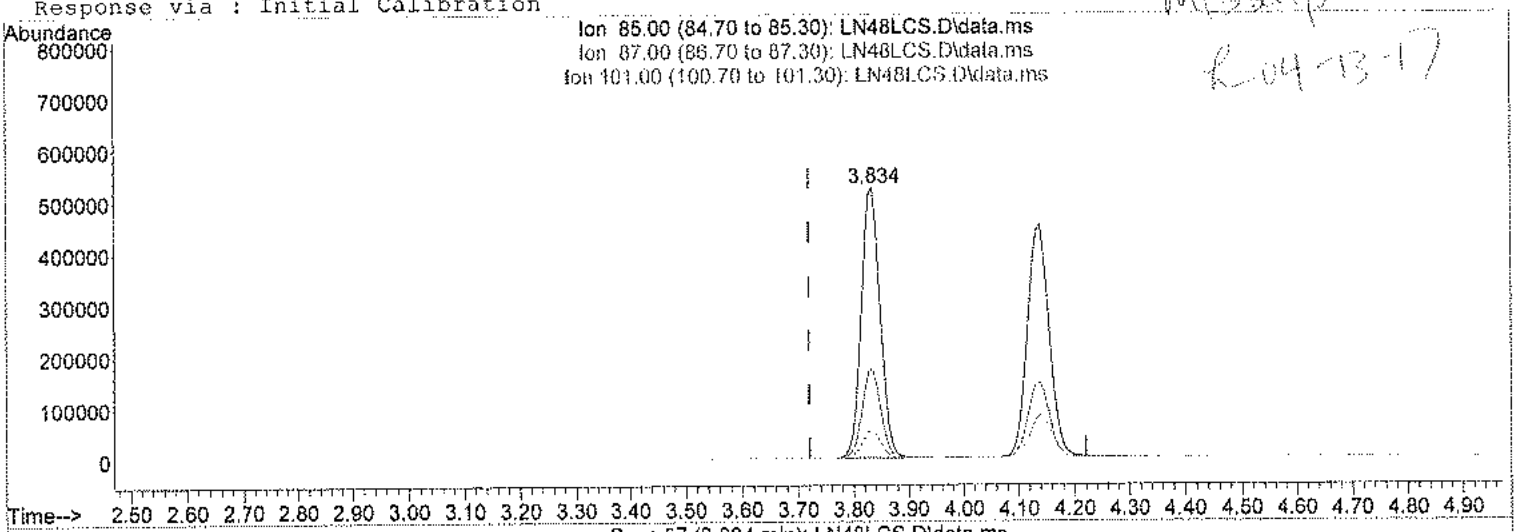
Ion	Exp%	Act%
41.10	100.00	100.00
39.10	70.30	0.00#
42.10	67.20	0.00#
0.00	0.00	0.00

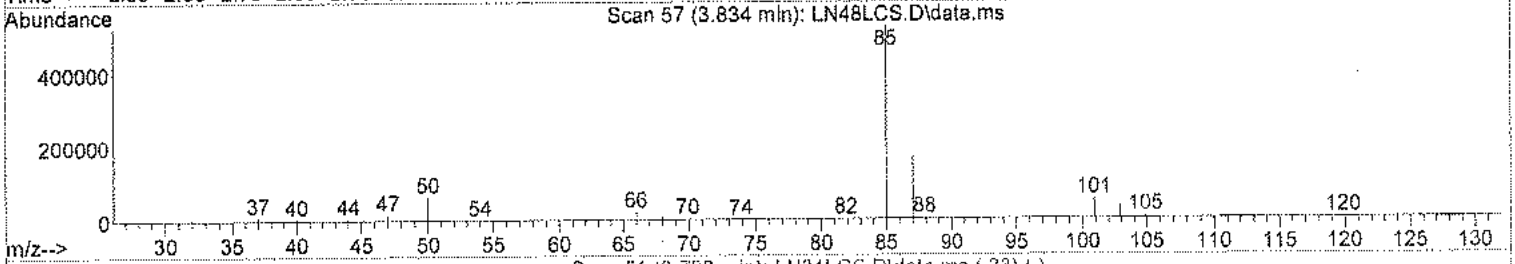
Quantitation Report (Qedit)

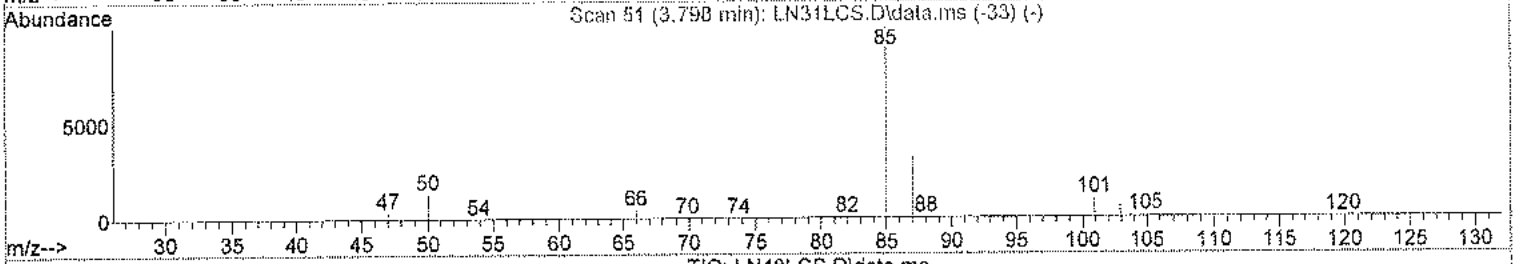
Data Path : I:\L - 5975-L\2017\APR17L\10APR17L\
Data File : LN48LCS.D
Acq On : 04/10/2017 14:12
Operator : LMR
Sample : QC
Inst : 5975-L
Misc : 35937 200 mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 10 16:17:51 2017
Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m
Quant Title : TO-15
QLast Update : Mon Apr 10 10:29:51 2017
Response via : Initial Calibration

Mussdpc
4-13-17







TIC: LN48LCS.D\data.ms

(3) Dichlorodifluoromethane

3.834min (+ 0.114) 12.18 ppb m

response 1241067

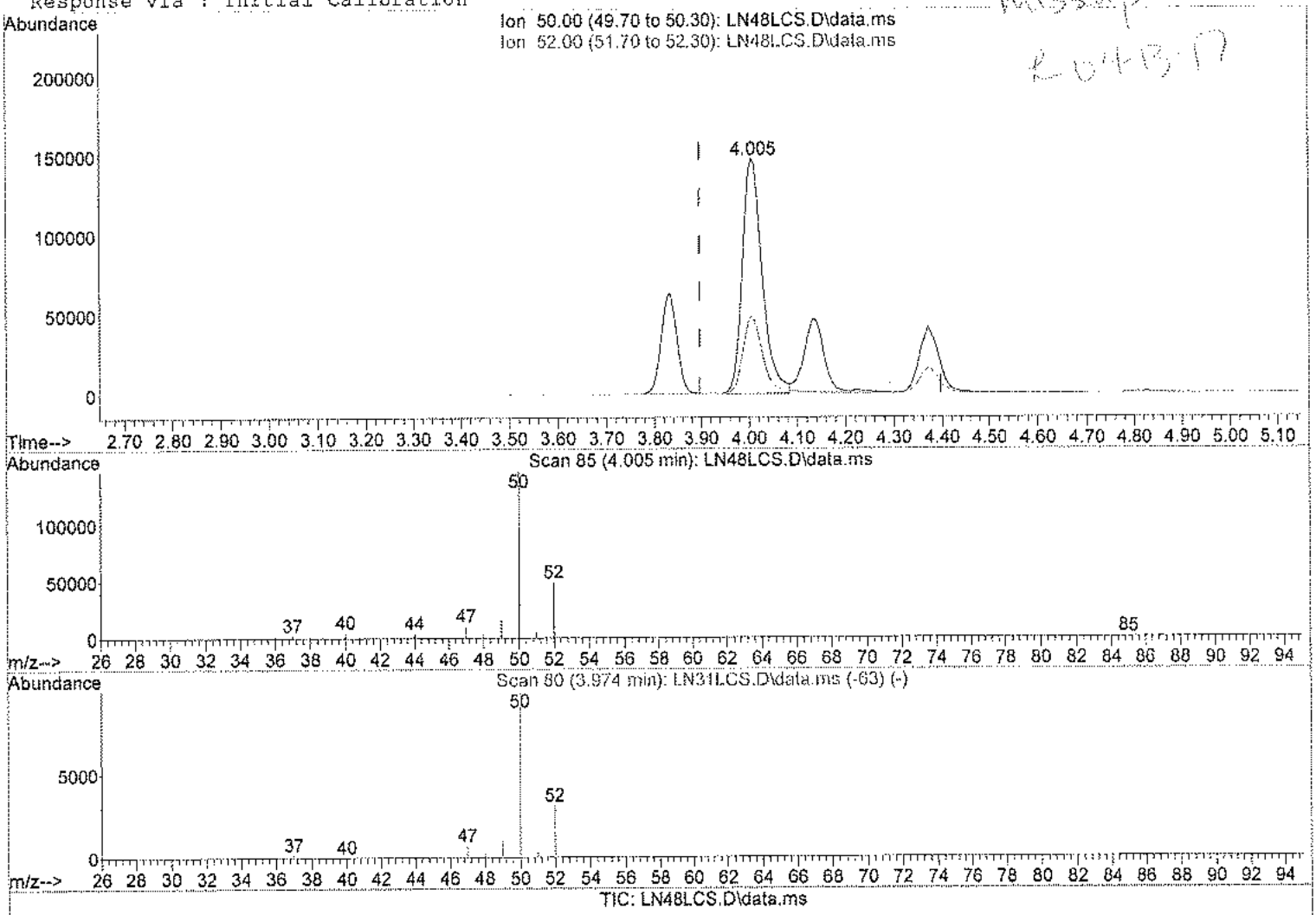
Ion	Exp%	Act%
85.00	100.00	100.00
87.00	32.60	0.00#
101.00	10.00	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\10APR17L\
Data File : LN48LCS.D
Acq On : 04/10/2017 14:12
Operator : LMR
Sample : QC
Inst : 5975-L
Misc : 35937 200 mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 10 16:17:51 2017
Quant Method : X:\L - 5975-L\METHODS\TO15LU16.m
Quant Title : TO-15
QLast Update : Mon Apr 10 10:29:51 2017
Response via : Initial Calibration

missed per
LN48.P



TIC: LN48LCS.D\data.ms

(4) Chloromethane

4.005min (+ 0.108) 10.80 ppb m

response 421831

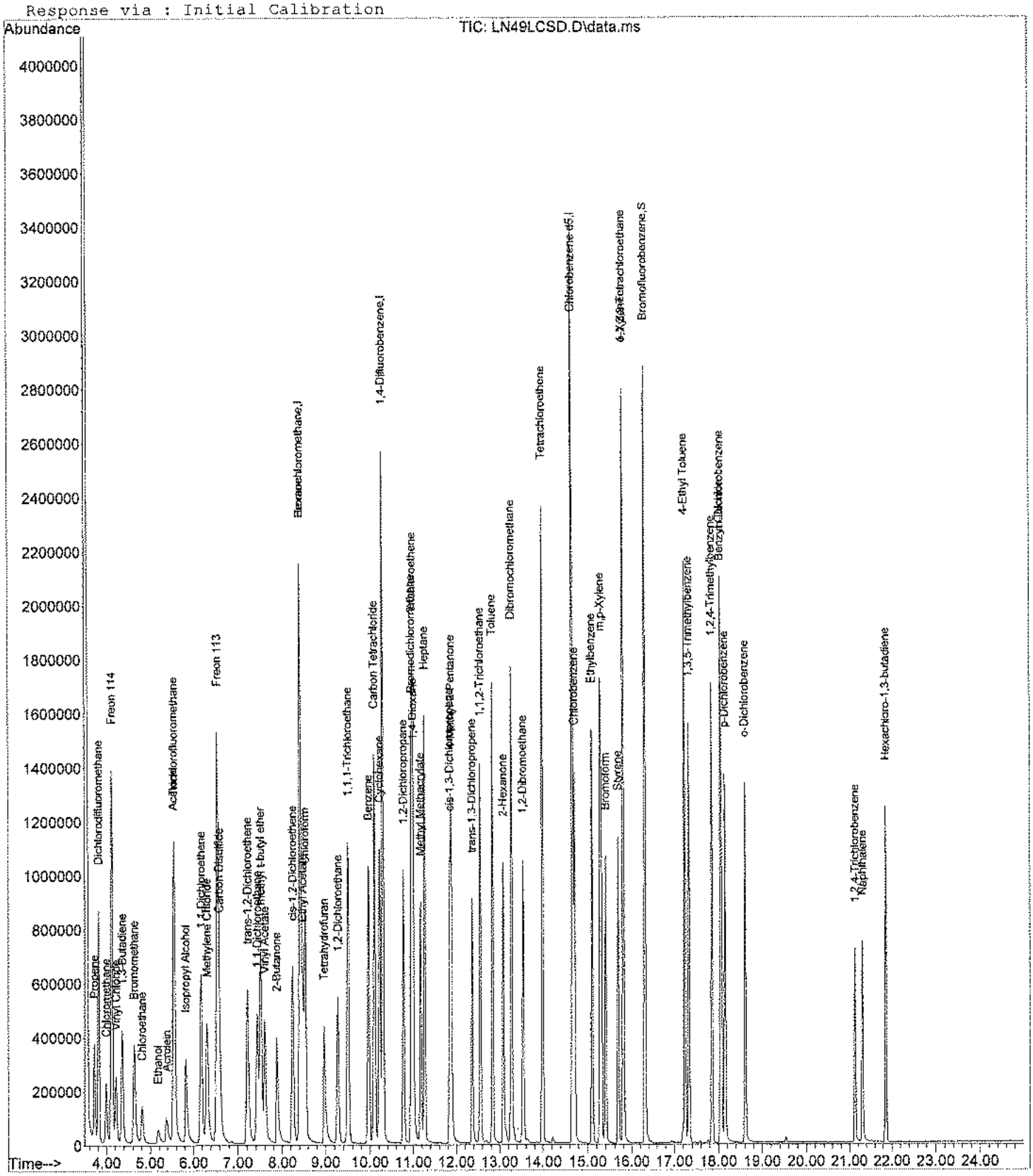
Ion	Exp%	Act%
50.00	100.00	100.00
52.00	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN49LCSD.D Vial: 2
Acq Time : 04/10/2017 15:02 Operator: LMR
Sample : QD- Inst : 5975-L
Misc : 35937 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 13 10:34:15 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN49LCSD.D Vial: 2
Acq Time : 04/10/2017 15:02 Operator: LMR
Sample : QD- Inst : 5975-L
Misc : 35937 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 13 10:34:15 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.41	130	245888	20.0000	ppb		130.15
25) 1,4-Difluorobenzene	10.29	114	2730214	20.0000	ppb		119.15
50) Chlorobenzene d5	14.66	117	2361858	20.0000	ppb		118.26
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.32	95	1224469	19.7652	ppb		98.83%
Target Compounds							Qvalue
2) Propene	3.72	41	315427	9.5417	ppb		98
3) Dichlorodifluoromethane	3.82	85	1196745	11.9570	ppb		100
4) Chloromethane	3.99	50	406977	10.6057	ppb		100
5) Freon 114	4.13	135	893481	12.6657	ppb	#	66
6) Vinyl Chloride	4.22	62	440030	11.0027	ppb		95
7) 1,3-Butadiene	4.36	54	346231	10.5453	ppb		95
8) Bromomethane	4.63	94	441715	12.0406	ppb		97
9) Chloroethane	4.81	64	210441	10.3994	ppb	#	91
10) Acrolein	5.38	56	196837	10.8725	ppb	#	96
11) Acetone	5.53	43	632735	9.7888	ppb		96
12) Trichlorofluoromethane	5.55	101	1448714	12.1395	ppb		99
13) Ethanol	5.18	45	124480	10.1573	ppb	#	81
14) Isopropyl Alcohol	5.82	45	692894	9.9828	ppb		96
15) 1,1-Dichloroethene	6.17	61	764045	11.1809	ppb	#	73
16) Methylene Chloride	6.31	84	390753	11.1059	ppb	#	60
17) Freon 113	6.55	151	813530	13.0678	ppb	#	58
18) Carbon Disulfide	6.59	76	1089160	11.1811	ppb	#	66
19) trans-1,2-Dichloroethene	7.21	96	447509	11.9705	ppb	#	74
20) 1,1-Dichloroethane	7.43	63	800735	11.0037	ppb		96
21) methyl t-butyl ether	7.50	73	1052596	11.6499	ppb	#	82
22) Vinyl Acetate	7.59	86	111915	12.2741	ppb	#	1
23) 2-Butanone	7.86	43	830121	10.0356	ppb	#	74
24) cis-1,2-Dichloroethene	8.24	96	484713	11.7901	ppb	#	74
26) Ethyl Acetate	8.48	61	133527	11.9349	ppb	#	1
27) Hexane	8.42	57	748952	11.2856	ppb	#	83
28) Chloroform	8.53	83	981395	12.6350	ppb		98
29) Tetrahydrofuran	8.97	42	481056	10.3021	ppb	#	68
30) 1,2-Dichloroethane	9.27	62	677209	12.0366	ppb	#	93
31) 1,1,1-Trichloroethane	9.50	97	1047085	12.6100	ppb	#	91
32) Benzene	9.96	78	1212086	11.8916	ppb	#	92
33) Carbon Tetrachloride	10.10	117	1243384	13.3135	ppb		99
34) Cyclohexane	10.22	84	580109	12.6390	ppb	#	47
35) 1,2-Dichloropropane	10.77	63	495571	11.1929	ppb		91
36) Bromodichloromethane	10.95	83	1078318	12.1777	ppb		99
37) 1,4-Dioxane	11.01	88	285457	11.2375	ppb	#	80
38) Trichloroethene	10.99	130	737315	12.6781	ppb		95
39) Methyl Methacrylate	11.17	69	429168	12.1663	ppb		93
40) Heptane	11.27	71	427500	12.2810	ppb	#	49
41) cis-1,3-Dichloropropene	11.84	75	696959	11.8285	ppb		96
42) 4-Methyl-2-Pentanone	11.88	43	1016173	10.0970	ppb	#	80
43) trans-1,3-Dichloropropene	12.36	75	618724	11.8486	ppb		95
44) 1,1,2-Trichloroethane	12.55	97	570789	12.0947	ppb	#	88
45) Toluene	12.83	91	1514604	12.0914	ppb		99
46) 2-Hexanone	13.08	43	885986	10.6145	ppb	#	86
47) Dibromochloromethane	13.27	129	1236369	12.9310	ppb		99
48) 1,2-Dibromoethane	13.53	107	906259	12.4182	ppb		99
49) Tetrachloroethene	13.99	166	759253	12.5172	ppb	#	75

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN49LCSD.D Vial: 2
Acq Time : 04/10/2017 15:02 Operator: LMR
Sample : QD- Inst : 5975-L
Misc : 35937 200mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 13 10:34:15 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51)	Chlorobenzene	14.71	112	928852	10.4347	ppb		97
52)	Ethylbenzene	15.09	91	1322228	9.4877	ppb		97
53)	m,p-Xylene	15.30	91	1854900	17.0819	ppb		99
54)	Bromoform	15.40	173	503102	8.7783	ppb		99
55)	Styrene	15.69	104	739519	8.3679	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.80	83	810541	9.1315	ppb		99
57)	o-Xylene	15.81	91	1091772	9.1036	ppb		98
59)	4-Ethyl Toluene	17.24	105	1671436	11.2758	ppb		98
60)	1,3,5-Trimethylbenzene	17.33	105	1047870	8.7330	ppb		98
61)	1,2,4-Trimethylbenzene	17.85	105	1168616	10.3106	ppb		97
62)	Benzyl Chloride	18.04	91	821102	9.5758	ppb		95
63)	m-Dichlorobenzene	18.06	146	781406	9.8083	ppb	#	94
64)	p-Dichlorobenzene	18.15	146	708539	8.9737	ppb		94
65)	o-Dichlorobenzene	18.61	146	706237	9.4176	ppb	#	95
66)	1,2,4-Trichlorobenzene	21.13	180	261181	9.2941	ppb	#	94
67)	Naphthalene	21.31	128	824419	10.3167	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	188821	8.9036	ppb		96

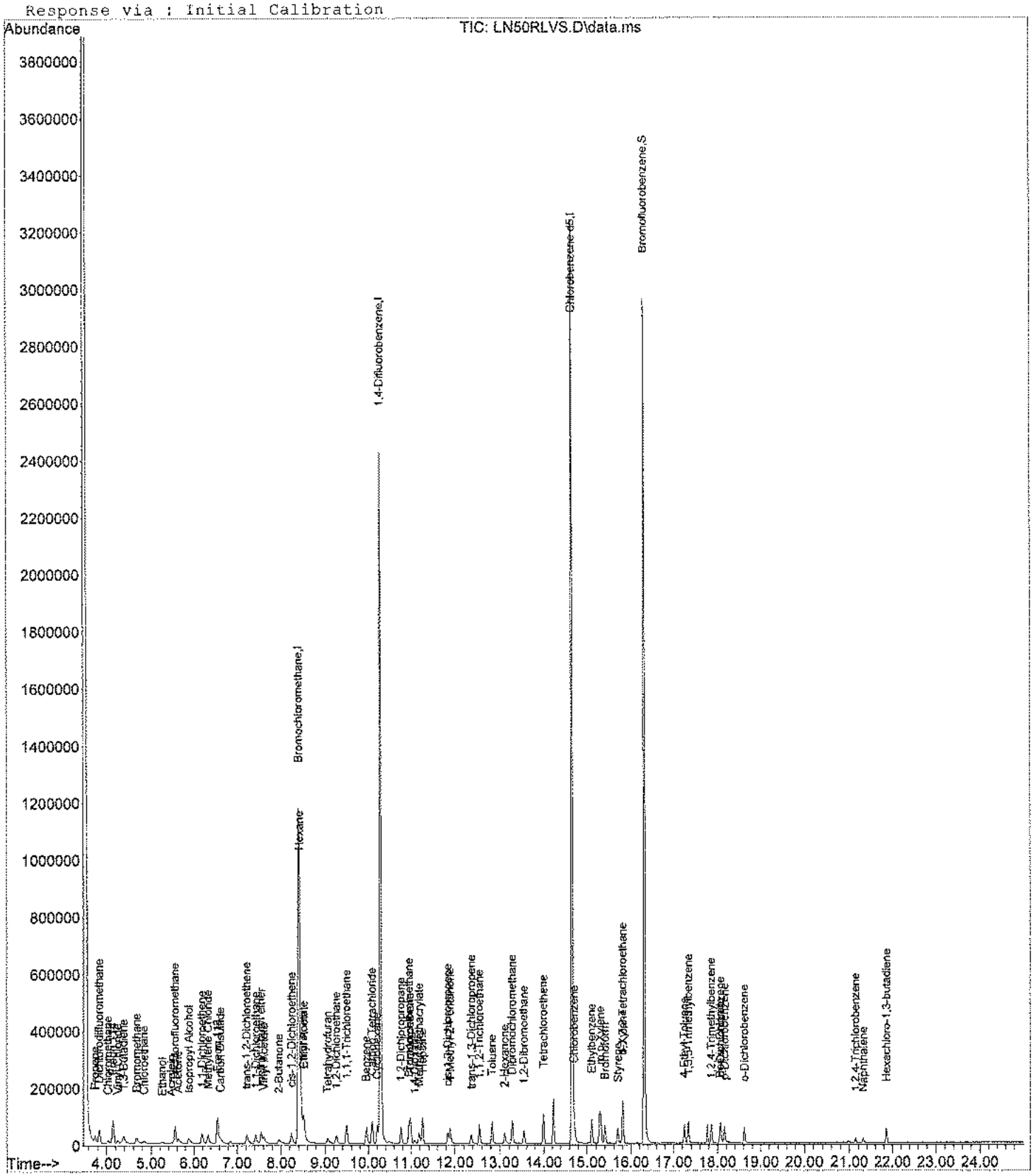
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN50RLVS.D Vial: 3
Acq Time : 04/10/2017 15:51 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 35941 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 13 10:34:49 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN50RLVS.D Vial: 3
Acq Time : 04/10/2017 15:51 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 35941 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 13 10:34:49 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.40	130	225024	20.0000	ppb		119.11
25) 1,4-Difluorobenzene	10.28	114	2719386	20.0000	ppb		118.67
50) Chlorobenzene d5	14.66	117	2243496	20.0000	ppb		112.33
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.31	95	1243127	21.1251	ppb		105.63%
Target Compounds							Qvalue
2) Propene	3.75	41	17433	0.5762	ppb		99
3) Dichlorodifluoromethane	3.84	85	70200	0.7664	ppb		99
4) Chloromethane	4.03	50	22445	0.6391	ppb		96
5) Freon 114	4.15	135	52168	0.8081	ppb	#	66
6) Vinyl Chloride	4.25	62	25125	0.6865	ppb		96
7) 1,3-Butadiene	4.38	54	19538	0.6503	ppb	#	69
8) Bromomethane	4.67	94	25127	0.7484	ppb		97
9) Chloroethane	4.85	64	12543	0.6773	ppb	#	92
10) Acrolein	5.47	56	9016	0.5442	ppb	#	23
11) Acetone	5.63	43	44259	0.7482	ppb		100
12) Trichlorofluoromethane	5.55	101	84856	0.7770	ppb		99
13) Ethanol	5.25	45	8990	0.8016	ppb	#	53
14) Isopropyl Alcohol	5.89	45	44093	0.6942	ppb	#	96
15) 1,1-Dichloroethene	6.19	61	41803	0.6685	ppb	#	73
16) Methylene Chloride	6.33	84	23007	0.7145	ppb	#	56
17) Freon 113	6.56	151	45714	0.8024	ppb	#	57
18) Carbon Disulfide	6.63	76	63212	0.7091	ppb	#	54
19) trans-1,2-Dichloroethene	7.22	96	23835	0.6967	ppb	#	73
20) 1,1-Dichloroethane	7.42	63	45579	0.6844	ppb		96
21) methyl t-butyl ether	7.55	73	52701	0.6374	ppb	#	82
22) Vinyl Acetate	7.61	86	5358	0.6421	ppb	#	1
23) 2-Butanone	7.94	43	40750	0.5383	ppb	#	74
24) cis-1,2-Dichloroethene	8.24	96	25827	0.6865	ppb	#	72
26) Ethyl Acetate	8.52	61	7272	0.6526	ppb	#	1
27) Hexane	8.42	57	40836	0.6178	ppb	#	87
28) Chloroform	8.52	83	65270	0.8437	ppb		97
29) Tetrahydrofuran	9.05	42	21934	0.4716	ppb	#	61
30) 1,2-Dichloroethane	9.26	62	36775	0.6562	ppb	#	91
31) 1,1,1-Trichloroethane	9.49	97	56609	0.6845	ppb	#	89
32) Benzene	9.96	78	67594	0.6658	ppb	#	92
33) Carbon Tetrachloride	10.08	117	67004	0.7203	ppb		99
34) Cyclohexane	10.21	84	30476	0.6666	ppb	#	47
35) 1,2-Dichloropropane	10.76	63	27714	0.6284	ppb		92
36) Bromodichloromethane	10.94	83	55967	0.6346	ppb		98
37) 1,4-Dioxane	11.07	88	14609	0.5774	ppb	#	87
38) Trichloroethene	10.98	130	38484	0.6644	ppb		93
39) Methyl Methacrylate	11.18	69	21250	0.6048	ppb		96
40) Heptane	11.26	71	22927	0.6613	ppb	#	47
41) cis-1,3-Dichloropropene	11.84	75	30932	0.5271	ppb		95
42) 4-Methyl-2-Pentanone	11.89	43	50575	0.5045	ppb	#	77
43) trans-1,3-Dichloropropene	12.37	75	24685	0.4746	ppb		94
44) 1,1,2-Trichloroethane	12.55	97	28654	0.6096	ppb	#	88
45) Toluene	12.83	91	75158	0.6024	ppb		96
46) 2-Hexanone	13.10	43	37267	0.4483	ppb	#	83
47) Dibromochloromethane	13.27	129	59156	0.6212	ppb		99
48) 1,2-Dibromoethane	13.53	107	42383	0.5831	ppb		100
49) Tetrachloroethene	13.99	166	35658	0.5902	ppb	#	76

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN50RLVS.D Vial: 3
Acq Time : 04/10/2017 15:51 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 35941 200 mL Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 13 10:34:49 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51)	Chlorobenzene	14.71	112	44472	0.5260	ppb		98
52)	Ethylbenzene	15.10	91	74665	0.5640	ppb		95
53)	m,p-Xylene	15.29	91	120775	1.1709	ppb		97
54)	Bromoform	15.40	173	34345	0.6309	ppb		98
55)	Styrene	15.69	104	38358	0.4569	ppb		97
56)	1,1,2,2-Tetrachloroethane	15.80	83	46733	0.5543	ppb	#	91
57)	o-Xylene	15.81	91	61974	0.5440	ppb		94
59)	4-Ethyl Toluene	17.25	105	52823	0.3752	ppb		100
60)	1,3,5-Trimethylbenzene	17.34	105	54502	0.4782	ppb		94
61)	1,2,4-Trimethylbenzene	17.86	105	48228	0.4480	ppb		97
62)	Benzyl Chloride	18.05	91	18320	0.2249	ppb	#	88
63)	m-Dichlorobenzene	18.06	146	35911	0.4745	ppb		94
64)	p-Dichlorobenzene	18.15	146	34628	0.4617	ppb	#	93
65)	o-Dichlorobenzene	18.61	146	32690	0.4589	ppb	#	94
66)	1,2,4-Trichlorobenzene	21.14	180	7506	0.2812	ppb	#	92
67)	Naphthalene	21.31	128	20899	0.2753	ppb		97
68)	Hexachloro-1,3-butadiene	21.86	225	8763	0.4350	ppb		100

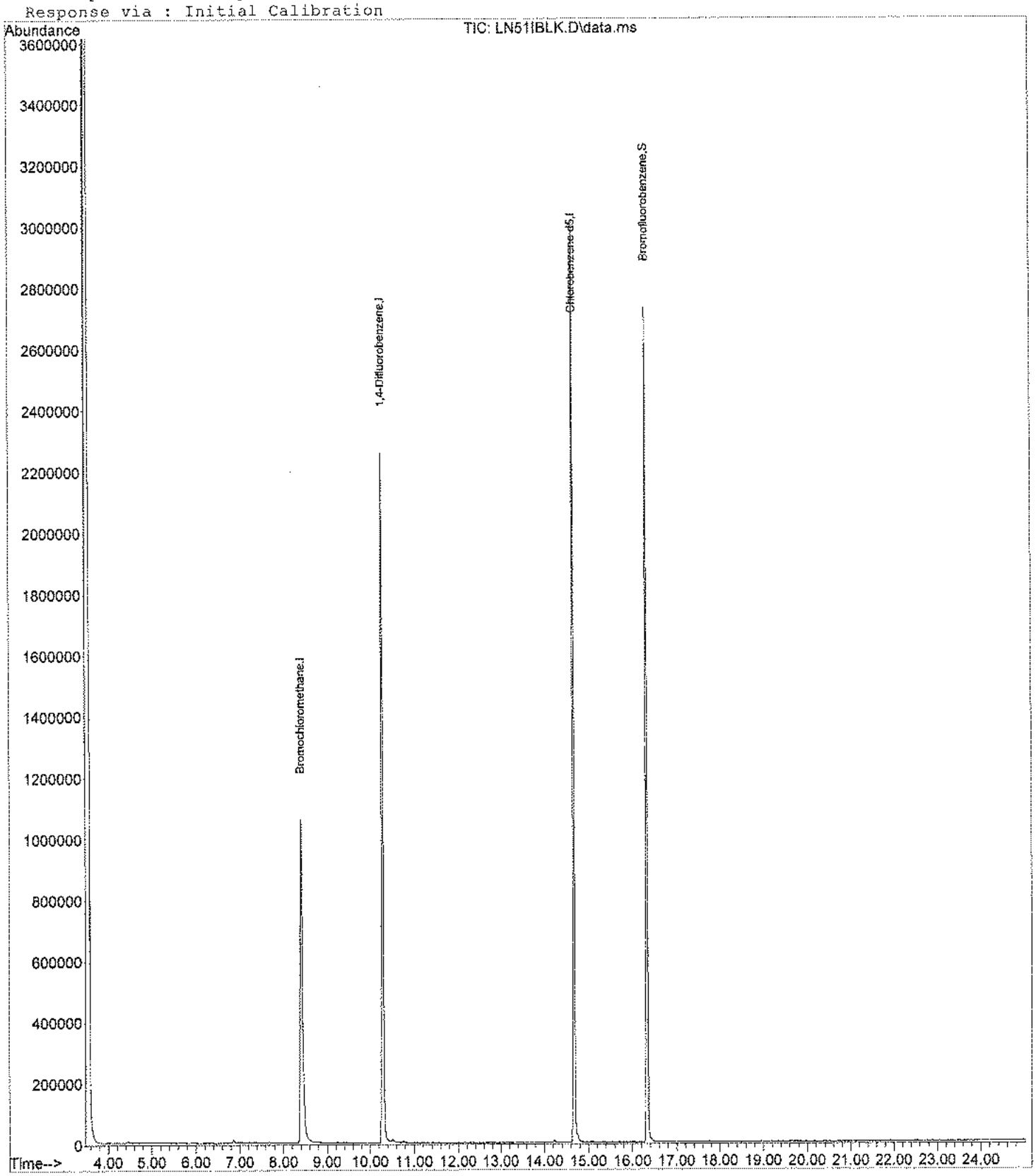
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN51IBLK.D Vial: 1
Acq Time : 04/10/2017 16:45 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 13 10:35:00 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN51IBLK.D Vial: 1
Acq Time : 04/10/2017 16:45 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 13 10:35:00 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.41	130	204864	20.0000 ppb	108.43
25) 1,4-Difluorobenzene	10.28	114	2574476	20.0000 ppb	112.35
50) Chlorobenzene d5	14.67	117	2105463	20.0000 ppb	105.42
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.33	95	1156575	20.9428 ppb	104.71%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	0.00	85		Not Detected	
4) Chloromethane	0.00	50		Not Detected	
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	0.00	43		Not Detected	
12) Trichlorofluoromethane	0.00	101		Not Detected	
13) Ethanol	0.00	45		Not Detected	
14) Isopropyl Alcohol	0.00	45		Not Detected	
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	0.00	84		Not Detected	
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	0.00	43		Not Detected	
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	0.00	61		Not Detected	
27) Hexane	0.00	57		Not Detected	
28) Chloroform	0.00	83		Not Detected	
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	0.00	78		Not Detected	
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	0.00	71		Not Detected	
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	
45) Toluene	0.00	91		Not Detected	
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN51IBLK.D Vial: 1
Acq Time : 04/10/2017 16:45 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 13 10:35:00 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	0.00	91		Not Detected	
53) m,p-Xylene	0.00	91		Not Detected	
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	0.00	91		Not Detected	
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

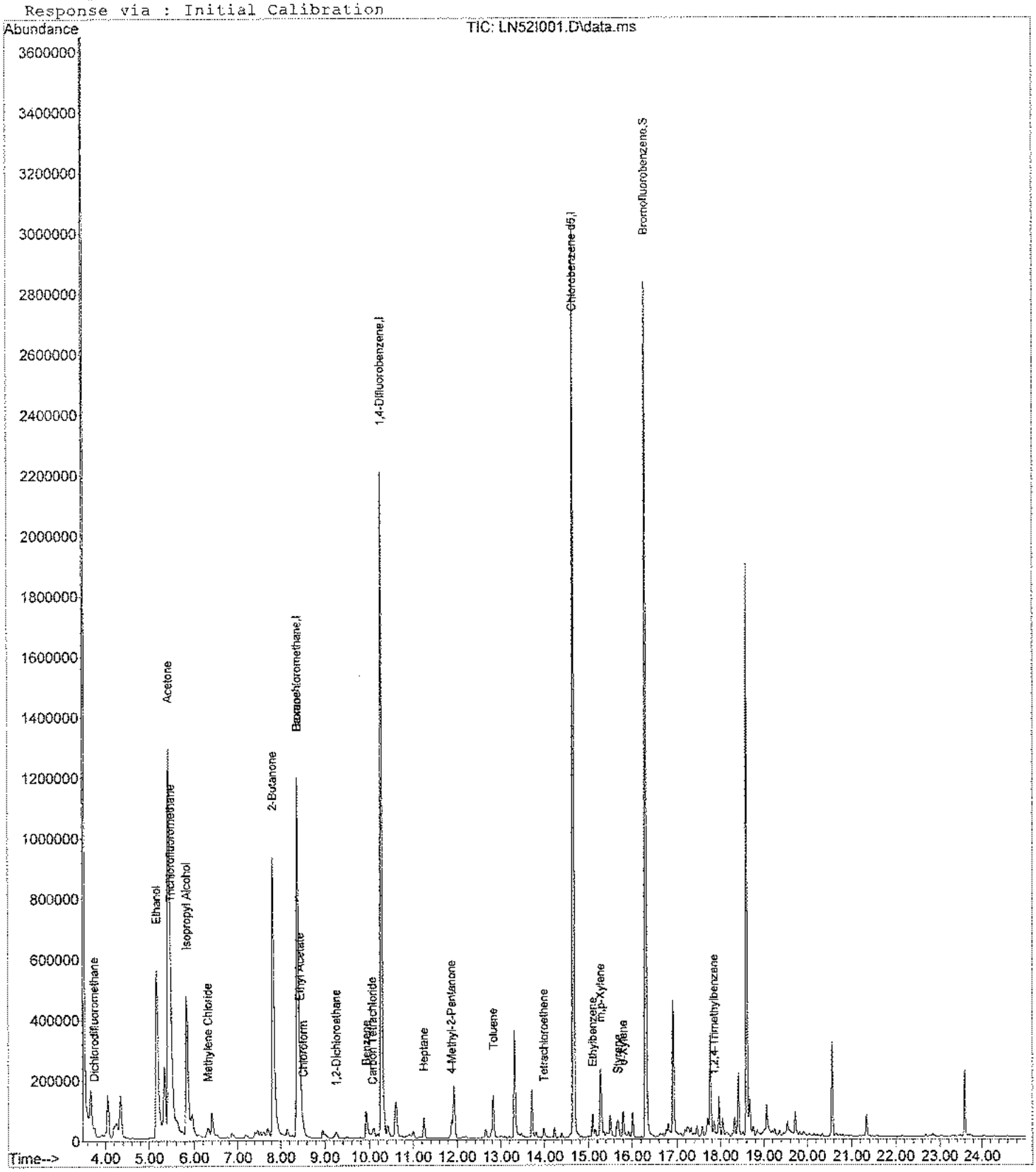
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN52I001.D Vial: 3
Acq Time : 04/10/2017 17:39 Operator: LMR
Sample : 1709321001 Inst : 5975-L
Misc : A-0001B-032317-TO-001-BAS 8INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:12:29 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 14 09:10:33 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN52I001.D Vial: 3
Acq Time : 04/10/2017 17:39 Operator: LMR
Sample : 1709321001 Inst : 5975-L
Misc : A-0001H-032317-TO-001-BAS 8INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:12:29 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.39	130	226112	20.0000 ppb	119.68
25) 1,4-Difluorobenzene	10.28	114	2506213	20.0000 ppb	109.37
50) Chlorobenzene d5	14.66	117	2086626	20.0000 ppb	104.47
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.31	95	1189768	21.7383 ppb	108.69%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	3.76	85	51174	0.5560 ppb	99
4) Chloromethane	0.00	50		Not Detected	
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.44	43	3731899	62.7846 ppb	96
12) Trichlorofluoromethane	5.49	101	27430	0.2500 ppb	100
13) Ethanol	5.17	45	1209534	107.3278 ppb #	80
14) Isopropyl Alcohol	5.83	45	934382	14.6394 ppb #	89
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.31	84	18098	0.5594 ppb #	54
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.83	43	2109665	27.7349 ppb #	73
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	8.45	61	59600	5.8033 ppb #	1
27) Hexane	8.39	57	13568	0.2227 ppb #	54
28) Chloroform	8.52	83	18559	0.2603 ppb	100
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	9.25	62	16659	0.3226 ppb #	91
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.94	78	18924	0.2023 ppb #	84
33) Carbon Tetrachloride	10.06	117	14869	0.1734 ppb	99
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	11.25	71	17852	0.5587 ppb #	31
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	11.88	43	64421	0.6973 ppb #	73
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	
45) Toluene	12.83	91	130239	1.1326 ppb	98
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	13.98	166	10139	0.1821 ppb #	77

(#) = qualifier out of range (m) = manual integration

Quantitation Report

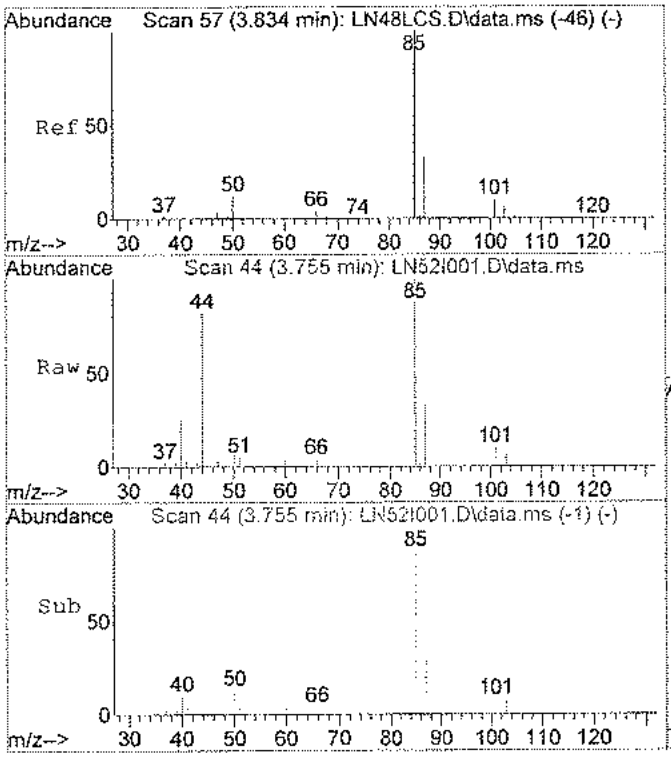
Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN52I001.D Vial: 3
Acq Time : 04/10/2017 17:39 Operator: LMR
Sample : 1709321001 Inst : 5975-L
Misc : A-0001H-032317-TO-001-BAS 8INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:12:29 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	15.09	91	71430	0.5802 ppb	94
53) m,p-Xylene	15.28	91	208496	2.1733 ppb	95
54) Bromoform	0.00	173		Not Detected	
55) Styrene	15.69	104	31426	0.4025 ppb	97
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	15.81	91	59245	0.5592 ppb	92
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	17.86	105	18304	0.1828 ppb	93
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

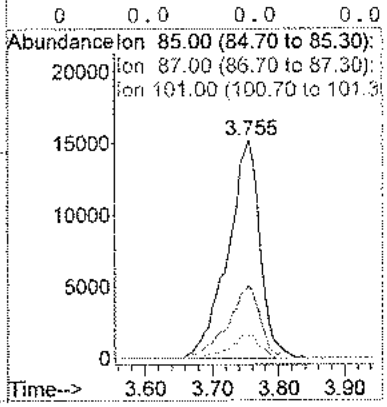
(#) = qualifier out of range (m) = manual integration

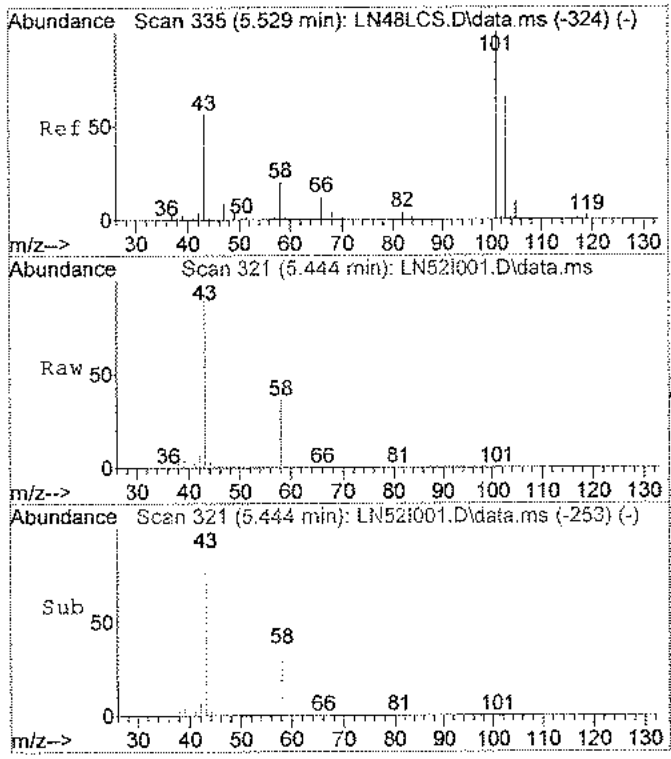


#3
Dichlorodifluoromethane
Concen: 0.56 ppb
RT: 3.76 min Scan# 44
Delta R.T. -0.08 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:85 Resp: 51174

Ion	Ratio	Lower	Upper
85	100		
87	33.2	26.1	39.1
101	9.8	8.0	12.0
0	0.0	0.0	0.0

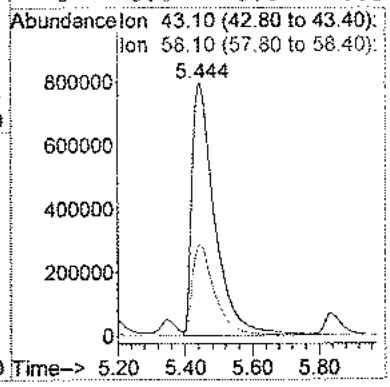


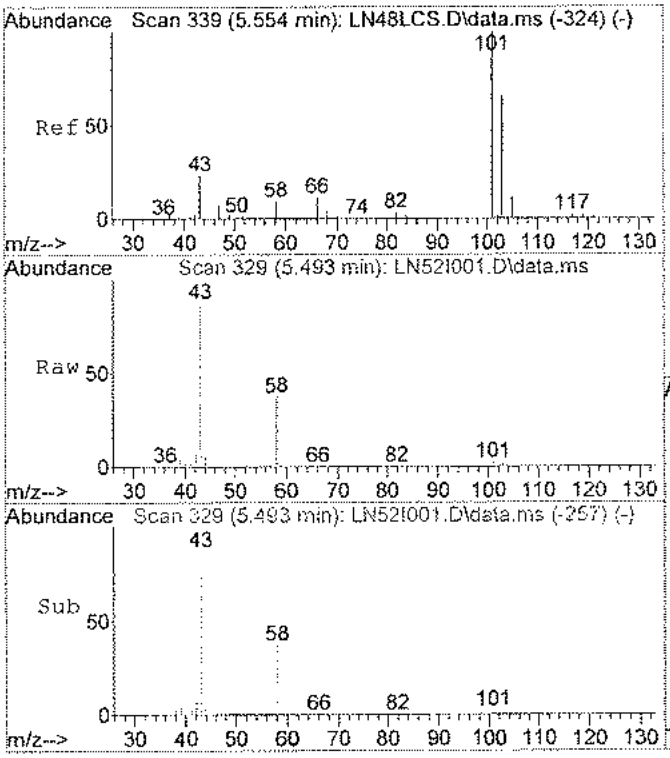


#11
Acetone
Concen: 62.78 ppb
RT: 5.44 min Scan# 321
Delta R.T. -0.09 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:43.1 Resp: 3731899

Ion	Ratio	Lower	Upper
43	100		
58	35.7	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

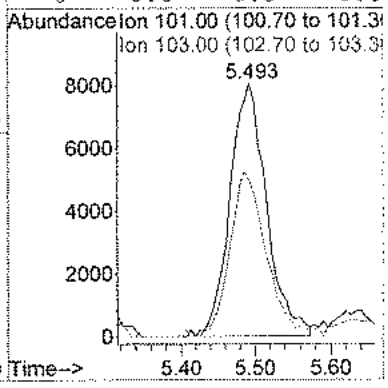


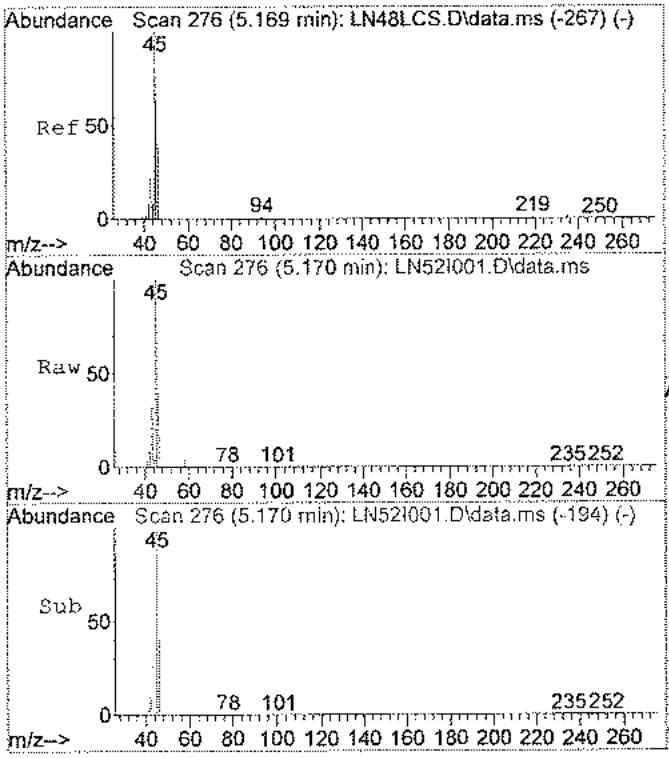


#12
Trichlorofluoromethane
Concen: 0.25 ppb
RT: 5.49 min Scan# 329
Delta R.T. -0.06 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:101 Resp: 27430

Ion	Ratio	Lower	Upper
101	100		
103	64.4	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

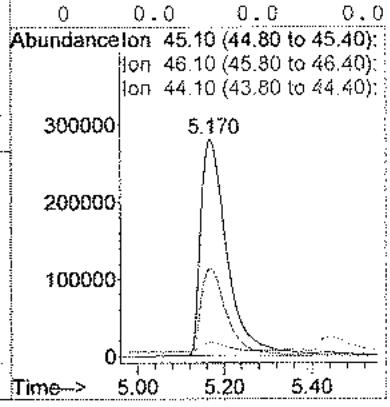


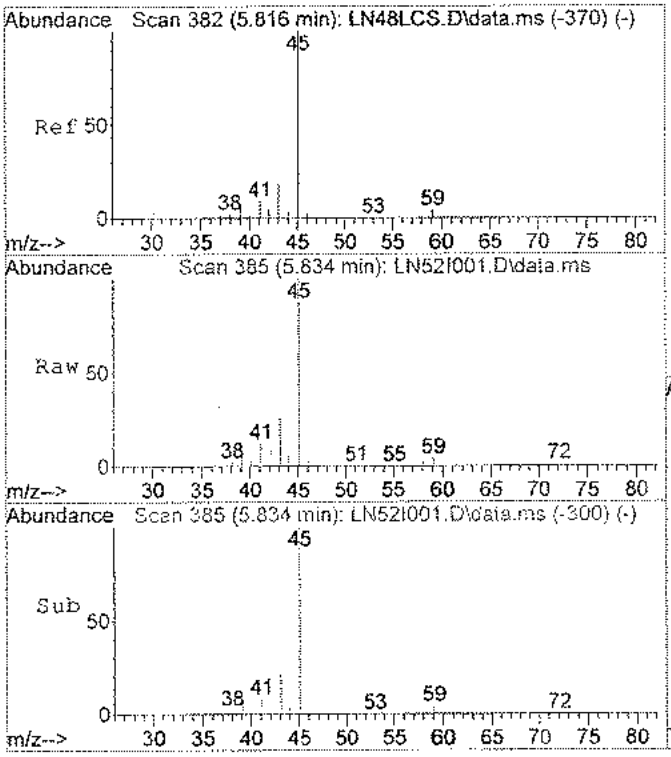


#13
Ethanol
Concen: 107.33 ppb
RT: 5.17 min Scan# 276
Delta R.T. 0.00 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:45.1 Resp: 1209534

Ion	Ratio	Lower	Upper
45	100		
46	40.7	32.4	48.6
44	4.1	23.4	35.2#
0	0.0	0.0	0.0

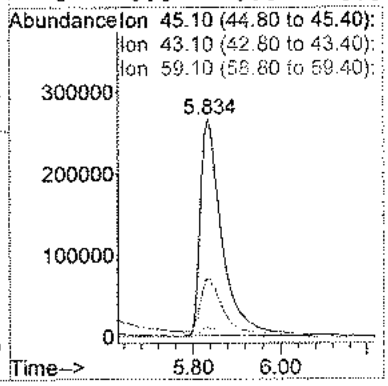


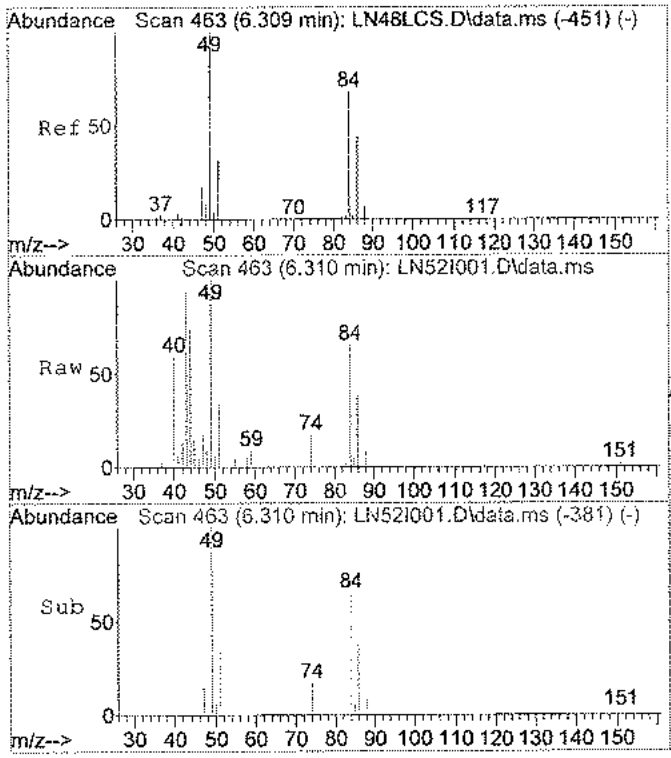


#14
Isopropyl Alcohol
Concen: 14.64 ppb
RT: 5.83 min Scan# 385
Delta R.T. 0.02 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:45.1 Resp: 934382

Ion	Ratio	Lower	Upper
45	100		
43	25.8	15.8	23.6#
59	4.1	3.2	4.8
0	0.0	0.0	0.0

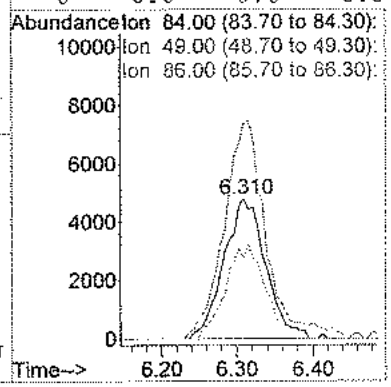


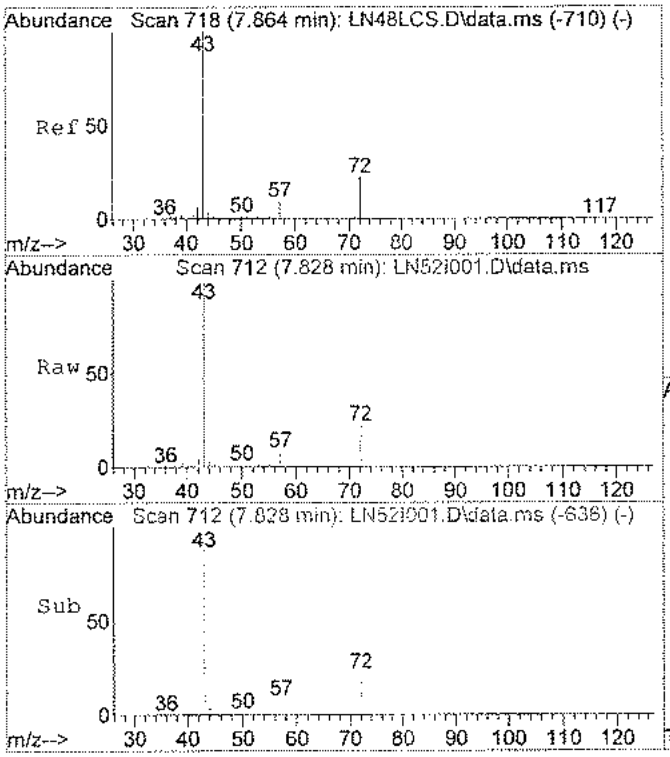


#16
Methylene Chloride
Concen: 0.56 ppb
RT: 6.31 min Scan# 463
Delta R.T. 0.00 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:84 Resp: 18098

Ion	Ratio	Lower	Upper
84	100		
49	156.4	66.6	100.0#
86	63.9	51.6	77.4
0	0.0	0.0	0.0

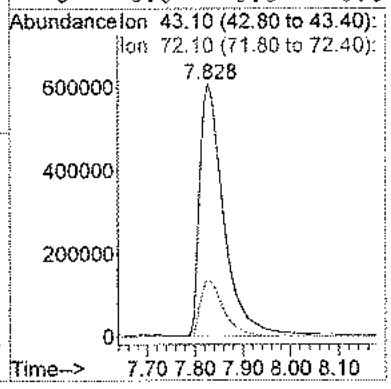


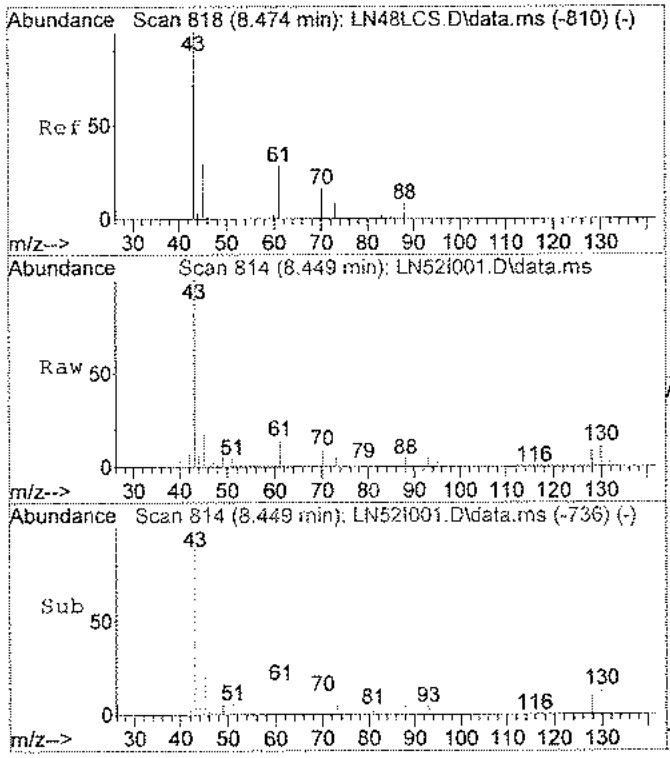


#23
2-Butanone
Concen: 27.73 ppb
RT: 7.83 min Scan# 712
Delta R.T. -0.04 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:43.1 Resp: 2109665

Ion	Ratio	Lower	Upper
43	100		
72	22.6	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

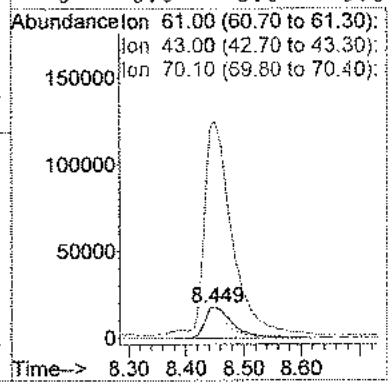


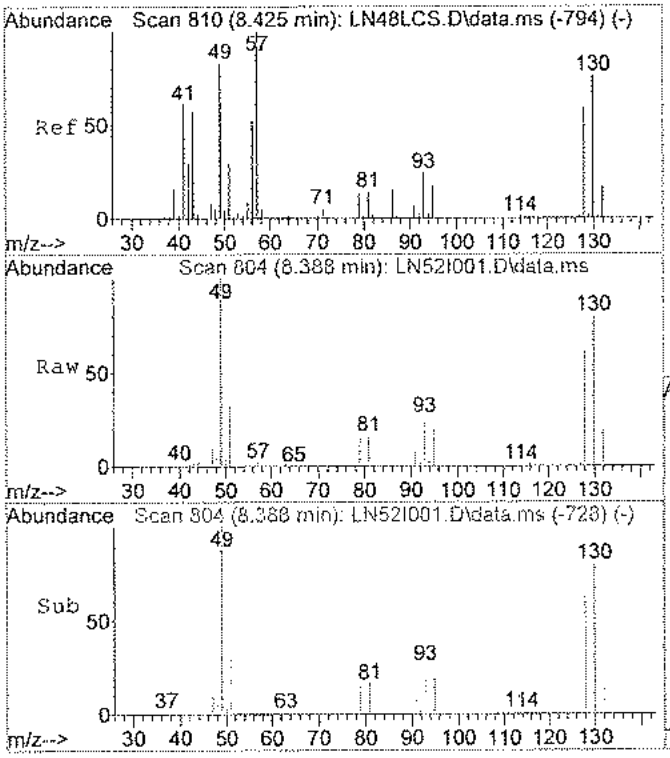


#26
Ethyl Acetate
Concen: 5.80 ppb
RT: 8.45 min Scan# 814
Delta R.T. -0.02 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:61 Resp: 59600

Ion	Ratio	Lower	Upper
61	100		
43	694.5	144.0	216.0#
70	60.9	13.6	20.4#
0	0.0	0.0	0.0

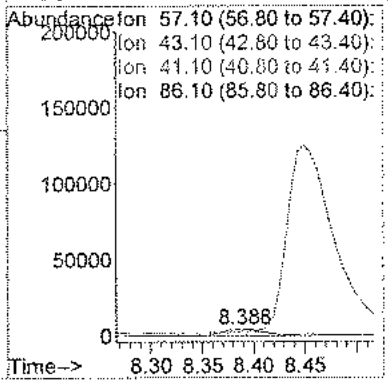


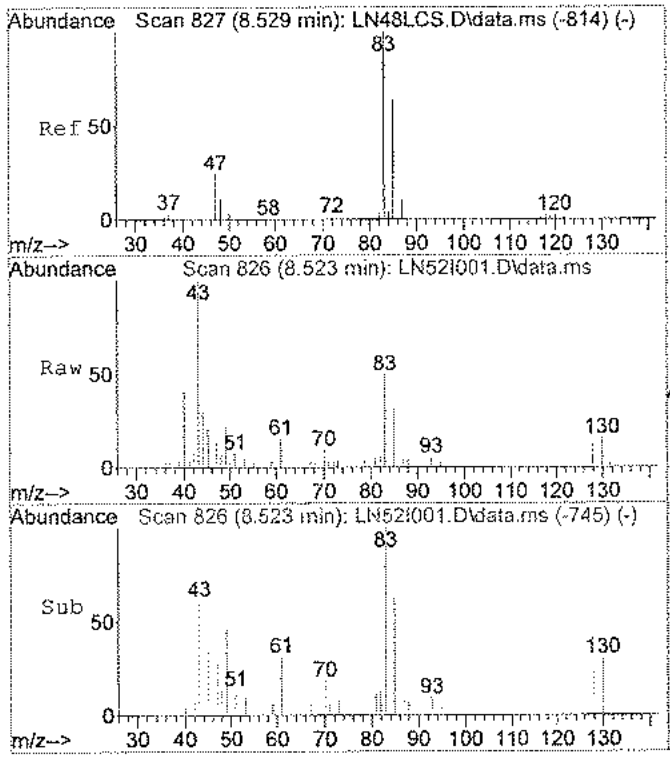


#27
Hexane
Concen: 0.22 ppb
RT: 8.39 min Scan# 804
Delta R.T. -0.04 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:57.1 Resp: 13568

Ion	Ratio	Lower	Upper
57	100		
43	0.0	57.3	85.9#
41	62.7	47.0	70.4
86	13.5	20.9	31.3#

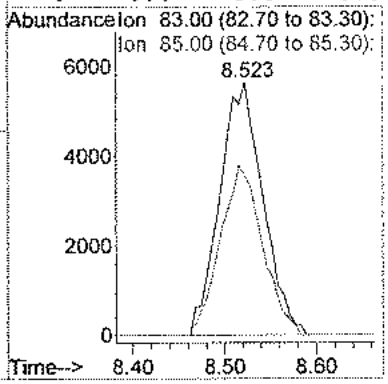


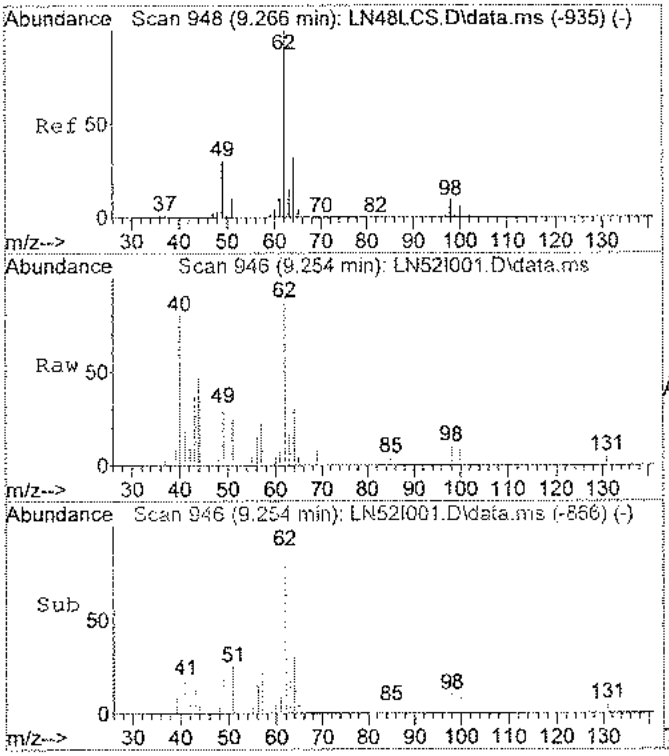


#28
Chloroform
Concen: 0.26 ppb
RT: 8.52 min Scan# 826
Delta R.T. -0.01 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:83 Resp: 18559

Ion	Ratio	Lower	Upper
83	100		
85	65.4	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

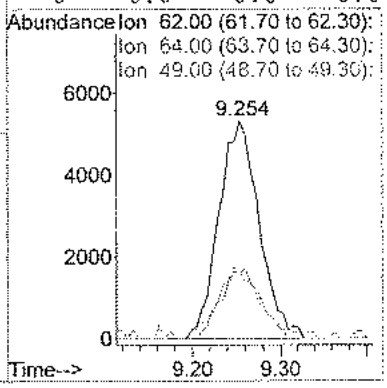


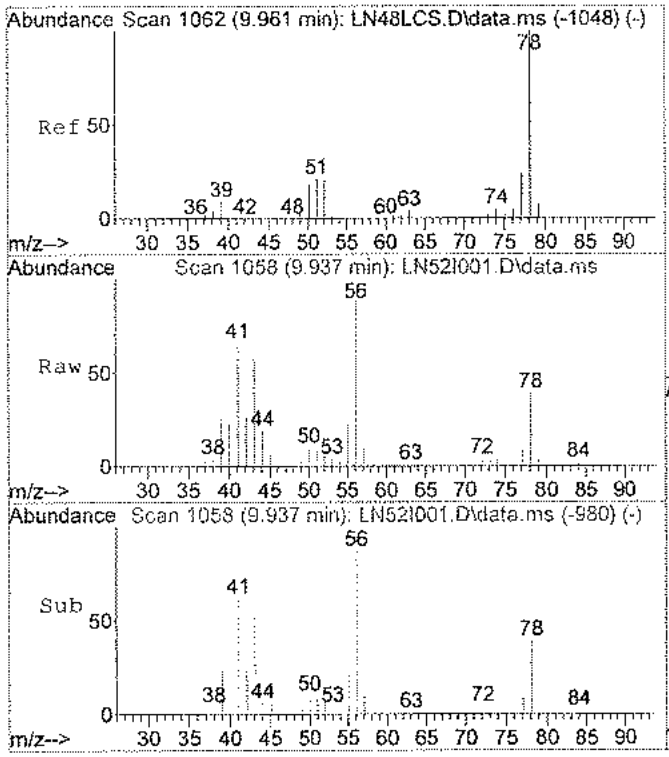


#30
1,2-Dichloroethane
Concen: 0.32 ppb
RT: 9.25 min Scan# 946
Delta R.T. -0.01 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:62 Resp: 16659

Ion	Ratio	Lower	Upper
62	100		
64	31.7	26.0	39.0
49	33.0	18.5	27.7#
0	0.0	0.0	0.0

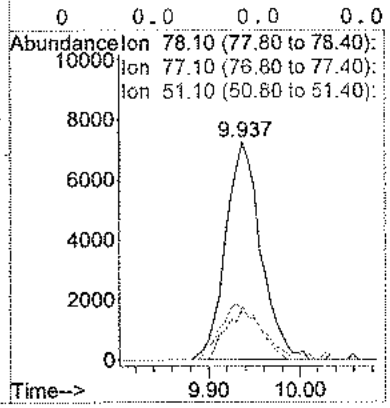


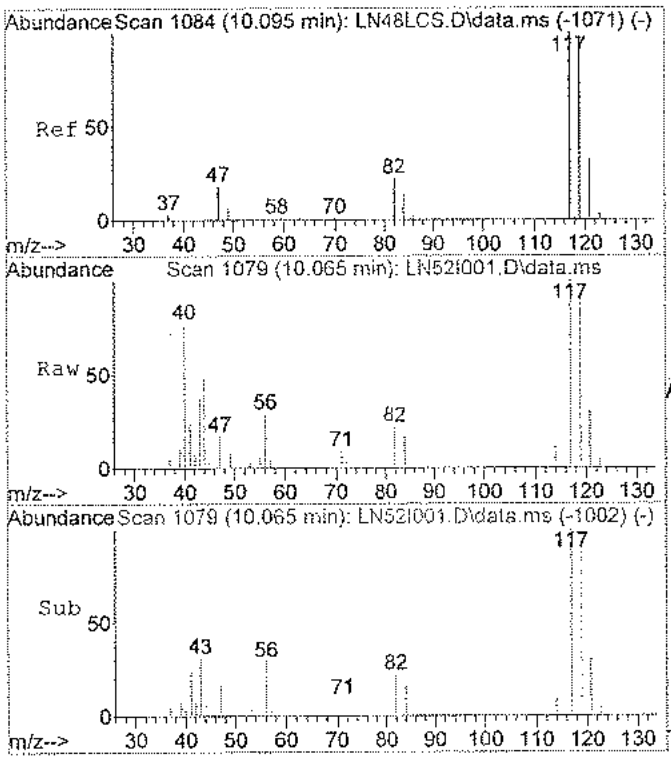


#32
Benzene
Concen: 0.20 ppb
RT: 9.94 min Scan# 1058
Delta R.T. -0.02 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:78.1 Resp: 18924

Ion	Ratio	Lower	Upper
78	100		
77	23.3	18.2	27.4
51	29.7	9.5	14.3#
0	0.0	0.0	0.0

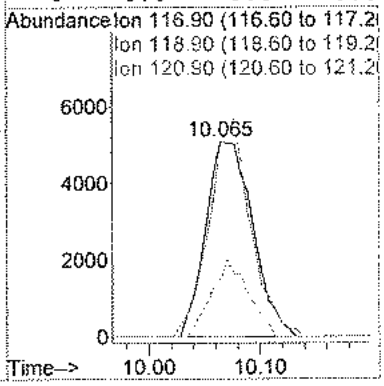


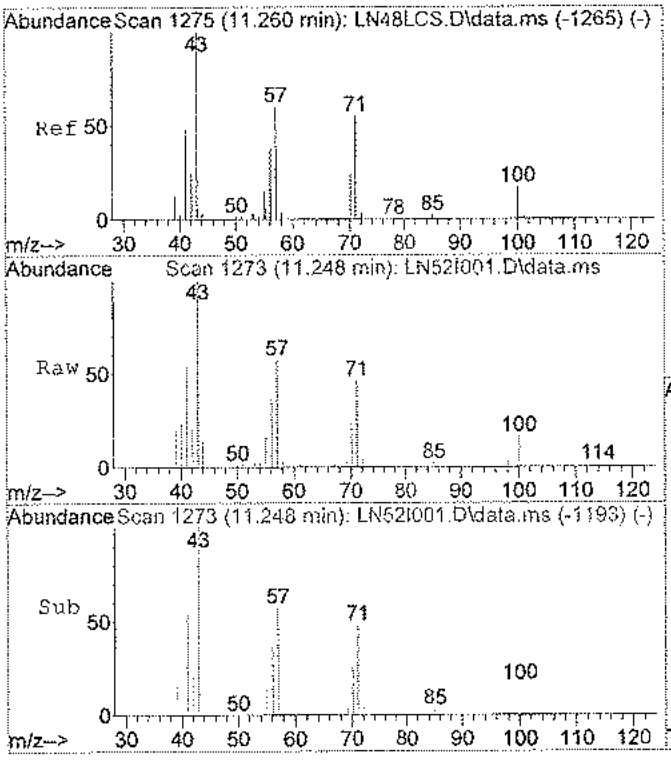


#33
Carbon Tetrachloride
Concen: 0.17 ppb
RT: 10.06 min Scan# 1079
Delta R.T. -0.03 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:116.9 Resp: 14869

Ion	Ratio	Lower	Upper
117	100		
119	98.5	77.4	116.0
121	31.1	24.9	37.3
0	0.0	0.0	0.0

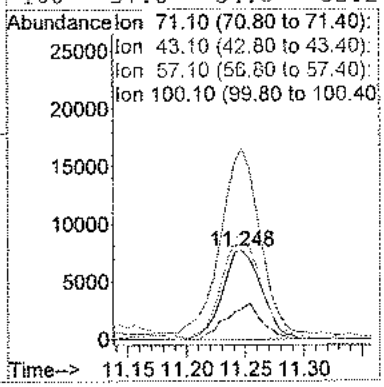


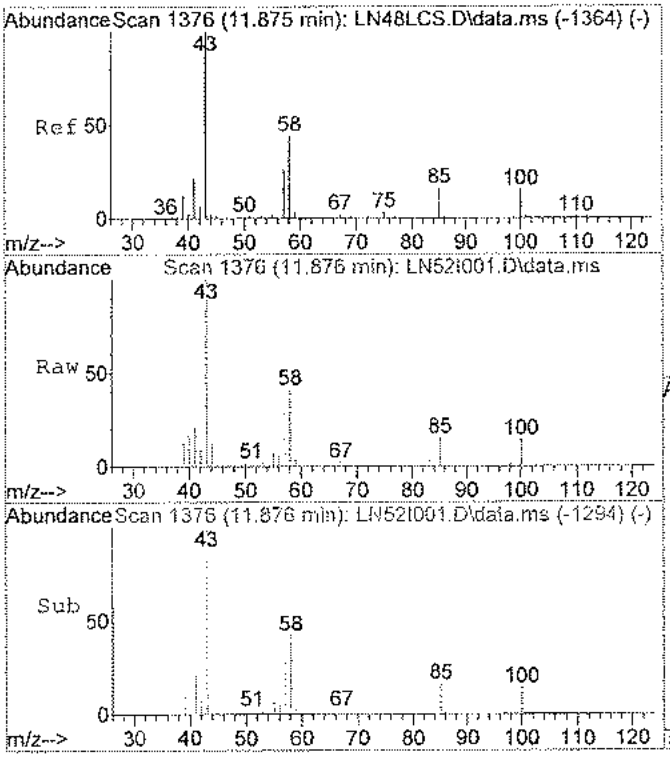


#40
Heptane
Concen: 0.56 ppb
RT: 11.25 min Scan# 1273
Delta R.T. -0.01 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:71.1 Resp: 17852

Ion	Ratio	Lower	Upper
71	100		
43	215.5	87.3	130.9#
57	119.7	57.8	86.6#
100	37.0	34.8	52.2

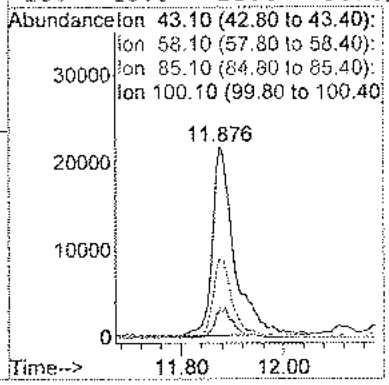


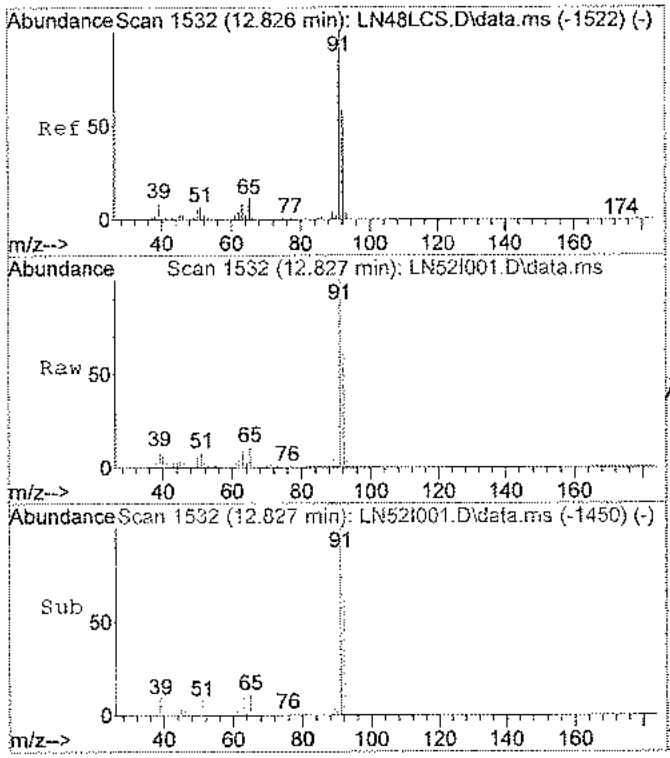


#42
4-Methyl-2-Pentanone
Concen: 0.70 ppb
RT: 11.88 min Scan# 1376
Delta R.T. 0.00 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:43.1 Resp: 64421

Ion	Ratio	Lower	Upper
43	100		
58	37.1	39.5	59.3#
85	13.3	25.1	37.7#
100	13.0	25.6	38.4#

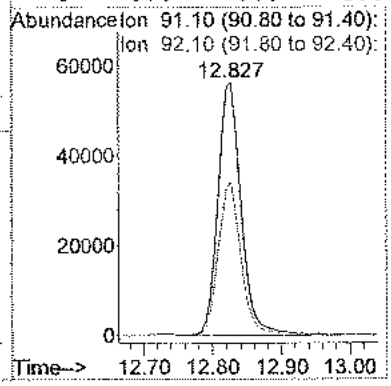


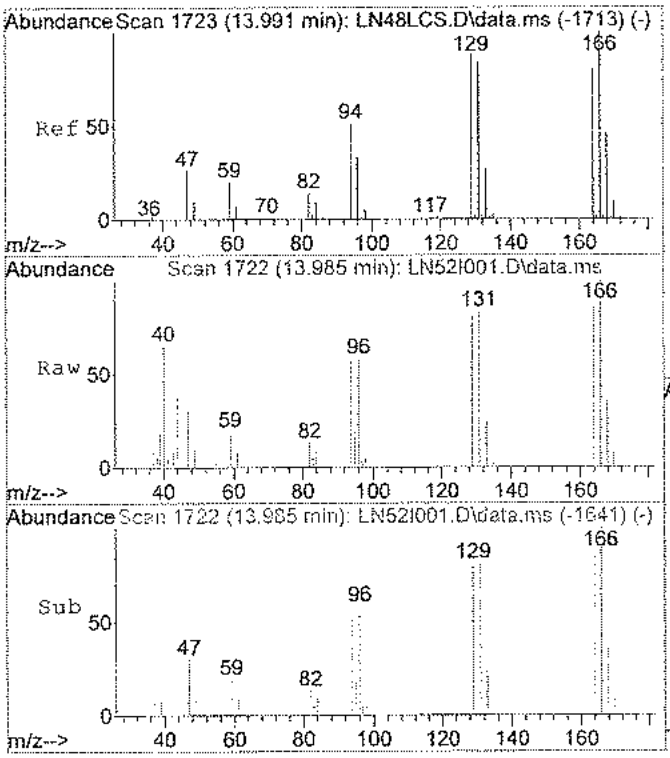


#45
Toluene
Concen: 1.13 ppb
RT: 12.83 min Scan# 1532
Delta R.T. 0.00 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:91.1 Resp: 130239

Ion	Ratio	Lower	Upper
91	100		
92	58.8	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

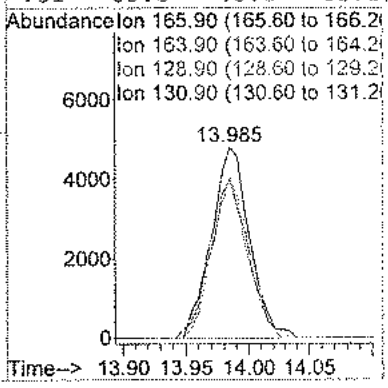


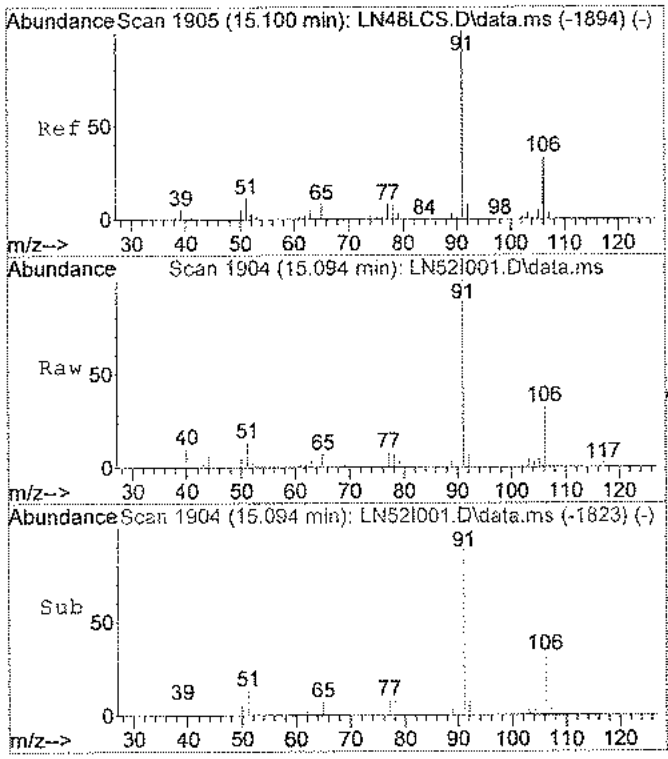


#49
Tetrachloroethene
Concen: 0.18 ppb
RT: 13.98 min Scan# 1722
Delta R.T. -0.01 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:165.9 Resp: 10139

Ion	Ratio	Lower	Upper
166	100		
164	77.5	61.0	91.4
129	87.1	45.9	68.9#
131	83.3	45.5	68.3#

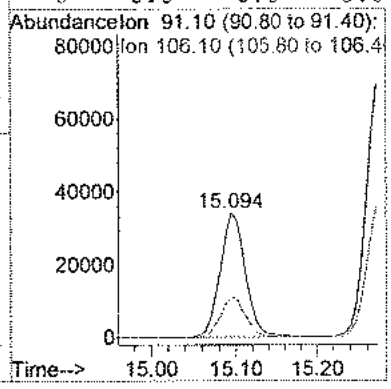


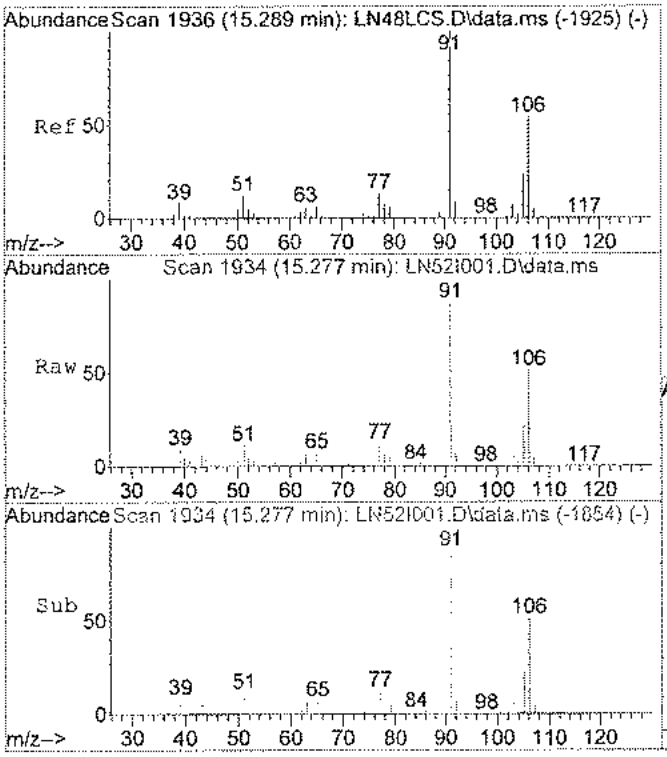


#52
Ethylbenzene
Concen: 0.58 ppb
RT: 15.09 min Scan# 1904
Delta R.T. -0.01 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:91.1 Resp: 71430

Ion	Ratio	Lower	Upper
91	100		
106	32.3	28.4	42.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

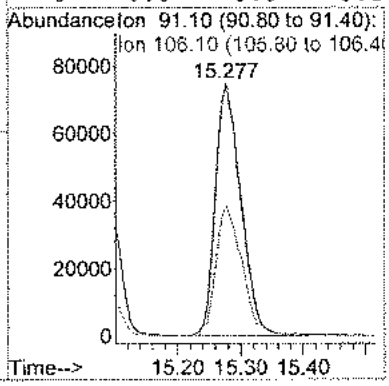


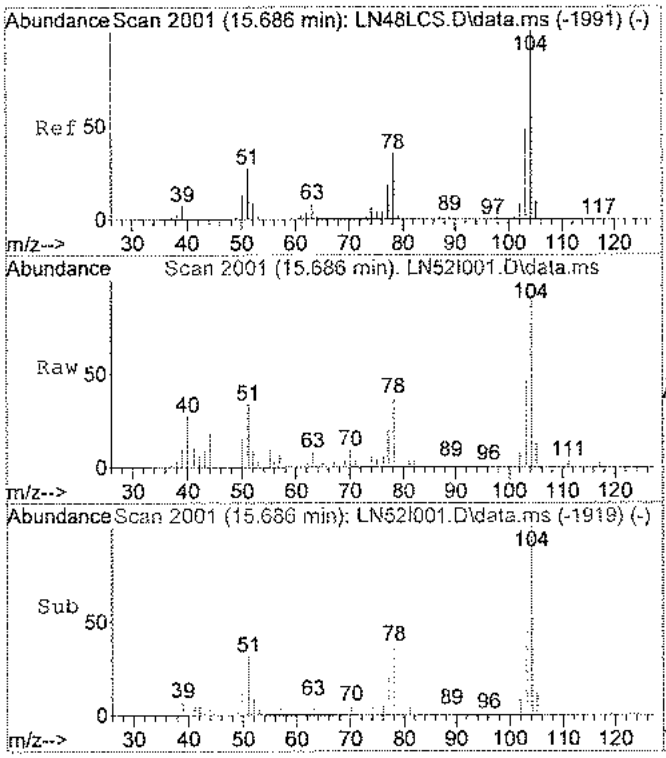


#53
m,p-Xylene
Concen: 2.17 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.01 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:91.1 Resp: 208496

Ion	Ratio	Lower	Upper
91	100		
106	52.3	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

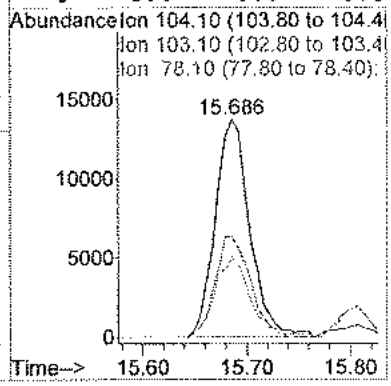


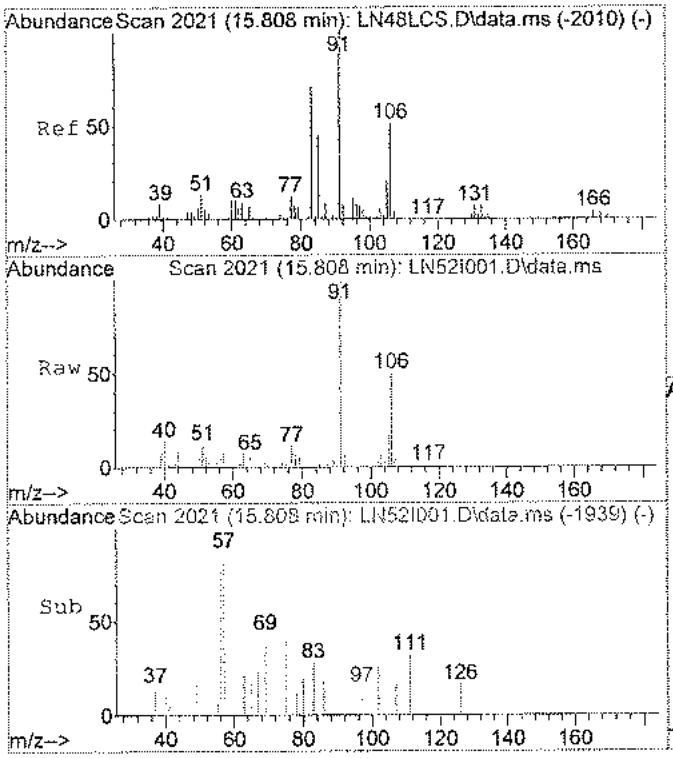


#55
Styrene
Concen: 0.40 ppb
RT: 15.69 min Scan# 2001
Delta R.T. 0.00 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:104.1 Resp: 31426

Ion	Ratio	Lower	Upper
104	100		
103	47.0	36.6	54.8
78	37.1	27.7	41.5
0	0.0	0.0	0.0

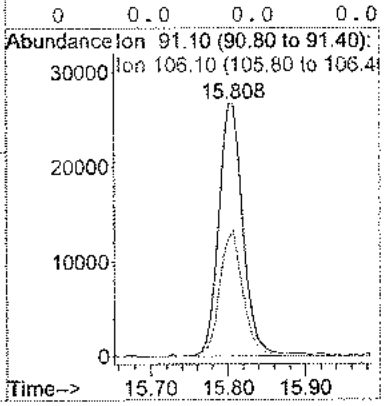


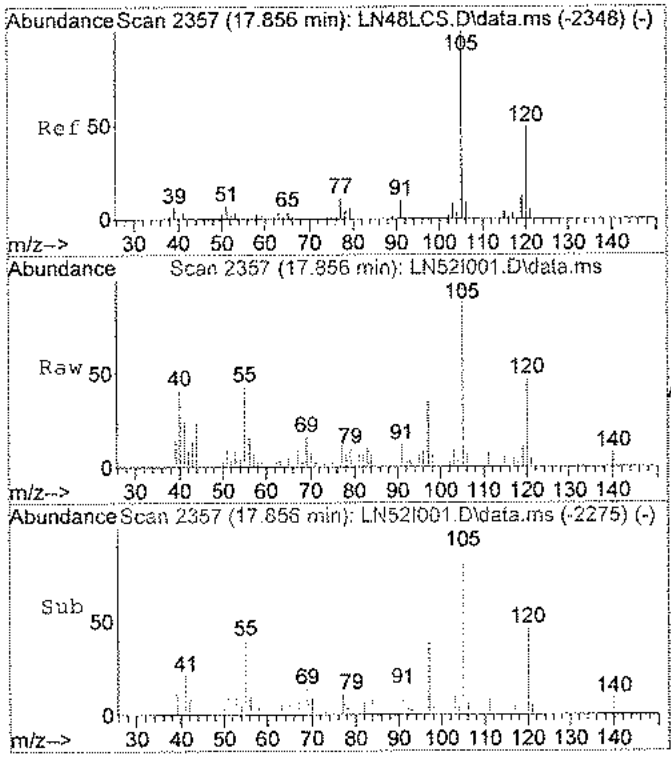


#57
o-Xylene
Concen: 0.56 ppb
RT: 15.81 min Scan# 2021
Delta R.T. 0.00 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:91.1 Resp: 59245

Ion	Ratio	Lower	Upper
91	100		
106	47.0	41.9	62.9
0	0.0	0.0	0.0
0	0.0	0.0	0.0

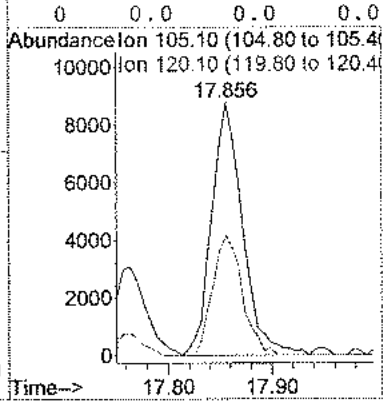




#61
1,2,4-Trimethylbenzene
Concen: 0.18 ppb
RT: 17.86 min Scan# 2357
Delta R.T. 0.00 min
Lab File: LN52I001.D
Acq: 04/10/2017 17:39

Tgt Ion:105.1 Resp: 18304

Ion	Ratio	Lower	Upper
105	100		
120	45.7	40.7	61.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

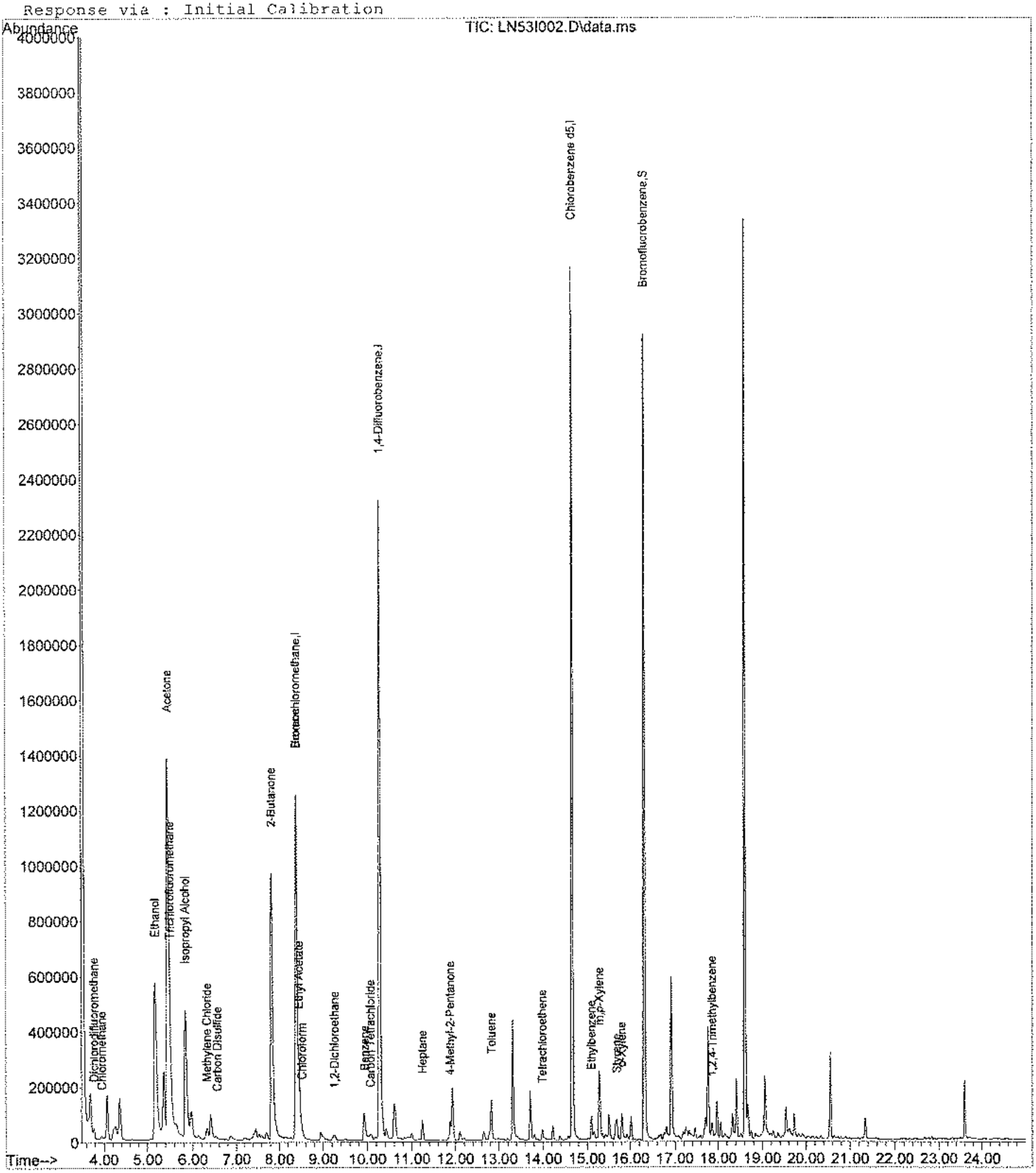


Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN53I002.D Vial: 4
Acq Time : 04/10/2017 18:34 Operator: LMR
Sample : 1709321002 Inst : 5975-L
Misc : A-0001H-032317-TO-002-BAS 8INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:14:04 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 14 09:10:33 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN53I002.D Vial: 4
Acq Time : 04/10/2017 18:34 Operator: LMR
Sample : 1709321002 Inst : 5975-L
Misc : A-0001H-032317-TO-002-BAS 8INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:14:04 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.39	130	236608	20.0000 ppb	125.24
25) 1,4-Difluorobenzene	10.28	114	2613694	20.0000 ppb	114.06
50) Chlorobenzene d5	14.66	117	2168715	20.0000 ppb	108.58
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.31	95	1240219	21.8024 ppb	109.01%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	3.77	85	53706	0.5576 ppb	99
4) Chloromethane	3.95	50	24776	0.6710 ppb	97
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.45	43	3863027	62.1076 ppb	96
12) Trichlorofluoromethane	5.50	101	29431	0.2563 ppb	99
13) Ethanol	5.17	45	1345189	114.0701 ppb #	80
14) Isopropyl Alcohol	5.83	45	955945	14.3129 ppb #	88
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.32	84	25250	0.7458 ppb #	59
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	6.55	76	14063	0.1500 ppb #	54
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.83	43	2218630	27.8736 ppb #	73
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	8.46	61	63959	5.9716 ppb #	1
27) Hexane	8.39	57	14418	0.2269 ppb #	52
28) Chloroform	8.52	83	19736	0.2654 ppb	99
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	9.26	62	17586	0.3265 ppb #	88
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.94	78	19878	0.2037 ppb #	83
33) Carbon Tetrachloride	10.07	117	15037	0.1682 ppb	97
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	11.25	71	18599	0.5581 ppb #	33
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	11.88	43	73782	0.7658 ppb #	73
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	
45) Toluene	12.83	91	135093	1.1266 ppb	98
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	13.98	166	10825	0.1864 ppb #	79

(#) = qualifier out of range (m) = manual integration

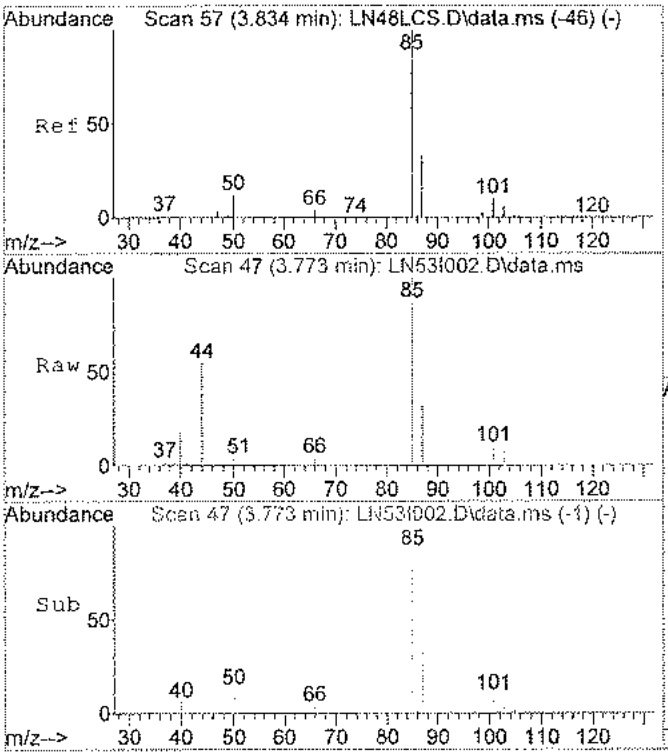
Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN53I002.D Vial: 4
Acq Time : 04/10/2017 18:34 Operator: LMR
Sample : 1709321002 Inst : 5975-L
Misc : A-0001H-032317-TO-002-BAS 8INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:14:04 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

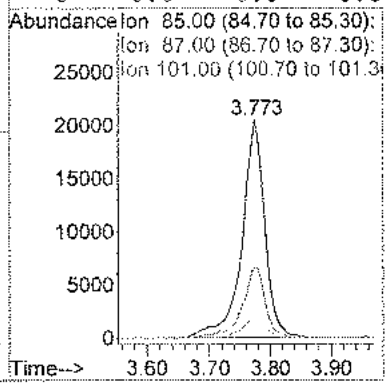
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	15.09	91	76190	0.5954 ppb	93
53) m,p-Xylene	15.28	91	226856	2.2752 ppb	96
54) Bromoform	0.00	173		Not Detected	
55) Styrene	15.69	104	41478	0.5111 ppb	98
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	15.80	91	61861	0.5618 ppb	95
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	17.86	105	19484	0.1872 ppb	99
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

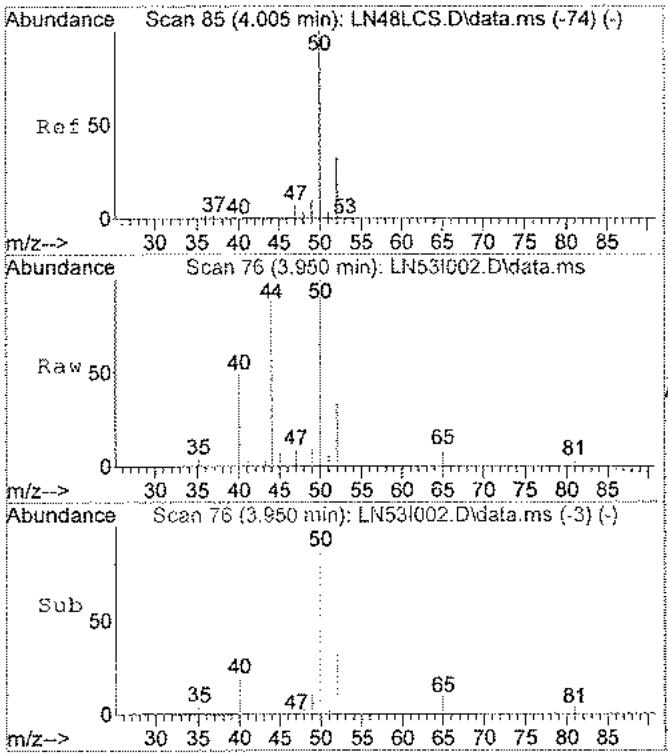


#3
Dichlorodifluoromethane
Concen: 0.56 ppb
RT: 3.77 min Scan# 47
Delta R.T. -0.06 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:85 Resp: 53706

Ion	Ratio	Lower	Upper
85	100		
87	32.5	26.1	39.1
101	9.4	8.0	12.0
0	0.0	0.0	0.0

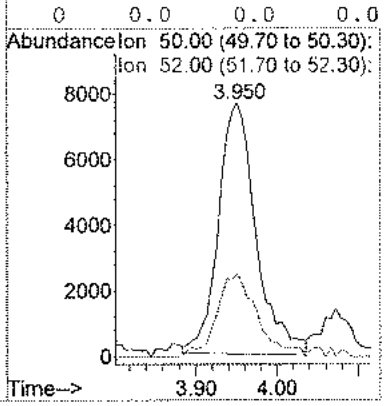


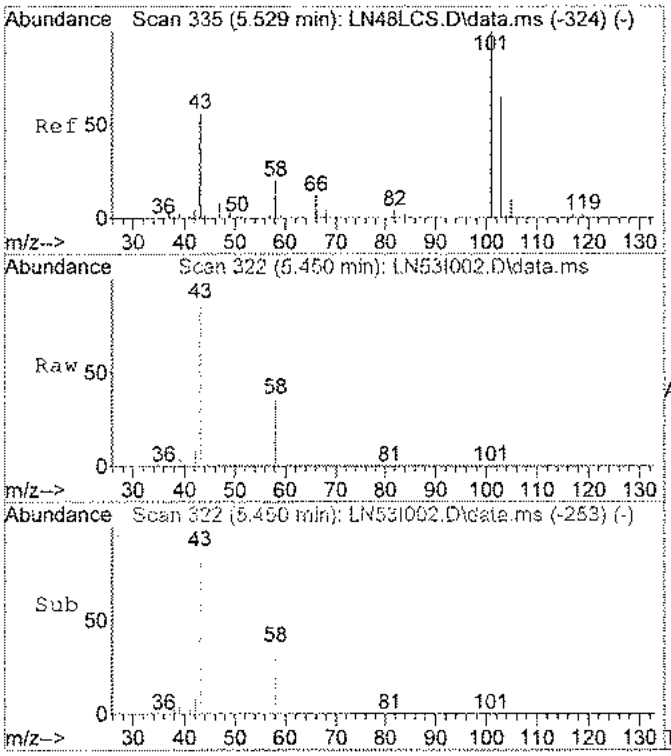


#4
Chloromethane
Concen: 0.67 ppb
RT: 3.95 min Scan# 76
Delta R.T. -0.05 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:50 Resp: 24776

Ion	Ratio	Lower	Upper
50	100		
52	35.0	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

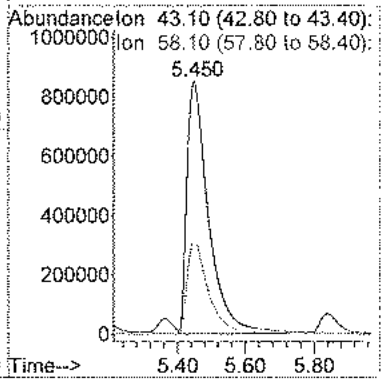


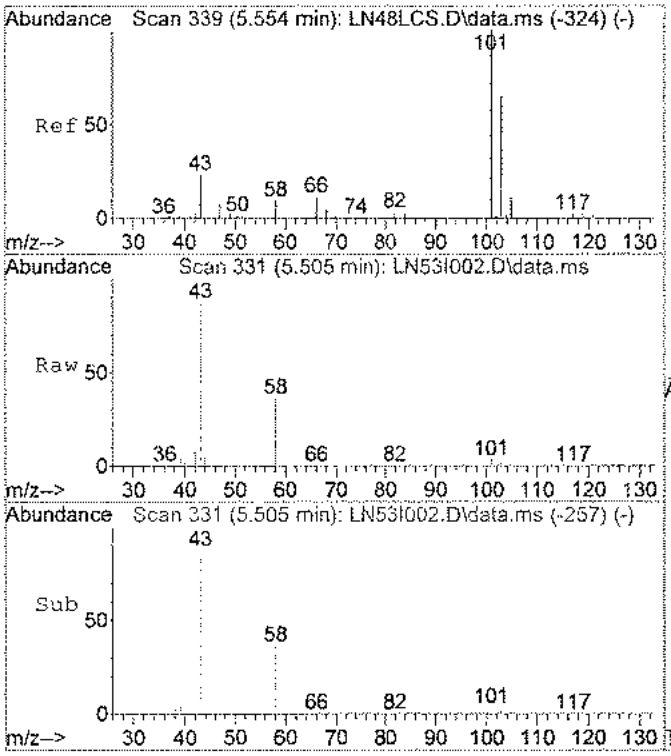


#11
Acetone
Concen: 62.11 ppb
RT: 5.45 min Scan# 322
Delta R.T. -0.08 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:43.1 Resp: 3863027

Ion	Ratio	Lower	Upper
43	100		
58	36.0	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

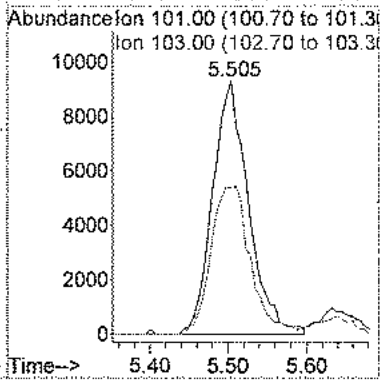


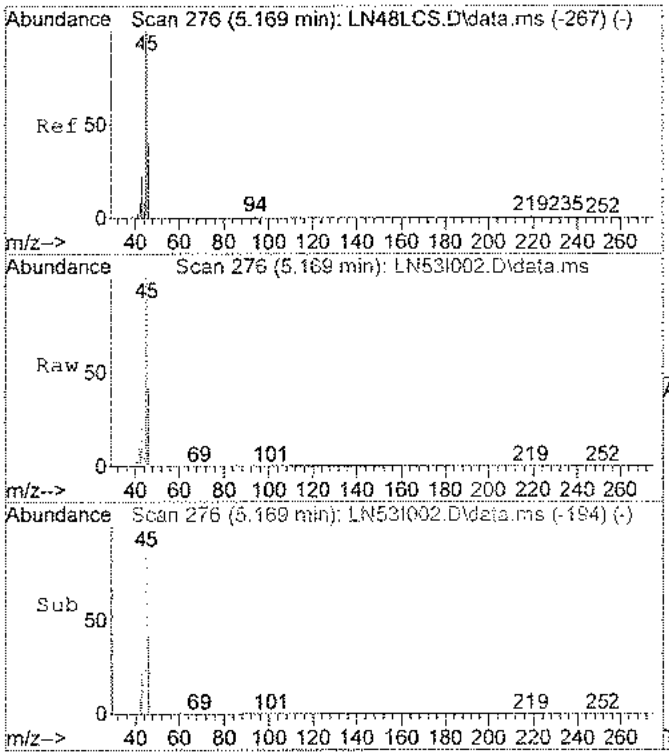


#12
Trichlorofluoromethane
Concen: 0.26 ppb
RT: 5.50 min Scan# 331
Delta R.T. -0.05 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:101 Resp: 29431

Ion	Ratio	Lower	Upper
101	100		
103	63.3	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

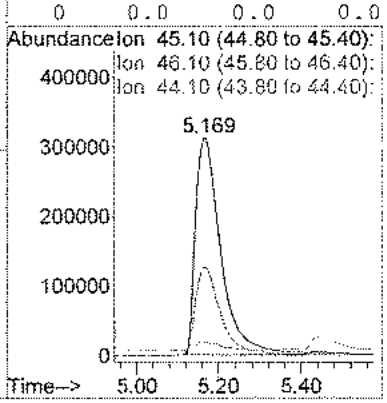


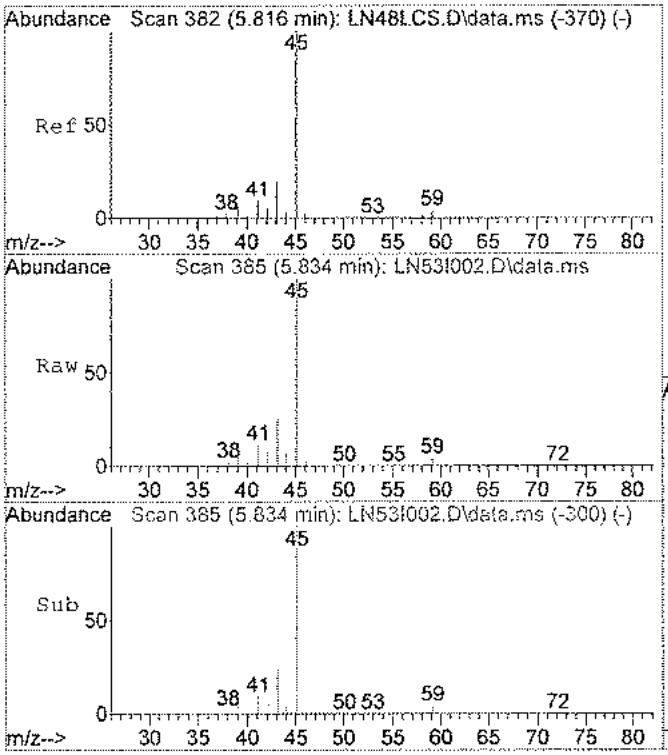


#13
Ethanol
Concen: 114.07 ppb
RT: 5.17 min Scan# 276
Delta R.T. -0.00 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:45.1 Resp: 1345189

Ion	Ratio	Lower	Upper
45	100		
46	41.0	32.4	48.6
44	4.2	23.4	35.2#
0	0.0	0.0	0.0

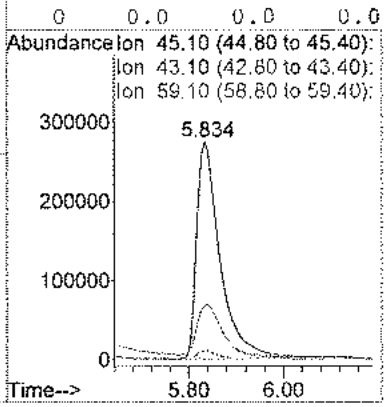


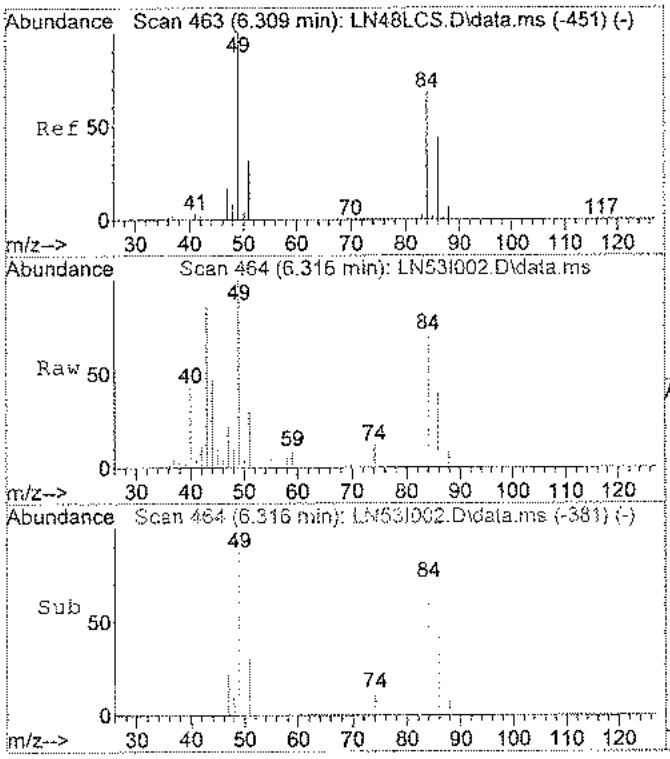


#14
Isopropyl Alcohol
Concen: 14.31 ppb
RT: 5.83 min Scan# 385
Delta R.T. 0.02 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:45.1 Resp: 955945

Ion	Ratio	Lower	Upper
45	100		
43	26.4	15.8	23.6#
59	4.2	3.2	4.8
0	0.0	0.0	0.0

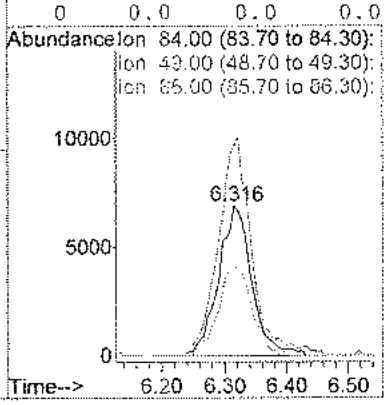


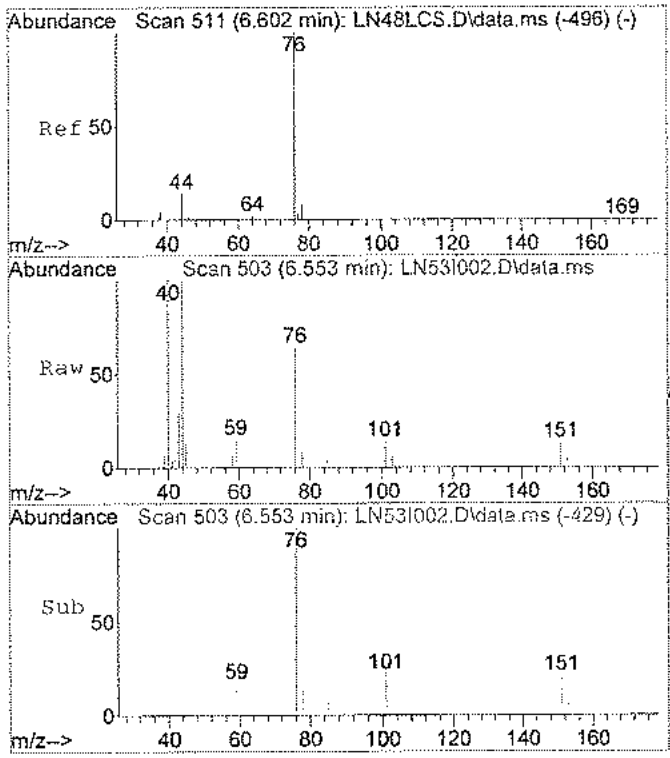


#16
Methylene Chloride
Concen: 0.75 ppb
RT: 6.32 min Scan# 464
Delta R.T. 0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:84 Resp: 25250

Ion	Ratio	Lower	Upper
84	100		
49	143.9	66.6	100.0#
86	59.6	51.6	77.4
0	0.0	0.0	0.0

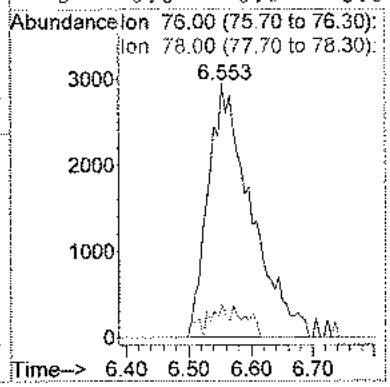


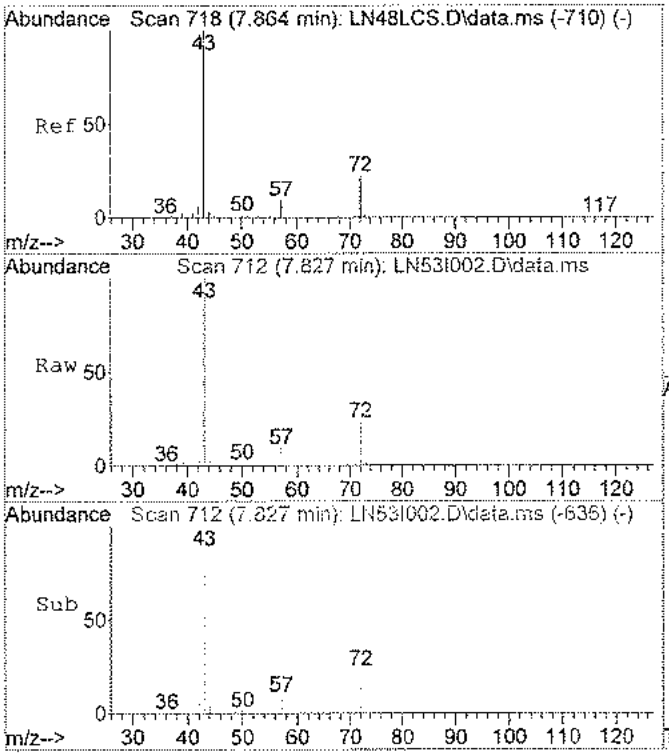


#18
Carbon Disulfide
Concen: 0.15 ppb
RT: 6.55 min Scan# 503
Delta R.T. -0.05 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:76 Resp: 14063

Ion	Ratio	Lower	Upper
76	100		
78	4.8	24.0	36.0#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

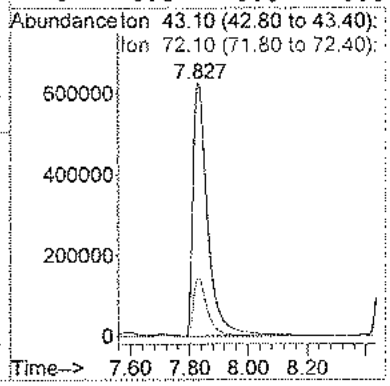


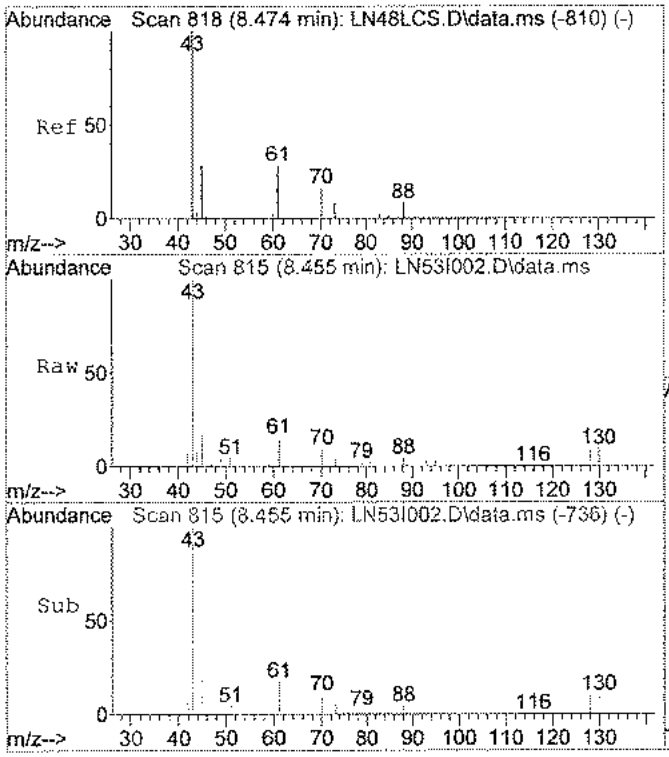


#23
2-Butanone
Concen: 27.87 ppb
RT: 7.83 min Scan# 712
Delta R.T. -0.04 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:43.1 Resp: 2218630

Ion	Ratio	Lower	Upper
43	100		
72	22.3	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

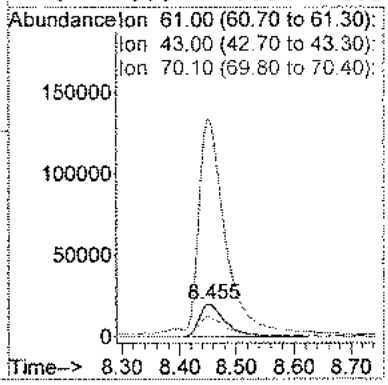


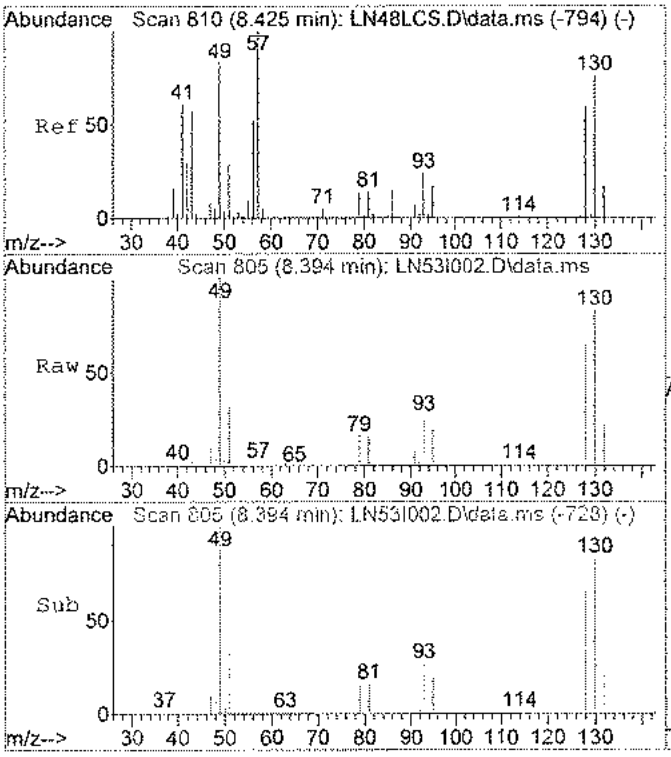


#26
Ethyl Acetate
Concen: 5.97 ppb
RT: 8.46 min Scan# 815
Delta R.T. -0.02 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:61 Resp: 63959

Ion	Ratio	Lower	Upper
61	100		
43	665.1	144.0	216.0#
70	62.1	13.6	20.4#
0	0.0	0.0	0.0

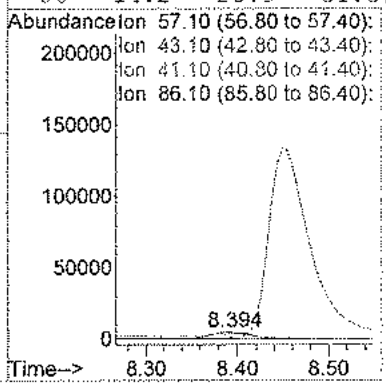


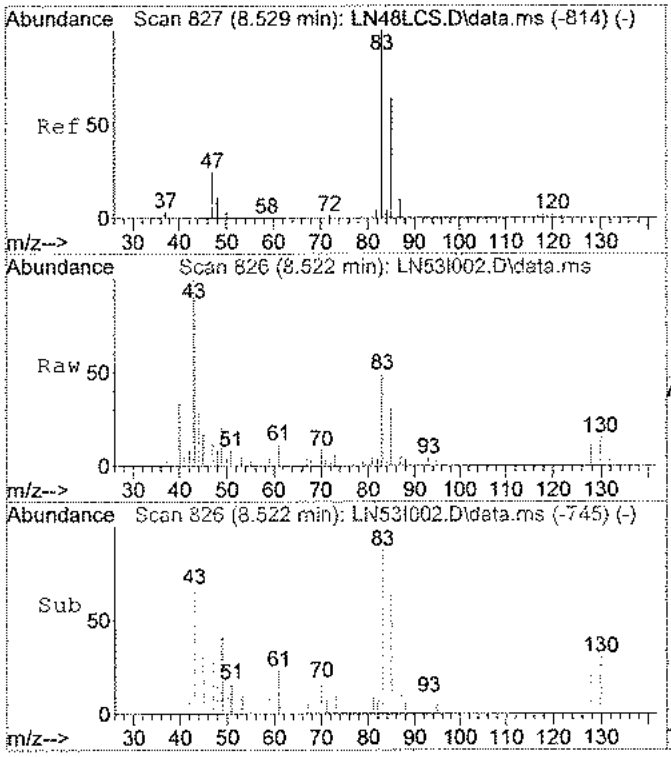


#27
Hexane
Concen: 0.23 ppb
RT: 8.39 min Scan# 805
Delta R.T. -0.03 min
Lab File: LN531002.D
Acq: 04/10/2017 18:34

Tgt Ion:57.1 Resp: 14418

Ion	Ratio	Lower	Upper
57	100		
43	0.0	57.3	85.9#
41	68.3	47.0	70.4
86	14.2	20.9	31.3#

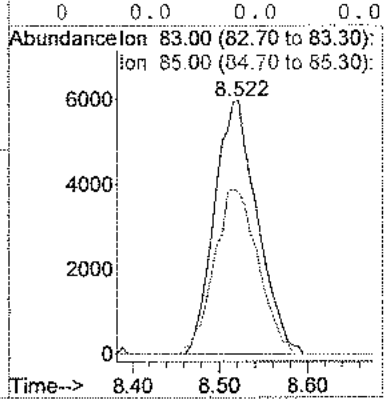


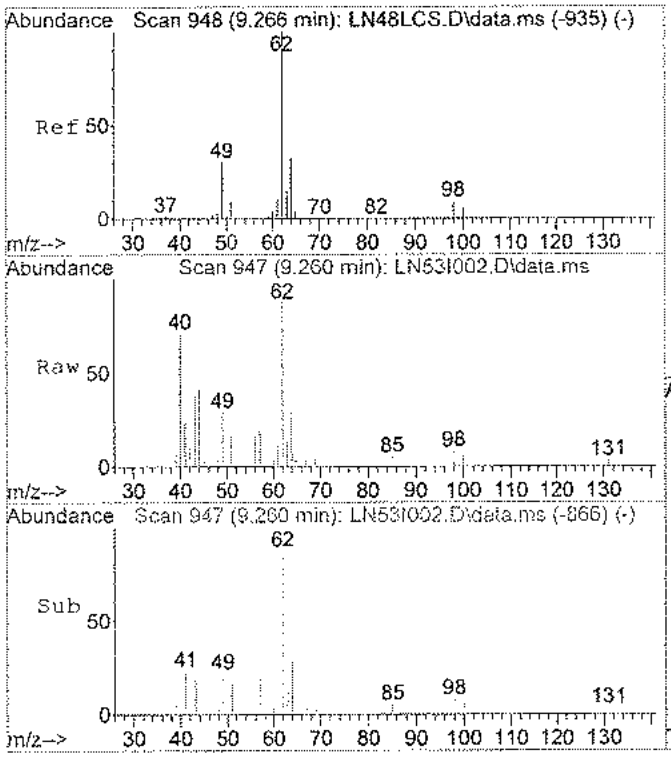


#28
Chloroform
Concen: 0.27 ppb
RT: 8.52 min Scan# 826
Delta R.T. -0.01 min
Lab File: LN531002.D
Acq: 04/10/2017 18:34

Tgt Ion:83 Resp: 19736

Ion	Ratio	Lower	Upper
83	100		
85	66.5	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

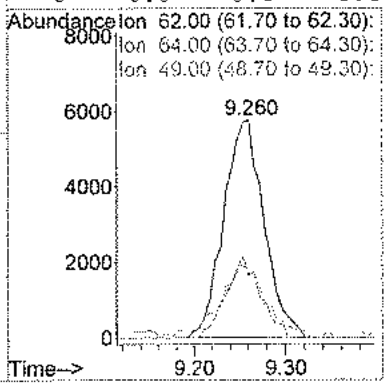


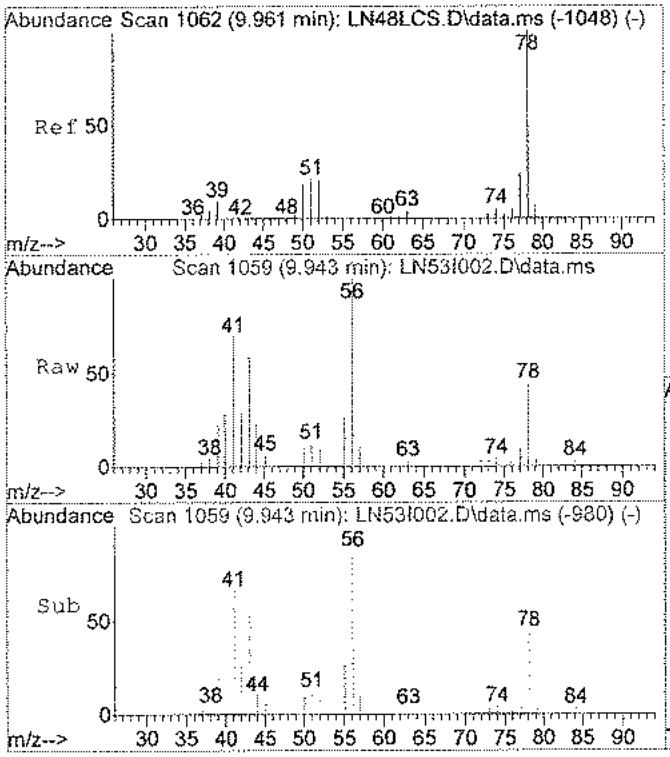


#30
1,2-Dichloroethane
Concen: 0.33 ppb
RT: 9.26 min Scan# 947
Delta R.T. -0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:62 Resp: 17586

Ion	Ratio	Lower	Upper
62	100		
64	31.7	26.0	39.0
49	36.4	18.5	27.7#
0	0.0	0.0	0.0

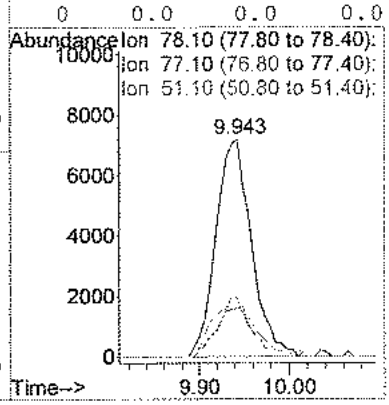


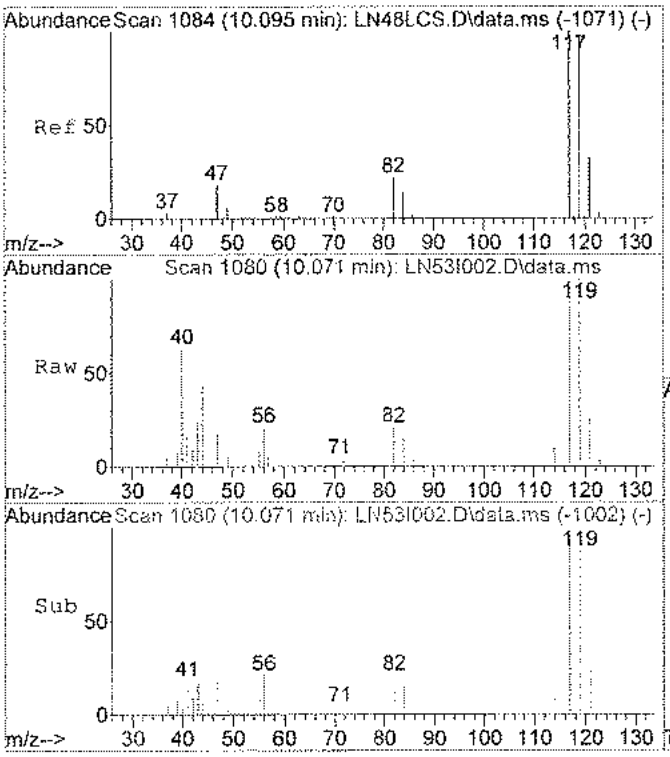


#32
Benzene
Concen: 0.20 ppb
RT: 9.94 min Scan# 1059
Delta R.T. -0.02 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:78.1 Resp: 19878

Ion	Ratio	Lower	Upper
78	100		
77	22.9	18.2	27.4
51	30.4	9.5	14.3#
0	0.0	0.0	0.0

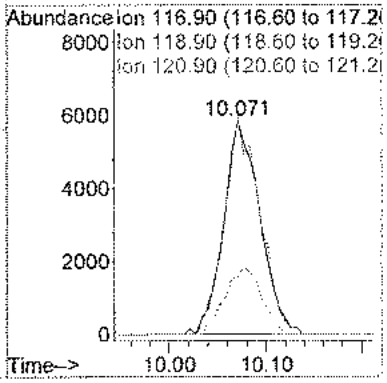


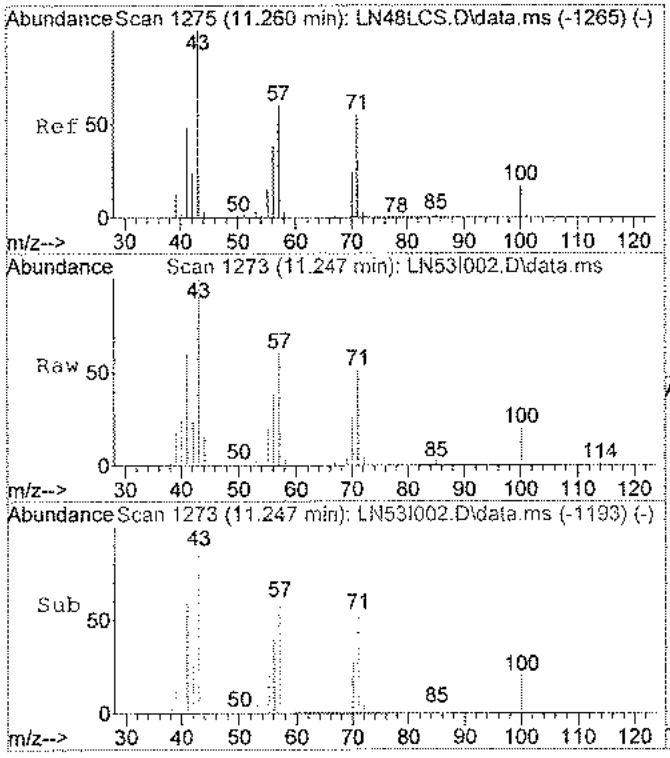


#33
Carbon Tetrachloride
Concen: 0.17 ppb
RT: 10.07 min Scan# 1080
Delta R.T. -0.02 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:116.9 Resp: 15037

Ion	Ratio	Lower	Upper
117	100		
119	99.8	77.4	116.0
121	31.5	24.9	37.3
0	0.0	0.0	0.0

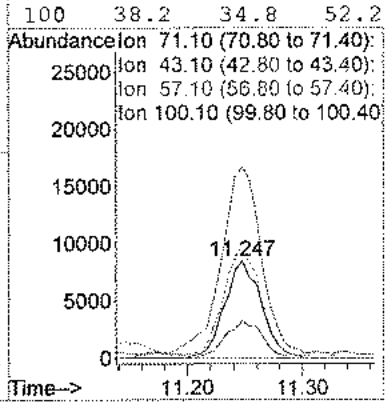


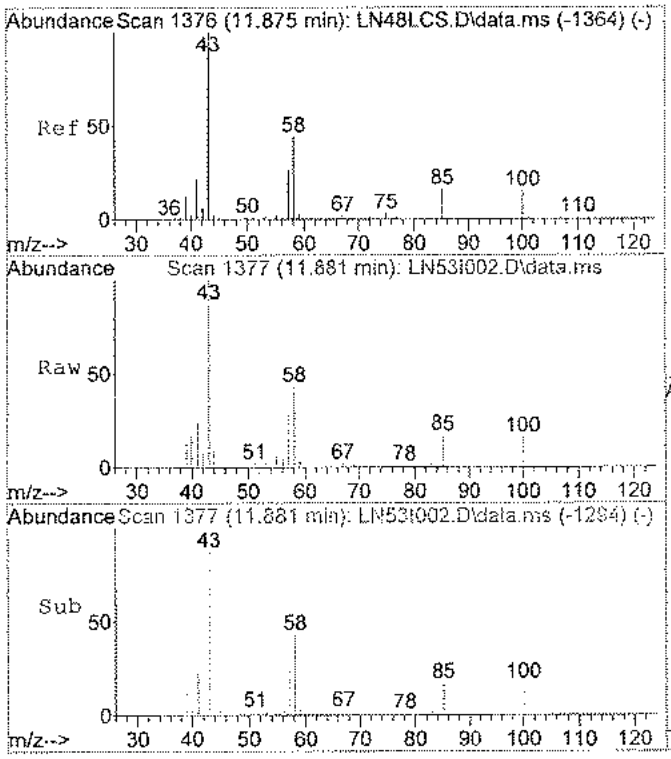


#40
Heptane
Concen: 0.56 ppb
RT: 11.25 min Scan# 1273
Delta R.T. -0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:71.1 Resp: 18599

Ion	Ratio	Lower	Upper
71	100		
43	210.7	87.3	130.9#
57	120.6	57.8	86.6#
100	38.2	34.8	52.2

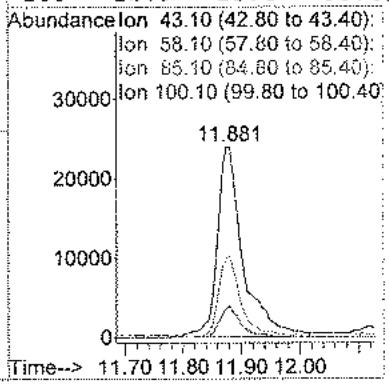


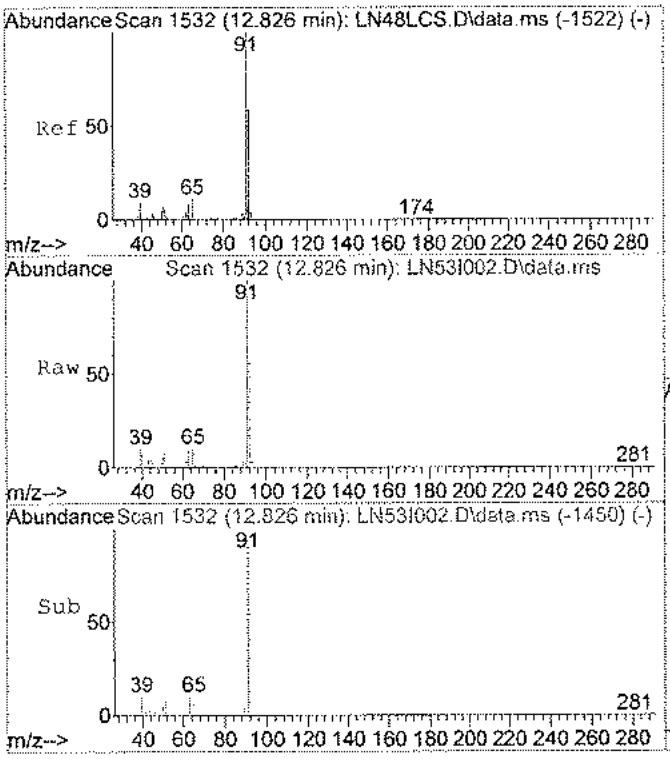


#42
4-Methyl-2-Pentanone
Concen: 0.77 ppb
RT: 11.88 min Scan# 1377
Delta R.T. 0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:43.1 Resp: 73782

Ion	Ratio	Lower	Upper
43	100		
58	37.1	39.5	59.3#
85	12.9	25.1	37.7#
100	12.9	25.6	38.4#

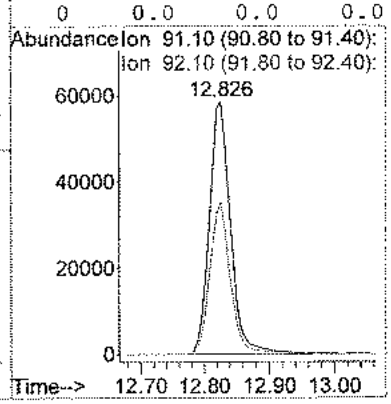


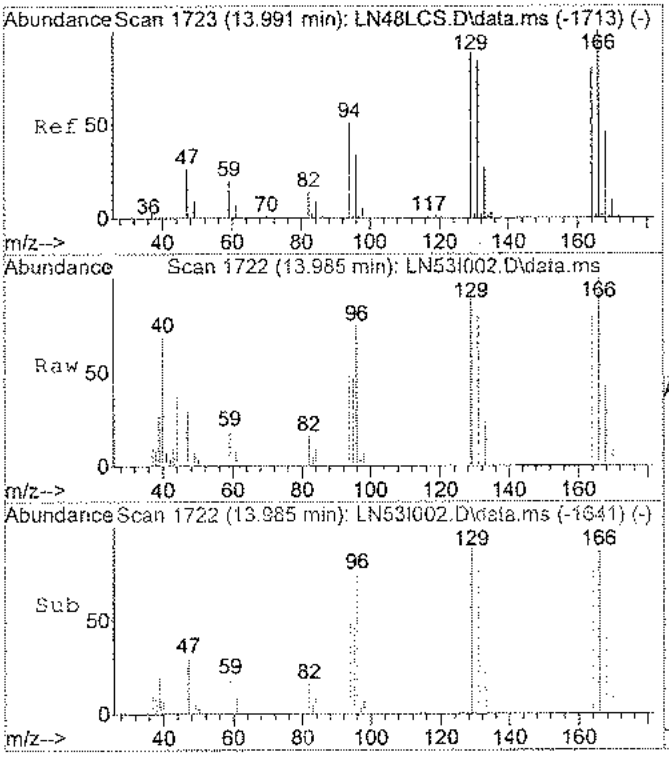


#45
Toluene
Concen: 1.13 ppb
RT: 12.83 min Scan# 1532
Delta R.T. -0.00 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:91.1 Resp: 135093

Ion	Ratio	Lower	Upper
91	100		
92	58.7	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

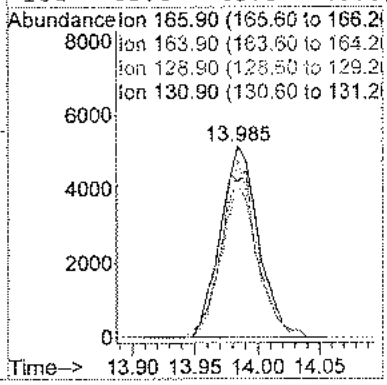


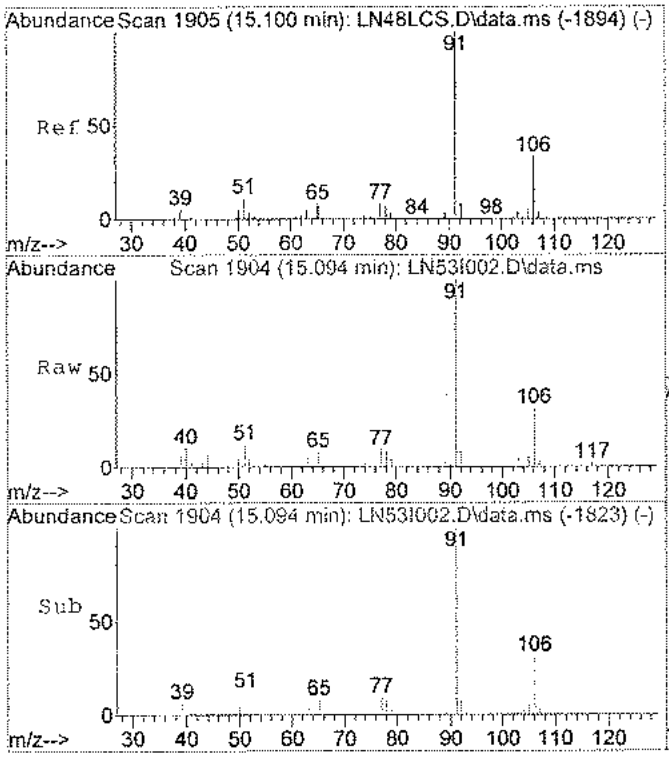


#49
Tetrachloroethene
Concen: 0.19 ppb
RT: 13.98 min Scan# 1722
Delta R.T. -0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:165.9 Resp: 10825

Ion	Ratio	Lower	Upper
166	100		
164	77.2	61.0	91.4
129	82.9	45.9	68.9#
131	83.0	45.5	68.3#

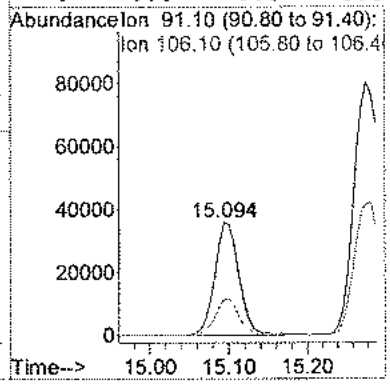


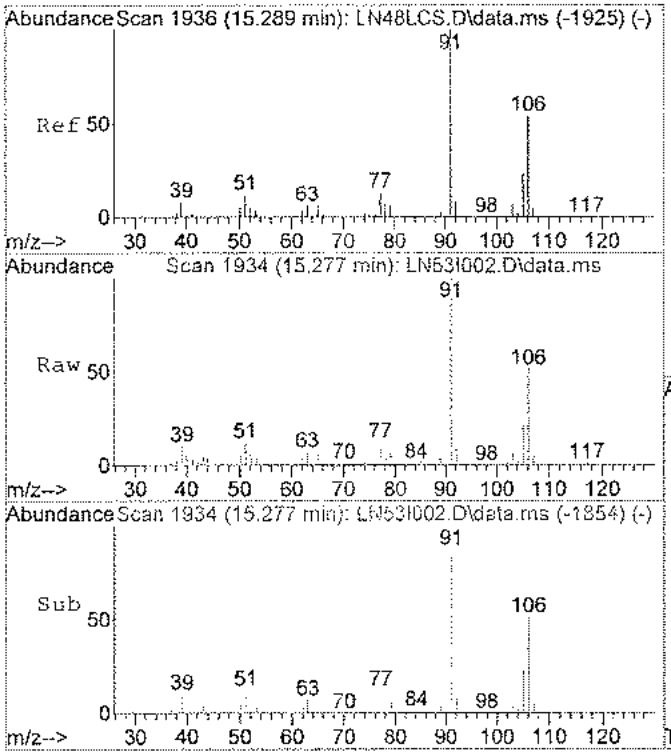


#52
Ethylbenzene
Concen: 0.60 ppb
RT: 15.09 min Scan# 1904
Delta R.T. -0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:91.1 Resp: 76190

Ion	Ratio	Lower	Upper
91	100		
106	31.3	28.4	42.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

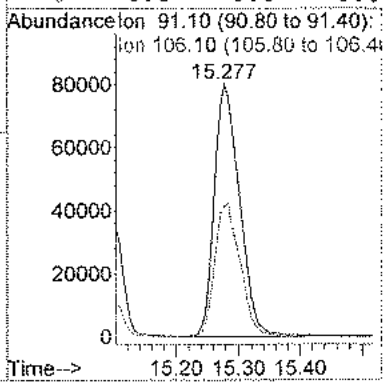


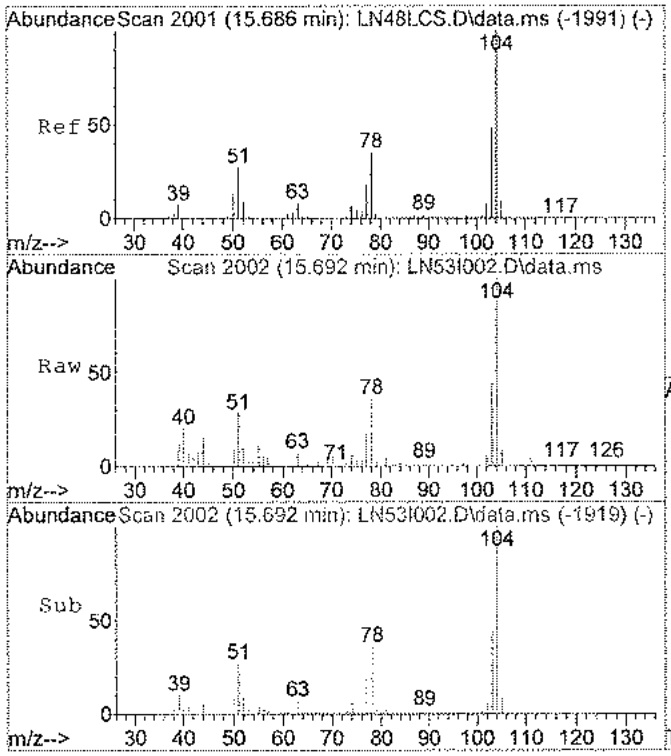


#53
m,p-Xylene
Concen: 2.28 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:91.1 Resp: 226856

Ion	Ratio	Lower	Upper
91	100		
106	52.9	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

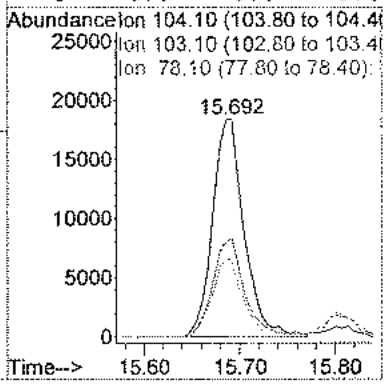


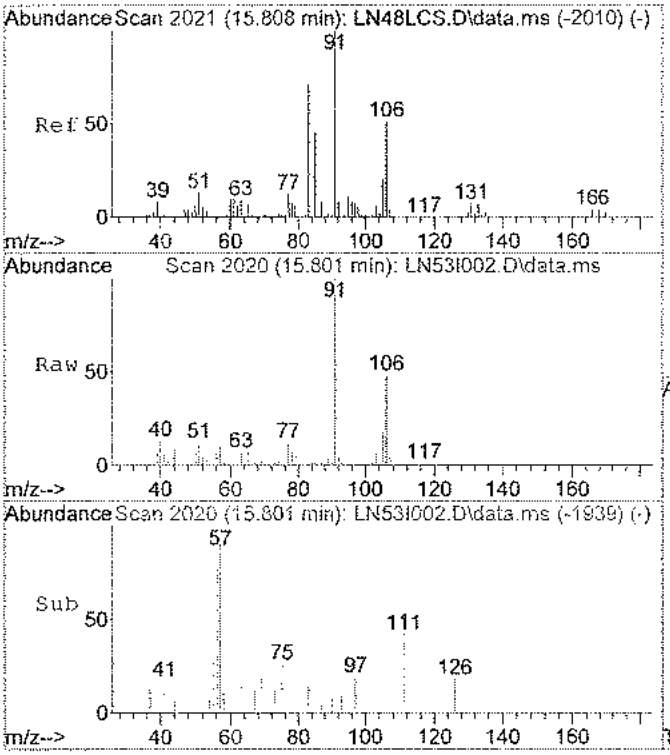


#55
Styrene
Concen: 0.51 ppb
RT: 15.69 min Scan# 2002
Delta R.T. 0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:104.1 Resp: 41478

Ion	Ratio	Lower	Upper
104	100		
103	45.0	36.6	54.8
78	35.9	27.7	41.5
0	0.0	0.0	0.0

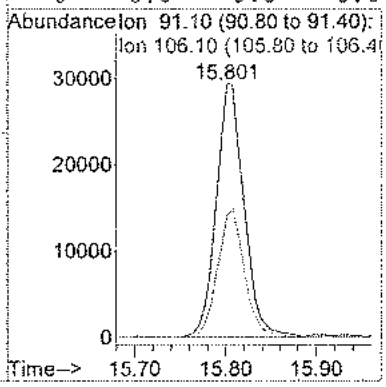


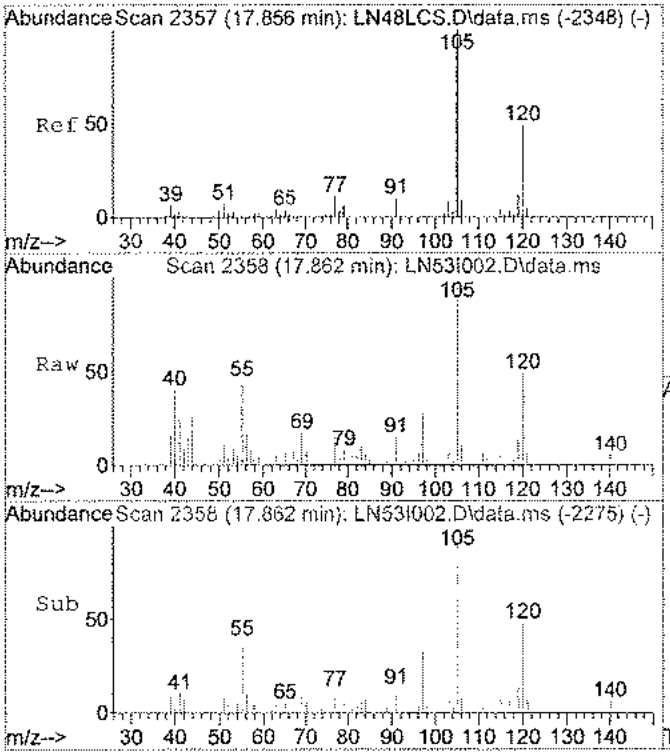


#57
o-Xylene
Concen: 0.56 ppb
RT: 15.80 min Scan# 2020
Delta R.T. -0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:91.1 Resp: 61861

Ion	Ratio	Lower	Upper
91	100		
106	48.6	41.9	62.9
0	0.0	0.0	0.0
0	0.0	0.0	0.0

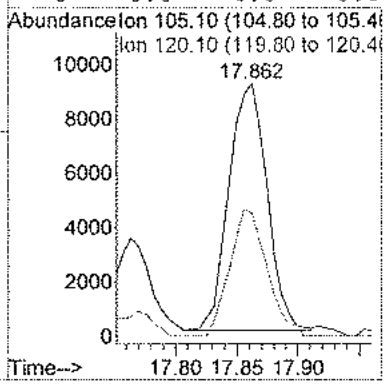




#61
1,2,4-Trimethylbenzene
Concen: 0.19 ppb
RT: 17.86 min Scan# 2358
Delta R.T. 0.01 min
Lab File: LN53I002.D
Acq: 04/10/2017 18:34

Tgt Ion:105.1 Resp: 19484

Ion	Ratio	Lower	Upper
105	100		
120	50.2	40.7	61.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

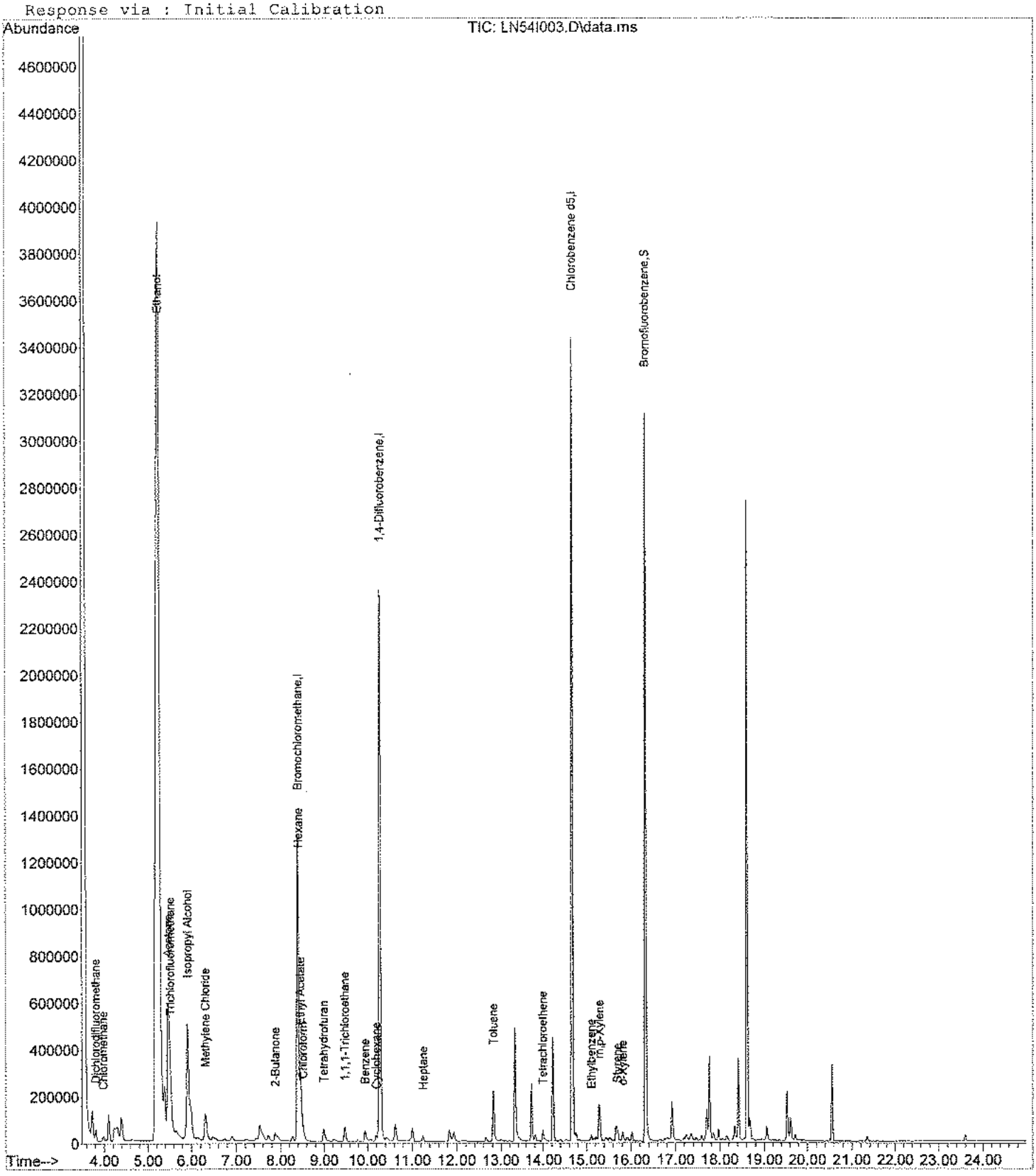


Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN54T003.D Vial: 5
Acq Time : 04/10/2017 19:28 Operator: LMR
Sample : 1709321003 Inst : 5975-L
Misc : A-0002H-032317-TO-001-BAS 8TNHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:23:37 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 14 09:10:33 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN54I003.D Vial: 5
Acq Time : 04/10/2017 19:28 Operator: LMR
Sample : 1709321003 Inst : 5975-L
Misc : A-0002H-032317-TO-001-BAS 8INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:23:37 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.39	130	247616	20.0000 ppb	131.06
25) 1,4-Difluorobenzene	10.28	114	2735415	20.0000 ppb	119.37
50) Chlorobenzene d5	14.67	117	2338964	20.0000 ppb	117.11
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.33	95	1311710	21.3807 ppb	106.90%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	3.81	85	57944	0.5749 ppb	100
4) Chloromethane	3.98	50	34455	0.8916 ppb	100
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.47	43	1717829	26.3905 ppb	96
12) Trichlorofluoromethane	5.52	101	40362	0.3359 ppb	97
13) Ethanol	5.24	45	13307857	1078.3190 ppb #	80
14) Isopropyl Alcohol	5.91	45	1039787	14.8761 ppb #	88
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.31	84	87741	2.4763 ppb #	60
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.88	43	84220	1.0111 ppb #	71
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	8.46	61	56879	5.0743 ppb #	1
27) Hexane	8.41	57	17349	0.2609 ppb #	52
28) Chloroform	8.52	83	20956	0.2693 ppb	97
29) Tetrahydrofuran	8.99	42	54223	1.1590 ppb #	59
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	9.49	97	44391	0.5336 ppb #	90
32) Benzene	9.94	78	17610	0.1724 ppb #	88
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	10.20	84	12788	0.2781 ppb #	36
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	11.26	71	6148	0.1763 ppb #	2
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	
45) Toluene	12.83	91	210682	1.6787 ppb	99
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	13.99	166	14089	0.2318 ppb #	73

(#) = qualifier out of range (m) = manual integration

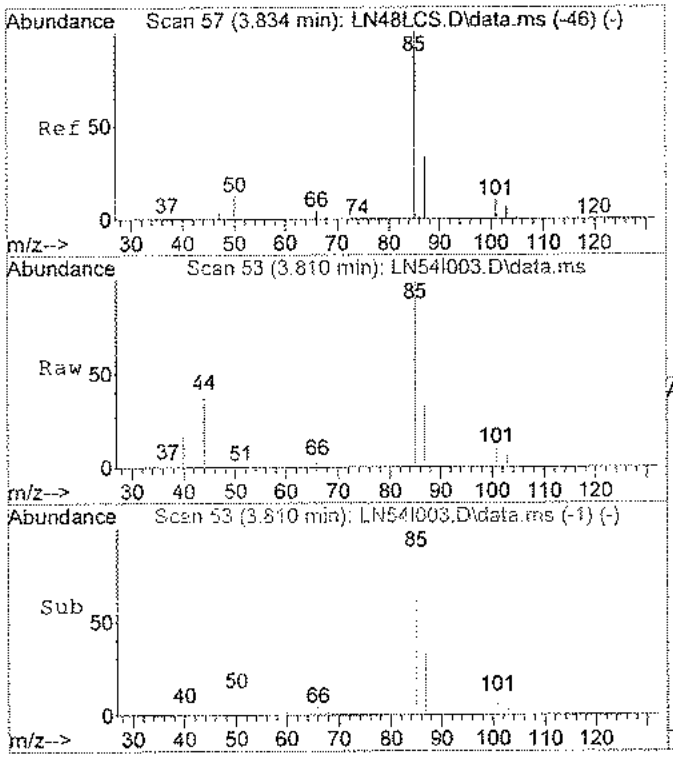
Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN54I003.D Vial: 5
Acq Time : 04/10/2017 19:28 Operator: LMR
Sample : 1709321003 Inst : 5975-L
Misc : A-0002H-032317-TO-001-BAS 8INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:23:37 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

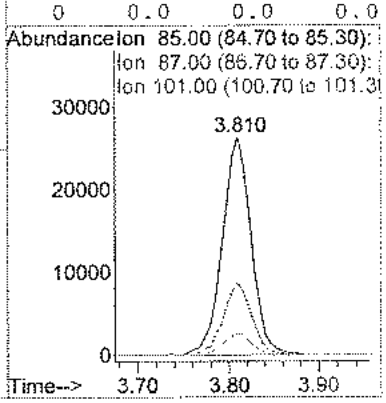
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51)	Chlorobenzene	0.00	112		Not Detected	
52)	Ethylbenzene	15.11	91	23004	0.1667 ppb	93
53)	m,p-Xylene	15.29	91	132514	1.2323 ppb	96
54)	Bromoform	0.00	173		Not Detected	
55)	Styrene	15.70	104	24974	0.2854 ppb	95
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57)	o-Xylene	15.81	91	26509	0.2232 ppb	91
59)	4-Ethyl Toluene	0.00	105		Not Detected	
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61)	1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62)	Benzyl Chloride	0.00	91		Not Detected	
63)	m-Dichlorobenzene	0.00	146		Not Detected	
64)	p-Dichlorobenzene	0.00	146		Not Detected	
65)	o-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67)	Naphthalene	0.00	128		Not Detected	
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected	

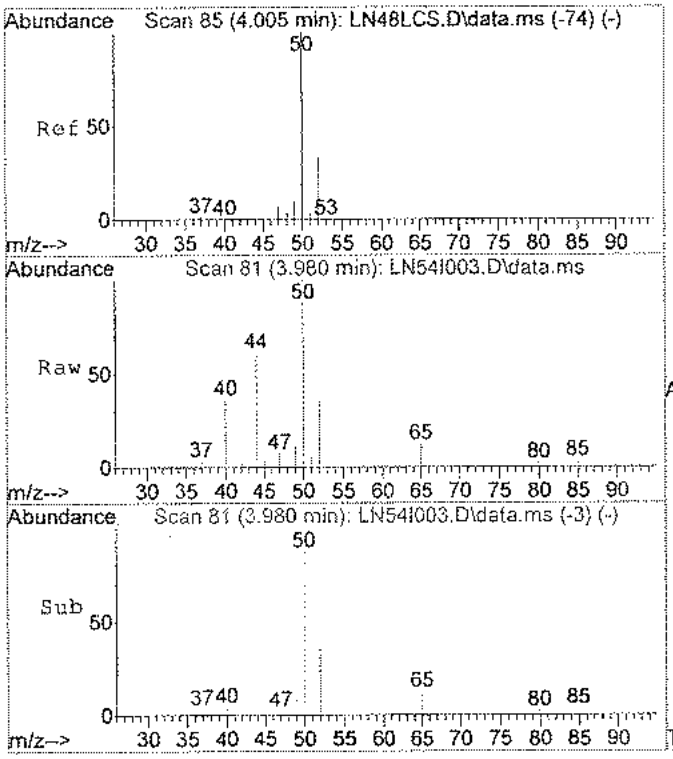


#3
Dichlorodifluoromethane
Concen: 0.57 ppb
RT: 3.81 min Scan# 53
Delta R.T. -0.02 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:85 Resp: 57944

Ion	Ratio	Lower	Upper
85	100		
87	32.7	26.1	39.1
101	9.6	8.0	12.0
0	0.0	0.0	0.0

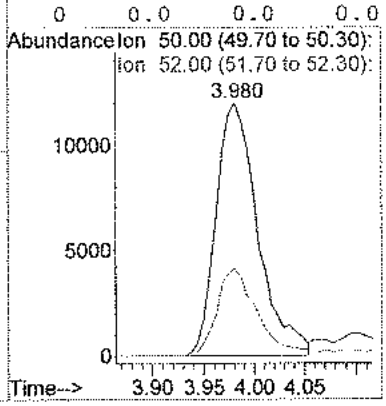


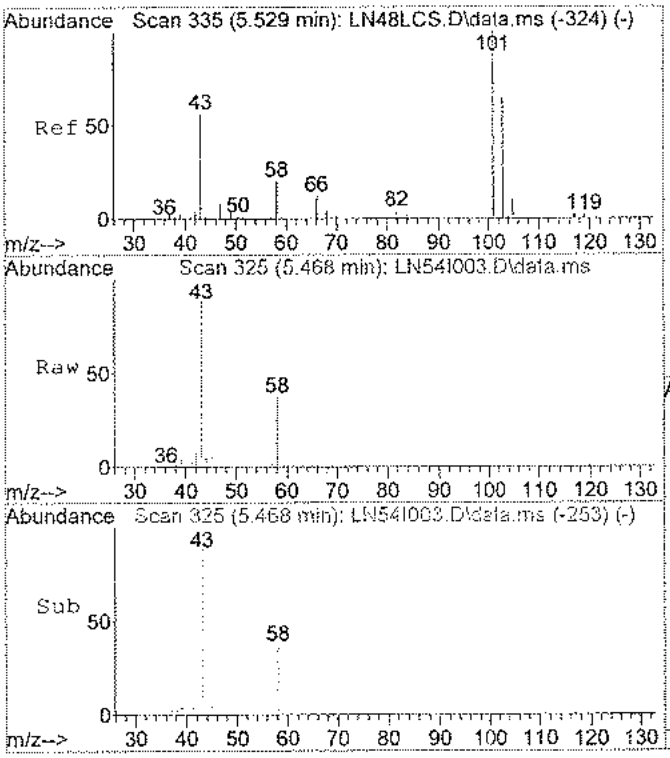


#4
Chloromethane
Concen: 0.89 ppb
RT: 3.98 min Scan# 81
Delta R.T. -0.02 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:50 Resp: 34455

Ion	Ratio	Lower	Upper
50	100		
52	33.0	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

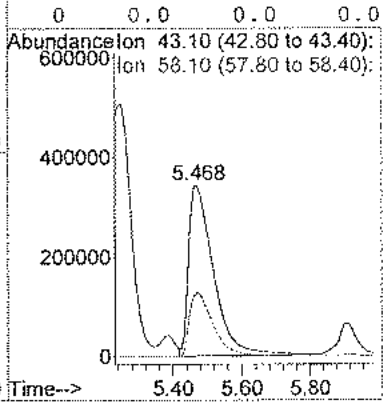


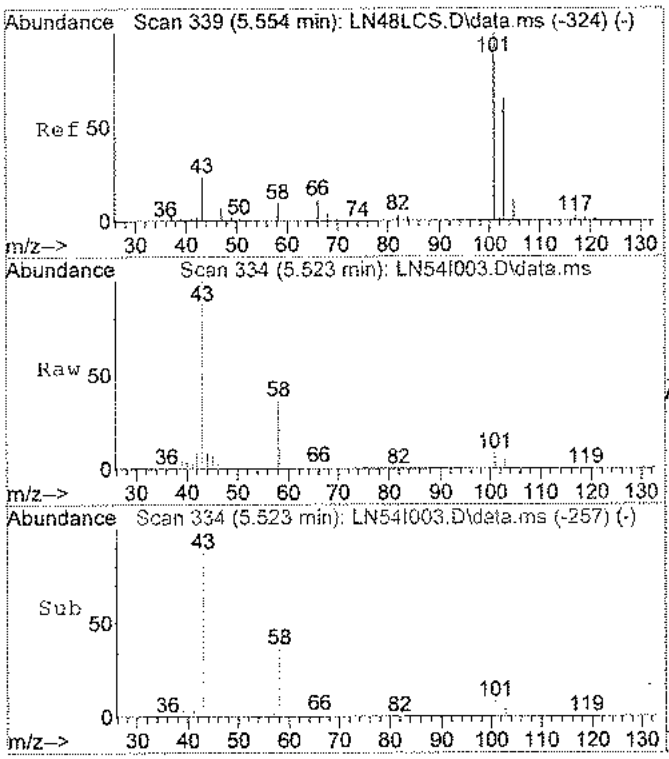


#11
Acetone
Concen: 26.39 ppb
RT: 5.47 min Scan# 325
Delta R.T. -0.06 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:43.1 Resp: 1717829

Ion	Ratio	Lower	Upper
43	100		
58	36.3	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

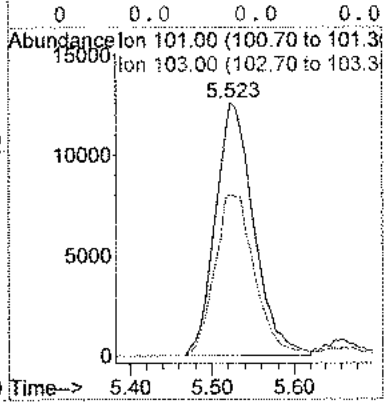


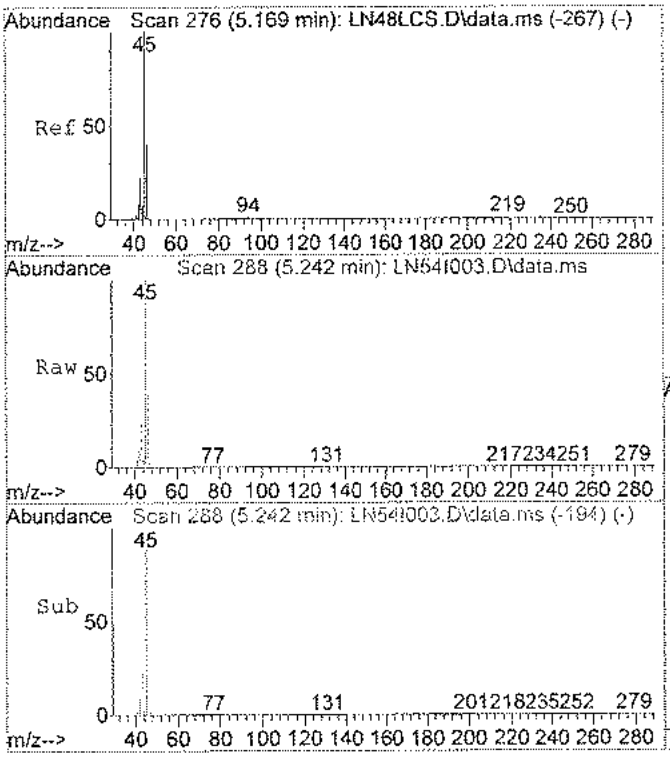


#12
Trichlorofluoromethane
Concen: 0.34 ppb
RT: 5.52 min Scan# 334
Delta R.T. -0.03 min
Lab File: LN541003.D
Acq: 04/10/2017 19:28

Tgt Ion:101 Resp: 40362

Ion	Ratio	Lower	Upper
101	100		
103	66.3	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

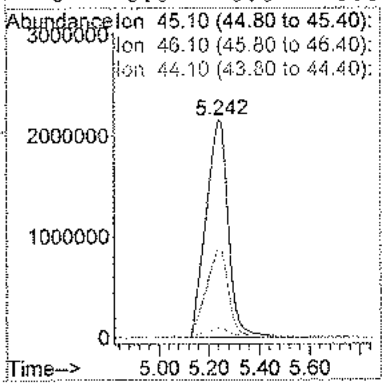


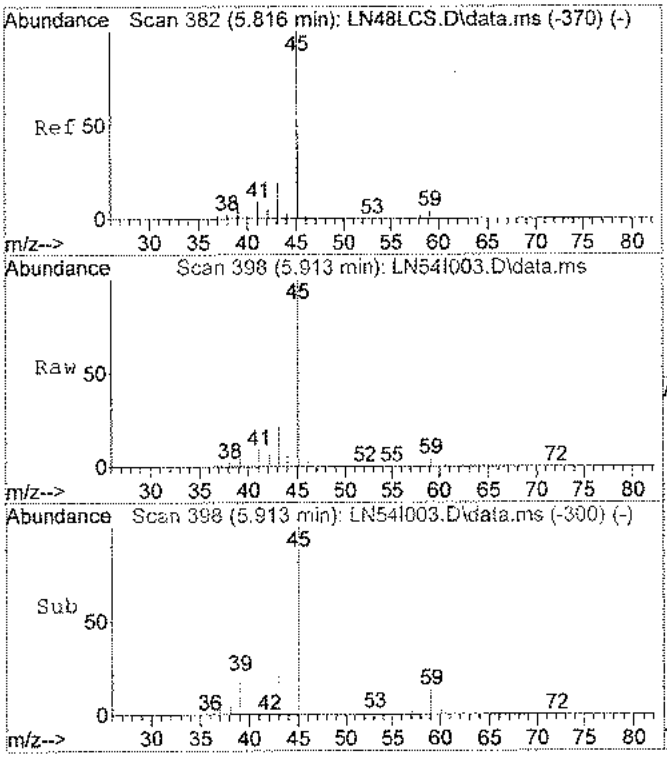


#13
Ethanol
Concen: 1078.32 ppb
RT: 5.24 min Scan# 288
Delta R.T. 0.07 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:45.1 Resp:13307857

Ion	Ratio	Lower	Upper
45	100		
46	40.8	32.4	48.6
44	3.7	23.4	35.2#
0	0.0	0.0	0.0

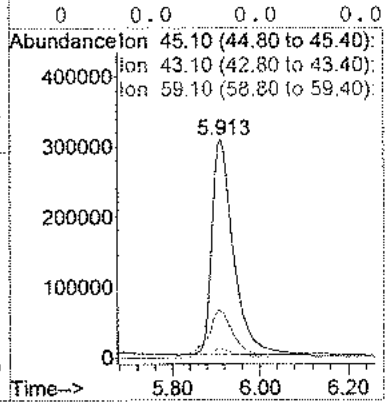


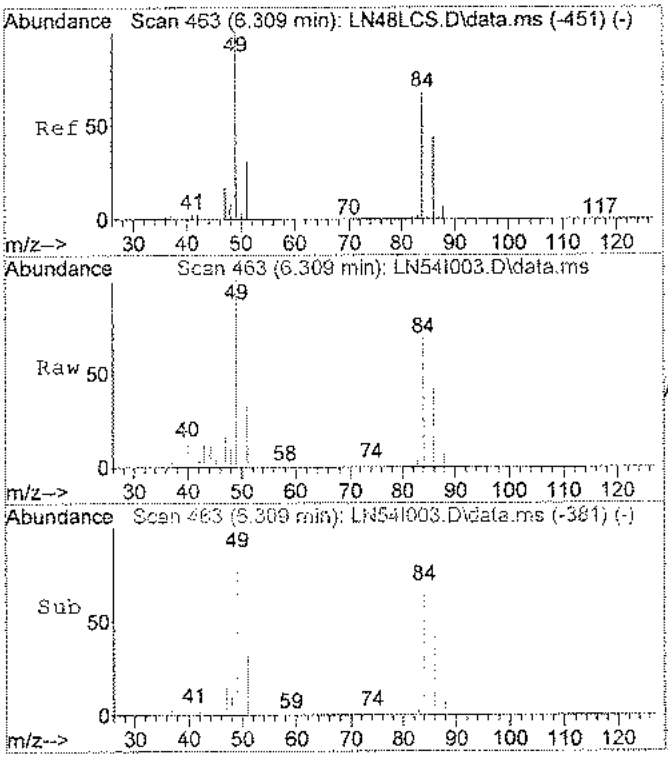


#14
Isopropyl Alcohol
Concen: 14.68 ppb
RT: 5.91 min Scan# 398
Delta R.T. 0.10 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:45.1 Resp: 1039787

Ion	Ratio	Lower	Upper
45	100		
43	26.1	15.8	23.6#
59	4.1	3.2	4.8
0	0.0	0.0	0.0

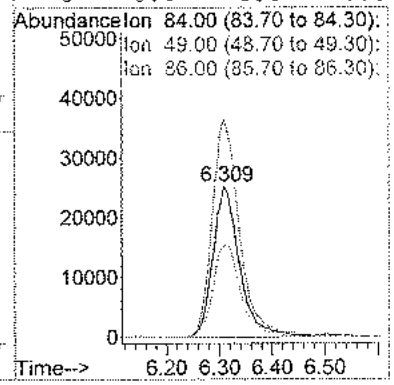


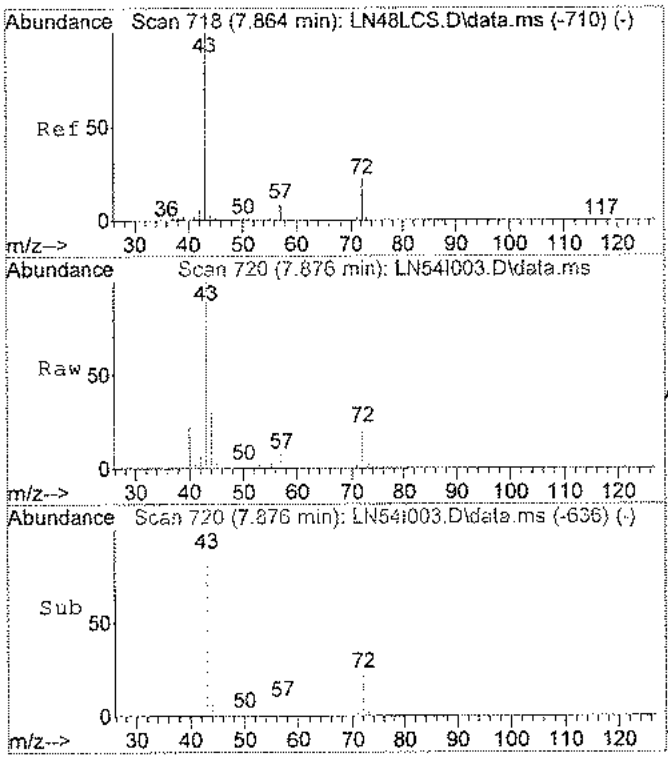


#16
Methylene Chloride
Concen: 2.48 ppb
RT: 6.31 min Scan# 463
Delta R.T. -0.00 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:84 Resp: 87741

Ion	Ratio	Lower	Upper
84	100		
49	146.5	66.6	100.0#
86	64.6	51.6	77.4
0	0.0	0.0	0.0

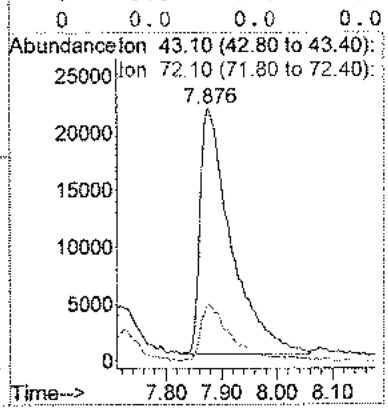


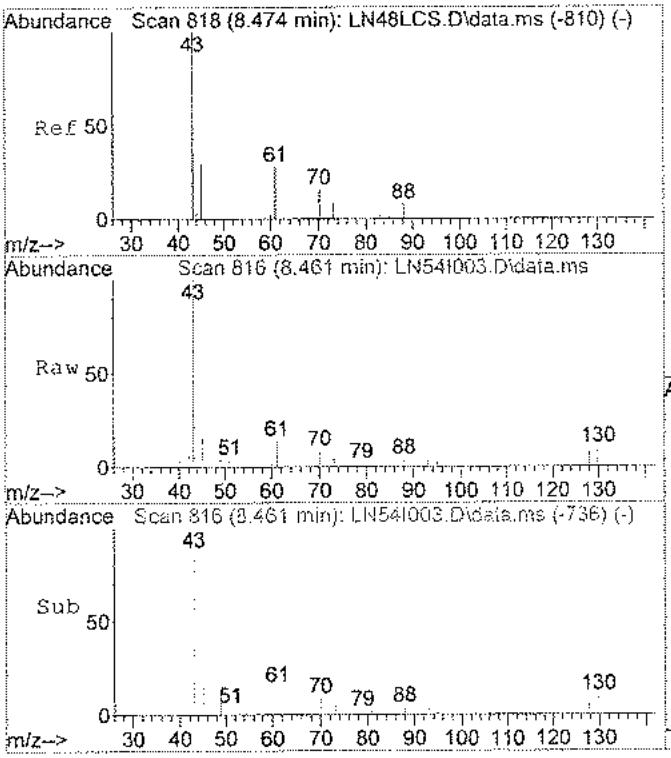


#23
2-Butanone
Concen: 1.01 ppb
RT: 7.88 min Scan# 720
Delta R.T. 0.01 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:43.1 Resp: 84220

Ion	Ratio	Lower	Upper
43	100		
72	21.5	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

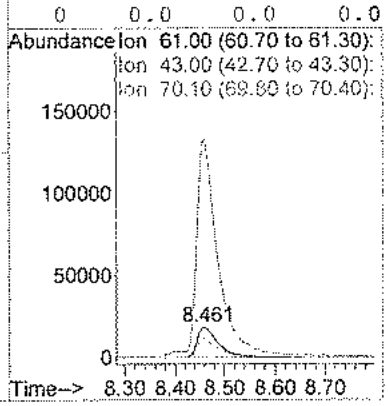


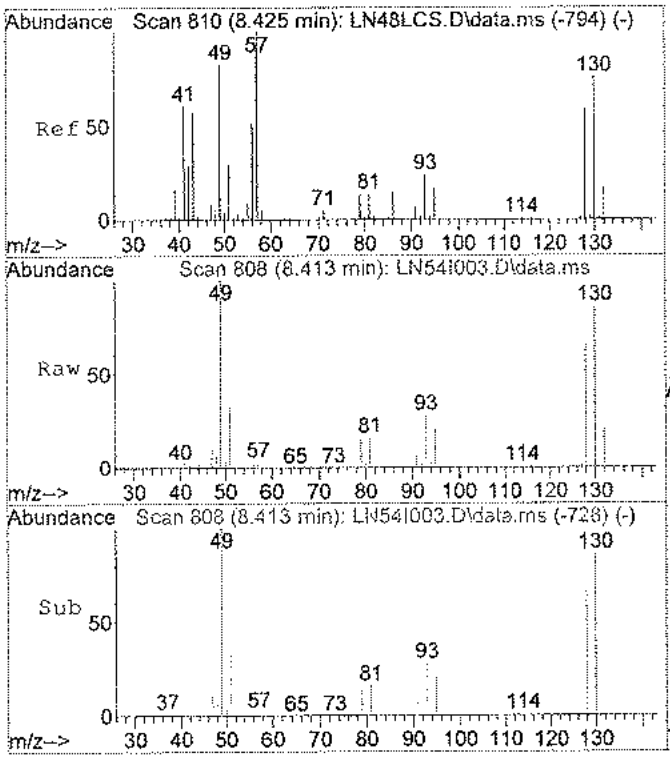


#26
Ethyl Acetate
Concen: 5.07 ppb
RT: 8.46 min Scan# 816
Delta R.T. -0.01 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:61 Resp: 56879

Ion	Ratio	Lower	Upper
61	100		
43	689.4	144.0	216.0#
70	61.3	13.6	20.4#
0	0.0	0.0	0.0

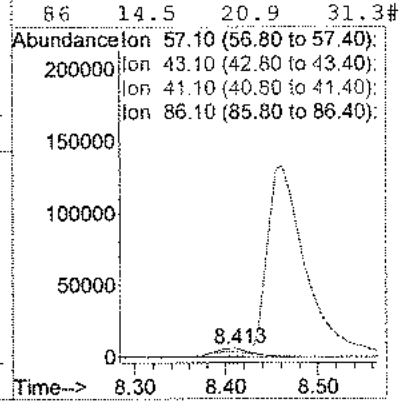


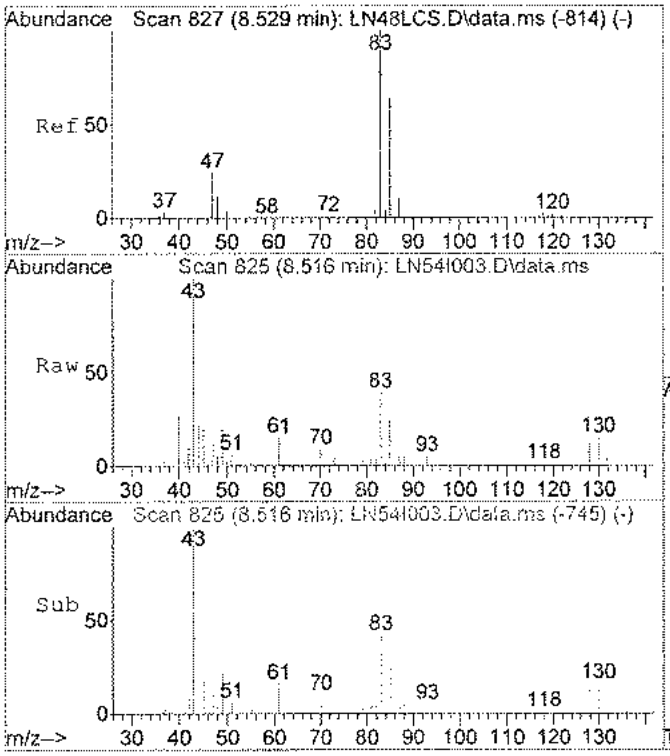


#27
Hexane
Concen: 0.26 ppb
RT: 8.41 min Scan# 808
Delta R.T. -0.01 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:57.1 Resp: 17349

Ion	Ratio	Lower	Upper
57	100		
43	0.0	57.3	85.9#
41	67.4	47.0	70.4
86	14.5	20.9	31.3#

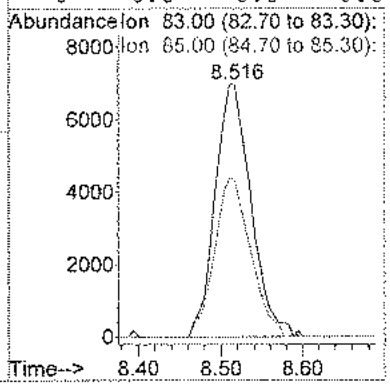


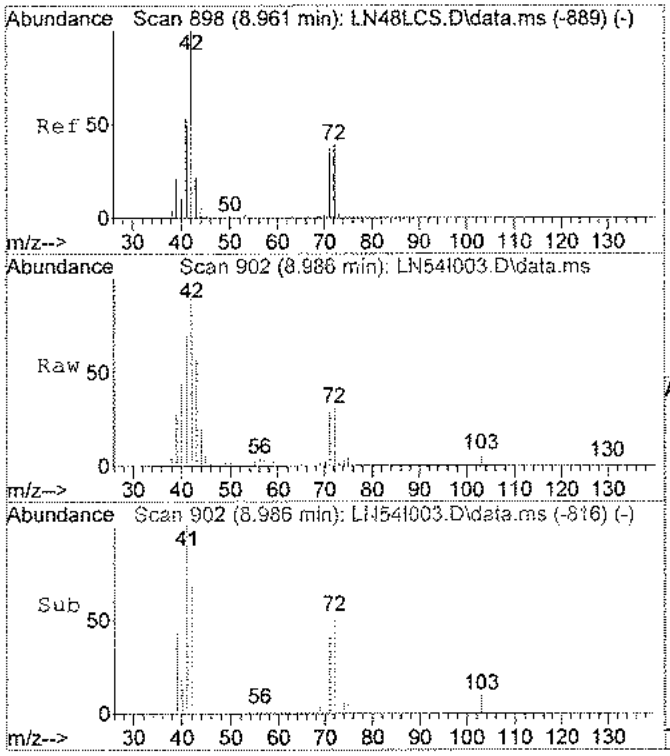


#28
Chloroform
Concen: 0.27 ppb
RT: 8.52 min Scan# 825
Delta R.T. -0.01 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:83 Resp: 20956

Ion	Ratio	Lower	Upper
83	100		
85	63.3	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

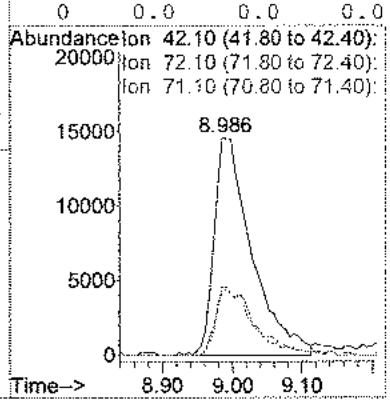


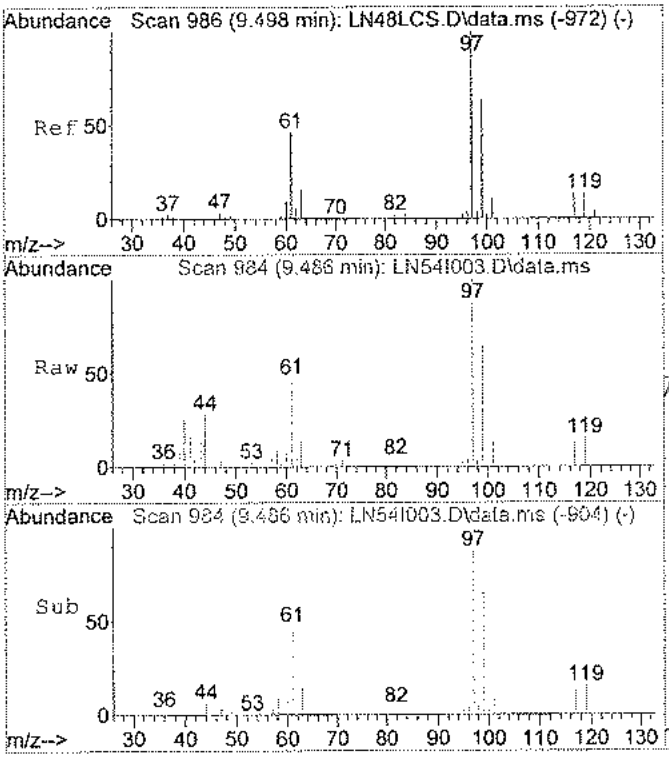


#29
Tetrahydrofuran
Concen: 1.16 ppb
RT: 8.99 min Scan# 902
Delta R.T. 0.02 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:42.1 Resp: 54223

Ion	Ratio	Lower	Upper
42	100		
72	31.7	51.5	77.3#
71	29.3	47.5	71.3#
0	0.0	0.0	0.0

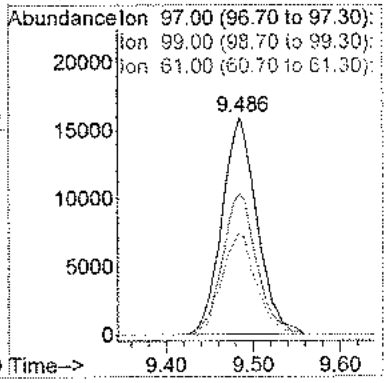


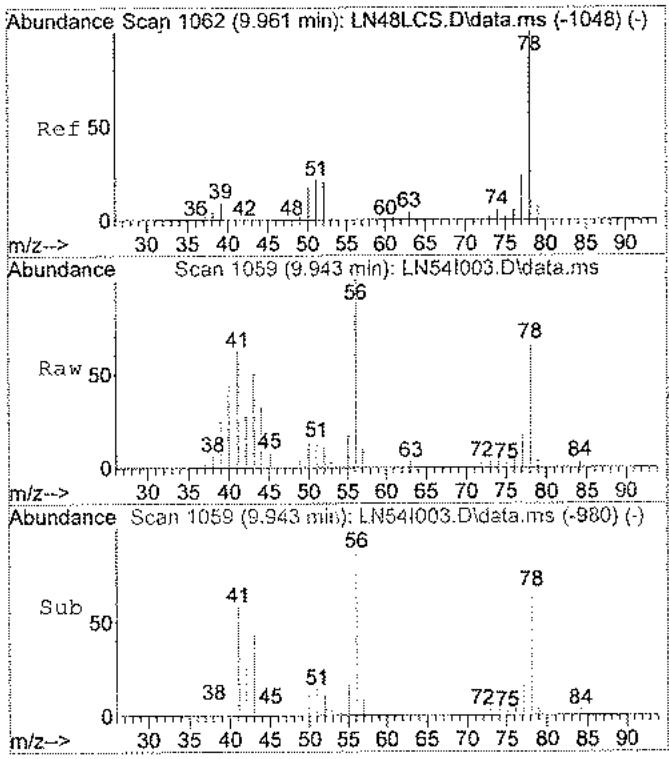


#31
1,1,1-Trichloroethane
Concen: 0.53 ppb
RT: 9.49 min Scan# 984
Delta R.T. -0.01 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:97 Resp: 44391

Ion	Ratio	Lower	Upper
97	100		
99	63.4	51.6	77.4
61	45.7	24.2	36.2#
0	0.0	0.0	0.0

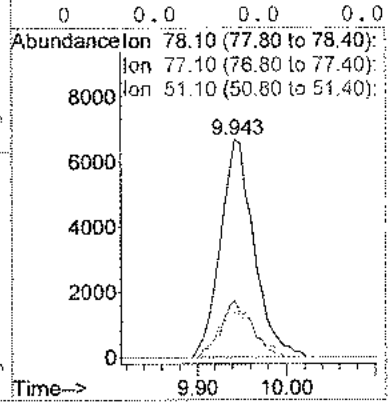


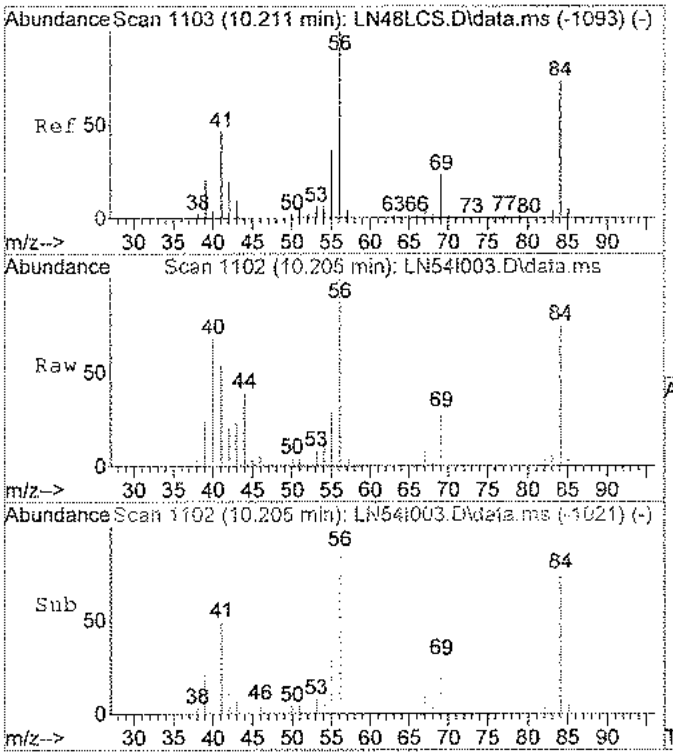


#32
Benzene
Concen: 0.17 ppb
RT: 9.94 min Scan# 1059
Delta R.T. -0.02 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:78.1 Resp: 17610

Ion	Ratio	Lower	Upper
78	100		
77	23.8	18.2	27.4
51	23.9	9.5	14.3#
0	0.0	0.0	0.0

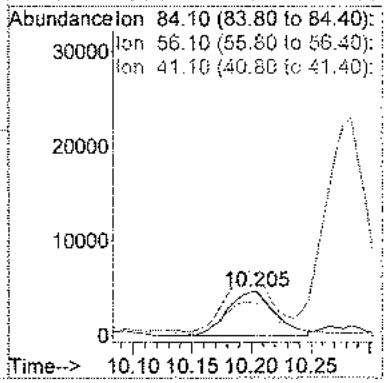


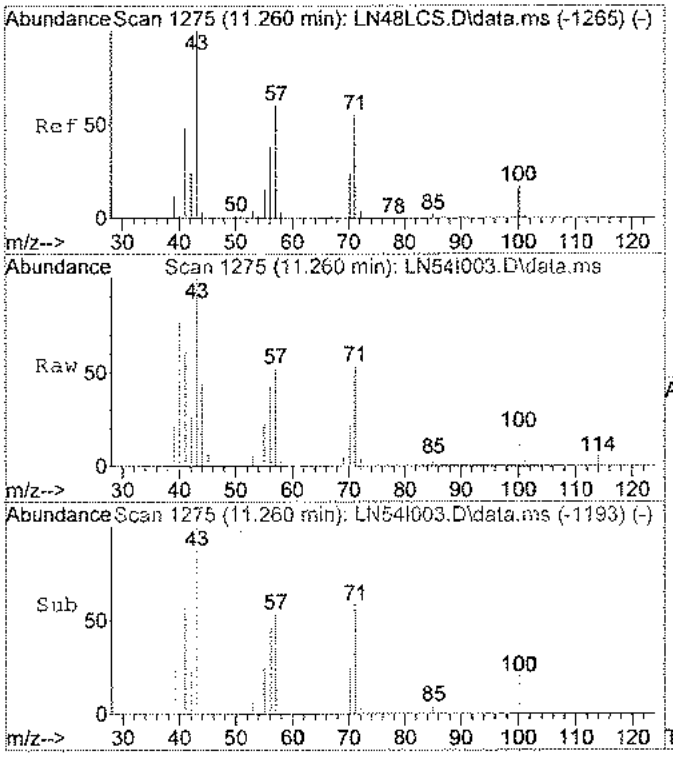


#34
Cyclohexane
Concen: 0.28 ppb
RT: 10.20 min Scan# 1102
Delta R.T. -0.01 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:84.1 Resp: 12788

Ion	Ratio	Lower	Upper
84	100		
56	131.1	67.3	100.9#
41	93.2	30.2	45.4#
0	0.0	0.0	0.0

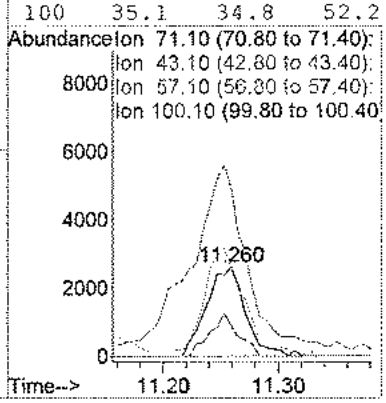


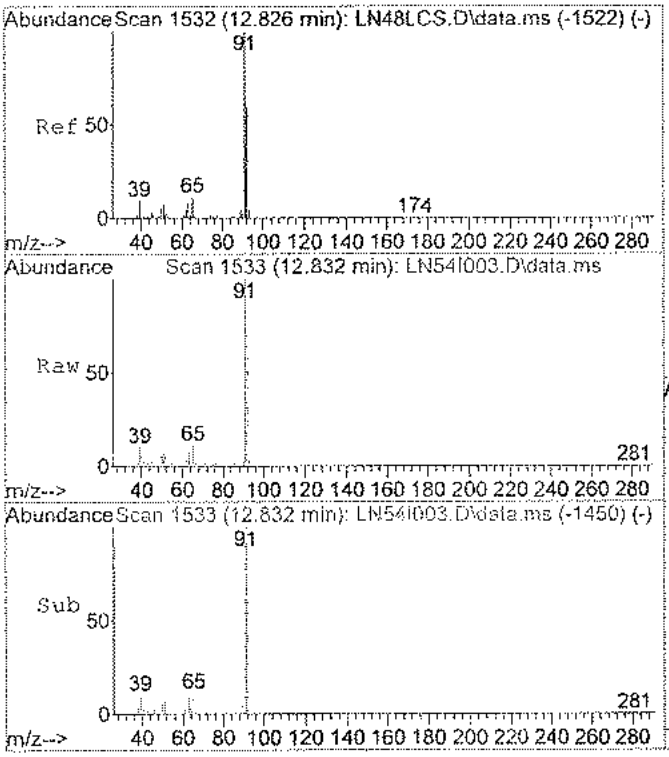


#40
Heptane
Concen: 0.18 ppb
RT: 11.26 min Scan# 1275
Delta R.T. -0.00 min
Lab File: LN541003.D
Acq: 04/10/2017 19:28

Tgt Ion:71.1 Resp: 6148

Ion	Ratio	Lower	Upper
71	100		
43	274.7	87.3	130.9#
57	122.5	57.8	86.6#
100	35.1	34.8	52.2

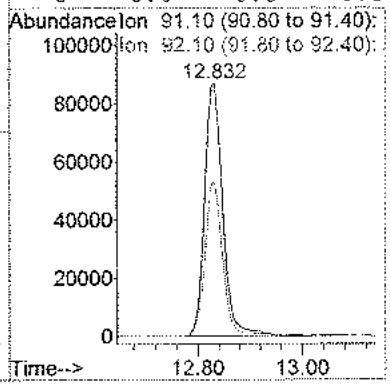


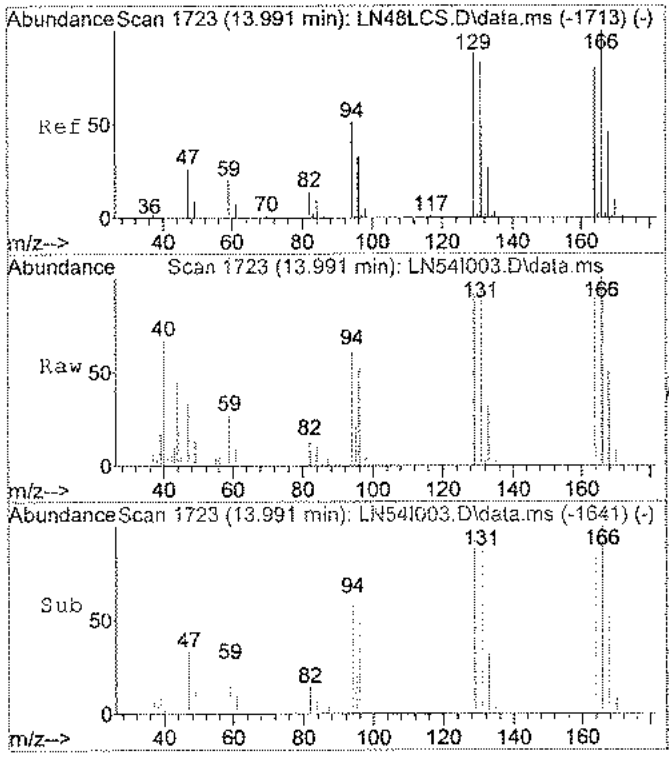


#45
Toluene
Concen: 1.68 ppb
RT: 12.83 min Scan# 1533
Delta R.T. 0.01 min
Lab File: LN541003.D
Acq: 04/10/2017 19:28

Tgt Ion:91.1 Resp: 210682

Ion	Ratio	Lower	Upper
91	100		
92	59.2	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

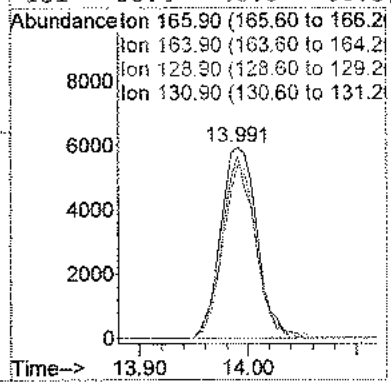


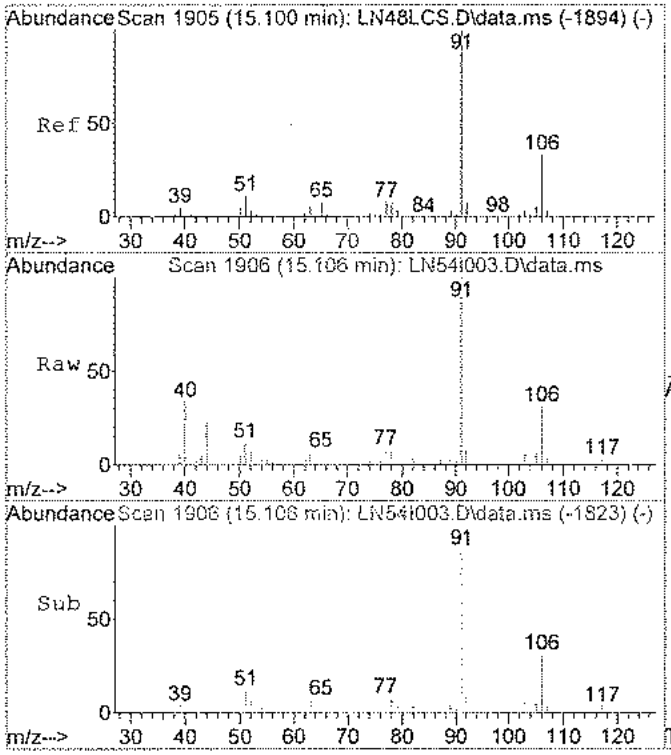


#49
Tetrachloroethene
Concen: 0.23 ppb
RT: 13.99 min Scan# 1723
Delta R.T. -0.00 min
Lab File: LN541003.D
Acq: 04/10/2017 19:28

Tgt Ion:165.9 Resp: 14089

Ion	Ratio	Lower	Upper
166	100		
164	83.6	61.0	91.4
129	86.3	45.9	68.9#
131	85.4	45.5	68.3#

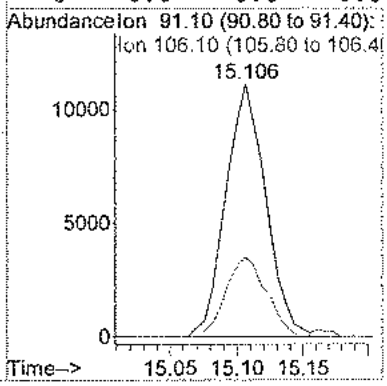


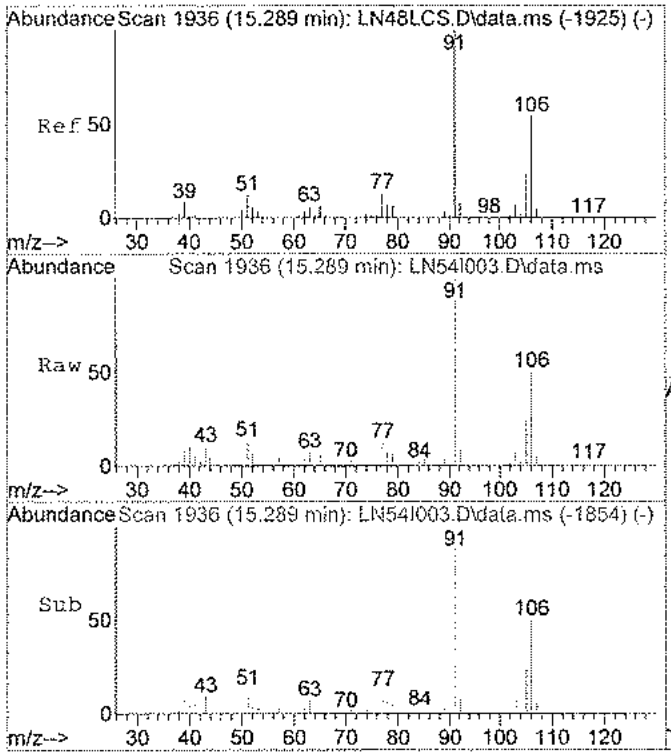


#52
Ethylbenzene
Concen: 0.17 ppb
RT: 15.11 min Scan# 1906
Delta R.T. 0.01 min
Lab File: LN541003.D
Acq: 04/10/2017 19:28

Tgt Ion:91.1 Resp: 23004

Ion	Ratio	Lower	Upper
91	100		
106	31.6	28.4	42.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

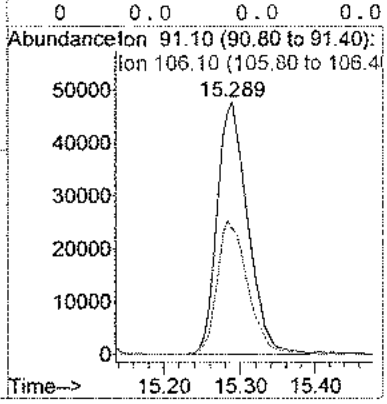


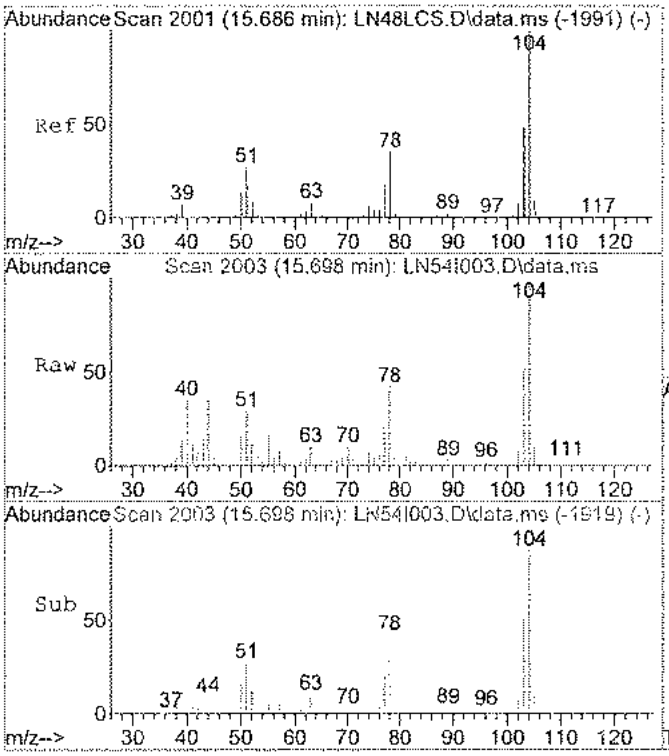


#53
m,p-Xylene
Concen: 1.23 ppb
RT: 15.29 min Scan# 1936
Delta R.T. -0.00 min
Lab File: LN541003.D
Acq: 04/10/2017 19:28

Tgt Ion:91.1 Resp: 132514

Ion	Ratio	Lower	Upper
91	100		
106	52.8	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

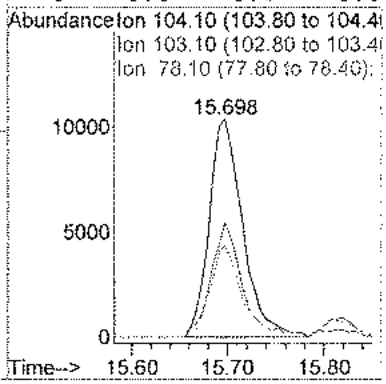


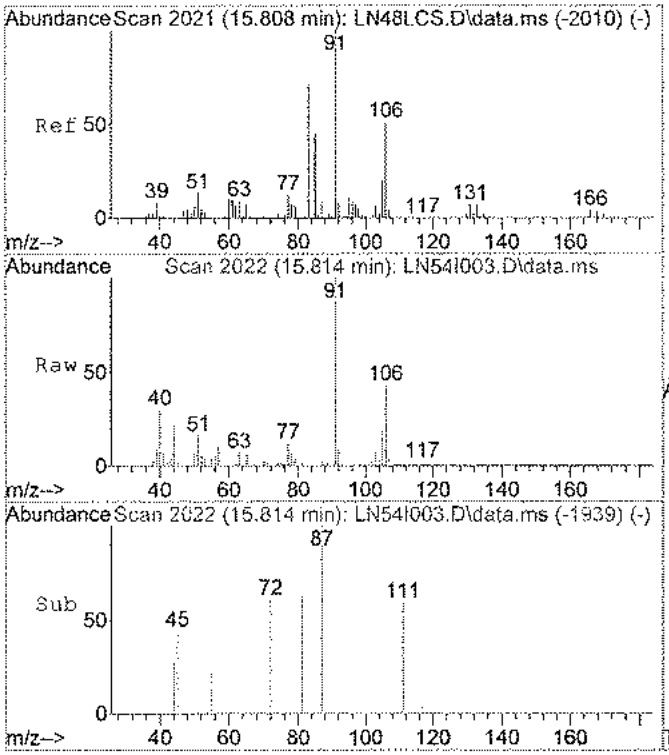


#55
Styrene
Concen: 0.29 ppb
RT: 15.70 min Scan# 2003
Delta R.T. 0.01 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:104.1 Resp: 24974

Ion	Ratio	Lower	Upper
104	100		
103	47.6	36.6	54.8
78	39.0	27.7	41.5
0	0.0	0.0	0.0

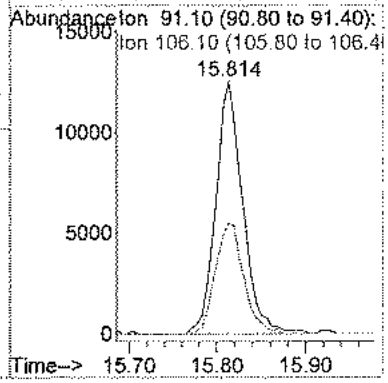




#57
o-Xylene
Concen: 0.22 ppb
RT: 15.81 min Scan# 2022
Delta R.T. 0.01 min
Lab File: LN54I003.D
Acq: 04/10/2017 19:28

Tgt Ion:91.1 Resp: 26509

Ion	Ratio	Lower	Upper
91	100		
106	45.8	41.9	62.9
0	0.0	0.0	0.0
0	0.0	0.0	0.0

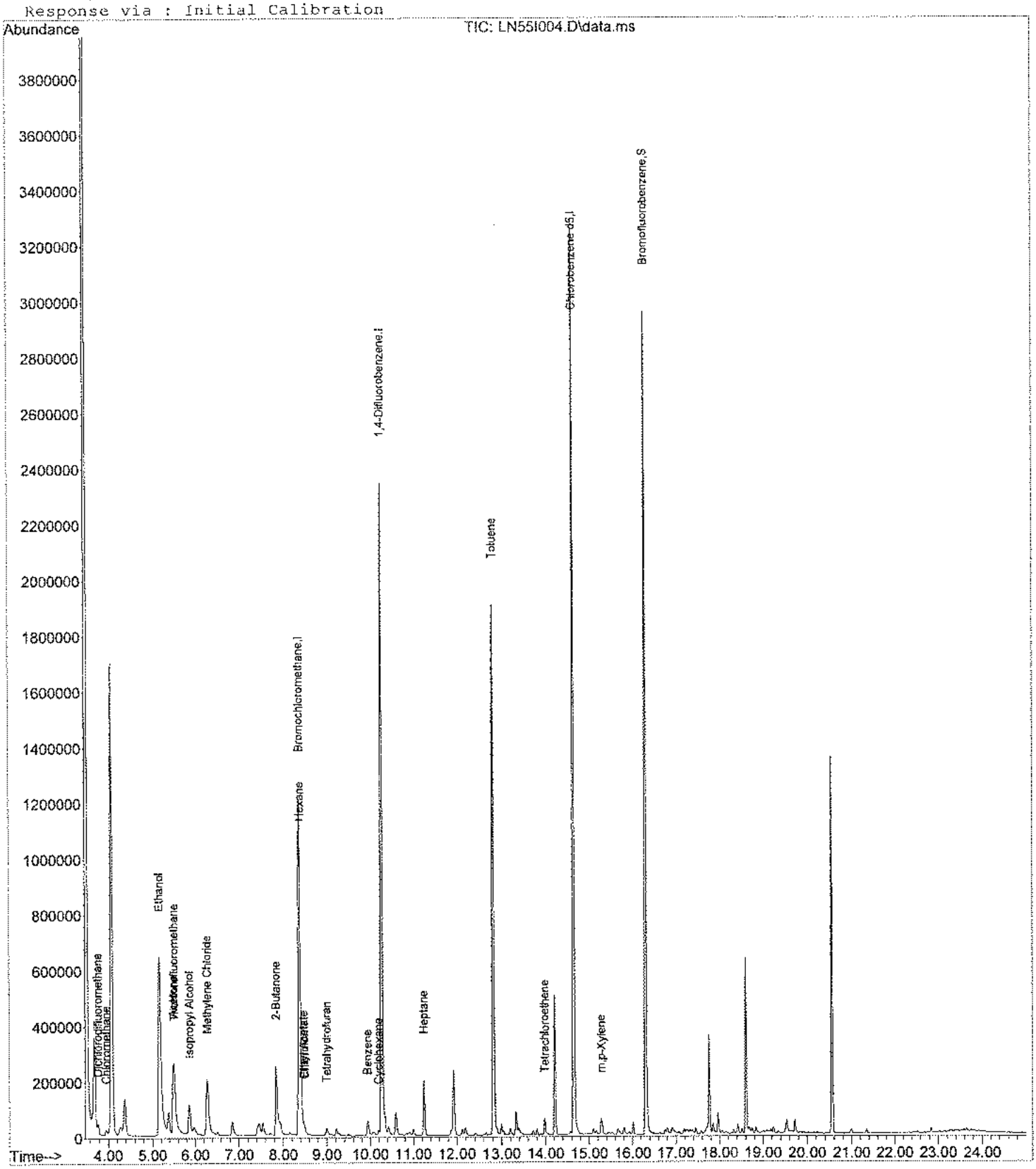


Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN55I004.D Vial: 6
Acq Time : 04/10/2017 20:20 Operator: LMR
Sample : 1709321004 Inst : 5975-L
Misc : A-0029H-033117-TO-001-BAS 6INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:26:08 2017 Results File: TO15LU16.RES

Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 14 09:10:33 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN55I004.D Vial: 6
Acq Time : 04/10/2017 20:20 Operator: LMR
Sample : 1709321004 Inst : 5975-L
Misc : A-0029H-033117-TO-001-BAS 6INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:26:08 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.38	130	228800	20.0000 ppb	121.10
25) 1,4-Difluorobenzene	10.27	114	2673357	20.0000 ppb	116.66
50) Chlorobenzene d5	14.66	117	2262067	20.0000 ppb	113.26
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.31	95	1266792	21.3505 ppb	106.75%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	3.78	85	55778	0.5989 ppb	99
4) Chloromethane	3.96	50	21987	0.6158 ppb	98
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.49	43	732883	12.1850 ppb	98
12) Trichlorofluoromethane	5.51	101	42335	0.3812 ppb	99
13) Ethanol	5.17	45	1686753	147.9154 ppb #	80
14) Isopropyl Alcohol	5.86	45	119801	1.8549 ppb #	1
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.29	84	180371	5.5093 ppb #	60
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.84	43	547746	7.1164 ppb #	73
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	8.49	61	2174	0.1984 ppb #	1
27) Hexane	8.40	57	44342	0.6824 ppb #	84
28) Chloroform	8.50	83	13765	0.1810 ppb	96
29) Tetrahydrofuran	8.99	42	28658	0.6268 ppb #	62
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.94	78	40436	0.4052 ppb #	91
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	10.19	84	8419	0.1873 ppb #	56
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	11.25	71	53465	1.5686 ppb #	46
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	
45) Toluene	12.82	91	1691443	13.7903 ppb	99
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	13.98	166	19934	0.3356 ppb #	75

(#) = qualifier out of range (m) = manual integration

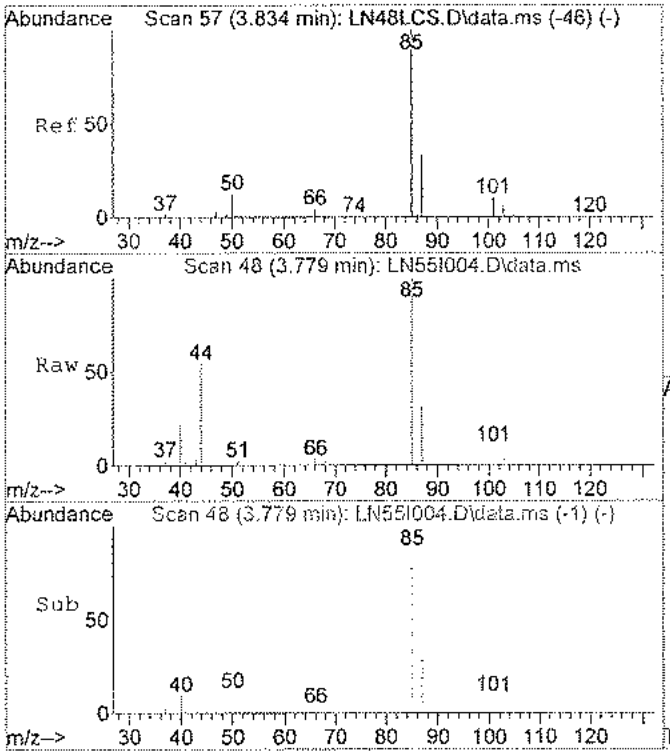
Quantitation Report
Data File : I:\L - 5975-L\2017\A...L\10APR17L\LN55I004.D Vial: 6
Acq Time : 04/10/2017 20:20 Operator: LMR
Sample : 1709321004 Inst : 5975-L
Misc : A-0029H-033117-TO-001-BAS 6INHG Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 14 09:26:08 2017 Results File: TO15LU16.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LU16.m (RTE Integrator)
Title : TO-15
Last Update : Thu Apr 13 10:34:02 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	0.00	91		Not Detected	
53) m,p-Xylene	15.28	91	52825	0.5079 ppb	94
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	0.00	91		Not Detected	
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

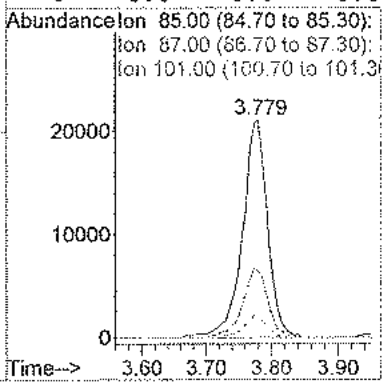
(#) = qualifier out of range (m) = manual integration

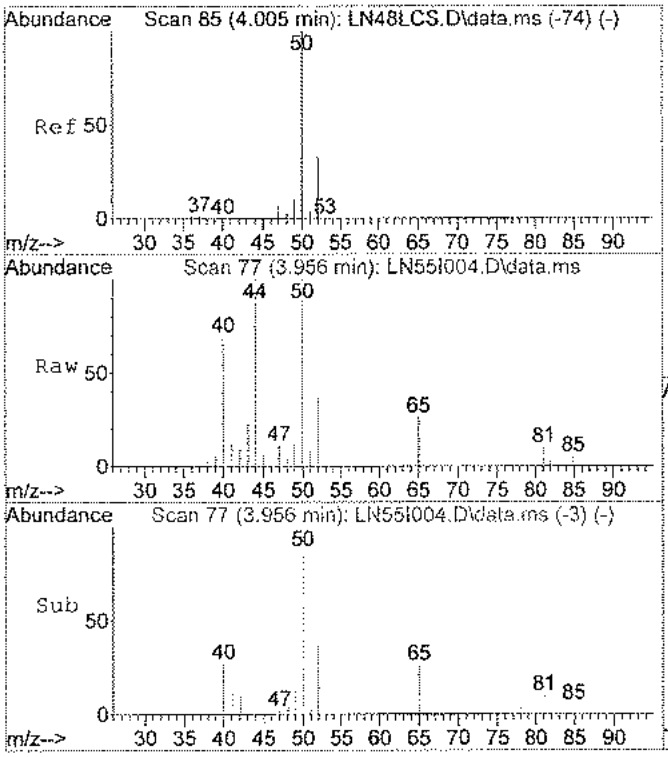


#3
Dichlorodifluoromethane
Concen: 0.60 ppb
RT: 3.78 min Scan# 48
Delta R.T. -0.05 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:85 Resp: 55778

Ion	Ratio	Lower	Upper
85	100		
87	32.4	26.1	39.1
101	9.3	8.0	12.0
0	0.0	0.0	0.0

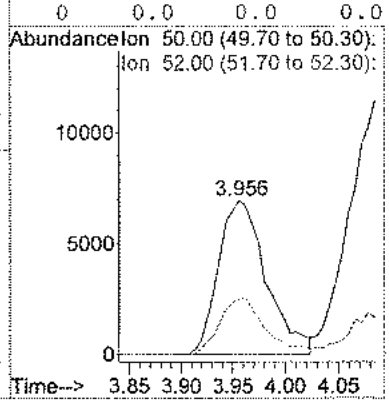


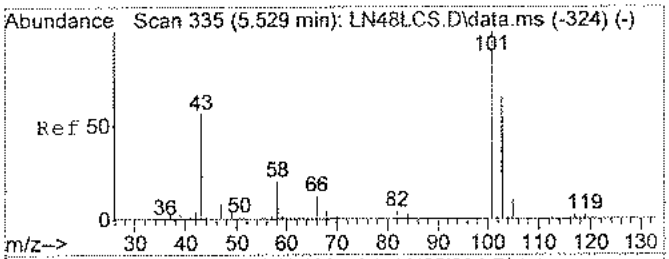


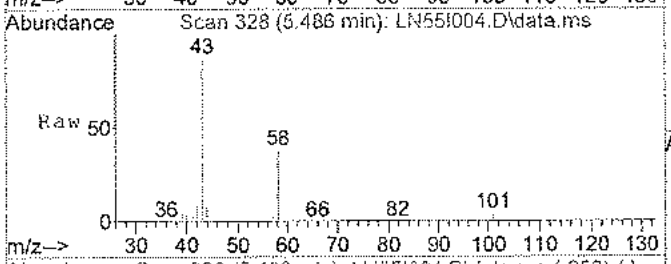
#4
Chloromethane
Concen: 0.62 ppb
RT: 3.96 min Scan# 77
Delta R.T. -0.05 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

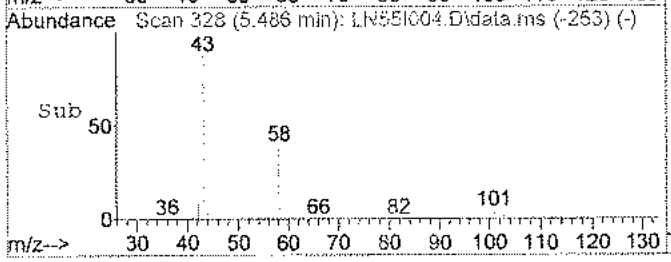
Tgt Ion:50 Resp: 21987

Ion	Ratio	Lower	Upper
50	100		
52	34.6	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0





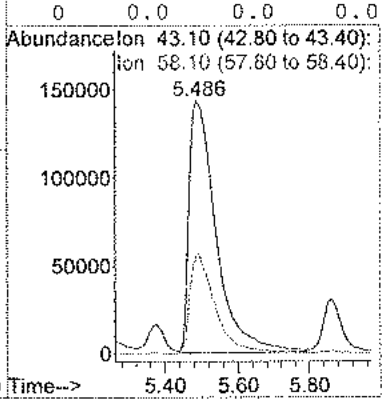


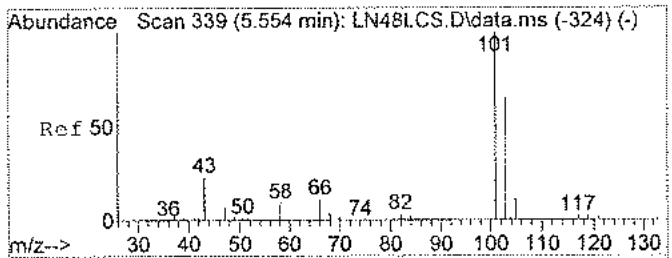


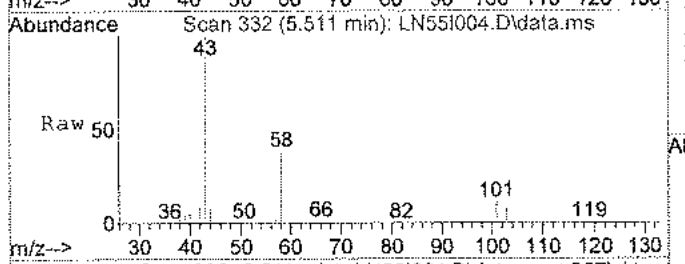
#11
Acetone
Concen: 12.18 ppb
RT: 5.49 min Scan# 328
Delta R.T. -0.04 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

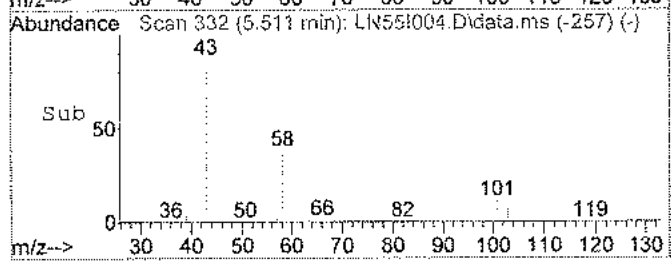
Tgt Ion:43.1 Resp: 732883

Ion	Ratio	Lower	Upper
43	100		
58	37.4	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0





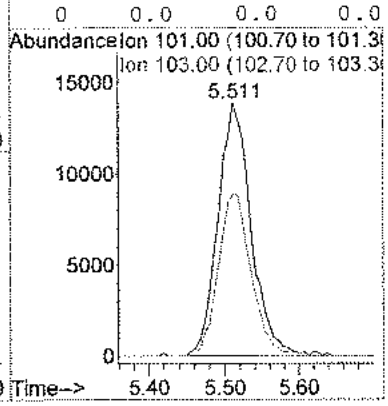


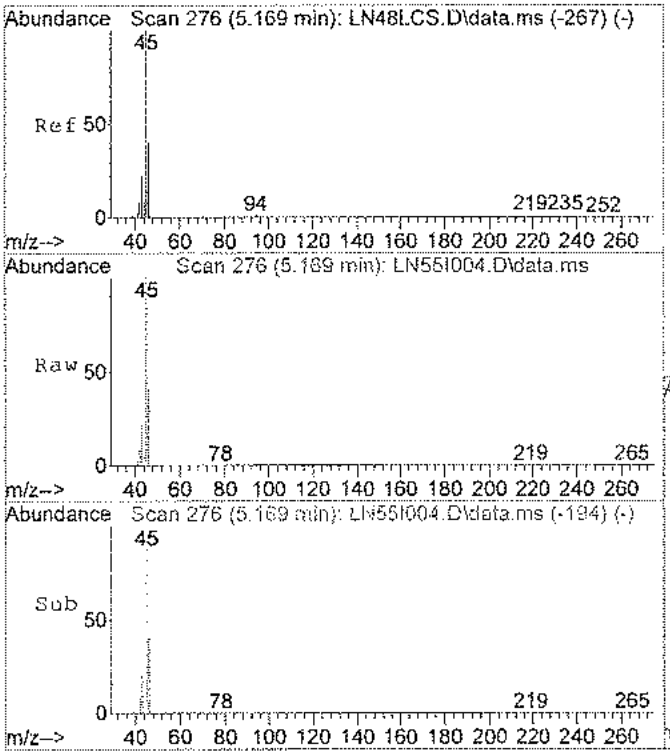


#12
Trichlorofluoromethane
Concen: 0.38 ppb
RT: 5.51 min Scan# 332
Delta R.T. -0.04 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:101 Resp: 42335

Ion	Ratio	Lower	Upper
101	100		
103	63.5	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

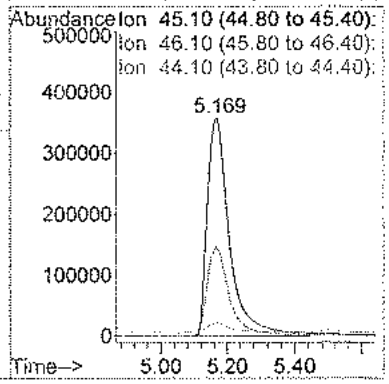


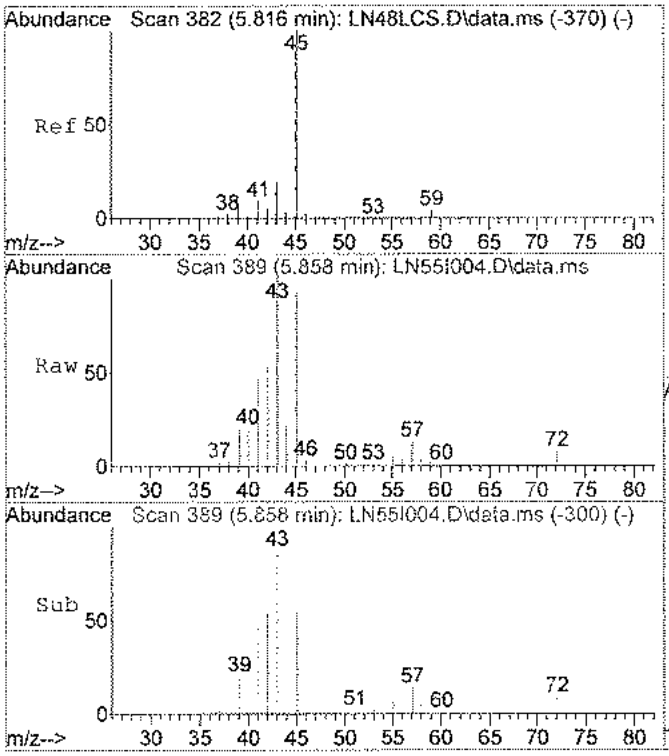


#13
Ethanol
Concen: 147.92 ppb
RT: 5.17 min Scan# 276
Delta R.T. -0.00 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:45.1 Resp: 1686753

Ion	Ratio	Lower	Upper
45	100		
46	40.7	32.4	48.6
44	4.5	23.4	35.2#
0	0.0	0.0	0.0

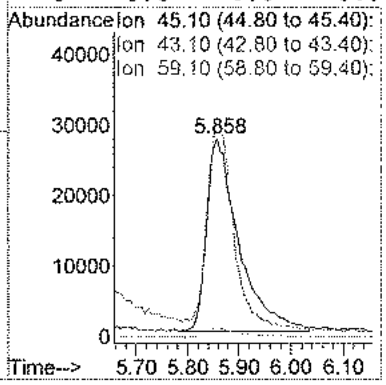


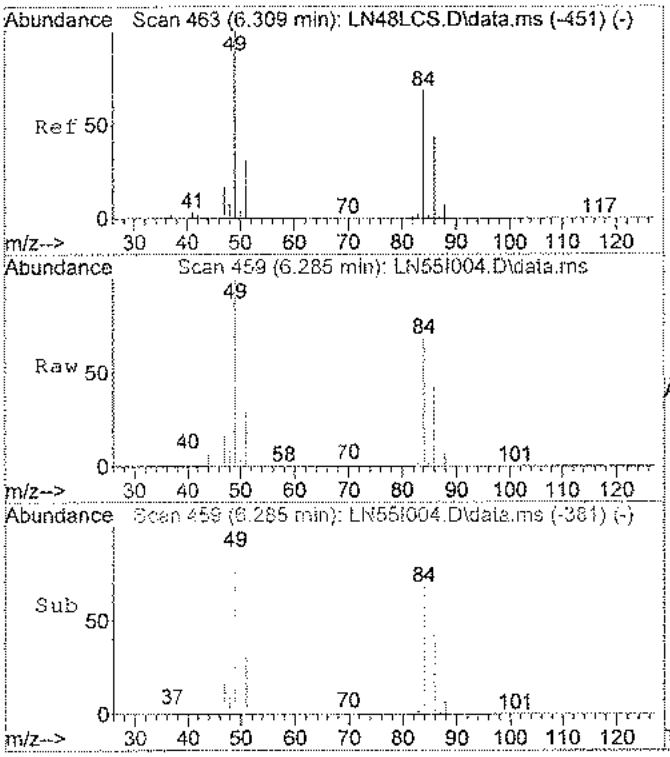


#14
Isopropyl Alcohol
Concen: 1.85 ppb
RT: 5.86 min Scan# 389
Delta R.T. 0.04 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:45.1 Resp: 119801

Ion	Ratio	Lower	Upper
45	100		
43	86.9	15.8	23.6#
59	4.0	3.2	4.8
0	0.0	0.0	0.0

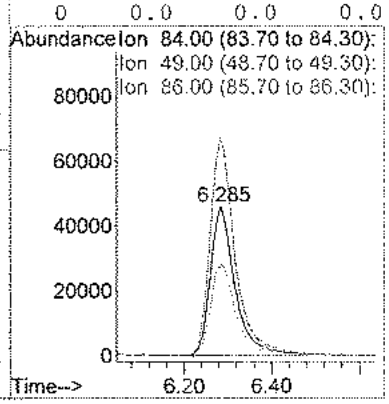


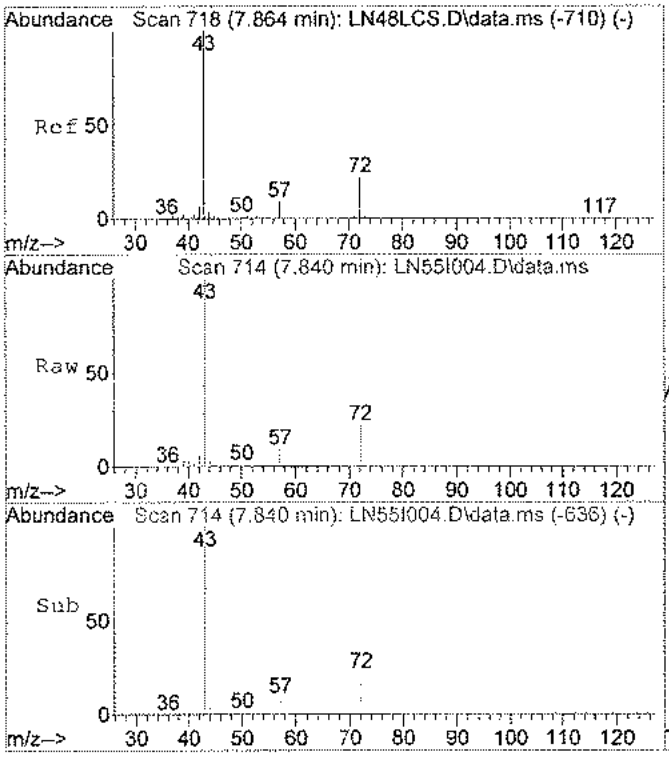


#16
Methylene Chloride
Concen: 5.51 ppb
RT: 6.29 min Scan# 459
Delta R.T. -0.02 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:84 Resp: 180371

Ion	Ratio	Lower	Upper
84	100		
49	146.5	66.6	100.0#
86	63.6	51.6	77.4
0	0.0	0.0	0.0

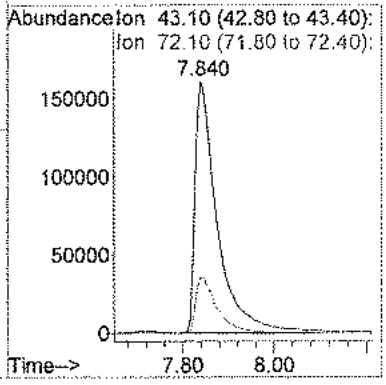


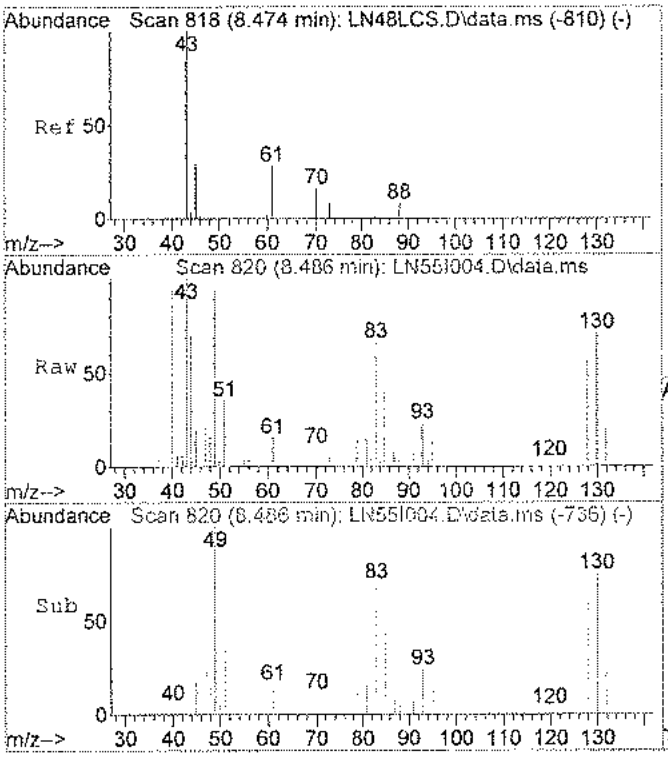


#23
2-Butanone
Concen: 7.12 ppb
RT: 7.84 min Scan# 714
Delta R.T. -0.02 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:43.1 Resp: 547746

Ion	Ratio	Lower	Upper
43	100		
72	22.5	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

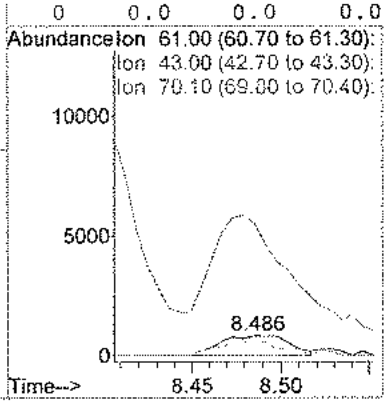


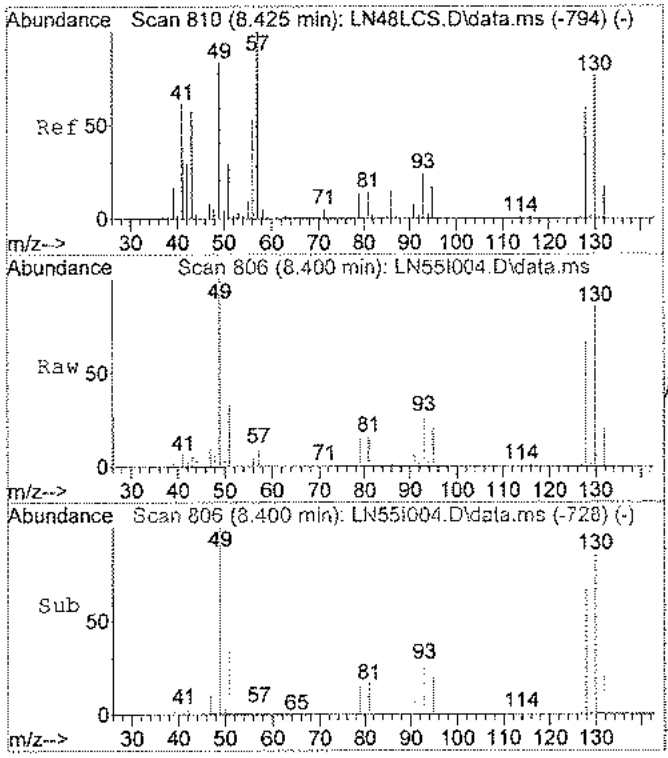


#26
Ethyl Acetate
Concen: 0.20 ppb
RT: 8.49 min Scan# 820
Delta R.T. 0.01 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:61 Resp: 2174

Ion	Ratio	Lower	Upper
61	100		
43	775.5	144.0	216.0#
70	65.0	13.6	20.4#
0	0.0	0.0	0.0

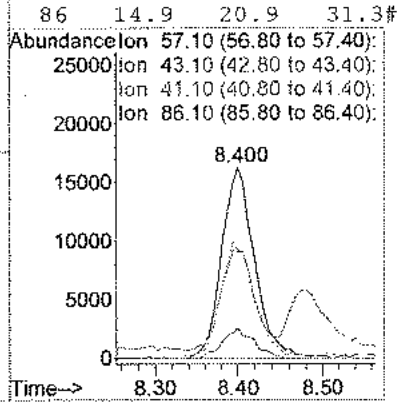


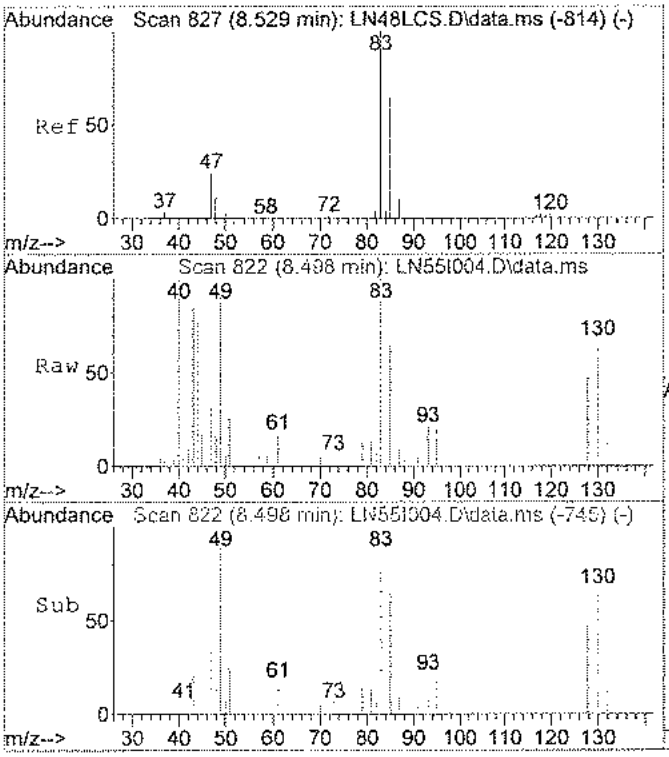


#27
Hexane
Concen: 0.68 ppb
RT: 8.40 min Scan# 806
Delta R.T. -0.02 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:57.1 Resp: 44342

Ion	Ratio	Lower	Upper
57	100		
43	54.4	57.3	85.9#
41	64.1	47.0	70.4
86	14.9	20.9	31.3#

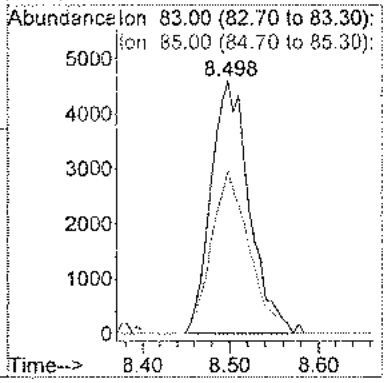


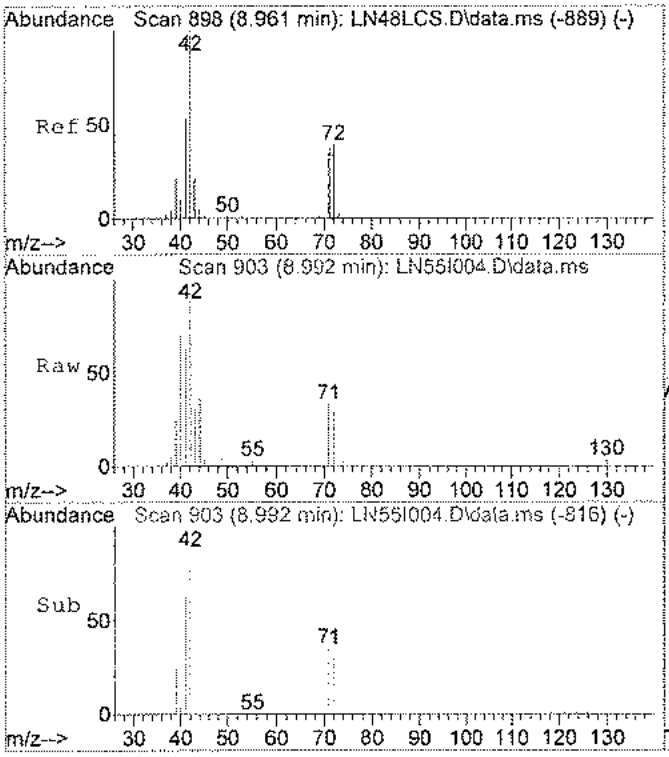


#28
Chloroform
Concen: 0.18 ppb
RT: 8.50 min Scan# 822
Delta R.T. -0.03 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:83 Resp: 13765

Ion	Ratio	Lower	Upper
83	100		
85	62.3	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

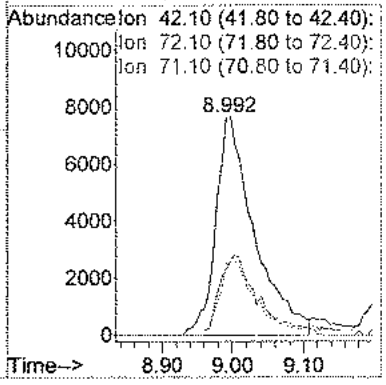


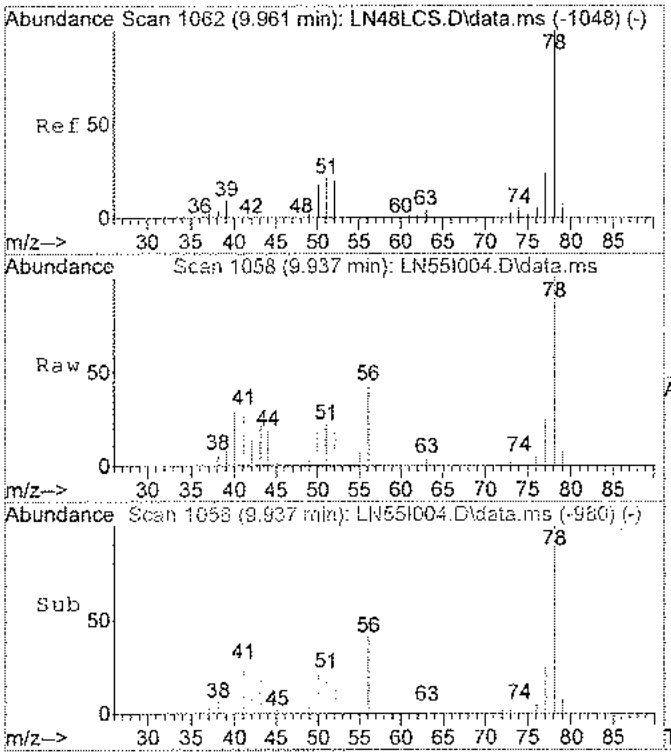


#29
Tetrahydrofuran
Concen: 0.63 ppb
RT: 8.99 min Scan# 903
Delta R.T. 0.03 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:42.1 Resp: 28658

Ion	Ratio	Lower	Upper
42	100		
72	34.6	51.5	77.3#
71	31.6	47.5	71.3#
0	0.0	0.0	0.0

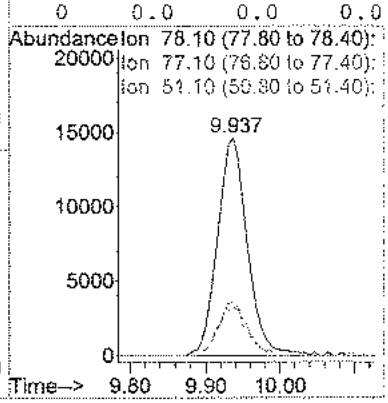


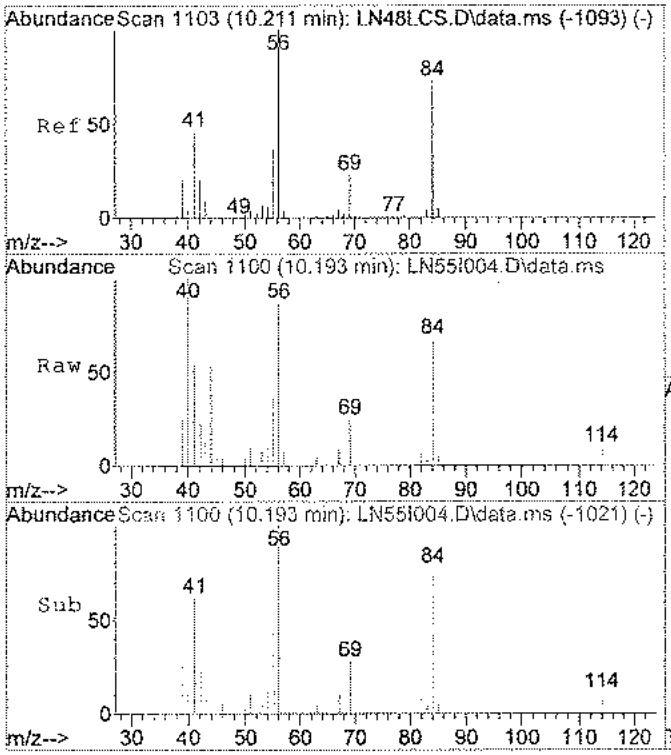


#32
Benzene
Concen: 0.41 ppb
RT: 9.94 min Scan# 1058
Delta R.T. -0.02 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:78.1 Resp: 40436

Ion	Ratio	Lower	Upper
78	100		
77	22.9	18.2	27.4
51	21.9	9.5	14.3#
0	0.0	0.0	0.0

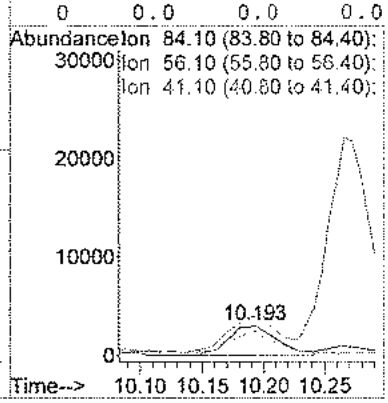


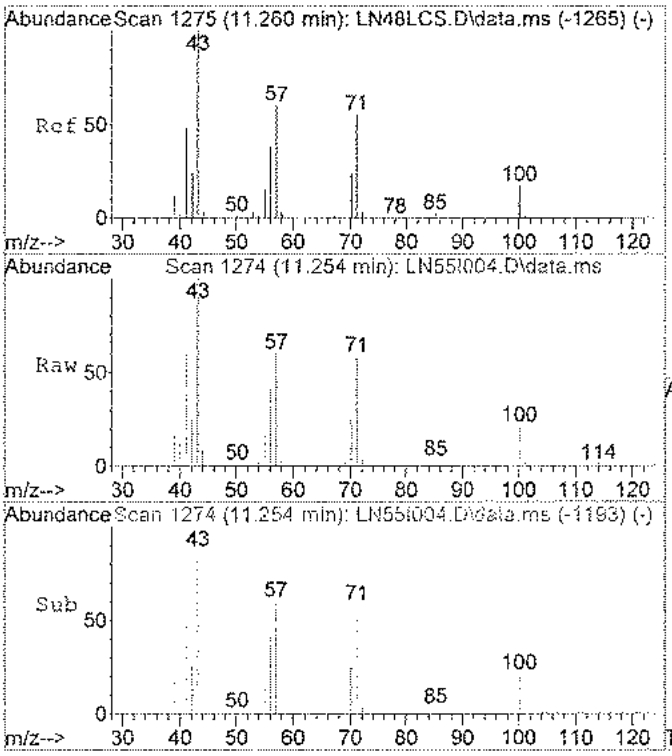


#34
Cyclohexane
Concen: 0.19 ppb
RT: 10.19 min Scan# 1100
Delta R.T. -0.02 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:84.1 Resp: 8419

Ion	Ratio	Lower	Upper
84	100		
56	123.6	67.3	100.9#
41	64.9	30.2	45.4#
0	0.0	0.0	0.0

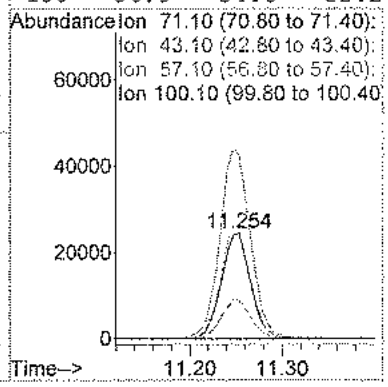


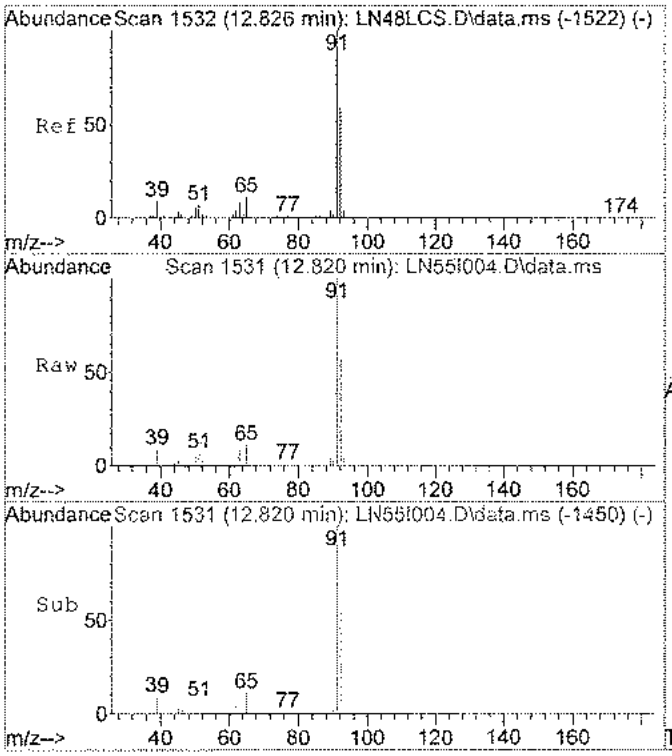


#40
Heptane
Concen: 1.57 ppb
RT: 11.25 min Scan# 1274
Delta R.T. -0.01 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:71.1 Resp: 53465

Ion	Ratio	Lower	Upper
71	100		
43	190.8	87.3	130.9#
57	109.2	57.8	86.6#
100	36.9	34.8	52.2

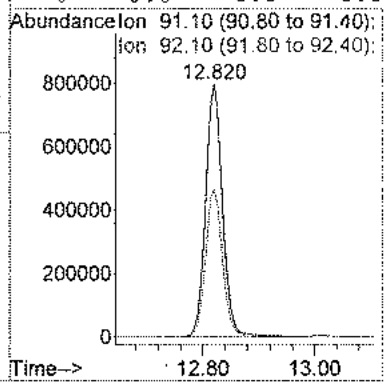


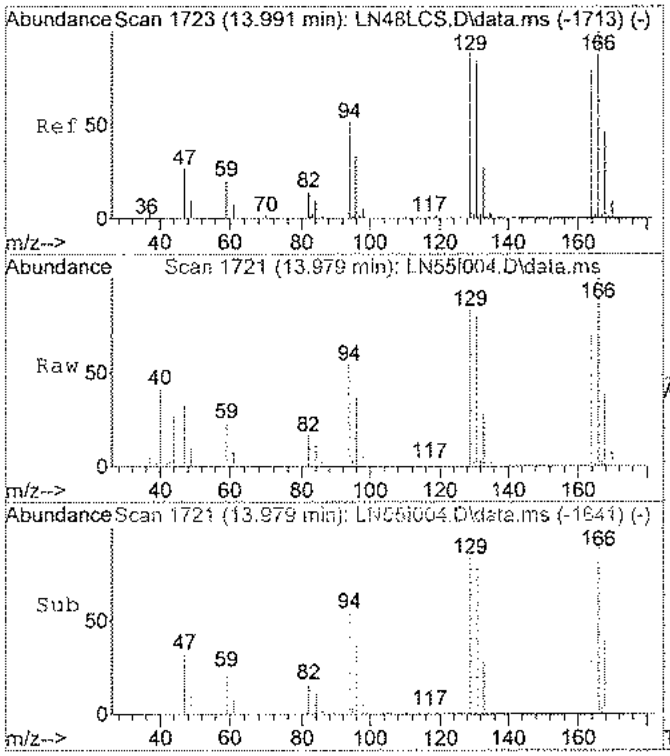


#45
Toluene
Concen: 13.79 ppb
RT: 12.82 min Scan# 1531
Delta R.T. -0.01 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:91.1 Resp: 1691443

Ion	Ratio	Lower	Upper
91	100		
92	58.9	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

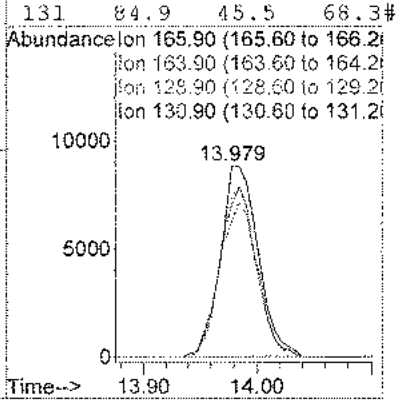


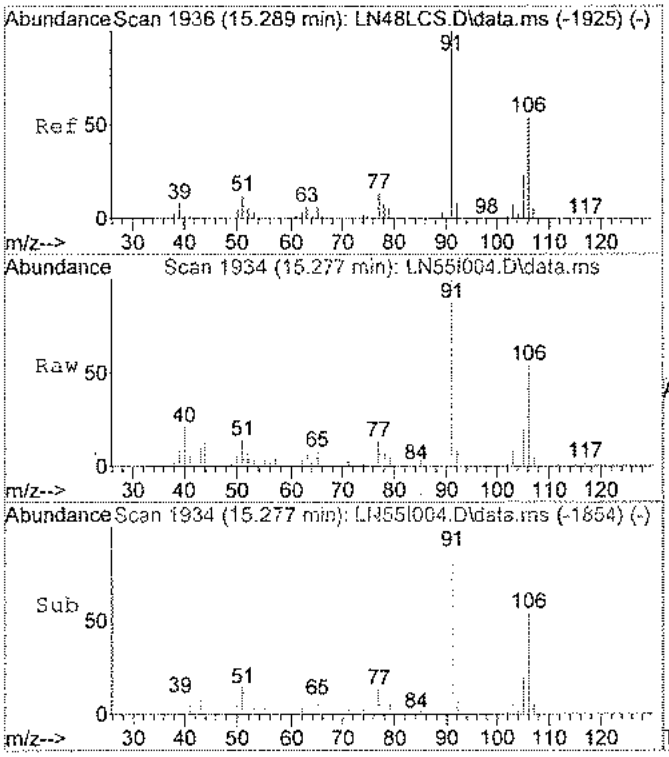


#49
Tetrachloroethene
Concen: 0.34 ppb
RT: 13.98 min Scan# 1721
Delta R.T. -0.01 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:165.9 Resp: 19934

Ion	Ratio	Lower	Upper
166	100		
164	78.6	61.0	91.4
129	87.5	45.9	68.9#
131	84.9	45.5	68.3#

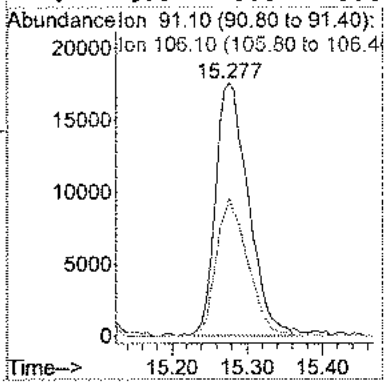




#53
m,p-Xylene
Concen: 0.51 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.01 min
Lab File: LN55I004.D
Acq: 04/10/2017 20:20

Tgt Ion:91.1 Resp: 52825

Ion	Ratio	Lower	Upper
91	100		
106	51.4	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Analyst Notebook

1886019

TO15
Instrument : See Batch Worklist
HBN: See Batch Worklist
Column: DB-1
Inst. Program: Initial 40 °C for 4 min; 10 °C/min to 220 °C hold for 3 mins.
Run time: 26 min for 5975-K, 25 min for 5975-L
Carrier Gas: Helium
Cold Trap Dehydration
Initial Calibration Curve is : TO15LL1Co (HBN 180857)

The following compounds in the CCS were outside of +/_30%: From 114, From 113, Carbon Tetrachloride, Dibromochloromethane and Tetrachloroethane

Dilutions: 1709670 = HDS; 1.10DIL x % Air Calculator Worksheet

Notes: 1710039, 1709670, 1709321

1709670 = Hexane and Benzene ~~only for TEP 04-13-17~~ 04-12-17
Client also wanted Propane/Propene, Isobutane, Butane, 1,3-Butadiene and Acetone

Analyst Signature: 04-12-17

1709321

For lab use only

ANALYTICAL REQUEST FORM

1. ☒ REGULAR Status

☐ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____
DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date _____ Purchase Order No. 10006-7-107234

3. Company Name CHEM HILL
Address 4246 S. Riverboat Rd Suite 210
Taylorsville, UT 84123
Person to Contact Mark Ciehy
Telephone (801) 229-3744
Fax Telephone ( )
E-mail Address Mark.Ciehy@chem.com
Billing Address (if different from above)

4. Quote No. 80020655-R17-0003
ALS Project Manager Kevin Griffith

5. Sample Collection
Sampling Site HA Army (SLC, UT)
Industrial Process Residential Indoor Air
Date of Collection
Time Collected
Date of Shipment Dropped off @ Lab
Chain of Custody No. 002

6. How did you first learn about ALS?

7. REQUEST FOR ANALYSES

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
CHHM-032317-TD-001-BAS	Indoor Air		Sim TO-15 (HCs)*	5&6	000805
CHHM-032317-TD-002-BAS	"		Sim TO-15 (HCs)*	5&6	0190
CHHM-032317-TD-003-BAS	"		Sim TO-15 (HCs)*	5&6	0133
CHHM-032317-TD-004-BAS	"		Sim TO-15 (HCs)*	5&6	0891

Vac Bulk 1 Sim Bulk 2 Sim Bulk 3 Lab

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % 5. µg/m³ 6. ppbV (other) Please indicate one or more units in the column entitled Units**

Comments EDD type: Lapspec 7 Data Deliverable: Level 4

* HC, 1,4-Dioxane, TCE, PCE, cis-1,2-DCE by TO-15 SIM

Possible Contamination and/or Chemical Hazards None

7. Chain of Custody (Optional)

Relinquished by		Date/Time	3/31/17 @ 15:54
Received by		Date/Time	03-31-17 15:54
Relinquished by		Date/Time	
Received by		Date/Time	

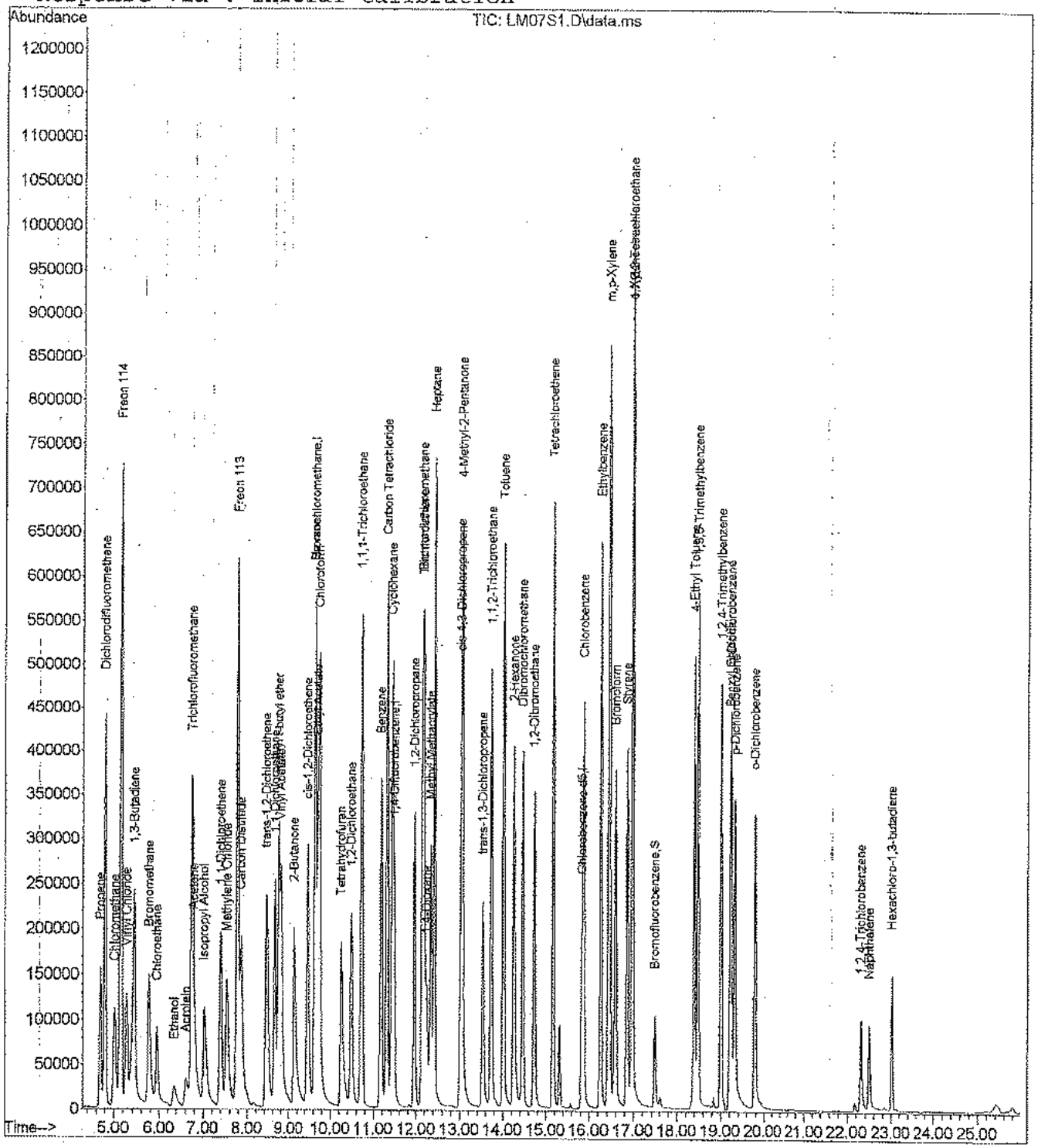
960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
ALS Environmental

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM07S1.D Vial: 3
Acq Time : 03/27/2017 12:58 Operator: LMR
Sample : 1.0PPB Inst : 5975-L
Misc : 35941 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:21:59 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Response Factor Report 5975-L

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response Via : Initial Calibration

Calibration Files
50 =LM11S005.D 100 =LM10S01.D 200 =LM09S02.D 500 =LM08S05.D
1000=LM07S1.D

		Compound	50	100	200	500	1000	Avg		%RSD
1)	I	Bromochloromethane	ISTD							
2)		Propene	1.396	1.349	1.187	1.079	1.008	1.204	E1	13.91
3)		Dichlorodifluoro...	3.421	3.463	3.136	2.893	2.657	3.114	E1	11.07
4)		Chloromethane	1.438	1.359	1.257	1.214	1.124	1.278	E1	9.61
5)		Freon 114	2.526	2.521	2.320	2.143	1.978	2.298	E1	10.41
6)		Vinyl Chloride	1.759	1.692	1.589	1.452	1.331	1.565	E1	11.15
7)		1,3-Butadiene	1.608	1.568	1.454	1.341	1.221	1.438	E1	11.12
8)		Bromomethane	1.483	1.516	1.380	1.297	1.169	1.369	E1	10.33
9)		Chloroethane	8.991	8.705	8.285	7.426	7.257	8.133		9.43
10)		Acrolein	4.483	4.995	4.799	4.670	4.435	4.676		4.93
11)		Acetone	2.345	2.081	1.750	1.565	1.433	1.835	E1	20.43
12)		Trichlorofluorom...	3.225	3.258	2.987	2.768	2.516	2.951	E1	10.63
13)		Ethanol	1.473	3.595	4.026	3.717	3.613	3.285		31.28
14)		Isopropyl Alcohol	2.986	2.386	2.004	1.777	1.531	2.137	E1	26.65
15)		1,1-Dichloroethene	1.840	1.863	1.731	1.656	1.557	1.729	E1	7.39
16)		Methylene Chloride	1.335	1.204	1.083	0.964	0.870	1.091	E1	16.95
17)		Freon 113	2.230	2.273	2.096	1.943	1.767	2.062	E1	10.14
18)		Carbon Disulfide	3.810	3.814	3.476	3.219	2.928	3.449	E1	11.12
19)		trans-1,2-Dichlo...	1.305	1.297	1.193	1.120	1.061	1.195	E1	8.98
20)		1,1-Dichloroethane	2.501	2.558	2.416	2.296	2.088	2.372	E1	7.88
21)		methyl t-butyl e...	2.433	2.600	2.496	2.483	2.384	2.479	E1	3.25
22)		Vinyl Acetate	2.308	2.334	2.570	2.729	2.649	2.518		7.49
23)		2-Butanone	2.142	2.684	2.559	2.656	2.520	2.512	E1	8.66
24)		cis-1,2-Dichloro...	1.248	1.305	1.234	1.208	1.129	1.225	E1	5.24
25)	I	1,4-Difluorobenzene	ISTD							
26)		Ethyl Acetate	0.153	0.201	0.199	0.188	0.200	0.188		10.92
27)		Hexane	1.114	1.096	1.078	1.048	1.055	1.078		2.57
28)		Chloroform	1.877	1.748	1.617	1.471	1.384	1.619		12.37
29)		Tetrahydrofuran	0.876	0.813	0.787	0.752	0.743	0.794		6.76
30)		1,2-Dichloroethane	1.106	1.027	0.948	0.862	0.824	0.954		12.16
31)		1,1,1-Trichloroe...	1.668	1.549	1.418	1.282	1.229	1.429		12.78
32)		Benzene	2.494	2.205	1.992	1.811	1.747	2.050		14.89
33)		Carbon Tetrachlo...	1.831	1.703	1.557	1.399	1.335	1.565		13.17
34)		Cyclohexane	0.886	0.829	0.783	0.760	0.762	0.804		6.65
35)		1,2-Dichloropropane	0.900	0.848	0.798	0.725	0.707	0.796		10.25
36)		Bromodichloromet...	1.677	1.605	1.482	1.343	1.290	1.479		11.17
37)		1,4-Dioxane	0.435	0.363	0.391	0.384	0.374	0.389		7.15
38)		Trichloroethene	1.013	0.971	0.906	0.850	0.844	0.917		8.12
39)		Methyl Methacrylate	0.425	0.601	0.567	0.562	0.569	0.545		12.66
40)		Heptane	0.594	0.587	0.595	0.601	0.601	0.595		1.02
41)		cis-1,3-Dichloro...	0.871	0.859	0.831	0.807	0.828	0.839		3.05
42)		4-Methyl-2-Penta...	1.435	1.515	1.526	1.547	1.607	1.526		4.09
43)		trans-1,3-Dichlo...	0.636	0.639	0.623	0.626	0.661	0.637		2.39
44)		1,1,2-Trichloroe...	0.867	0.825	0.773	0.696	0.687	0.770		10.26

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM

45)		Toluene	1.793	1.824	1.800	1.779	1.873	1.814	2.02
46)		2-Hexanone	0.851	0.952	1.009	1.119	1.264	1.039	15.29
47)		Dibromochloromet...	1.556	1.483	1.410	1.297	1.278	1.405	8.49
48)		1,2-Dibromoethane	1.047	1.047	1.003	0.941	0.955	0.999	5.00
49)		Tetrachloroethene	1.034	0.986	0.930	0.859	0.855	0.933	8.38
50)	I	Chlorobenzene d5	----------	----------	ISTD	----------	----------	----------	
51)		Chlorobenzene	1.732	1.751	1.699	1.574	1.485	1.648	6.94
52)		Ethylbenzene	1.875	1.962	2.039	2.071	2.097	2.009	4.48
53)		m,p-Xylene	1.234	1.366	1.504	1.601	1.586	1.458	10.73
54)		Bromoform	1.041	1.086	1.053	0.980	0.925	1.017	6.29
55)		Styrene	0.630	0.747	0.825	0.929	0.998	0.826	17.66
56)		1,1,2,2-Tetrachl...	1.478	1.490	1.468	1.371	1.246	1.411	7.35
57)		o-Xylene	1.294	1.432	1.554	1.628	1.611	1.504	9.33
58)	S	Bromofluorobenzene	0.387	0.418	0.450	0.472	0.507	0.447	10.47
59)		4-Ethyl Toluene	0.766	0.883	1.081	1.297	1.490	1.103	26.78
60)		1,3,5-Trimethylb...	1.042	1.132	1.323	1.523	1.505	1.305	16.56
61)		1,2,4-Trimethylb...	0.896	0.980	1.067	1.217	1.273	1.087	14.54
62)		Benzyl Chloride	0.418	0.445	0.503	0.696	0.808	0.574	29.61
63)		m-Dichlorobenzene	0.477	0.655	0.723	0.805	0.854	0.703	20.93
64)		p-Dichlorobenzene	0.484	0.841	0.889	0.969	0.911	0.819	23.52
65)		o-Dichlorobenzene	0.647	0.767	0.795	0.828	0.836	0.775	9.89
66)		1,2,4-Trichlorob...	0.102	0.124	0.137	0.169	0.198	0.146	25.85
67)		Naphthalene	0.262	0.299	0.370	0.477	0.608	0.403	34.91
68)		Hexachloro-1,3-b...	0.290	0.290	0.275	0.260	0.245	0.272	7.20

(#) = Out of Range

Continuing Calibration Report 5975-L

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM
Last Update : Wed Apr 12 10:55:34 2017
Response Via : Initial Calibration

CC Data File: LN63S05.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	Bromochloromethane	1.000	1.000	0.0	102
2		Propene	12.038	10.848	9.9	103
3		Dichlorodifluoromethane	31.140	28.747	7.7	102
4		Chloromethane	12.784	11.634	9.0	98
5		Freon 114	22.976	21.541	6.2	103
6		Vinyl Chloride	15.646	14.391	8.0	102
7		1,3-Butadiene	14.384	13.445	6.5	103
8		Bromomethane	13.686	12.932	5.5	102
9		Chloroethane	8.133	8.205	-0.9	113
10		Acrolein	4.676	4.379	6.4	96
11		Acetone	18.350	17.606	4.1	115
12		Trichlorofluoromethane	29.508	27.446	7.0	102
13		Ethanol	3.285	4.818	-46.7#	133
14		Isopropyl Alcohol	21.366	19.748	7.6	114
15		1,1-Dichloroethene	17.293	16.591	4.1	103
16		Methylene Chloride	10.912	9.483	13.1	101
17		Freon 113	20.617	19.296	6.4	102
18		Carbon Disulfide	34.495	32.023	7.2	102
19		trans-1,2-Dichloroethene	11.953	11.437	4.3	105
20		1,1-Dichloroethane	23.717	22.564	4.9	101
21		methyl t-butyl ether	24.792	24.382	1.7	101
22		Vinyl Acetate	2.518	2.780	-10.4	104
23		2-Butanone	25.123	24.504	2.5	95
24		cis-1,2-Dichloroethene	12.247	12.087	1.3	102
25	I	1,4-Difluorobenzene	1.000	1.000	0.0	106
26		Ethyl Acetate	0.188	0.199	-5.8	112
27		Hexane	1.078	1.042	3.3	105
28		Chloroform	1.619	1.511	6.7	109
29		Tetrahydrofuran	0.794	0.712	10.3	100
30		1,2-Dichloroethane	0.954	0.826	13.4	101
31		1,1,1-Trichloroethane	1.429	1.226	14.2	101
32		Benzene	2.050	1.767	13.8	103
33		Carbon Tetrachloride	1.565	1.365	12.8	103
34		Cyclohexane	0.804	0.759	5.7	105
35		1,2-Dichloropropane	0.796	0.703	11.6	102
36		Bromodichloromethane	1.479	1.297	12.3	102
37		1,4-Dioxane	0.389	0.371	4.6	102
38		Trichloroethene	0.917	0.843	8.1	105
39		Methyl Methacrylate	0.545	0.551	-1.0	103
40		Heptane	0.595	0.592	0.5	104
41		cis-1,3-Dichloropropene	0.839	0.775	7.7	101
42		4-Methyl-2-Pentanone	1.526	1.527	-0.1	104
43		trans-1,3-Dichloropropene	0.637	0.589	7.6	99
44		1,1,2-Trichloroethane	0.770	0.700	9.0	106
45		Toluene	1.814	1.863	-2.7	111
46		2-Hexanone	1.039	1.123	-8.1	106
47		Dibromochloromethane	1.405	1.281	8.8	104
48		1,2-Dibromoethane	0.999	0.938	6.0	105
49		Tetrachloroethene	0.933	0.869	6.9	107
50	I	Chlorobenzene d5	1.000	1.000	0.0	116
51		Chlorobenzene	1.648	1.465	11.1	108
52		Ethylbenzene	2.009	1.997	0.6	112
53		m,p-Xylene	1.458	3.022	-107.2#	110
54		Bromoform	1.017	0.891	12.4	106
55		Styrene	0.826	0.898	-8.7	112
56		1,1,2,2-Tetrachloroethane	1.411	1.223	13.3	104
57		o-Xylene	1.504	1.510	-0.4	108

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM
Last Update : Wed Apr 12 10:55:34 2017
Response Via : Initial Calibration

CC Data File: LN63S05.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
58	S	Bromofluorobenzene	0.447	0.512	-14.7	126
59		4-Ethyl Toluene	1.103	1.357	-23.0	121
60		1,3,5-Trimethylbenzene	1.305	1.398	-7.1	107
61		1,2,4-Trimethylbenzene	1.087	1.184	-8.9	113
62		Benzyl Chloride	0.574	0.457	20.4	76
63		m-Dichlorobenzene	0.703	0.760	-8.1	110
64		p-Dichlorobenzene	0.819	0.837	-2.2	100
65		o-Dichlorobenzene	0.775	0.775	-0.0	109
66		1,2,4-Trichlorobenzene	0.146	0.159	-9.0	109
67		Naphthalene	0.403	0.490	-21.6	119
68		Hexachloro-1,3-butadiene	0.272	0.233	14.2	104

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GC/MS QA-QC Check Report

Tune File : I:\L - 5975-L\2017\APR17L\11APR17L\LN63S05.D
Tune Time : 11 Apr 2017 10:41 am

Daily Calibration File : I:\L - 5975-L\2017\APR17L\11APR17L\LN63S05.D

			26502	503277	480896
File	Sample	Surrogate Recovery %	Internal Standard Responses		
LL65S005.D					
	0.05 PPB	91	22271	380777	339315
LL66BLANK.D					
	BLANK	82	20934	334567	305321
LN63S05.D					
	0.5 PPB	115	26502	503277	480896
LN64S05.D					
	0.5 PPB	109	25695	470295	419389
LN67I001.D					
	1709321001	111	29444	414002	372020
LN68I002.D					
	1709321002	117	30946	432484	393858
LN69I003.D					
	1709321003	107	29121	439788	405120
LN70I004.D					
	1709321004	103	29022	428570	381215

fails) - fails 24hr time check * - fails criteria

Created: Wed Apr 12 10:56:55 2017 5975-L

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM07S1.D Vial: 3
Acq Time : 03/27/2017 12:58 Operator: LMR
Sample : 1.0PPB Inst : 5975-L
Misc : 35941 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:21:59 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 03 12:06:21 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	29094	1000.0000	ppt		81.05
25) 1,4-Difluorobenzene	11.48	114	516136	1000.0000	ppt		80.17
50) Chlorobenzene d5	15.84	117	481060	1000.0000	ppt		92.13
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.48	95	244026	1207.7388	ppt		120.77%
Target Compounds							Qvalue
2) Propene	4.69	41	293288	1481.3242	ppt	#	58
3) Dichlorodifluoromethane	4.80	85	772891	1489.3810	ppt		99
4) Chloromethane	5.01	50	326970	1420.1547	ppt		97
5) Freon 114	5.15	135	575463	1474.5759	ppt	#	57
6) Vinyl Chloride	5.28	62	387343	1489.6729	ppt		97
7) 1,3-Butadiene	5.44	54	355376	1493.6134	ppt	#	73
8) Bromomethane	5.76	94	339978	1566.5038	ppt		99
9) Chloroethane	5.95	64	211124	1437.2480	ppt	#	86
10) Acrolein	6.61	56	129021	57871.0678	ppt	m	64
11) Acetone	6.79	43	416998	1268.7515	ppt		95
12) Trichlorofluoromethane	6.74	101	731913	1523.3367	ppt		100
13) Ethanol	6.35	45	105117	405.9420	ppt	m	41
14) Isopropyl Alcohol	7.02	45	445410	1720.0893	ppt	#	80
15) 1,1-Dichloroethene	7.40	61	452917	1637.2631	ppt	m	83
16) Methylene Chloride	7.54	84	253189	1335.8885	ppt	#	18
17) Freon 113	7.76	151	514152	1513.0454	ppt	#	53
18) Carbon Disulfide	7.85	76	851903	1385.5393	ppt	#	57
19) trans-1,2-Dichloroethene	8.45	96	308683	1590.0315	ppt	#	73
20) 1,1-Dichloroethane	8.65	63	607389	1530.6621	ppt	#	85
21) methyl t-butyl ether	8.74	73	693616	1838.3902	ppt	#	60
22) Vinyl Acetate	8.81	86	77072	226745.2107	ppt	#	1
23) 2-Butanone	9.12	43	733216	1954.2016	ppt	#	67
24) cis-1,2-Dichloroethene	9.46	96	328438	1747.5020	ppt	#	72
26) Ethyl Acetate	9.69	61	103423	1139.7471	ppt	#	1
27) Hexane	9.63	57	544369	1834.6820	ppt	#	82
28) Chloroform	9.74	83	714133	1593.3297	ppt		98
29) Tetrahydrofuran	10.24	42	383373	1761.1253	ppt	#	61
30) 1,2-Dichloroethane	10.48	62	425478	1502.6101	ppt	#	79
31) 1,1,1-Trichloroethane	10.71	97	634416	1474.5934	ppt	#	87
32) Benzene	11.16	78	901918	1501.5640	ppt	#	60
33) Carbon Tetrachloride	11.30	117	689241	1479.3200	ppt	#	86
34) Cyclohexane	11.43	84	393324	1712.9832	ppt	#	27
35) 1,2-Dichloropropane	11.96	63	364718	1557.4720	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM07S1.D Vial: 3
Acq Time : 03/27/2017 12:58 Operator: LMR
Sample : 1.0PPB Inst : 5975-L
Misc : 35941 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:21:59 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 03 12:06:21 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.15	83	666069	1535.0701	ppt		98
37)	1,4-Dioxane	12.25	88	192886	2385.7129	ppt	#	76
38)	Trichloroethene	12.18	130	435509	1697.9805	ppt	#	60
39)	Methyl Methacrylate	12.34	69	293538	2681.7420	ppt	#	60
40)	Heptane	12.43	71	310251	2022.2571	ppt	#	34
41)	cis-1,3-Dichloropropene	13.02	75	427258	1914.4431	ppt		94
42)	4-Methyl-2-Pentanone	13.05	43	829659	2235.6505	ppt	#	72
43)	trans-1,3-Dichloropropene	13.53	75	341395	1529.7111	ppt	m	92
44)	1,1,2-Trichloroethane	13.72	97	354601	1704.2383	ppt	#	85
45)	Toluene	14.01	91	966500	2182.3896	ppt		97
46)	2-Hexanone	14.24	43	652311	3316.0404	ppt	#	75
47)	Dibromochloromethane	14.45	129	659449	1795.9402	ppt	#	32
48)	1,2-Dibromoethane	14.72	107	492999	1917.7118	ppt		97
49)	Tetrachloroethene	15.16	166	441472	1831.5673	ppt	#	83
51)	Chlorobenzene	15.88	112	714229	1822.4949	ppt	#	71
52)	Ethylbenzene	16.26	91	1008545	2342.8169	ppt		94
53)	m,p-Xylene	16.44	91	1526106	4969.9815	ppt		92
54)	Bromoform	16.58	173	445168	2118.7660	ppt		99
55)	Styrene	16.84	104	480337	3061.1337	ppt		98
56)	1,1,2,2-Tetrachloroethane	16.96	83	599321	2365.6274	ppt		99
57)	o-Xylene	16.96	91	775192	2593.8340	ppt		94
59)	4-Ethyl Toluene	18.39	105	716585	4437.8502	ppt		96
60)	1,3,5-Trimethylbenzene	18.48	105	723978	3801.5396	ppt		94
61)	1,2,4-Trimethylbenzene	19.00	105	612364	4283.6287	ppt		96
62)	Benzyl Chloride	19.21	91	388654	6120.3446	ppt		91
63)	m-Dichlorobenzene	19.23	146	410718	4132.9650	ppt		95
64)	p-Dichlorobenzene	19.32	146	438245	3719.7574	ppt	#	95
65)	o-Dichlorobenzene	19.78	146	402390	3824.8641	ppt		96
66)	1,2,4-Trichlorobenzene	22.30	180	95195	5473.4682	ppt	#	83
67)	Naphthalene	22.49	128	292392	8254.8850	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	117823	2386.9187	ppt	#	19

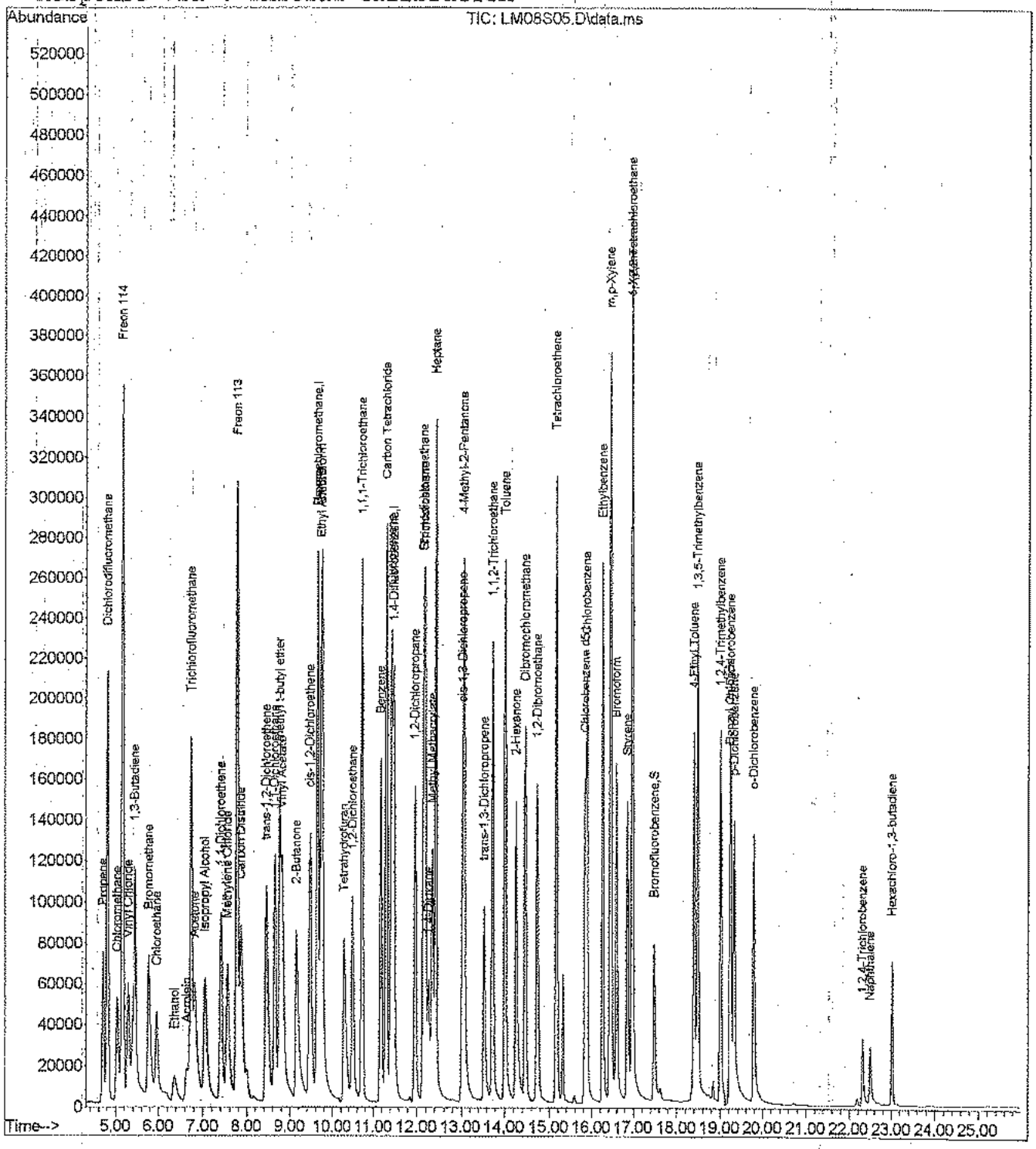
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM08S05.D Vial: 3
Acq Time : 03/27/2017 13:46 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:23:04 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM08S05.D Vial: 3
Acq Time : 03/27/2017 13:46 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:23:04 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:22:48 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	25868	1000.0000	ppt		100.00
25) 1,4-Difluorobenzene	11.48	114	476353	1000.0000	ppt		100.00
50) Chlorobenzene d5	15.84	117	414291	1000.0000	ppt		100.00
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	195526	1056.4407	ppt		105.64%
Target Compounds							Qvalue
2) Propene	4.69	41	139563	448.1748	ppt	#	59
3) Dichlorodifluoromethane	4.80	85	374138	464.4665	ppt		99
4) Chloromethane	5.03	50	157066	474.9389	ppt		97
5) Freon 114	5.15	135	277179	466.3587	ppt	#	57
6) Vinyl Chloride	5.29	62	187779	463.9646	ppt		98
7) 1,3-Butadiene	5.44	54	173442	466.1210	ppt	#	71
8) Bromomethane	5.77	94	167711	473.7250	ppt		98
9) Chloroethane	5.96	64	96052	456.5770	ppt	#	85
10) Acrolein	6.64	56	60403	458.7736	ppt	#	95
11) Acetone	6.82	43	202447	426.4919	ppt		95
12) Trichlorofluoromethane	6.74	101	357981	468.9782	ppt		100
13) Ethanol	6.37	45	48076	97.6773	ppt	#	77
14) Isopropyl Alcohol	7.05	45	229815	415.8010	ppt	#	81
15) 1,1-Dichloroethene	7.40	61	214187	484.6108	ppt	#	53
16) Methylene Chloride	7.55	84	124709	441.7938	ppt	#	17
17) Freon 113	7.77	151	251297	471.1831	ppt	#	53
18) Carbon Disulfide	7.86	76	416362	466.6146	ppt	#	60
19) trans-1,2-Dichloroethene	8.45	96	144897	468.6199	ppt	#	72
20) 1,1-Dichloroethane	8.65	63	296940	484.0070	ppt	#	85
21) methyl t-butyl ether	8.77	73	321121	500.7281	ppt	#	60
22) Vinyl Acetate	8.83	86	35301	541.9581	ppt	#	1
23) 2-Butanone	9.15	43	343510	528.2971	ppt	#	66
24) cis-1,2-Dichloroethene	9.47	96	156259	493.2141	ppt	#	72
26) Ethyl Acetate	9.72	61	44809	499.1717	ppt	#	1
27) Hexane	9.64	57	249709	486.1549	ppt	#	83
28) Chloroform	9.74	83	350419	454.2514	ppt		96
29) Tetrahydrofuran	10.27	42	179086	473.3983	ppt	#	59
30) 1,2-Dichloroethane	10.49	62	205373	452.0767	ppt	#	78
31) 1,1,1-Trichloroethane	10.71	97	305276	448.4057	ppt	#	86
32) Benzene	11.17	78	431424	441.7930	ppt	#	60
33) Carbon Tetrachloride	11.31	117	333306	447.0587	ppt	#	86
34) Cyclohexane	11.43	84	181047	472.6748	ppt	#	24
35) 1,2-Dichloropropane	11.96	63	172671	455.6486	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM08S05.D Vial: 3
Acq Time : 03/27/2017 13:46 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:23:04 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:22:48 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.15	83	319780	453.7438	ppt		98
37)	1,4-Dioxane	12.26	88	91415	493.1001	ppt	#	75
38)	Trichloroethene	12.18	130	202451	463.5144	ppt	#	60
39)	Methyl Methacrylate	12.34	69	133936	516.0459	ppt	#	66
40)	Heptane	12.43	71	143185	504.7749	ppt	#	34
41)	cis-1,3-Dichloropropene	13.02	75	192176	480.7677	ppt		94
42)	4-Methyl-2-Pentanone	13.06	43	368368	506.8143	ppt	#	71
43)	trans-1,3-Dichloropropene	13.54	75	149064	388.3104	ppt		93
44)	1,1,2-Trichloroethane	13.73	97	165750	452.0261	ppt	#	85
45)	Toluene	14.01	91	423643	490.3297	ppt		97
46)	2-Hexanone	14.26	43	266415	538.3758	ppt	#	73
47)	Dibromochloromethane	14.46	129	308863	461.5936	ppt	#	32
48)	1,2-Dibromoethane	14.72	107	224107	471.0485	ppt		98
49)	Tetrachloroethene	15.17	166	204634	460.4872	ppt	#	82
51)	Chlorobenzene	15.89	112	326025	477.5076	ppt	#	71
52)	Ethylbenzene	16.26	91	428903	515.3969	ppt		94
53)	m,p-Xylene	16.45	91	663416	1098.0522	ppt		92
54)	Bromoform	16.59	173	203069	481.8470	ppt		99
55)	Styrene	16.85	104	192524	562.6382	ppt		99
56)	1,1,2,2-Tetrachloroethane	16.97	83	284083	486.0284	ppt		97
57)	o-Xylene	16.97	91	337228	541.2755	ppt		95
59)	4-Ethyl Toluene	18.40	105	268590	587.5614	ppt		96
60)	1,3,5-Trimethylbenzene	18.48	105	315436	583.4096	ppt		92
61)	1,2,4-Trimethylbenzene	19.01	105	252028	559.8587	ppt		96
62)	Benzyl Chloride	19.21	91	144147	606.1910	ppt		93
63)	m-Dichlorobenzene	19.23	146	166665	572.3699	ppt	#	95
64)	p-Dichlorobenzene	19.33	146	200825	591.9193	ppt		92
65)	o-Dichlorobenzene	19.78	146	171415	534.1960	ppt		96
66)	1,2,4-Trichlorobenzene	22.31	180	35021	578.7596	ppt	#	85
67)	Naphthalene	22.50	128	98802	591.5250	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	53841	478.0110	ppt	#	19

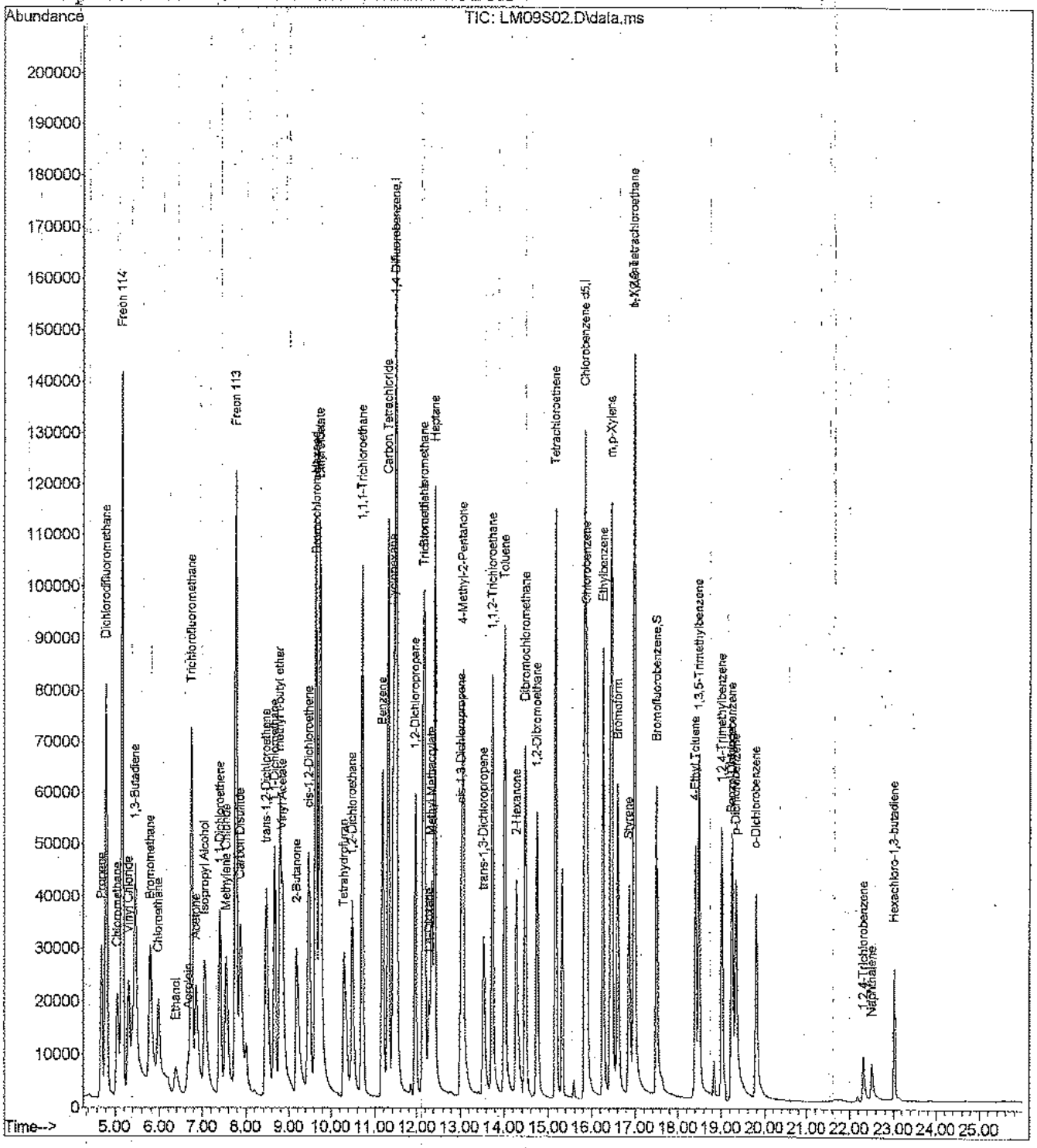
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM09S02.D Vial: 3
Acq Time : 03/27/2017 14:32 Operator: LMR
Sample : 0.2PPB Inst : 5975-L
Misc : 35941 (80mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:24:32 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM09S02.D Vial: 3
Acq Time : 03/27/2017 14:32 Operator: LMR
Sample : 0.2PPB Inst : 5975-L
Misc : 35941 (80mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:24:32 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.66	130	23413	1000.0000	ppt		90.51
25) 1,4-Difluorobenzene	11.48	114	413058	1000.0000	ppt		86.71
50) Chlorobenzene d5	15.84	117	360188	1000.0000	ppt		86.94
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	162087	1007.3145	ppt		100.73%
Target Compounds							Qvalue
2) Propene	4.70	41	55593	197.2437	ppt	#	59
3) Dichlorodifluoromethane	4.80	85	146849	201.4185	ppt		99
4) Chloromethane	5.05	50	58861	196.6478	ppt		93
5) Freon 114	5.16	135	108620	201.9182	ppt	#	56
6) Vinyl Chloride	5.31	62	74390	203.0758	ppt		100
7) 1,3-Butadiene	5.45	54	68076	202.1362	ppt	#	63
8) Bromomethane	5.79	94	64598	201.5996	ppt		99
9) Chloroethane	5.97	64	38795	203.7460	ppt	#	86
10) Acrolein	6.67	56	22471	190.5245	ppt	#	91
11) Acetone	6.85	43	81968	190.7874	ppt		96
12) Trichlorofluoromethane	6.74	101	139892	202.4843	ppt		100
13) Ethanol	6.38	45	18851	49.6492	ppt	#	72
14) Isopropyl Alcohol	7.05	45	93819	187.5443	ppt	#	80
15) 1,1-Dichloroethene	7.41	61	81043	201.7911	ppt	#	53
16) Methylene Chloride	7.56	84	50732	198.5681	ppt	#	18
17) Freon 113	7.77	151	98135	203.2975	ppt	#	53
18) Carbon Disulfide	7.87	76	162748	201.5156	ppt	#	62
19) trans-1,2-Dichloroethene	8.46	96	55865	199.6213	ppt	#	72
20) 1,1-Dichloroethane	8.65	63	113152	203.7750	ppt	#	85
21) methyl t-butyl ether	8.78	73	116862	201.3318	ppt	#	60
22) Vinyl Acetate	8.84	86	12032	204.0903	ppt	#	1
23) 2-Butanone	9.18	43	119843	203.7420	ppt	#	68
24) cis-1,2-Dichloroethene	9.48	96	57795	201.5517	ppt	#	71
26) Ethyl Acetate	9.74	61	16467	211.5520	ppt	#	1
27) Hexane	9.64	57	89026	199.8827	ppt	#	82
28) Chloroform	9.74	83	133583	199.6998	ppt		97
29) Tetrahydrofuran	10.30	42	65007	198.1723	ppt	#	58
30) 1,2-Dichloroethane	10.49	62	78352	198.9009	ppt	#	79
31) 1,1,1-Trichloroethane	10.71	97	117114	198.3833	ppt	#	86
32) Benzene	11.17	78	164587	194.3694	ppt	#	60
33) Carbon Tetrachloride	11.30	117	128590	198.9054	ppt	#	85
34) Cyclohexane	11.42	84	64703	194.8110	ppt	#	18
35) 1,2-Dichloropropane	11.96	63	65906	200.5642	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM09S02.D Vial: 3
Acq Time : 03/27/2017 14:32 Operator: LMR
Sample : 0.2PPB Inst : 5975-L
Misc : 35941 (80mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:24:32 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	12.15	83	122462	200.3912	ppt		98
37) 1,4-Dioxane	12.29	88	32272	200.7527	ppt	#	80
38) Trichloroethene	12.18	130	74881	197.7119	ppt	#	60
39) Methyl Methacrylate	12.35	69	46849	208.1657	ppt	#	68
40) Heptane	12.43	71	49145	199.8009	ppt	#	33
41) cis-1,3-Dichloropropene	13.02	75	68682	198.1513	ppt	#	92
42) 4-Methyl-2-Pentanone	13.07	43	126056	200.0084	ppt	#	70
43) trans-1,3-Dichloropropene	13.54	75	51461	161.8690	ppt	#	94
44) 1,1,2-Trichloroethane	13.74	97	63857	200.8336	ppt	#	85
45) Toluene	14.01	91	148737	198.5295	ppt		98
46) 2-Hexanone	14.27	43	83393	194.3454	ppt	#	71
47) Dibromochloromethane	14.47	129	116459	200.7173	ppt	#	31
48) 1,2-Dibromoethane	14.74	107	82860	200.8506	ppt		97
49) Tetrachloroethene	15.17	166	76867	199.4792	ppt	#	82
51) Chlorobenzene	15.89	112	122361	206.1335	ppt	#	69
52) Ethylbenzene	16.27	91	146875	203.0051	ppt		94
53) m,p-Xylene	16.45	91	216753	412.6467	ppt		93
54) Bromoform	16.60	173	75880	207.0947	ppt		99
55) Styrene	16.86	104	59429	199.7648	ppt		99
56) 1,1,2,2-Tetrachloroethane	16.98	83	105770	208.1398	ppt		98
57) o-Xylene	16.98	91	111943	206.6655	ppt		94
59) 4-Ethyl Toluene	18.41	105	77899	196.0070	ppt		96
60) 1,3,5-Trimethylbenzene	18.49	105	95339	202.8192	ppt		89
61) 1,2,4-Trimethylbenzene	19.02	105	76896	196.4760	ppt		95
62) Benzyl Chloride	19.23	91	36228	175.2365	ppt		94
63) m-Dichlorobenzene	19.25	146	52085	205.7412	ppt	#	95
64) p-Dichlorobenzene	19.33	146	64037	217.0961	ppt		97
65) o-Dichlorobenzene	19.79	146	57299	205.3880	ppt		96
66) 1,2,4-Trichlorobenzene	22.32	180	9852	187.2709	ppt	#	86
67) Naphthalene	22.51	128	26660	183.5878	ppt	#	71
68) Hexachloro-1,3-butadiene	23.03	225	19776	201.9480	ppt	#	19

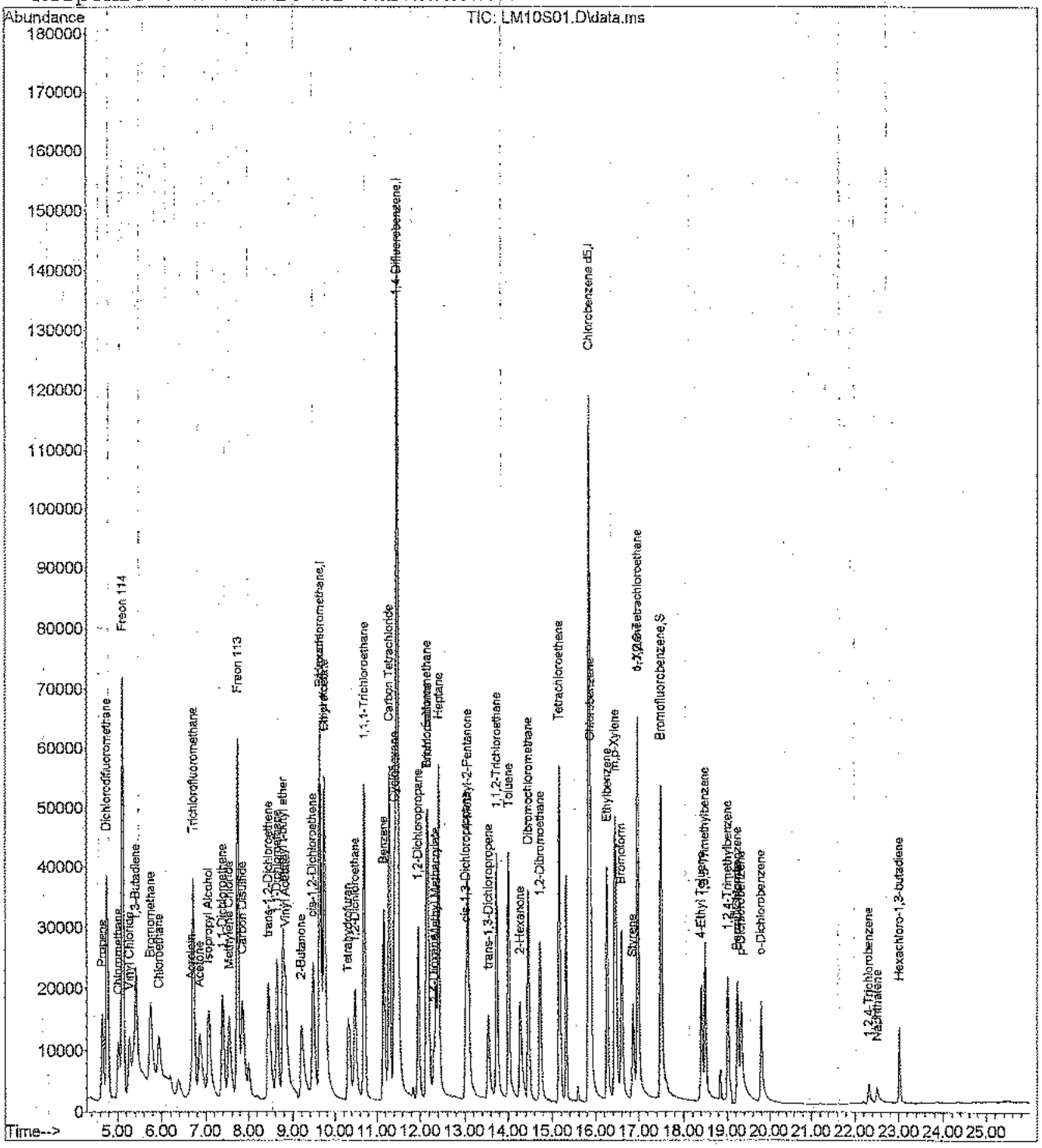
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM10S01.D Vial: 3
Acq Time : 03/27/2017 15:18 Operator: LMR
Sample : 0.1PPB Inst : 5975-L
Misc : 35941 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:25:26 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM10S01.D Vial: 3
Acq Time : 03/27/2017 15:18 Operator: LMR
Sample : 0.1PPB Inst : 5975-L
Misc : 35941, (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:25:26 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:57 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	21847	1000.0000	ppt		84.46
25) 1,4-Difluorobenzene	11.48	114	383090	1000.0000	ppt		80.42
50) Chlorobenzene d5	15.84	117	339627	1000.0000	ppt		81.98
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	141843	934.8713	ppt		93.49%
Target Compounds							Qvalue
2) Propene	4.65	41	29463	112.0276	ppt	#	59
3) Dichlorodifluoromethane	4.75	85	75663	111.2185	ppt		99
4) Chloromethane	5.01	50	29689	106.2973	ppt		92
5) Freon 114	5.12	135	55087	109.7438	ppt	#	56
6) Vinyl Chloride	5.28	62	36967	108.1491	ppt		93
7) 1,3-Butadiene	5.42	54	34248	108.9810	ppt	#	63
8) Bromomethane	5.76	94	33113	110.7476	ppt		98
9) Chloroethane	5.95	64	19017	107.0337	ppt	#	86
10) Acrolein	6.67	56	10913	99.9271	ppt	#	94
11) Acetone	6.86	43	45464	113.4066	ppt		98
12) Trichlorofluoromethane	6.72	101	71176	110.4072	ppt		100
13) Ethanol	0.00	45		Not Detected			
14) Isopropyl Alcohol	7.06	45	52130	111.6776	ppt	#	73
15) 1,1-Dichloroethene	7.39	61	40707	108.6136	ppt	#	53
16) Methylene Chloride	7.54	84	26298	110.3102	ppt	#	17
17) Freon 113	7.74	151	49660	110.2504	ppt	#	54
18) Carbon Disulfide	7.85	76	83327	110.5717	ppt	#	65
19) trans-1,2-Dichloroethene	8.46	96	28339	108.5218	ppt	#	74
20) 1,1-Dichloroethane	8.64	63	55880	107.8476	ppt	#	86
21) methyl t-butyl ether	8.79	73	56798	104.8666	ppt	#	60
22) Vinyl Acetate	8.84	86	5100	92.7086	ppt	#	1
23) 2-Butanone	9.20	43	58634	106.8274	ppt	#	66
24) cis-1,2-Dichloroethene	9.47	96	28505	106.5326	ppt	#	70
26) Ethyl Acetate	9.74	61	7719	106.9237	ppt	#	1
27) Hexane	9.63	57	42001	101.6783	ppt	#	83
28) Chloroform	9.73	83	66973	107.9534	ppt		98
29) Tetrahydrofuran	10.31	42	31158	102.4148	ppt	#	58
30) 1,2-Dichloroethane	10.49	62	39347	107.6982	ppt	#	79
31) 1,1,1-Trichloroethane	10.70	97	59342	108.3849	ppt	#	86
32) Benzene	11.16	78	84472	107.5611	ppt	#	60
33) Carbon Tetrachloride	11.29	117	65258	108.8387	ppt	#	86
34) Cyclohexane	11.42	84	31769	103.1342	ppt	#	10
35) 1,2-Dichloropropane	11.96	63	32486	106.5946	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM10S01.D Vial: 3
Acq Time : 03/27/2017 15:18 Operator: LMR
Sample : 0.1PPB Inst : 5975-L
Misc : 35941 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:25:26 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:57 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	12.15	83	61475	108.4641	ppt		97
37) 1,4-Dioxane	12.31	88	13888	93.1505	ppt	#	75
38) Trichloroethene	12.18	130	37195	105.8903	ppt	#	60
39) Methyl Methacrylate	12.36	69	23042	110.3924	ppt	#	64
40) Heptane	12.42	71	22472	98.5077	ppt	#	28
41) cis-1,3-Dichloropropene	13.02	75	32905	102.3590	ppt	#	92
42) 4-Methyl-2-Pentanone	13.07	43	58025	99.2682	ppt	#	70
43) trans-1,3-Dichloropropene	13.54	75	24484	87.7939	ppt	#	93
44) 1,1,2-Trichloroethane	13.73	97	31623	107.2361	ppt	#	83
45) Toluene	14.01	91	69869	100.5543	ppt		97
46) 2-Hexanone	14.28	43	36457	91.6085	ppt	#	69
47) Dibromochloromethane	14.46	129	56815	105.5808	ppt	#	30
48) 1,2-Dibromoethane	14.73	107	40120	104.8574	ppt		97
49) Tetrachloroethene	15.17	166	37763	105.6658	ppt	#	81
51) Chlorobenzene	15.89	112	59480	106.2683	ppt	#	67
52) Ethylbenzene	16.27	91	66648	97.6952	ppt		94
53) m,p-Xylene	16.45	91	92799	187.3629	ppt		92
54) Bromoform	16.59	173	36875	106.7335	ppt		99
55) Styrene	16.86	104	25356	90.3917	ppt		98
56) 1,1,2,2-Tetrachloroethane	16.98	83	50615	105.6328	ppt		98
57) o-Xylene	16.97	91	48627	95.2085	ppt		95
59) 4-Ethyl Toluene	18.41	105	30000	80.0549	ppt		97
60) 1,3,5-Trimethylbenzene	18.49	105	38440	86.7259	ppt		89
61) 1,2,4-Trimethylbenzene	19.02	105	33296	90.2246	ppt		95
62) Benzyl Chloride	19.23	91	15107	77.4971	ppt	#	88
63) m-Dichlorobenzene	19.25	146	22259	93.2484	ppt		93
64) p-Dichlorobenzene	19.33	146	28557	102.6740	ppt		91
65) o-Dichlorobenzene	19.80	146	26034	98.9683	ppt		94
66) 1,2,4-Trichlorobenzene	22.32	180	4228	85.2330	ppt	#	84
67) Naphthalene	22.51	128	10167	74.2512	ppt	#	71
68) Hexachloro-1,3-butadiene	23.02	225	9856	106.7404	ppt	#	19

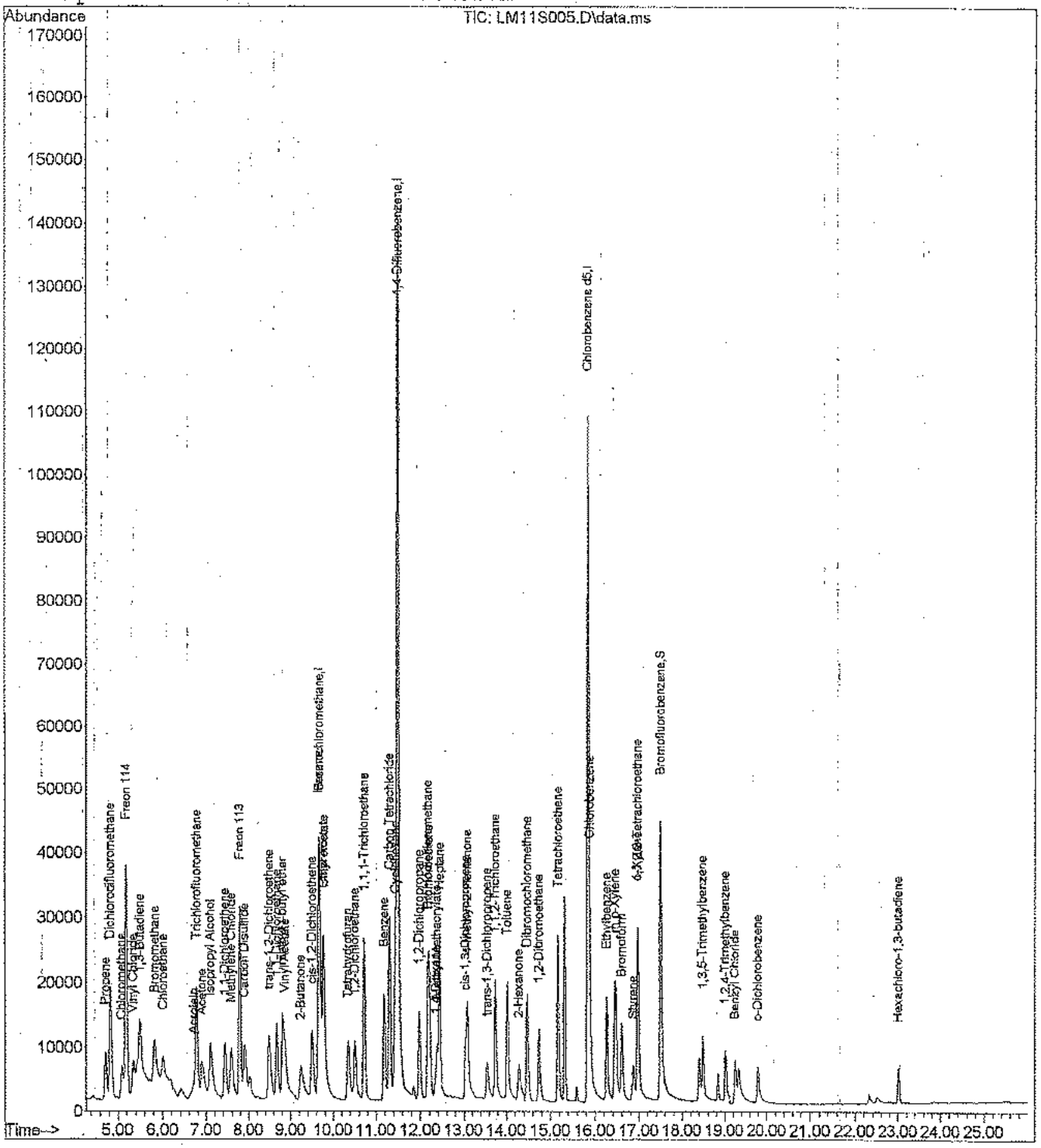
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM11S005.D Vial: 3
Acq Time : 03/27/2017 16:04 Operator: LMR
Sample : 0.05PPB Inst : 5975-L
Misc : 35941 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:26:03 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM11S005.D Vial: 3
Acq Time : 03/27/2017 16:04 Operator: LMR
Sample : 0.05PPB Inst : 5975-L
Misc : 35941 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:26:03 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:25:50 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.67	130	21952	1000.0000	ppt		84.86
25) 1,4-Difluorobenzene	11.49	114	349527	1000.0000	ppt		73.38
50) Chlorobenzene d5	15.85	117	313654	1000.0000	ppt		75.71
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	121329	865.8844	ppt		86.59%
Target Compounds							Qvalue
2) Propene	4.72	41	15324	57.9880	ppt	#	57
3) Dichlorodifluoromethane	4.83	85	37552	54.9344	ppt		98
4) Chloromethane	5.09	50	15784	56.2421	ppt		95
5) Freon 114	5.19	135	27725	54.9693	ppt	#	57
6) Vinyl Chloride	5.34	62	19307	56.2136	ppt		92
7) 1,3-Butadiene	5.49	54	17653	55.9051	ppt	#	38
8) Bromomethane	5.83	94	16272	54.1620	ppt		100
9) Chloroethane	6.01	64	9868	55.2746	ppt	#	90
10) Acrolein	6.71	56	4920	45.8386	ppt	#	94
11) Acetone	6.90	43	25739	63.8969	ppt		99
12) Trichlorofluoromethane	6.77	101	35401	54.6509	ppt		100
13) Ethanol	0.00	45		Not Detected			
14) Isopropyl Alcohol	7.10	45	32771	69.8692	ppt	#	76
15) 1,1-Dichloroethene	7.44	61	20193	53.3733	ppt	#	52
16) Methylene Chloride	7.58	84	14648	61.1489	ppt	#	15
17) Freon 113	7.78	151	24474	54.0749	ppt	#	51
18) Carbon Disulfide	7.90	76	41822	55.2307	ppt	#	59
19) trans-1,2-Dichloroethene	8.49	96	14324	54.5902	ppt	#	74
20) 1,1-Dichloroethane	8.68	63	27447	52.7189	ppt	#	85
21) methyl t-butyl ether	8.82	73	26710	49.0790	ppt	#	60
22) Vinyl Acetate	8.88	86	2533	45.8250	ppt	#	1
23) 2-Butanone	9.24	43	23515	42.6379	ppt	#	70
24) cis-1,2-Dichloroethene	9.50	96	13695	50.9379	ppt	#	71
26) Ethyl Acetate	9.77	61	2672	40.5667	ppt	#	1
27) Hexane	9.65	57	19473	51.6680	ppt	#	80
28) Chloroform	9.76	83	32804	57.9540	ppt		97
29) Tetrahydrofuran	10.34	42	15307	55.1446	ppt	#	58
30) 1,2-Dichloroethane	10.51	62	19333	57.9984	ppt	#	78
31) 1,1,1-Trichloroethane	10.73	97	29158	58.3693	ppt	#	85
32) Benzene	11.19	78	43585	60.8275	ppt	#	60
33) Carbon Tetrachloride	11.32	117	31996	58.4878	ppt	#	86
34) Cyclohexane	11.44	84	15479	55.0760	ppt	#	5
35) 1,2-Dichloropropane	11.98	63	15734	56.5846	ppt	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM11S005.D Vial: 3
Acq Time : 03/27/2017 16:04 Operator: LMR
Sample : 0.05PPB Inst : 5975-L
Misc : 35941 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:26:03 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:25:50 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.16	83	29312	56.6830	ppt	#	97
37)	1,4-Dioxane	12.34	88	7606	55.9142	ppt		94
38)	Trichloroethene	12.20	130	17711	55.2630	ppt	#	60
39)	Methyl Methacrylate	12.38	69	7421	38.9674	ppt	#	65
40)	Heptane	12.43	71	10375	49.8467	ppt	#	26
41)	cis-1,3-Dichloropropene	13.04	75	15217	51.8816	ppt	#	90
42)	4-Methyl-2-Pentanone	13.08	43	25070	47.0077	ppt	#	70
43)	trans-1,3-Dichloropropene	13.55	75	11110	46.4696	ppt	#	92
44)	1,1,2-Trichloroethane	13.75	97	15160	56.3453	ppt	#	83
45)	Toluene	14.02	91	31341	49.4367	ppt		97
46)	2-Hexanone	14.29	43	14866	40.9420	ppt	#	69
47)	Dibromochloromethane	14.47	129	27196	55.3920	ppt	#	28
48)	1,2-Dibromoethane	14.74	107	18305	52.4358	ppt		97
49)	Tetrachloroethene	15.17	166	18066	55.4051	ppt	#	82
51)	Chlorobenzene	15.89	112	27157	52.5371	ppt	#	62
52)	Ethylbenzene	16.27	91	29407	46.6754	ppt		94
53)	m,p-Xylene	16.45	91	38690	84.5844	ppt		92
54)	Bromoform	16.61	173	16333	51.1901	ppt		99
55)	Styrene	16.87	104	9884	38.1533	ppt		95
56)	1,1,2,2-Tetrachloroethane	16.98	83	23185	52.3936	ppt		97
57)	o-Xylene	16.98	91	20294	43.0246	ppt		94
59)	4-Ethyl Toluene	0.00	105		Not Detected			
60)	1,3,5-Trimethylbenzene	18.49	105	16346	39.9327	ppt		86
61)	1,2,4-Trimethylbenzene	19.02	105	14044	41.2074	ppt		96
62)	Benzyl Chloride	19.23	91	6561	36.4442	ppt	#	87
63)	m-Dichlorobenzene	0.00	146		Not Detected			
64)	p-Dichlorobenzene	0.00	146		Not Detected			
65)	o-Dichlorobenzene	19.80	146	10143	41.7516	ppt		93
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67)	Naphthalene	0.00	128		Not Detected			
68)	Hexachloro-1,3-butadiene	23.03	225	4545	53.2983	ppt	#	19

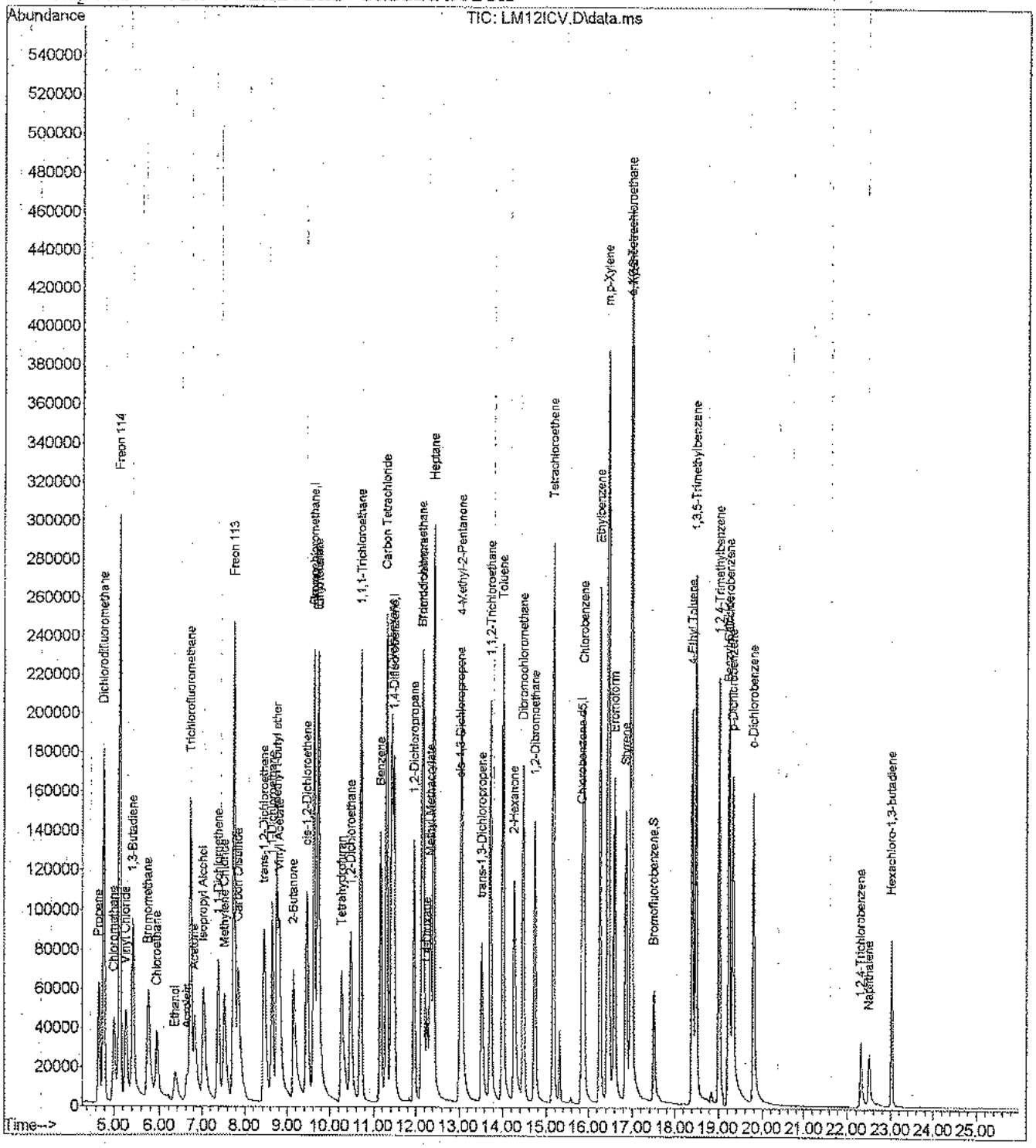
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM12ICV.D Vial: 2
Acq Time : 03/27/2017 16:52 Operator: LMR
Sample : 0.5 PPB ICV Inst : 5975-L
Misc : 36126 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:27:54 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM12ICV.D Vial: 2
Acq Time : 03/27/2017 16:52 Operator: LMR
Sample : 0.5 PPB ICV Inst : 5975-L
Misc : 36126 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:27:54 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.63	130	21982	1000.0000	ppt		84.98
25) 1,4-Difluorobenzene	11.47	114	399227	1000.0000	ppt		83.81
50) Chlorobenzene d5	15.84	117	332984	1000.0000	ppt		80.37
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	149346	1003.9599	ppt		100.40%
Target Compounds							Qvalue
2) Propene	4.67	41	116644	440.7935	ppt	#	59
3) Dichlorodifluoromethane	4.77	85	317216	463.4185	ppt		98
4) Chloromethane	5.00	50	133955	476.6616	ppt		97
5) Freon 114	5.13	135	235153	465.5925	ppt	#	56
6) Vinyl Chloride	5.26	62	154153	448.2141	ppt		96
7) 1,3-Butadiene	5.41	54	144443	456.8110	ppt	#	80
8) Bromomethane	5.75	94	140236	466.1438	ppt		100
9) Chloroethane	5.94	64	81286	454.6937	ppt	#	88
10) Acrolein	6.64	56	50577	492.0261	ppt	#	96
11) Acetone	6.81	43	164111	406.8486	ppt		93
12) Trichlorofluoromethane	6.72	101	304603	469.5939	ppt		100
13) Ethanol	6.36	45	63926	885.2971	ppt	#	77
14) Isopropyl Alcohol	7.03	45	213500	454.5700	ppt	#	76
15) 1,1-Dichloroethene	7.39	61	169954	447.0899	ppt	#	53
16) Methylene Chloride	7.53	84	100726	419.9127	ppt	#	15
17) Freon 113	7.75	151	198649	438.3131	ppt	#	53
18) Carbon Disulfide	7.85	76	367259	484.3455	ppt	#	57
19) trans-1,2-Dichloroethene	8.44	96	127681	485.9406	ppt	#	72
20) 1,1-Dichloroethane	8.63	63	249965	479.4660	ppt	#	85
21) methyl t-butyl ether	8.75	73	262336	481.3786	ppt	#	60
22) Vinyl Acetate	8.81	86	27420	495.3838	ppt	#	1
23) 2-Butanone	9.15	43	288146	521.7594	ppt	#	66
24) cis-1,2-Dichloroethene	9.46	96	129418	480.7073	ppt	#	71
26) Ethyl Acetate	9.71	61	40147	533.6381	ppt	#	1
27) Hexane	9.63	57	208162	483.5606	ppt	#	82
28) Chloroform	9.73	83	274280	424.2402	ppt		97
29) Tetrahydrofuran	10.27	42	161141	508.2532	ppt	#	58
30) 1,2-Dichloroethane	10.47	62	178346	468.4261	ppt	#	79
31) 1,1,1-Trichloroethane	10.70	97	261476	458.2678	ppt	#	86
32) Benzene	11.16	78	362172	442.5256	ppt	#	60
33) Carbon Tetrachloride	11.29	117	289812	463.8172	ppt	#	86
34) Cyclohexane	11.42	84	149452	465.5667	ppt	#	22
35) 1,2-Dichloropropane	11.96	63	151294	476.3667	ppt	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM12ICV.D Vial: 2
Acq Time : 03/27/2017 16:52 Operator: LMR
Sample : 0.5 PPB ICV Inst : 5975-L
Misc : 36126 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:27:54 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Bromodichloromethane	12.14	83	285553	483.4540	ppt		98
37)	1,4-Dioxane	12.26	88	76272	490.8985	ppt	#	75
38)	Trichloroethene	12.18	130	174768	477.4350	ppt	#	60
39)	Methyl Methacrylate	12.34	69	114668	527.1598	ppt	#	66
40)	Heptane	12.42	71	121968	513.0446	ppt	#	32
41)	cis-1,3-Dichloropropene	13.02	75	170177	507.9792	ppt	#	93
42)	4-Methyl-2-Pentanone	13.06	43	327544	537.7069	ppt	#	70
43)	trans-1,3-Dichloropropene	13.54	75	132947	522.7703	ppt	#	93
44)	1,1,2-Trichloroethane	13.73	97	157719	513.2193	ppt	#	85
45)	Toluene	14.01	91	376170	519.4950	ppt		97
46)	2-Hexanone	14.26	43	217842	525.2638	ppt	#	72
47)	Dibromochloromethane	14.46	129	291351	519.5405	ppt	#	32
48)	1,2-Dibromoethane	14.73	107	214868	538.8786	ppt		96
49)	Tetrachloroethene	15.17	166	195796	525.7176	ppt	#	83
51)	Chlorobenzene	15.89	112	322254	587.2322	ppt	#	71
52)	Ethylbenzene	16.27	91	426357	637.4385	ppt		94
53)	m,p-Xylene	16.45	91	697670	1436.7103	ppt		92
54)	Bromoform	16.59	173	206571	609.8415	ppt		99
55)	Styrene	16.86	104	201283	731.8694	ppt		99
56)	1,1,2,2-Tetrachloroethane	16.98	83	313647	667.6359	ppt		98
57)	o-Xylene	16.97	91	366594	732.0862	ppt		94
59)	4-Ethyl Toluene	18.41	105	301368	820.2433	ppt		96
60)	1,3,5-Trimethylbenzene	18.49	105	372573	857.3454	ppt		93
61)	1,2,4-Trimethylbenzene	19.02	105	296730	820.1121	ppt		96
62)	Benzyl Chloride	19.22	91	170482	891.9993	ppt	#	90
63)	m-Dichlorobenzene	19.24	146	206030	880.3289	ppt		95
64)	p-Dichlorobenzene	19.33	146	232691	853.3092	ppt	#	94
65)	o-Dichlorobenzene	19.79	146	204241	791.9118	ppt		95
66)	1,2,4-Trichlorobenzene	22.31	180	34213	703.4658	ppt	#	86
67)	Naphthalene	22.50	128	88662	660.4303	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	65652	725.1952	ppt	#	19

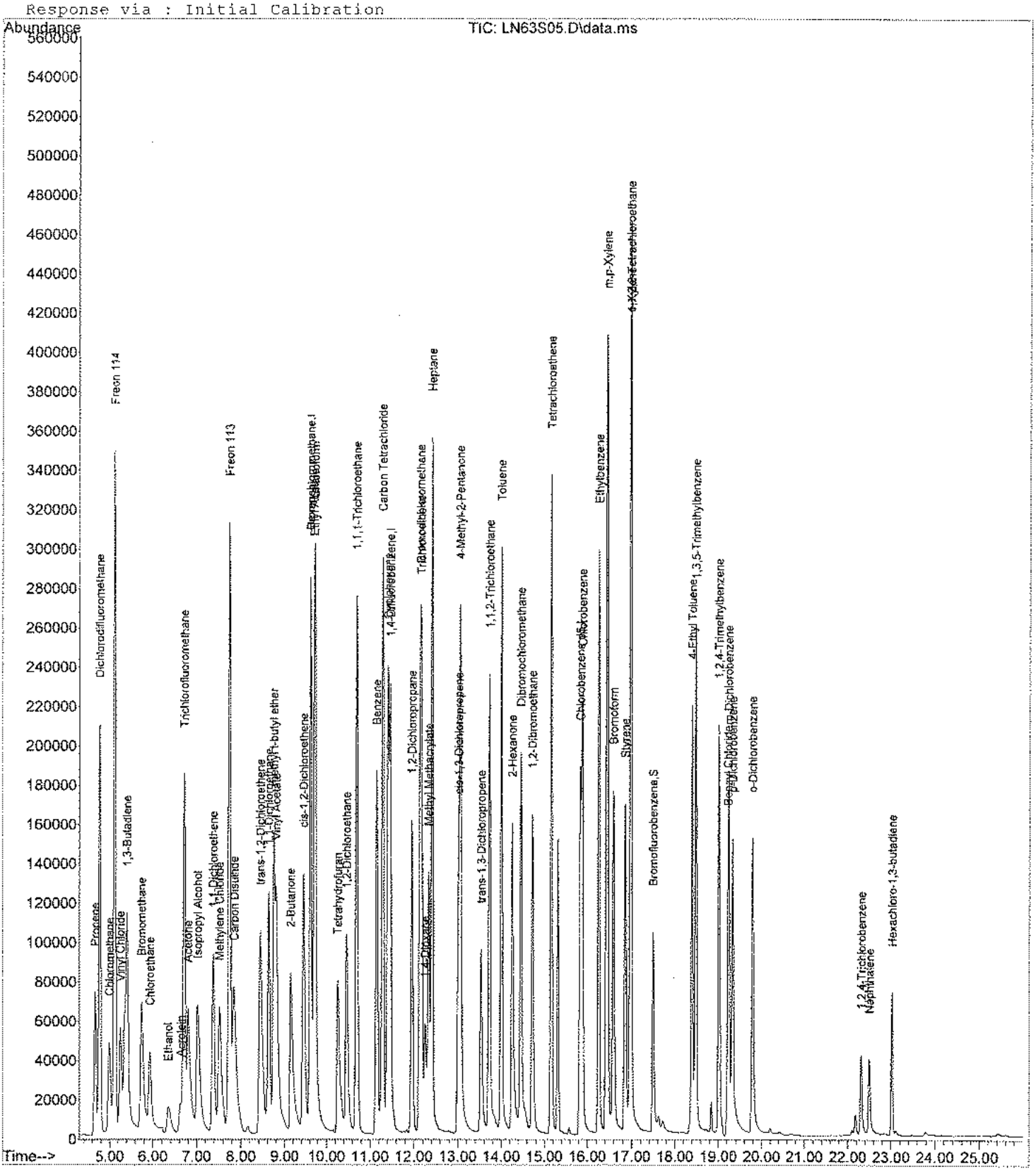
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\11APR17L\LN63S05.D Vial: 2
Acq Time : 04/11/2017 10:41 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 Multipl: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 11:10:29 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\11APR17L\LN63S05.D Vial: 2
Acq Time : 04/11/2017 10:41 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 11:10:29 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.63	130	26502	1000.0000	ppt		102.45
25) 1,4-Difluorobenzene	11.46	114	503277	1000.0000	ppt		105.65
50) Chlorobenzene d5	15.84	117	480896	1000.0000	ppt		116.08
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	246449	1147.1548	ppt		114.72%
Target Compounds							Qvalue
2) Propene	4.66	41	143750	450.5772	ppt	#	58
3) Dichlorodifluoromethane	4.77	85	380922	461.5756	ppt		99
4) Chloromethane	4.99	50	154165	455.0148	ppt		95
5) Freon 114	5.12	135	285434	468.7591	ppt	#	58
6) Vinyl Chloride	5.25	62	190699	459.9075	ppt		96
7) 1,3-Butadiene	5.41	54	178162	467.3515	ppt	#	61
8) Bromomethane	5.74	94	171356	472.4417	ppt		99
9) Chloroethane	5.93	64	108721	504.4350	ppt	#	86
10) Acrolein	6.63	56	58030	468.2483	ppt	#	92
11) Acetone	6.80	43	233297	479.7256	ppt		97
12) Trichlorofluoromethane	6.71	101	363685	465.0528	ppt		100
13) Ethanol	6.34	45	63845	733.3765	ppt	#	75
14) Isopropyl Alcohol	7.03	45	261678	462.1241	ppt	#	79
15) 1,1-Dichloroethene	7.38	61	219847	479.7031	ppt	#	53
16) Methylene Chloride	7.52	84	125663	434.5236	ppt	#	22
17) Freon 113	7.74	151	255685	467.9418	ppt	#	55
18) Carbon Disulfide	7.84	76	424338	464.1767	ppt	#	57
19) trans-1,2-Dichloroethene	8.44	96	151557	478.4334	ppt	#	73
20) 1,1-Dichloroethane	8.63	63	298993	475.6945	ppt	#	85
21) methyl t-butyl ether	8.75	73	323081	491.7324	ppt	#	60
22) Vinyl Acetate	8.81	86	36840	552.0553	ppt	#	1
23) 2-Butanone	9.14	43	324697	487.6683	ppt	#	68
24) cis-1,2-Dichloroethene	9.45	96	160159	493.4305	ppt	#	72
26) Ethyl Acetate	9.70	61	50183	529.1310	ppt	#	1
27) Hexane	9.62	57	262306	483.3598	ppt	#	83
28) Chloroform	9.72	83	380228	466.5246	ppt		97
29) Tetrahydrofuran	10.26	42	179264	448.5181	ppt	#	61
30) 1,2-Dichloroethane	10.46	62	207850	433.0526	ppt	#	79
31) 1,1,1-Trichloroethane	10.69	97	308436	428.8104	ppt	#	86
32) Benzene	11.15	78	444758	431.0823	ppt	#	60
33) Carbon Tetrachloride	11.29	117	343374	435.9239	ppt	#	86
34) Cyclohexane	11.42	84	190883	471.6939	ppt	#	24
35) 1,2-Dichloropropane	11.95	63	176959	441.9826	ppt	#	88
36) Bromodichloromethane	12.14	83	326437	438.4102	ppt		98
37) 1,4-Dioxane	12.26	88	93433	477.0234	ppt	#	78
38) Trichloroethene	12.17	130	212032	459.4799	ppt	#	59
39) Methyl Methacrylate	12.34	69	138529	505.1886	ppt	#	63
40) Heptane	12.41	71	149045	497.3241	ppt	#	35
41) cis-1,3-Dichloropropene	13.01	75	194908	461.5169	ppt		95
42) 4-Methyl-2-Pentanone	13.05	43	384323	500.4782	ppt	#	71
43) trans-1,3-Dichloropropene	13.53	75	148123	462.0273	ppt		93
44) 1,1,2-Trichloroethane	13.72	97	176227	454.8878	ppt	#	85
45) Toluene	14.00	91	468811	513.5796	ppt		98
46) 2-Hexanone	14.25	43	282487	540.3152	ppt	#	74
47) Dibromochloromethane	14.45	129	322465	456.1402	ppt	#	32
48) 1,2-Dibromoethane	14.72	107	236151	469.8096	ppt		98
49) Tetrachloroethene	15.16	166	218591	465.5795	ppt	#	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\11APR17L\LN63S05.D Vial: 2
Acq Time : 04/11/2017 10:41 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 11:10:29 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51)	Chlorobenzene	15.88	112	352234	444.4419	ppt	#	71
52)	Ethylbenzene	16.26	91	480237	497.1560	ppt		94
53)	m,p-Xylene	16.44	91	726652	1036.1386	ppt		92
54)	Bromoform	16.59	173	214319	438.1073	ppt		99
55)	Styrene	16.85	104	215803	543.3206	ppt		99
56)	1,1,2,2-Tetrachloroethane	16.97	83	294054	433.4089	ppt		97
57)	o-Xylene	16.96	91	363071	502.0427	ppt		95
59)	4-Ethyl Toluene	18.40	105	326309	614.9599	ppt		96
60)	1,3,5-Trimethylbenzene	18.48	105	336086	535.5094	ppt		94
61)	1,2,4-Trimethylbenzene	19.01	105	284611	544.6727	ppt		95
62)	Benzyl Chloride	19.21	91	109840	397.9410	ppt		97
63)	m-Dichlorobenzene	19.23	146	182656	540.4066	ppt	#	95
64)	p-Dichlorobenzene	19.33	146	201293	511.1257	ppt		94
65)	o-Dichlorobenzene	19.78	146	186264	500.0749	ppt		95
66)	1,2,4-Trichlorobenzene	22.31	180	38285	545.0705	ppt	#	86
67)	Naphthalene	22.50	128	117902	608.1110	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	56071	428.8619	ppt	#	19

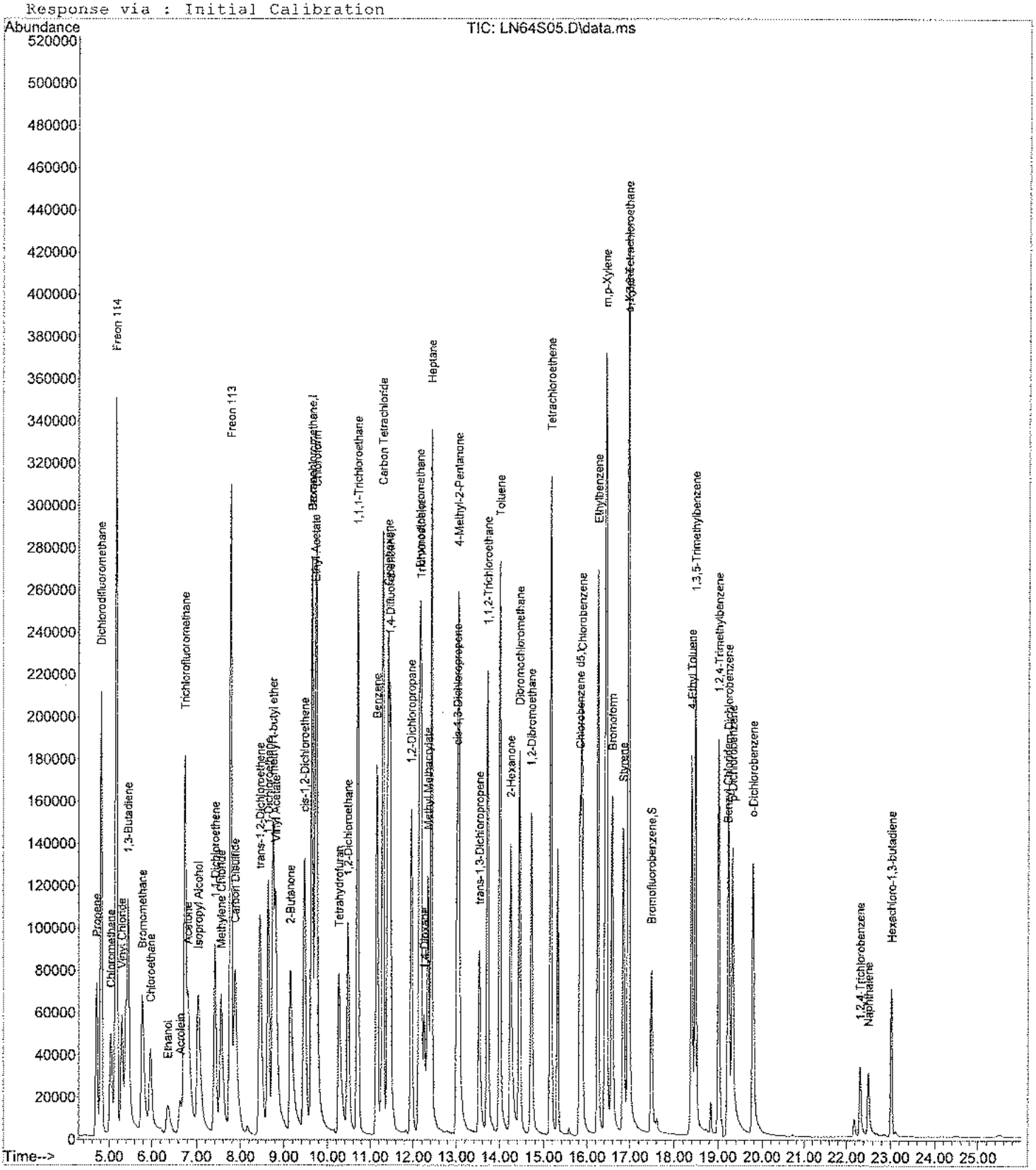
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\11APR17L\LN64S05.D Vial: 2
Acq Time : 04/11/2017 11:29 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 12:59:50 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\11APR17L\LN64S05.D Vial: 2
Acq Time : 04/11/2017 11:29 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 12:59:50 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	25695	1000.0000	ppt		99.33
25) 1,4-Difluorobenzene	11.47	114	470295	1000.0000	ppt		98.73
50) Chlorobenzene d5	15.84	117	419389	1000.0000	ppt		101.23
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	204071	1089.2069	ppt		108.92%
Target Compounds							Qvalue
2) Propene	4.70	41	138792	448.6997	ppt	#	59
3) Dichlorodifluoromethane	4.81	85	369634	461.9647	ppt		99
4) Chloromethane	5.04	50	152519	464.2947	ppt		95
5) Freon 114	5.16	135	278443	471.6397	ppt	#	58
6) Vinyl Chloride	5.30	62	188659	469.2774	ppt		98
7) 1,3-Butadiene	5.45	54	174139	471.1451	ppt	#	60
8) Bromomethane	5.78	94	167254	475.6149	ppt		98
9) Chloroethane	5.97	64	104333	499.2792	ppt	#	86
10) Acrolein	6.64	56	56317	468.6981	ppt	#	96
11) Acetone	6.81	43	227540	482.5824	ppt		96
12) Trichlorofluoromethane	6.74	101	357846	471.9577	ppt		100
13) Ethanol	6.36	45	61524	728.9113	ppt	#	74
14) Isopropyl Alcohol	7.04	45	250545	456.3596	ppt	#	81
15) 1,1-Dichloroethene	7.40	61	212948	479.2428	ppt	#	54
16) Methylene Chloride	7.55	84	125766	448.5380	ppt	#	19
17) Freon 113	7.77	151	250067	472.0337	ppt	#	53
18) Carbon Disulfide	7.87	76	415041	468.2658	ppt	#	57
19) trans-1,2-Dichloroethene	8.46	96	146997	478.6124	ppt	#	73
20) 1,1-Dichloroethane	8.65	63	288867	474.0183	ppt	#	85
21) methyl t-butyl ether	8.76	73	308038	483.5615	ppt	#	60
22) Vinyl Acetate	8.82	86	36416	562.8403	ppt	#	1
23) 2-Butanone	9.15	43	334931	518.8378	ppt	#	66
24) cis-1,2-Dichloroethene	9.46	96	156078	495.9596	ppt	#	72
26) Ethyl Acetate	9.71	61	47329	534.0361	ppt	#	1
27) Hexane	9.63	57	252420	497.7632	ppt	#	84
28) Chloroform	9.74	83	371594	487.9057	ppt		97
29) Tetrahydrofuran	10.27	42	173138	463.5707	ppt	#	62
30) 1,2-Dichloroethane	10.47	62	202399	451.2692	ppt	#	79
31) 1,1,1-Trichloroethane	10.71	97	300227	446.6700	ppt	#	86
32) Benzene	11.16	78	427966	443.8972	ppt	#	60
33) Carbon Tetrachloride	11.30	117	332992	452.3908	ppt	#	86
34) Cyclohexane	11.42	84	183604	485.5253	ppt	#	23
35) 1,2-Dichloropropane	11.96	63	171190	457.5595	ppt	#	88
36) Bromodichloromethane	12.14	83	314745	452.3523	ppt		99
37) 1,4-Dioxane	12.25	88	88509	483.5747	ppt	#	79
38) Trichloroethene	12.18	130	201171	466.5168	ppt	#	60
39) Methyl Methacrylate	12.34	69	132373	516.5936	ppt	#	67
40) Heptane	12.42	71	141625	505.7067	ppt	#	35
41) cis-1,3-Dichloropropene	13.02	75	184859	468.4198	ppt		94
42) 4-Methyl-2-Pentanone	13.05	43	361229	503.3941	ppt	#	72
43) trans-1,3-Dichloropropene	13.53	75	139007	464.0006	ppt		94
44) 1,1,2-Trichloroethane	13.72	97	166090	458.7880	ppt	#	85
45) Toluene	14.01	91	432929	507.5320	ppt		97
46) 2-Hexanone	14.25	43	255130	522.2121	ppt	#	74
47) Dibromochloromethane	14.45	129	308095	466.3770	ppt	#	32
48) 1,2-Dibromoethane	14.72	107	224215	477.3462	ppt		98
49) Tetrachloroethene	15.16	166	208406	475.0163	ppt	#	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\11APR17L\LN64S05.D Vial: 2
Acq Time : 04/11/2017 11:29 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 Multiplr: 1.00
MS Integration Params: rteint.p

QD

Quant Time: Apr 11 12:59:50 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51)	Chlorobenzene	15.88	112	335045	484.7536	ppt	#	72
52)	Ethylbenzene	16.26	91	442401	525.1548	ppt		94
53)	m,p-Xylene	16.44	91	680259	1112.2433	ppt		92
54)	Bromoform	16.59	173	202322	474.2388	ppt		99
55)	Styrene	16.84	104	194814	562.4099	ppt		99
56)	1,1,2,2-Tetrachloroethane	16.97	83	280792	474.5584	ppt		99
57)	o-Xylene	16.96	91	349083	553.4927	ppt		95
59)	4-Ethyl Toluene	18.40	105	274088	592.3003	ppt		96
60)	1,3,5-Trimethylbenzene	18.48	105	323308	590.7004	ppt		92
61)	1,2,4-Trimethylbenzene	19.01	105	262297	575.5876	ppt		95
62)	Benzyl Chloride	19.21	91	97555	405.2676	ppt		93
63)	m-Dichlorobenzene	19.24	146	166949	566.3757	ppt	#	95
64)	p-Dichlorobenzene	19.33	146	192720	561.1255	ppt	#	94
65)	o-Dichlorobenzene	19.79	146	177191	545.4839	ppt		96
66)	1,2,4-Trichlorobenzene	22.31	180	34489	563.0394	ppt	#	85
67)	Naphthalene	22.50	128	99574	588.9003	ppt	#	71
68)	Hexachloro-1,3-butadiene	23.02	225	53937	473.0424	ppt	#	19

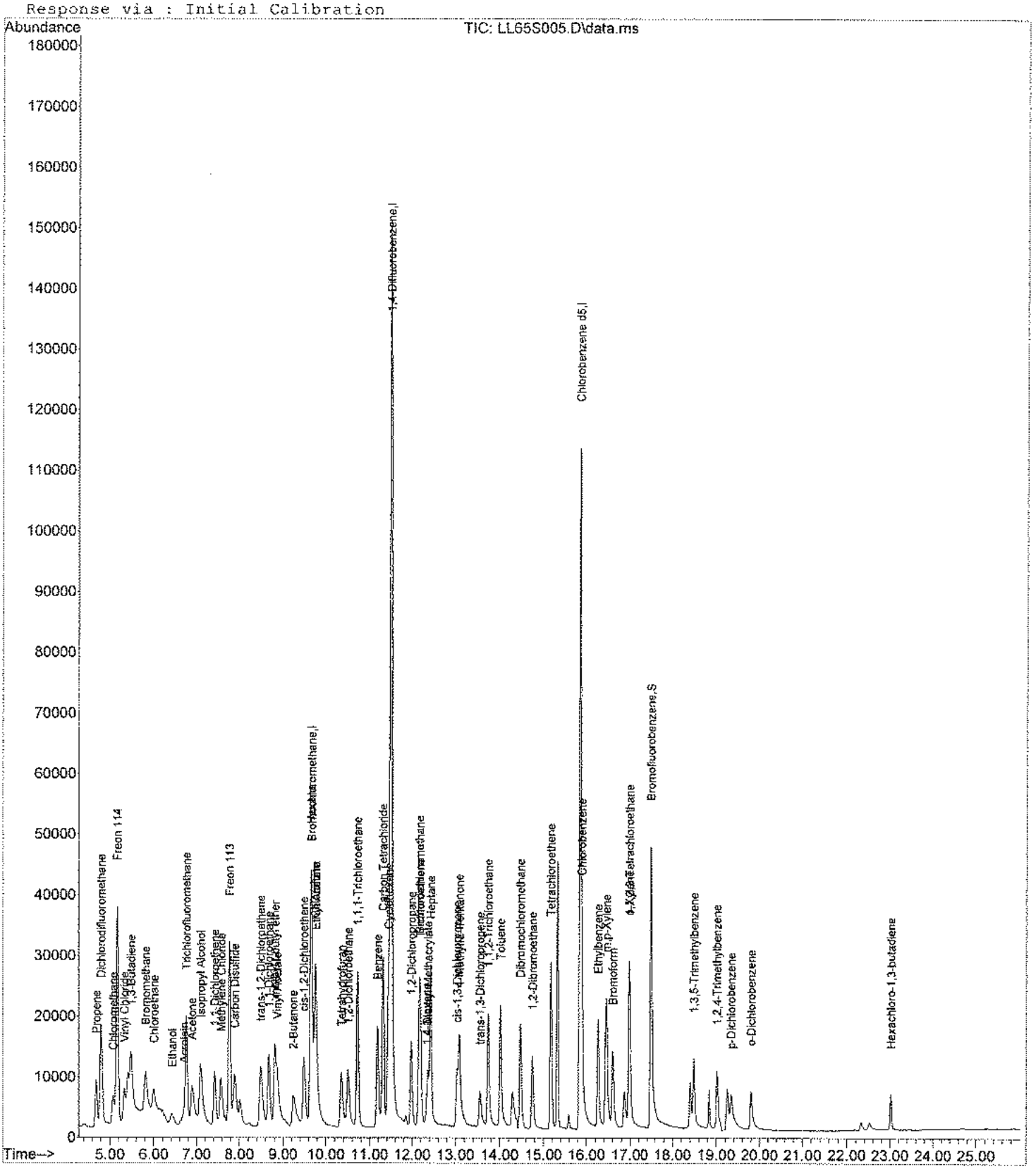
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LL65S005.D Vial: 2
Acq Time : 04/11/2017 12:15 Operator: LMR
Sample : 0.05 PPB Inst : 5975-L
Misc : 35941(20 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 13:02:08 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LL65S005.D Vial: 2
Acq Time : 04/11/2017 12:15 Operator: LMR
Sample : 0.05 PPB Inst : 5975-L
Misc : 35941(20 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 13:02:08 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.67	130	22271	1000.0000	ppt		86.09
25) 1,4-Difluorobenzene	11.48	114	380777	1000.0000	ppt		79.94
50) Chlorobenzene d5	15.85	117	339315	1000.0000	ppt		81.90
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	138174	911.5267	ppt		91.15%
Target Compounds							Qvalue
2) Propene	4.69	41	15952	59.4998	ppt	#	57
3) Dichlorodifluoromethane	4.80	85	38536	55.5664	ppt		99
4) Chloromethane	5.08	50	16817	59.0646	ppt		96
5) Freon 114	5.17	135	28281	55.2685	ppt	#	58
6) Vinyl Chloride	5.33	62	20083	57.6354	ppt		89
7) 1,3-Butadiene	5.47	54	19940	62.2433	ppt	#	63
8) Bromomethane	5.81	94	17611	57.7792	ppt		100
9) Chloroethane	6.00	64	9782	54.0080	ppt	#	87
10) Acrolein	6.69	56	4887	46.9251	ppt	#	95
11) Acetone	6.89	43	30262	74.0492	ppt		97
12) Trichlorofluoromethane	6.75	101	36333	55.2862	ppt		98
13) Ethanol	6.42	45	5456	74.5785	ppt	#	75
14) Isopropyl Alcohol	7.09	45	37117	78.0015	ppt	#	77
15) 1,1-Dichloroethene	7.42	61	21307	55.3240	ppt	#	53
16) Methylene Chloride	7.58	84	14911	61.3552	ppt	#	15
17) Freon 113	7.77	151	25664	55.8920	ppt	#	54
18) Carbon Disulfide	7.89	76	43352	56.4312	ppt	#	63
19) trans-1,2-Dichloroethene	8.48	96	14350	53.9059	ppt	#	72
20) 1,1-Dichloroethane	8.67	63	27762	52.5602	ppt	#	87
21) methyl t-butyl ether	8.81	73	27993	50.6997	ppt	#	60
22) Vinyl Acetate	8.86	86	2846	50.7501	ppt	#	1
23) 2-Butanone	9.24	43	28039	50.1127	ppt	#	63
24) cis-1,2-Dichloroethene	9.49	96	14818	54.3254	ppt	#	70
26) Ethyl Acetate	9.77	61	3025	42.1569	ppt	#	1
27) Hexane	9.64	57	21839	53.1902	ppt	#	82
28) Chloroform	9.76	83	36519	59.2224	ppt		97
29) Tetrahydrofuran	10.35	42	15390	50.8934	ppt	#	57
30) 1,2-Dichloroethane	10.50	62	19679	54.1914	ppt	#	80
31) 1,1,1-Trichloroethane	10.71	97	29681	54.5400	ppt	#	84
32) Benzene	11.18	78	45900	58.8011	ppt	#	60
33) Carbon Tetrachloride	11.31	117	33186	55.6845	ppt	#	85
34) Cyclohexane	11.43	84	17003	55.5335	ppt	#	1
35) 1,2-Dichloropropane	11.98	63	16294	53.7894	ppt	#	87
36) Bromodichloromethane	12.16	83	30658	54.4204	ppt		99
37) 1,4-Dioxane	12.34	88	6251	42.1818	ppt	#	78
38) Trichloroethene	12.19	130	18751	53.7064	ppt	#	59
39) Methyl Methacrylate	12.37	69	9900	47.7182	ppt	#	64
40) Heptane	12.43	71	10994	48.4858	ppt	#	29
41) cis-1,3-Dichloropropene	13.03	75	15802	49.4546	ppt	#	91
42) 4-Methyl-2-Pentanone	13.09	43	27890	48.0036	ppt	#	69
43) trans-1,3-Dichloropropene	13.56	75	11245	46.3597	ppt	#	93
44) 1,1,2-Trichloroethane	13.74	97	15389	52.5023	ppt	#	84
45) Toluene	14.02	91	35877	51.9472	ppt		96
46) 2-Hexanone	0.00	43	Not Detected				
47) Dibromochloromethane	14.47	129	28199	52.7213	ppt	#	28
48) 1,2-Dibromoethane	14.74	107	19473	51.2037	ppt		93
49) Tetrachloroethene	15.17	166	19416	54.6585	ppt	#	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LL65S005.D Vial: 2
Acq Time : 04/11/2017 12:15 Operator: LMR
Sample : 0.05 PPB Inst : 5975-L
Misc : 35941(20 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 13:02:08 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIMLl.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51)	Chlorobenzene	15.89	112	28925	51.7256 ppt	#	63
52)	Ethylbenzene	16.27	91	32399	47.5354 ppt		95
53)	m,p-Xylene	16.45	91	43588	88.0859 ppt		91
54)	Bromoform	16.60	173	17138	49.6510 ppt		99
55)	Styrene	0.00	104		Not Detected		
56)	1,1,2,2-Tetrachloroethane	16.98	83	22785	47.5957 ppt		100
57)	o-Xylene	16.98	91	22278	43.6590 ppt		93
59)	4-Ethyl Toluene	0.00	105		Not Detected		
60)	1,3,5-Trimethylbenzene	18.49	105	18765	42.3754 ppt		86
61)	1,2,4-Trimethylbenzene	19.02	105	16350	44.3455 ppt		95
62)	Benzyl Chloride	0.00	91		Not Detected		
63)	m-Dichlorobenzene	0.00	146		Not Detected		
64)	p-Dichlorobenzene	19.33	146	11513	41.4320 ppt	#	89
65)	o-Dichlorobenzene	19.80	146	10911	41.5163 ppt		93
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected		
67)	Naphthalene	0.00	128		Not Detected		
68)	Hexachloro-1,3-butadiene	23.02	225	4605	49.9180 ppt	#	19

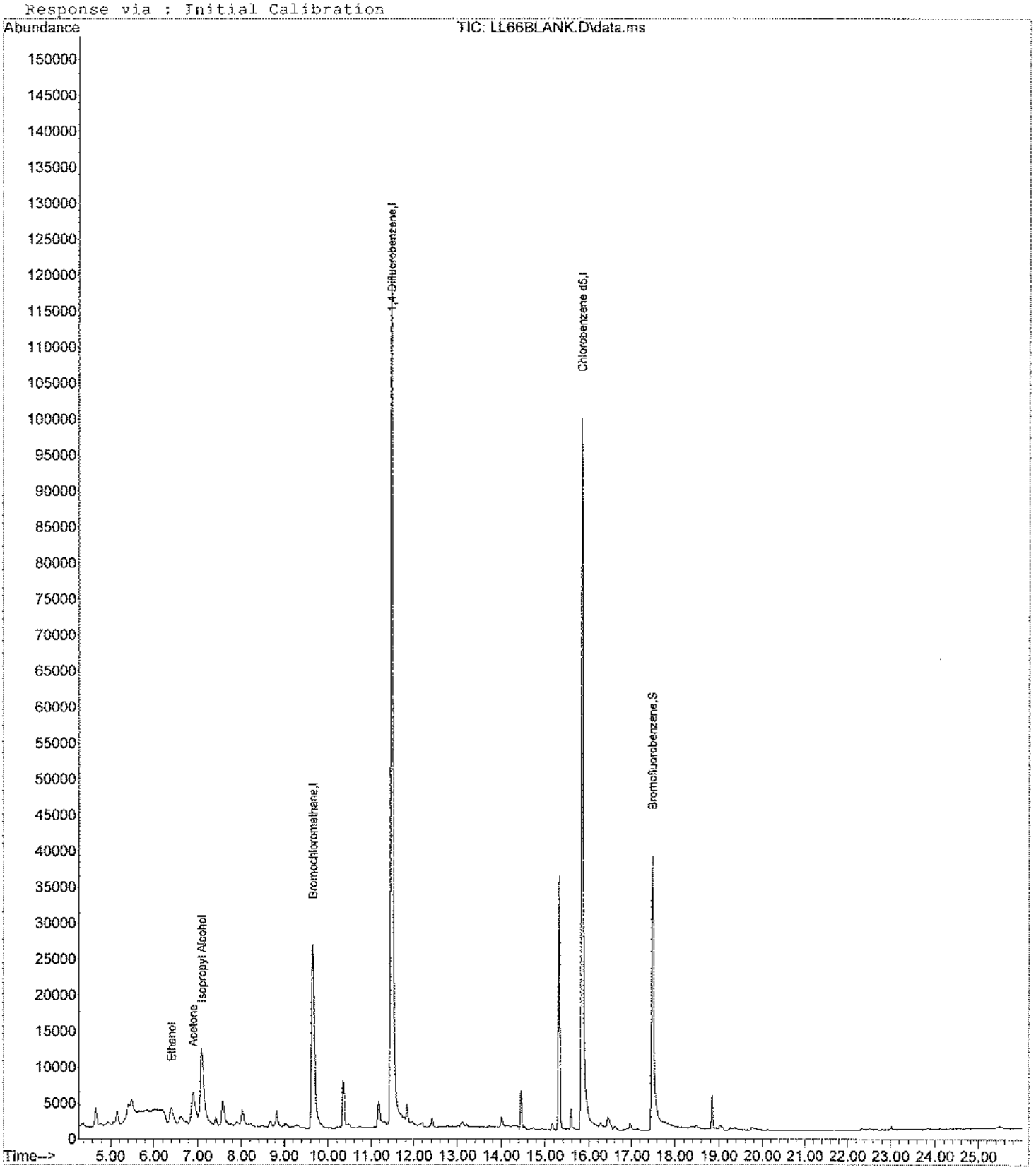
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...\11APR17L\LL66BLANK.D Vial: 1
Acq Time : 04/11/2017 13:05 Operator: LMR
Sample : BLANK Inst : 5975-L
Misc : BL~ Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 13:45:33 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LS1MA17.m (RTE Integrator)
Title : TO-15 S1M
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...\11APR17L\LL66BLANK.D Vial: 1
Acq Time : 04/11/2017 13:05 Operator: LMR
Sample : BLANK Inst : 5975-L
Misc : BL- Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 13:45:33 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	9.66	130	20934	1000.0000 ppt	80.93
25) 1,4-Difluorobenzene	11.48	114	334567	1000.0000 ppt	70.24
50) Chlorobenzene d5	15.84	117	305321	1000.0000 ppt	73.70
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	17.49	95	111725	819.1054 ppt	81.91%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	0.00	85		Not Detected	
4) Chloromethane	0.00	50		Not Detected	
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	6.89	43	22782	59.3065 ppt	100
12) Trichlorofluoromethane	0.00	101		Not Detected	
13) Ethanol	6.41	45	7187	104.5139 ppt #	65
14) Isopropyl Alcohol	7.09	45	39354	87.9846 ppt #	79
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	0.00	84		Not Detected	
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	0.00	43		Not Detected	
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	0.00	61		Not Detected	
27) Hexane	0.00	57		Not Detected	
28) Chloroform	0.00	83		Not Detected	
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	0.00	78		Not Detected	
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	0.00	71		Not Detected	
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	
45) Toluene	0.00	91		Not Detected	
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : I:\L - 5975-L\2017\A...\11APR17L\LL66BLANK.D Vial: 1
Acq Time : 04/11/2017 13:05 Operator: LMR
Sample : BLANK Inst : 5975-L
Misc : BL- Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 13:45:33 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51)	Chlorobenzene	0.00	112		Not Detected	
52)	Ethylbenzene	0.00	91		Not Detected	
53)	m,p-Xylene	0.00	91		Not Detected	
54)	Bromoform	0.00	173		Not Detected	
55)	Styrene	0.00	104		Not Detected	
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57)	o-Xylene	0.00	91		Not Detected	
59)	4-Ethyl Toluene	0.00	105		Not Detected	
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61)	1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62)	Benzyl Chloride	0.00	91		Not Detected	
63)	m-Dichlorobenzene	0.00	146		Not Detected	
64)	p-Dichlorobenzene	0.00	146		Not Detected	
65)	o-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67)	Naphthalene	0.00	128		Not Detected	
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected	

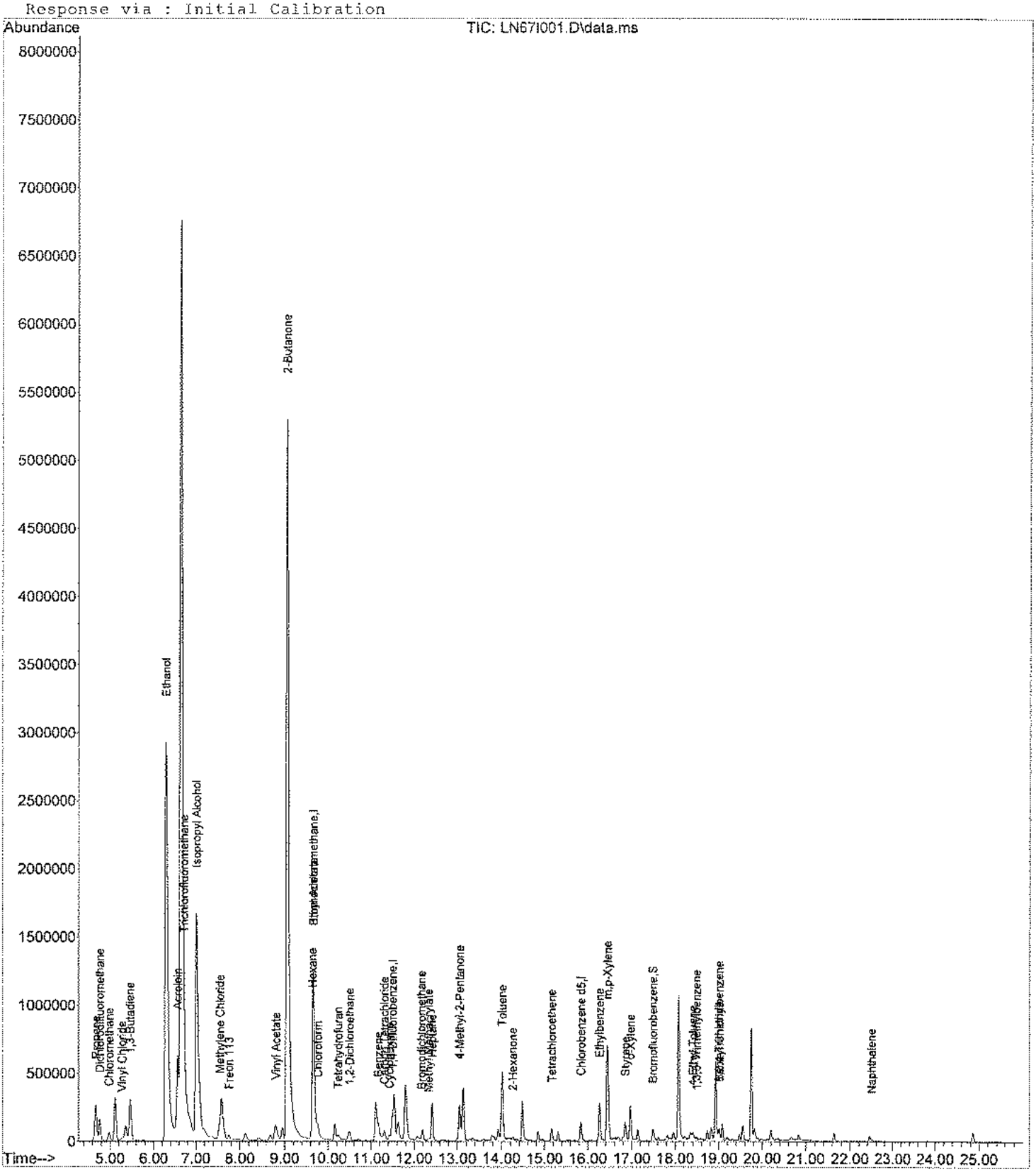
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN67I001.D Vial: 3
Acq Time : 04/11/2017 13:59 Operator: LMR
Sample : 1709321001 Inst : 5975-L
Misc : A~0001H~032317-TO~001~BAS MultiPlr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 14:30:05 2017 Results File: TO15LS1MA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 S1M
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN67I001.D Vial: 3
Acq Time : 04/11/2017 13:59 Operator: LMR
Sample : 1709321001 Inst : 5975-L
Misc : A-0001H-032317-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 14:30:05 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.65	130	29444	1000.0000 ppt		113.82
25) 1,4-Difluorobenzene	11.49	114	414002	1000.0000 ppt		86.91
50) Chlorobenzene d5	15.84	117	372020	1000.0000 ppt		89.80
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.49	95	185198	1114.3359 ppt		111.43%
Target Compounds						Qvalue
2) Propene	4.68	41	392795	1108.1770 ppt	#	35
3) Dichlorodifluoromethane	4.77	85	275784	300.7861 ppt		99
4) Chloromethane	4.98	50	168365	447.2738 ppt		97
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	5.26	62	31493	68.3625 ppt		96
7) 1,3-Butadiene	5.45	54	17427	41.1465 ppt	#	1
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	6.57	56	302501	2197.0112 ppt	#	68
11) Acetone	0.00	43		Not Detected		
12) Trichlorofluoromethane	6.72	101	122046	140.4696 ppt		98
13) Ethanol	6.29	45	8793503	90916.7372 ppt	#	75
14) Isopropyl Alcohol	7.01	45	5163915	8208.2833 ppt	#	92
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	7.55	84	103694	322.7316 ppt	#	13
17) Freon 113	7.76	151	26713	44.0039 ppt	#	58
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	8.81	86	37424	504.7717 ppt	#	1
23) 2-Butanone	9.05	43	16025380	21663.8881 ppt	#	68
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	9.66	61	409659	5250.8995 ppt	#	1
27) Hexane	9.63	57	88464	198.1680 ppt	#	34
28) Chloroform	9.77	83	111167	165.8101 ppt		99
29) Tetrahydrofuran	10.23	42	87072	264.8317 ppt	#	55
30) 1,2-Dichloroethane	10.49	62	95194	241.1042 ppt	#	79
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	11.17	78	125786	148.2086 ppt	#	48
33) Carbon Tetrachloride	11.32	117	74138	114.4165 ppt	#	85
34) Cyclohexane	11.42	84	31241	93.8475 ppt	#	1
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	12.16	83	25480	41.5992 ppt	#	74
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	0.00	130		Not Detected		
39) Methyl Methacrylate	12.34	69	11285	50.0287 ppt	#	47
40) Heptane	12.43	71	117595	476.9969 ppt	#	21
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	13.05	43	417623	661.1162 ppt	#	72
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	0.00	97		Not Detected		
45) Toluene	14.01	91	769252	1024.4324 ppt		98
46) 2-Hexanone	14.25	43	31098	72.3079 ppt	#	79
47) Dibromochloromethane	0.00	129		Not Detected		
48) 1,2-Dibromoethane	0.00	107		Not Detected		
49) Tetrachloroethene	15.17	166	60862	157.5841 ppt	#	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN67I001.D Vial: 3
Acq Time : 04/11/2017 13:59 Operator: LMR
Sample : 1709321001 Inst : 5975-L
Misc : A-0001H-032317-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 14:30:05 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

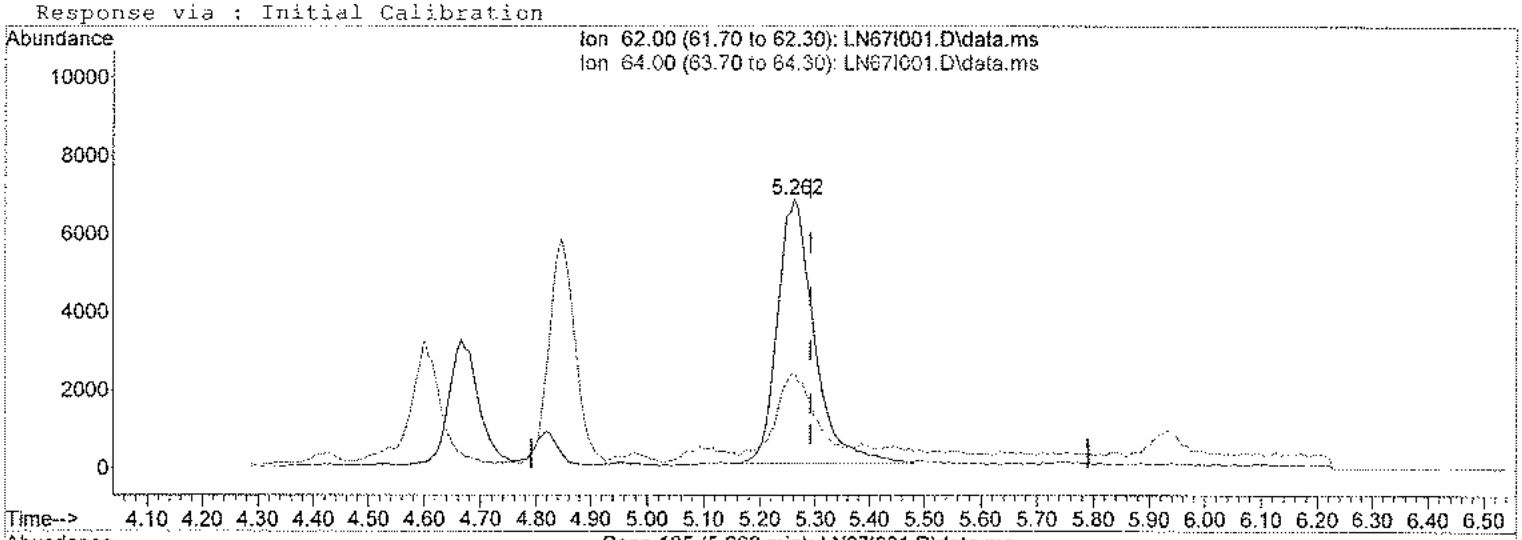
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51) Chlorobenzene	0.00	112		Not Detected			
52) Ethylbenzene	16.26	91	437296	585.1908	ppt		94
53) m,p-Xylene	16.44	91	1147569	2115.2176	ppt		95
54) Bromoform	0.00	173		Not Detected			
55) Styrene	16.85	104	162279	528.1361	ppt		99
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected			
57) o-Xylene	16.97	91	325179	581.2413	ppt		95
59) 4-Ethyl Toluene	18.40	105	38685	94.2422	ppt		92
60) 1,3,5-Trimethylbenzene	18.48	105	31757	65.4095	ppt		87
61) 1,2,4-Trimethylbenzene	19.01	105	107493	265.9188	ppt		94
62) Benzyl Chloride	19.00	91	13780	64.5346	ppt	#	49
63) m-Dichlorobenzene	0.00	146		Not Detected			
64) p-Dichlorobenzene	0.00	146		Not Detected			
65) o-Dichlorobenzene	0.00	146		Not Detected			
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67) Naphthalene	22.50	128	28863	192.4368	ppt	#	71
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected			

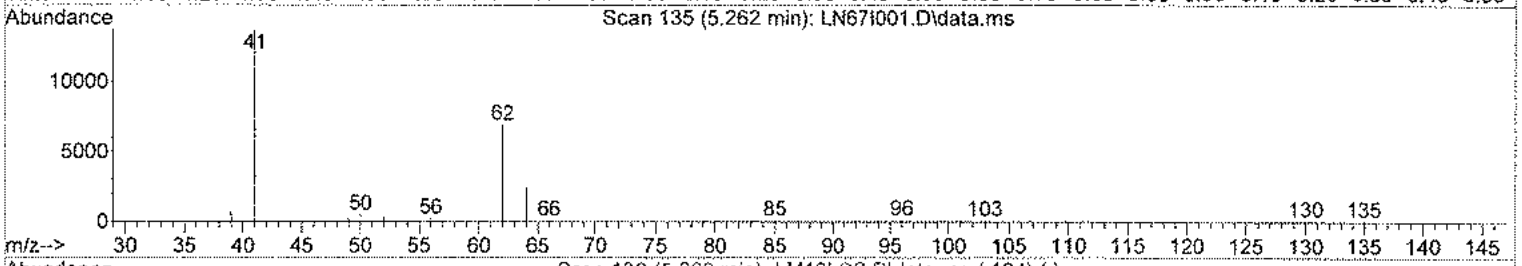
(#) = qualifier out of range (m) = manual integration

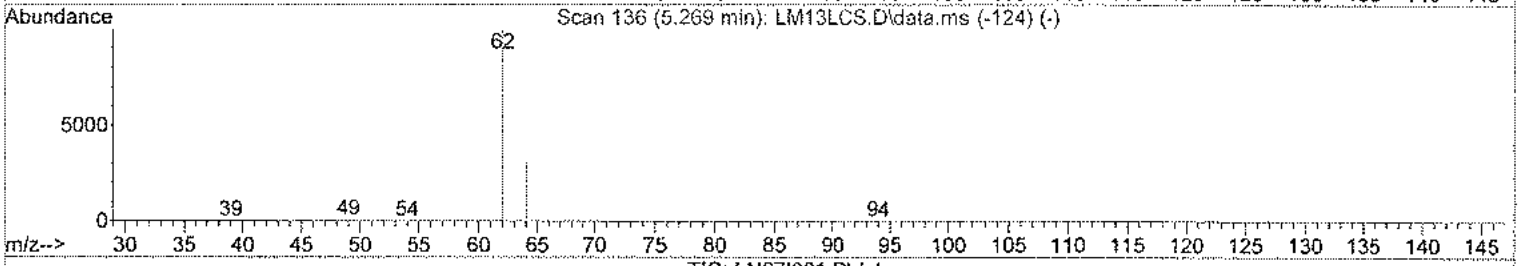
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\11APR17L\
Data File : LN67I001.D
Acq On : 04/11/2017 13:59
Operator : LMR
Sample : 1709321001
Inst : 5975-L
Misc : A-0001H-032317-TO-001-BAS
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 11 14:30:05 2017
Quant Method : Z:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration







TIC: LN67I001.D\data.ms

(6) Vinyl Chloride

5.262min (-0.029) 68.36 ppt

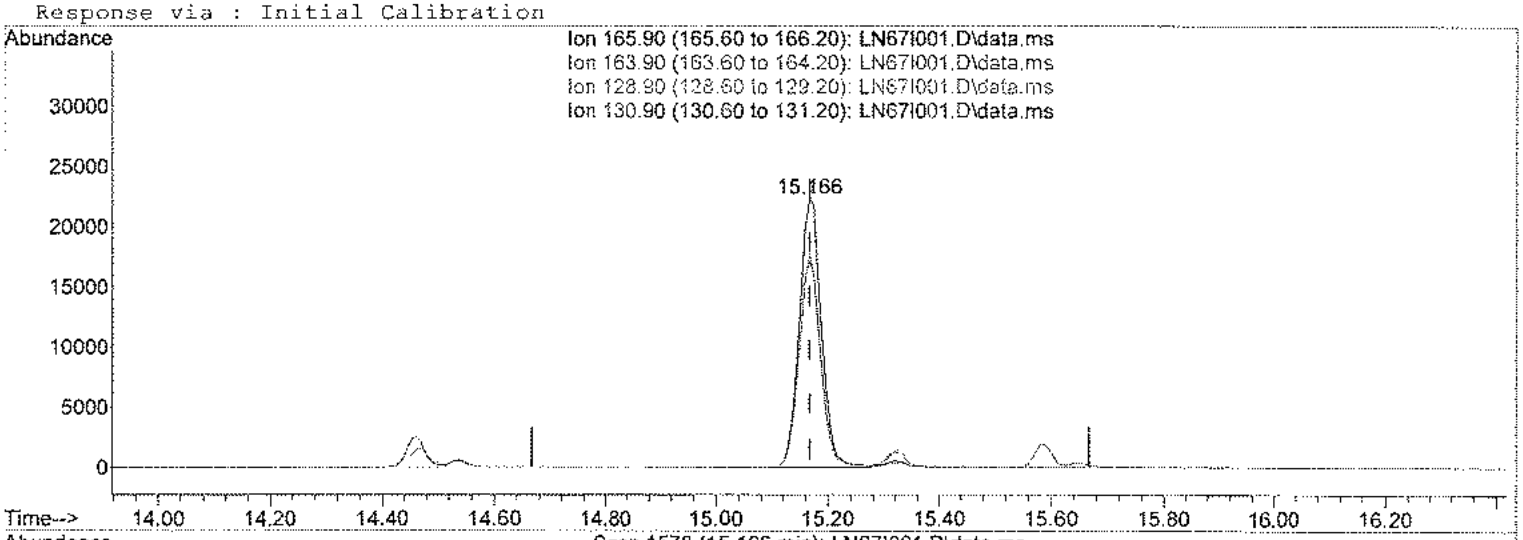
response 31493

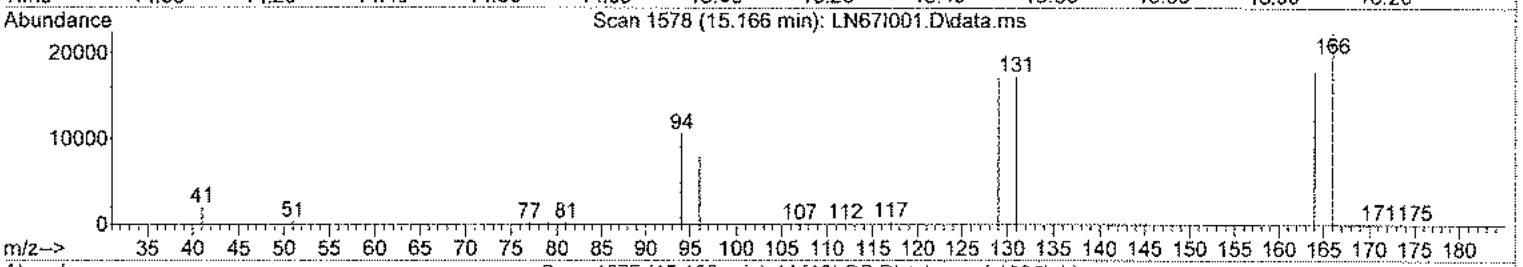
Ion	Exp%	Act%
62.00	100.00	100.00
64.00	33.00	30.58
0.00	0.00	0.00
0.00	0.00	0.00

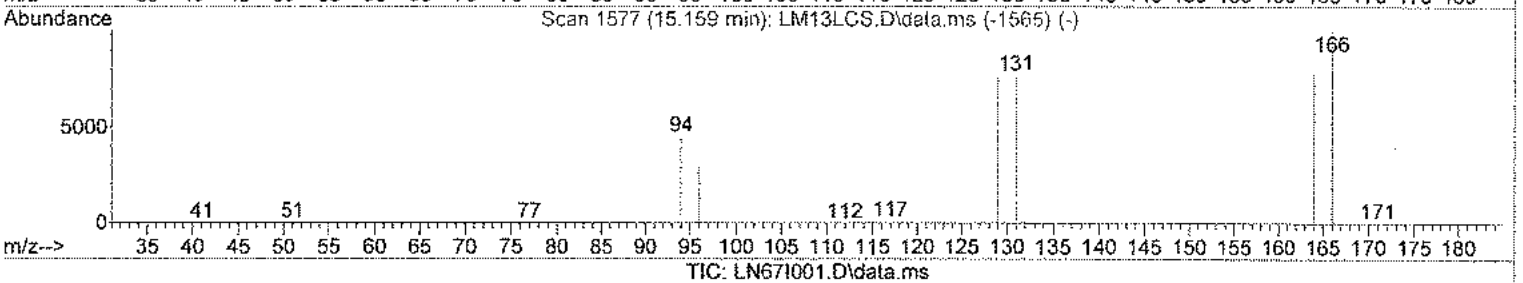
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\11APR17L\
Data File : LN671001.D
Acq On : 04/11/2017 13:59
Operator : LMR
Sample : 1709321001
Inst : 5975-L
Misc : A-0001H-032317-TO-001-BAS
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 11 14:30:05 2017
Quant Method : Z:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration







TIC: LN671001.D\data.ms

(49) Tetrachloroethene

15.166min (+ 0.000) 157.58 ppt

response 60862

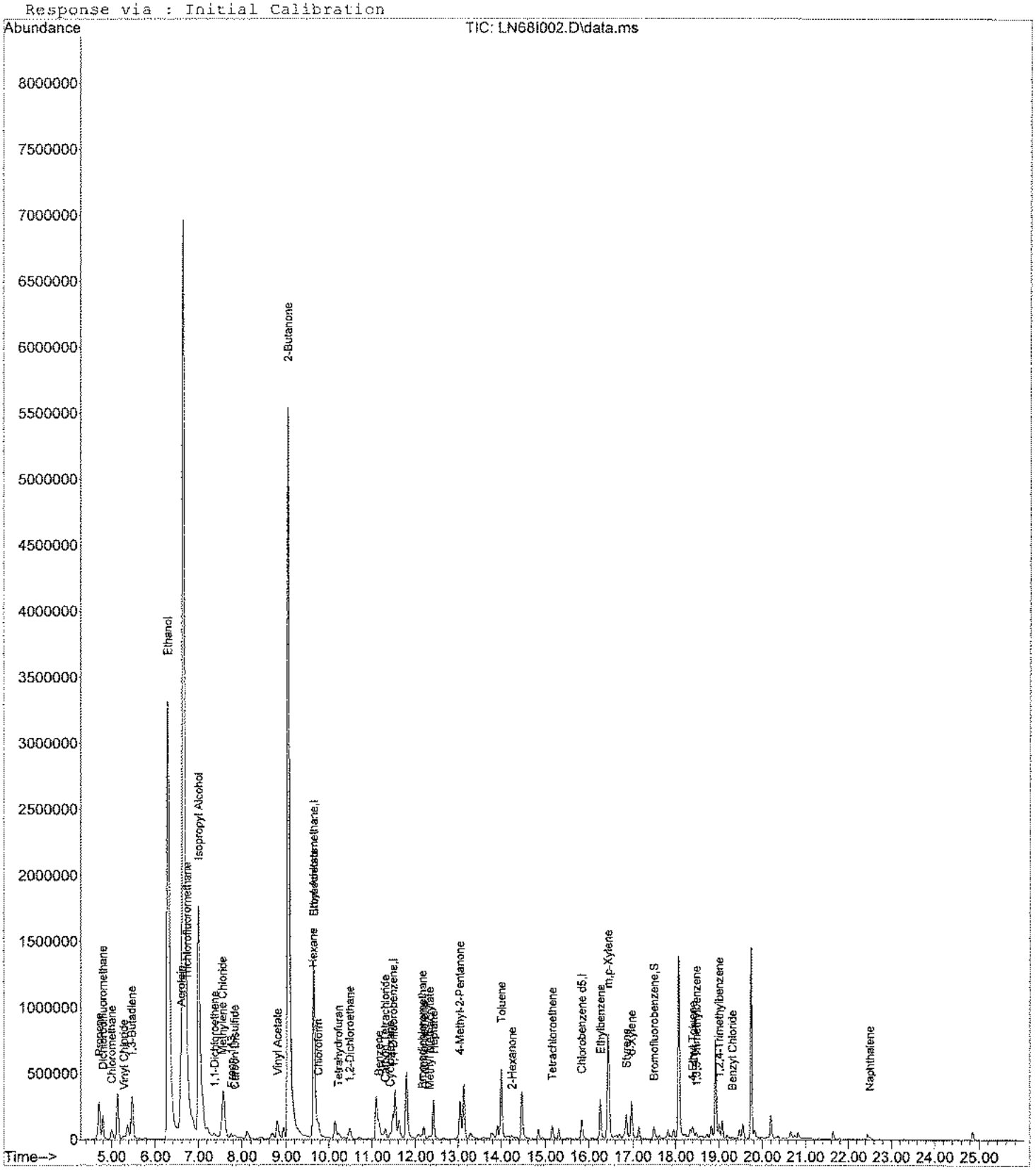
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	77.69
128.90	57.40	77.14#
130.90	56.90	76.87#

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN681002.D Vial: 4
Acq Time : 04/11/2017 14:54 Operator: LMR
Sample : 1709321002 Inst : 5975-L
Misc : A-0001H-032317-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 15:20:54 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN68I002.D Vial: 4
Acq Time : 04/11/2017 14:54 Operator: LMR
Sample : 1709321002 Inst : 5975-L
Misc : A-0001H-032317-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 15:20:54 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.64	130	30946	1000.0000 ppt		119.63
25) 1,4-Difluorobenzene	11.48	114	432484	1000.0000 ppt		90.79
50) Chlorobenzene d5	15.84	117	393858	1000.0000 ppt		95.07
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.49	95	205269	1166.6211 ppt		116.66%
Target Compounds						Qvalue
2) Propene	4.71	41	400787	1075.8435 ppt	#	35
3) Dichlorodifluoromethane	4.80	85	288850	299.7459 ppt		99
4) Chloromethane	5.00	50	186413	471.1835 ppt		97
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	5.28	62	35619	73.5661 ppt		91
7) 1,3-Butadiene	5.46	54	20474	45.9944 ppt	#	12
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	6.58	56	317172	2191.7579 ppt	#	65
11) Acetone	0.00	43		Not Detected		
12) Trichlorofluoromethane	6.73	101	127235	139.3341 ppt		100
13) Ethanol	6.28	45	9720779	95625.8444 ppt	#	75
14) Isopropyl Alcohol	7.00	45	5348691	8089.3393 ppt	#	92
15) 1,1-Dichloroethene	7.37	61	24411	45.6154 ppt	#	13
16) Methylene Chloride	7.56	84	129389	383.1576 ppt	#	16
17) Freon 113	7.77	151	27678	43.3806 ppt	#	54
18) Carbon Disulfide	7.84	76	97173	91.0314 ppt	#	64
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	8.81	86	43500	558.2469 ppt	#	1
23) 2-Butanone	9.04	43	16313652	20983.1917 ppt	#	68
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	9.65	61	430926	5287.4503 ppt	#	1
27) Hexane	9.63	57	93984	201.5363 ppt	#	34
28) Chloroform	9.76	83	116455	166.2745 ppt		98
29) Tetrahydrofuran	10.22	42	91014	264.9916 ppt	#	56
30) 1,2-Dichloroethane	10.49	62	98068	237.7688 ppt	#	79
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	11.16	78	132008	148.8928 ppt	#	49
33) Carbon Tetrachloride	11.31	117	76753	113.3902 ppt	#	85
34) Cyclohexane	11.42	84	31542	90.7025 ppt	#	1
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	12.15	83	26214	40.9686 ppt	#	72
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	12.18	130	15956	40.2371 ppt	#	60
39) Methyl Methacrylate	12.34	69	14413	61.1652 ppt	#	51
40) Heptane	12.42	71	123274	478.6638 ppt	#	21
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	13.04	43	460555	697.9227 ppt	#	72
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	0.00	97		Not Detected		
45) Toluene	14.01	91	803271	1024.0217 ppt		97
46) 2-Hexanone	14.24	43	24786	55.1686 ppt	#	94
47) Dibromochloromethane	0.00	129		Not Detected		
48) 1,2-Dibromoethane	0.00	107		Not Detected		
49) Tetrachloroethene	15.16	166	62744	155.5145 ppt	#	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN68I002.D Vial: 4
Acq Time : 04/11/2017 14:54 Operator: LMR
Sample : 1709321002 Inst : 5975-L
Misc : A-0001H-032317-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 15:20:54 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

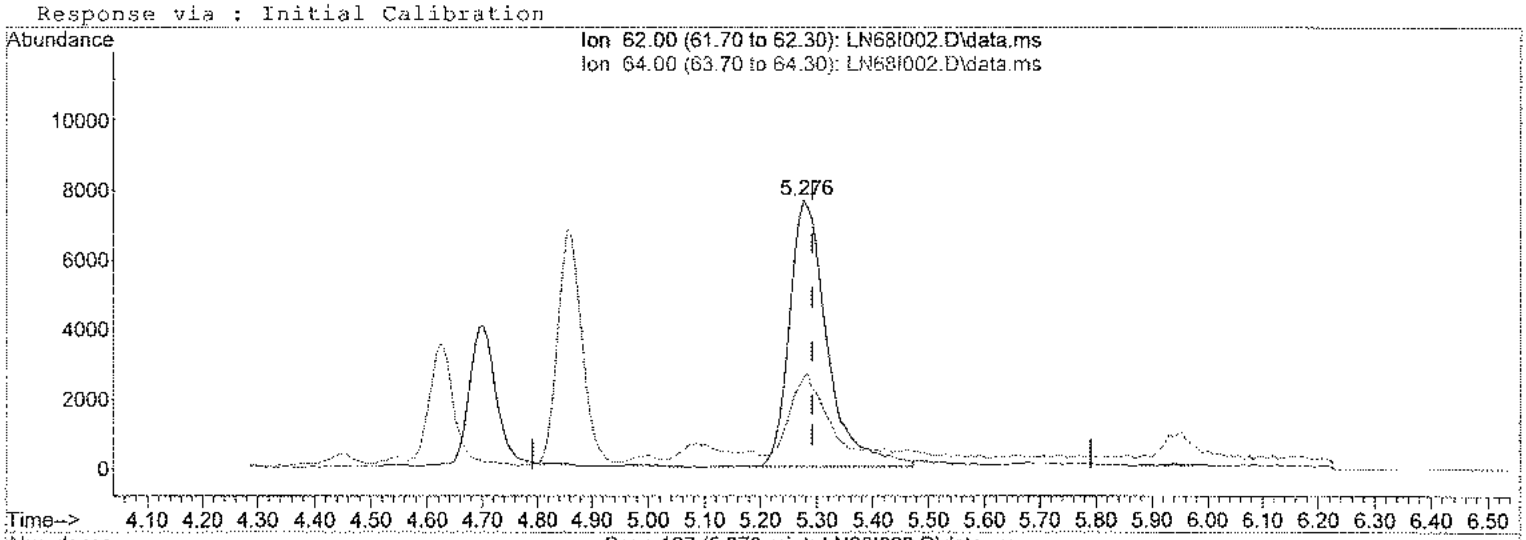
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51)	Chlorobenzene	0.00	112		Not Detected		
52)	Ethylbenzene	16.26	91	467775	591.2697 ppt		94
53)	m,p-Xylene	16.43	91	1280619	2229.5787 ppt		95
54)	Bromoform	0.00	173		Not Detected		
55)	Styrene	16.84	104	222348	683.5077 ppt		98
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected		
57)	o-Xylene	16.96	91	354116	597.8691 ppt		97
59)	4-Ethyl Toluene	18.40	105	45074	103.7183 ppt		88
60)	1,3,5-Trimethylbenzene	18.48	105	42465	82.6151 ppt		87
61)	1,2,4-Trimethylbenzene	19.01	105	128144	299.4289 ppt		94
62)	Benzyl Chloride	19.30	91	12198	53.9583 ppt	#	49
63)	m-Dichlorobenzene	0.00	146		Not Detected		
64)	p-Dichlorobenzene	0.00	146		Not Detected		
65)	o-Dichlorobenzene	0.00	146		Not Detected		
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected		
67)	Naphthalene	22.50	128	44199	278.3464 ppt	#	71
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected		

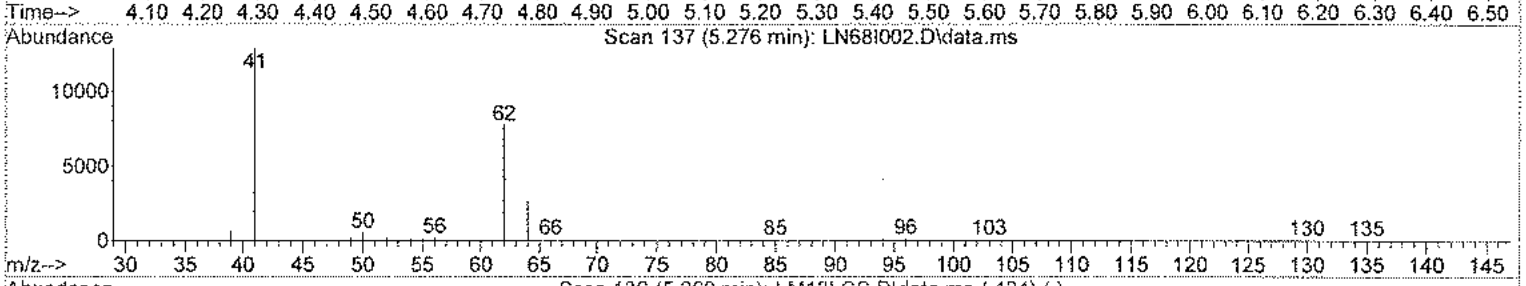
(#) = qualifier out of range (m) = manual integration

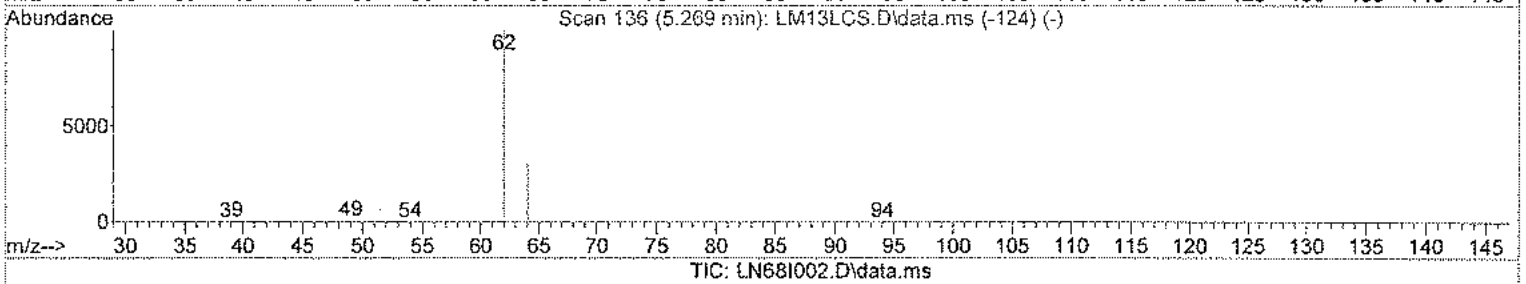
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\11APR17L\
Data File : LN68I002.D
Acq On : 04/11/2017 14:54
Operator : LMR
Sample : 1709321002
Inst : 5975-L
Misc : A-0001H-032317-TO-002-BAS
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 11 15:20:54 2017
Quant Method : Z:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration







TIC: LN68I002.D\data.ms

(6) Vinyl Chloride

5.276min (-0.014) 73.57 ppt

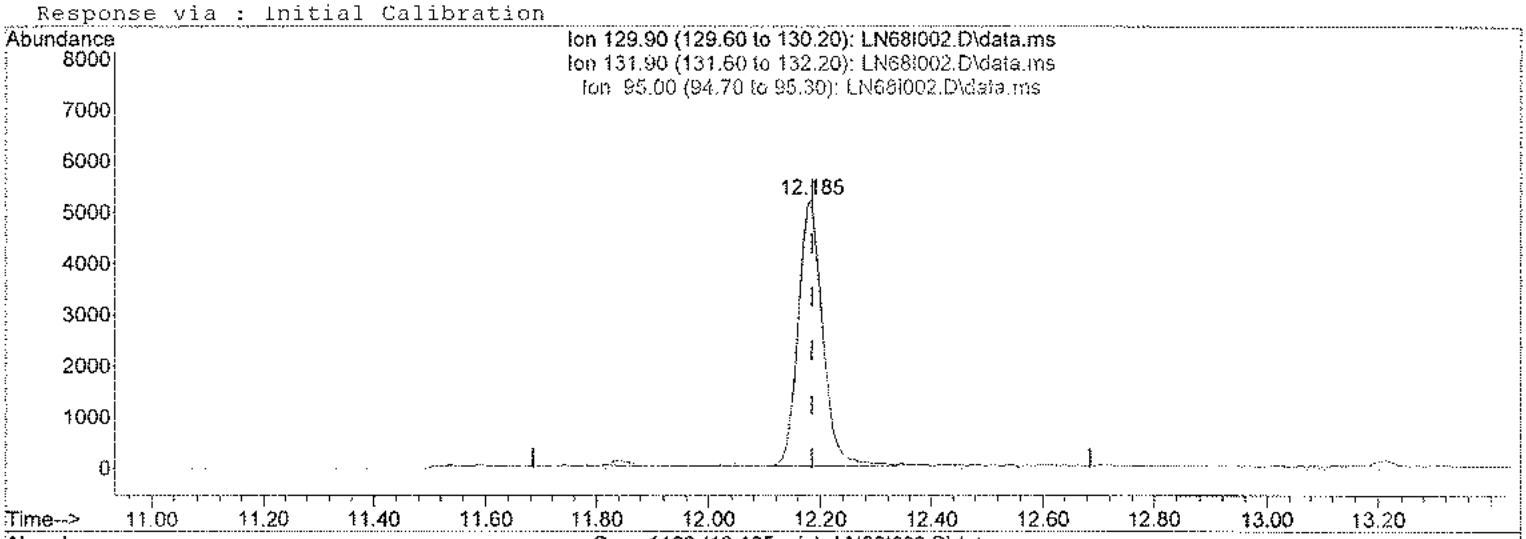
response 35619

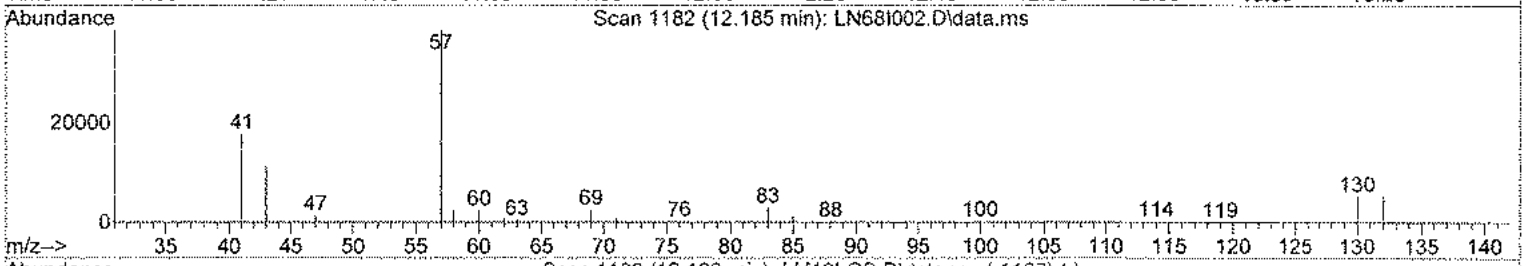
Ion	Exp%	Act%
62.00	100.00	100.00
64.00	33.00	28.02
0.00	0.00	0.00
0.00	0.00	0.00

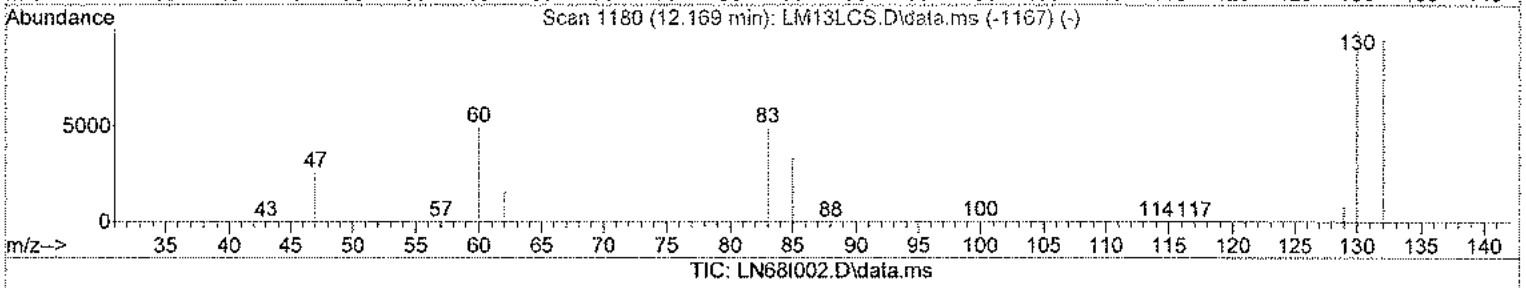
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\11APR17L\
Data File : LN68I002.D
Acq On : 04/11/2017 14:54
Operator : LMR
Sample : 1709321002
Inst : 5975-L
Misc : A-0001H-032317-TO-002-BAS
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 11 15:20:54 2017
Quant Method : Z:\L\METHODS\TO15LS1MA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration







TIC: LN68I002.D\data.ms

(38) Trichloroethene

12.185min (+ 0.000) 40.24 ppt

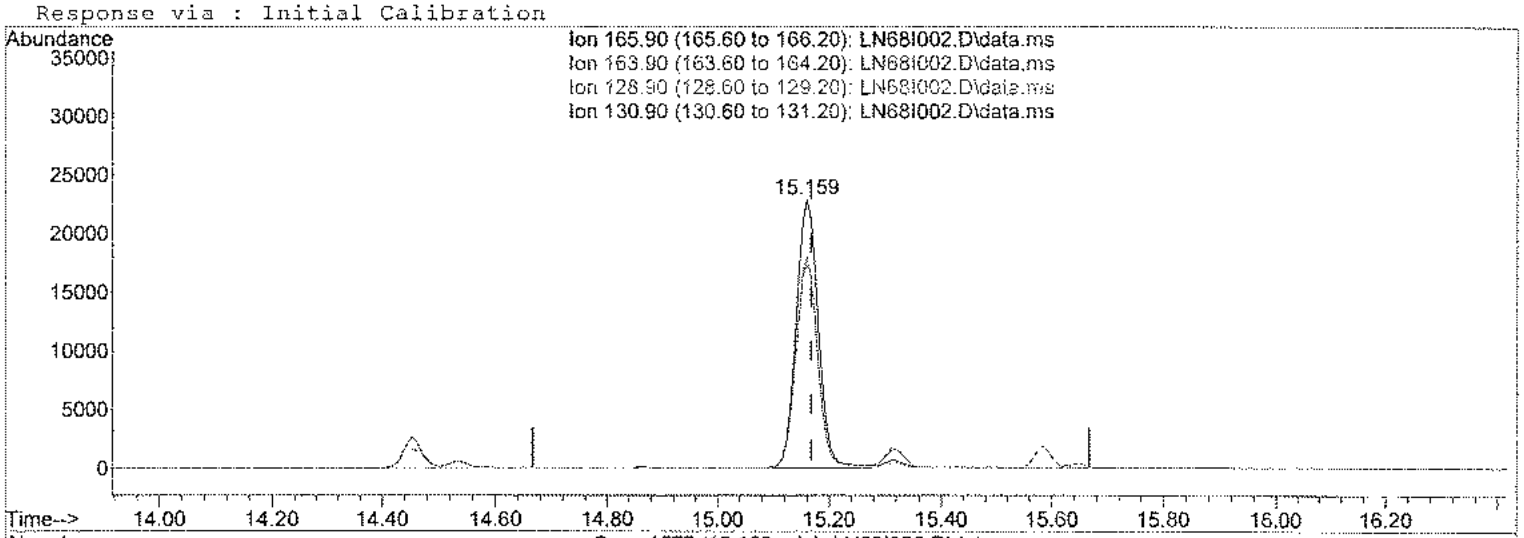
response 15956

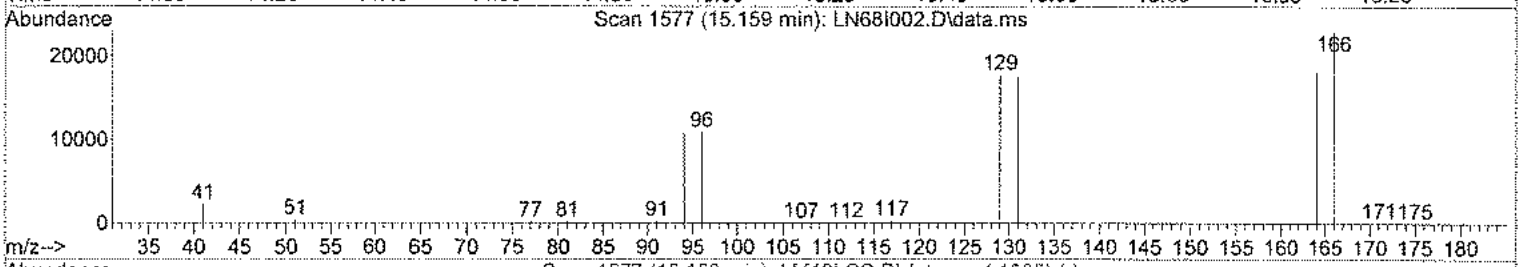
Ion	Exp%	Act%
129.90	100.00	100.00
131.90	96.40	96.16
95.00	77.10	0.00#
0.00	0.00	0.00

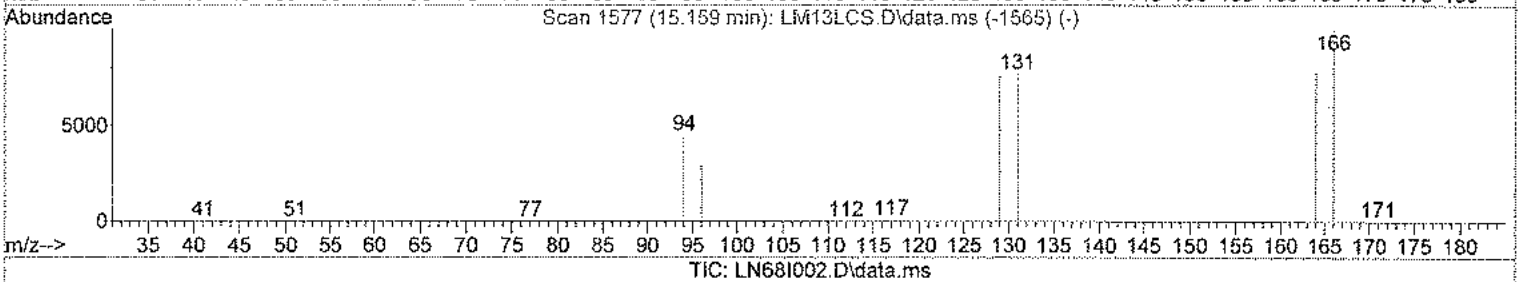
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\11APR17L\
Data File : LN68I002.D
Acq On : 04/11/2017 14:54
Operator : LMR
Sample : 1709321002
Inst : 5975-L
Misc : A-0001H-032317-TO-002-BAS
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 11 15:20:54 2017
Quant Method : Z:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration







TIC: LN68I002.D\data.ms

(49) Tetrachloroethene

15.159min (-0.007) 155.51 ppt

response 62744

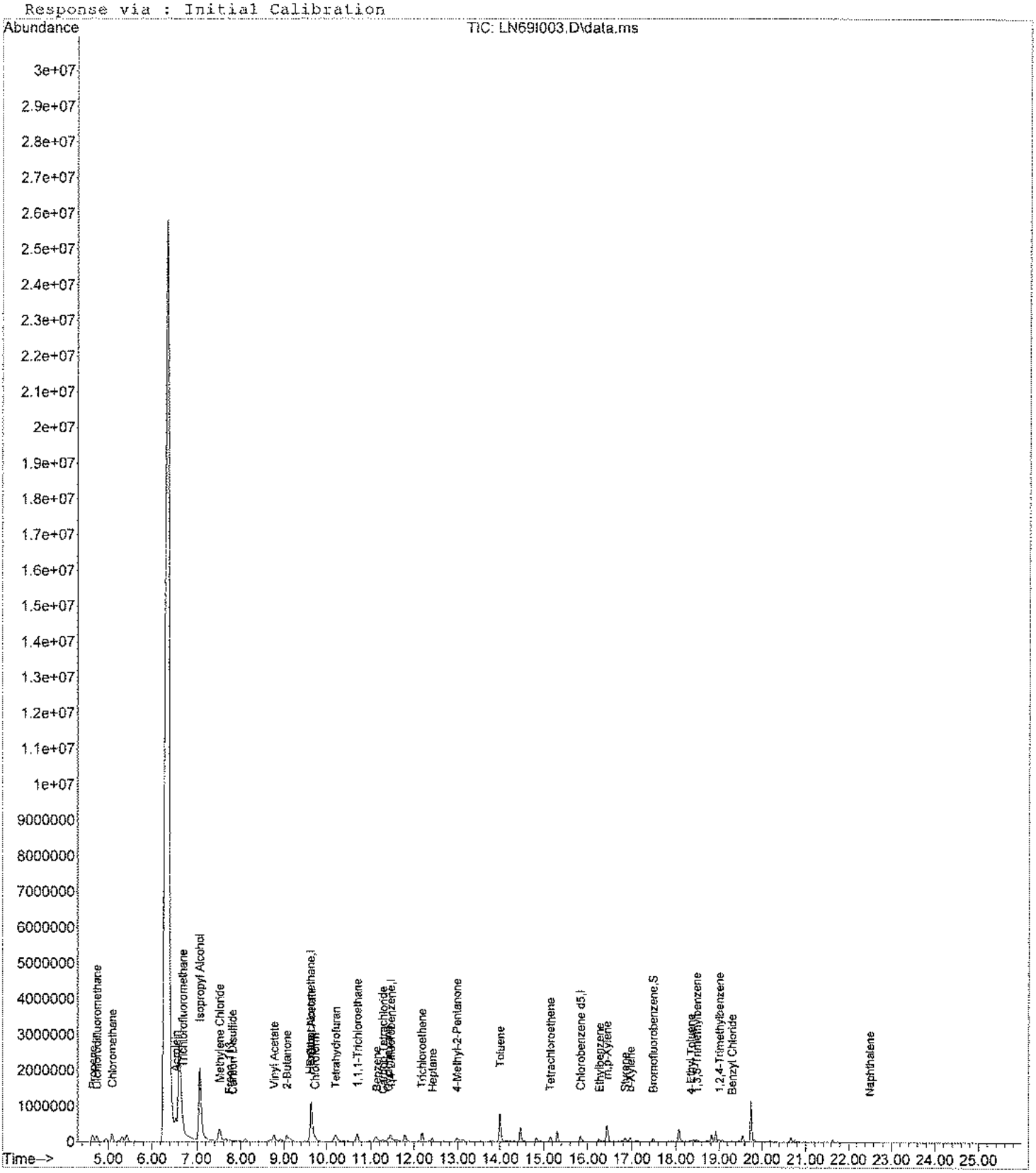
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	77.54
128.90	57.40	77.24#
130.90	56.90	76.97#

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN69I003.D Vial: 5
Acq Time : 04/11/2017 15:46 Operator: LMR
Sample : 1709321003 Inst : 5975-L
Misc : A-0002H-032317-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 16:29:00 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN69I003.D Vial: 5
Acq Time : 04/11/2017 15:46 Operator: LMR
Sample : 1709321003 Inst : 5975-L
Misc : A-0002H-032317-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 16:29:00 2017 Results File: TO15LSIMA17.RES

Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.62	130	29121	1000.0000 ppt		112.58
25) 1,4-Difluorobenzene	11.47	114	439788	1000.0000 ppt		92.32
50) Chlorobenzene d5	15.83	117	405120	1000.0000 ppt		97.79
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.49	95	194438	1074.3445 ppt		107.43%
Target Compounds						Qvalue
2) Propene	4.64	41	308527	880.0896 ppt	#	36
3) Dichlorodifluoromethane	4.74	85	317682	350.3255 ppt		99
4) Chloromethane	5.09	50	19404	52.1199 ppt	#	41
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	0.00	54		Not Detected		
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	6.54	56	268252	1969.8763 ppt	#	23
11) Acetone	0.00	43		Not Detected		
12) Trichlorofluoromethane	6.69	101	159514	185.6299 ppt		100
13) Ethanol	0.00	45		Not Detected		
14) Isopropyl Alcohol	7.06	45	5595955	8993.6916 ppt	#	88
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	7.51	84	455190	1432.4223 ppt	#	19
17) Freon 113	7.74	151	26435	44.0289 ppt	#	58
18) Carbon Disulfide	7.80	76	76138	75.7958 ppt	#	78
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	8.78	86	63672	868.3280 ppt	#	1
23) 2-Butanone	9.07	43	669420	914.9920 ppt	#	66
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	9.64	61	377995	4560.9606 ppt	#	1
27) Hexane	9.61	57	106432	224.4389 ppt	#	40
28) Chloroform	9.73	83	117957	165.6220 ppt		99
29) Tetrahydrofuran	10.20	42	397522	1138.1821 ppt	#	55
30) 1,2-Dichloroethane	0.00	62		Not Detected		
31) 1,1,1-Trichloroethane	10.70	97	227805	362.4326 ppt	#	86
32) Benzene	11.16	78	110717	122.8045 ppt	#	56
33) Carbon Tetrachloride	11.29	117	40613	59.0027 ppt	#	86
34) Cyclohexane	11.41	84	79310	224.2769 ppt	#	7
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	0.00	83		Not Detected		
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	12.17	130	21461	53.2205 ppt	#	60
39) Methyl Methacrylate	0.00	69		Not Detected		
40) Heptane	12.42	71	38598	147.3841 ppt	#	1
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	12.98	43	113443	169.0558 ppt	#	44
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	0.00	97		Not Detected		
45) Toluene	14.00	91	1228974	1540.6941 ppt		97
46) 2-Hexanone	0.00	43		Not Detected		
47) Dibromochloromethane	0.00	129		Not Detected		
48) 1,2-Dibromoethane	0.00	107		Not Detected		
49) Tetrachloroethene	15.16	166	84546	206.0717 ppt	#	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN69I003.D Vial: 5
Acq Time : 04/11/2017 15:46 Operator: LMR
Sample : 1709321003 Inst : 5975-L
Misc : A-0002H-032317-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 11 16:29:00 2017 Results File: TO15LSIMA17.RES

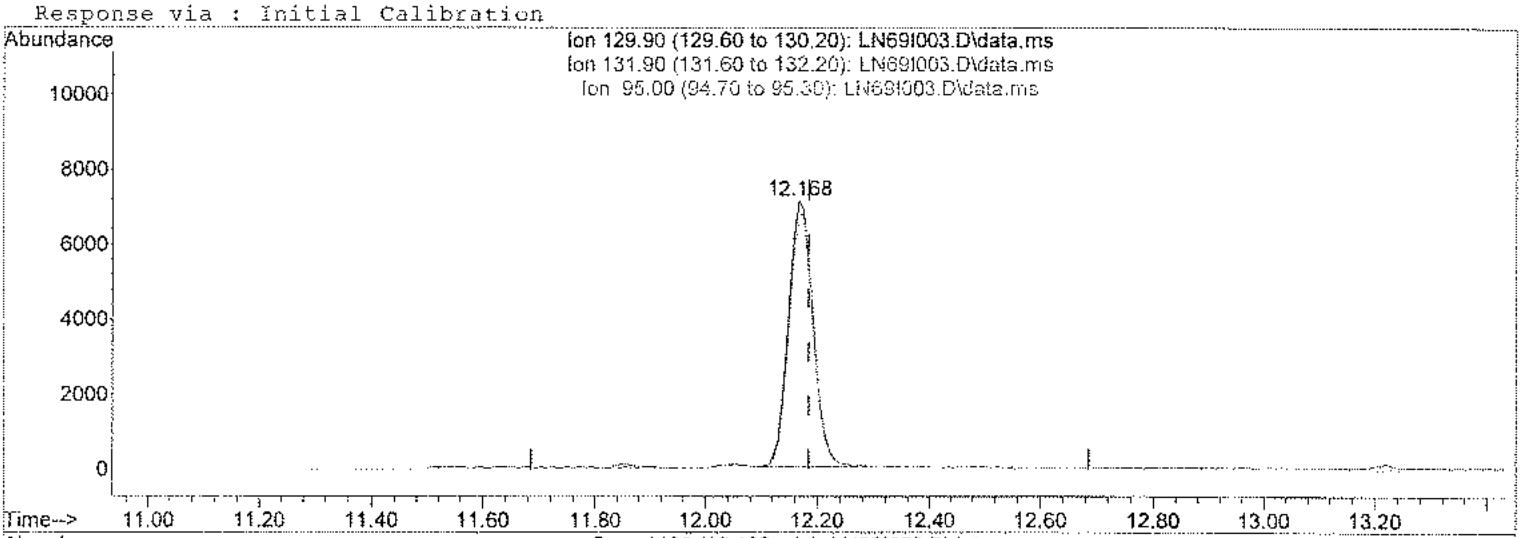
Quant Method : Z:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

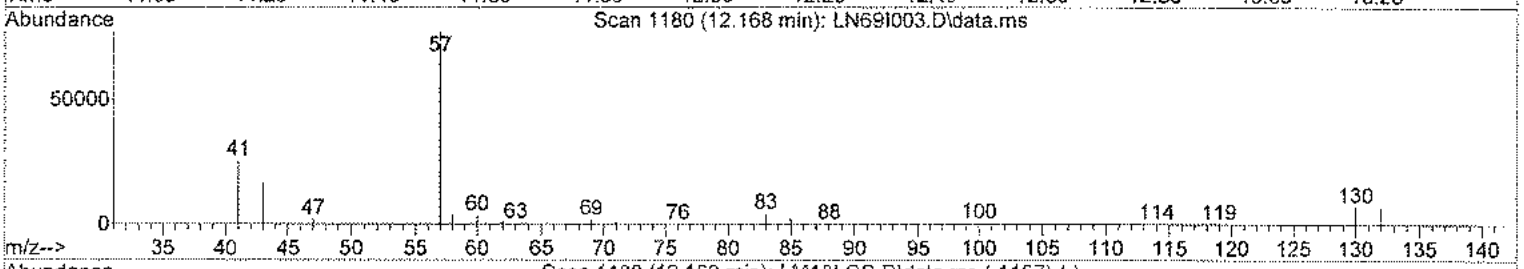
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51)	Chlorobenzene	0.00	112		Not Detected		
52)	Ethylbenzene	16.26	91	137372	168.8118 ppt		93
53)	m,p-Xylene	16.43	91	726886	1230.3400 ppt		95
54)	Bromoform	0.00	173		Not Detected		
55)	Styrene	16.85	104	133108	397.8051 ppt		99
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected		
57)	o-Xylene	16.96	91	138076	226.6391 ppt		96
59)	4-Ethyl Toluene	18.34	105	51685	115.6245 ppt		92
60)	1,3,5-Trimethylbenzene	18.48	105	67086	126.8867 ppt		90
61)	1,2,4-Trimethylbenzene	19.01	105	87892	199.6645 ppt		94
62)	Benzyl Chloride	19.30	91	31591	135.8592 ppt	#	49
63)	m-Dichlorobenzene	0.00	146		Not Detected		
64)	p-Dichlorobenzene	0.00	146		Not Detected		
65)	o-Dichlorobenzene	0.00	146		Not Detected		
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected		
67)	Naphthalene	22.50	128	19323	118.3052 ppt	#	71
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected		

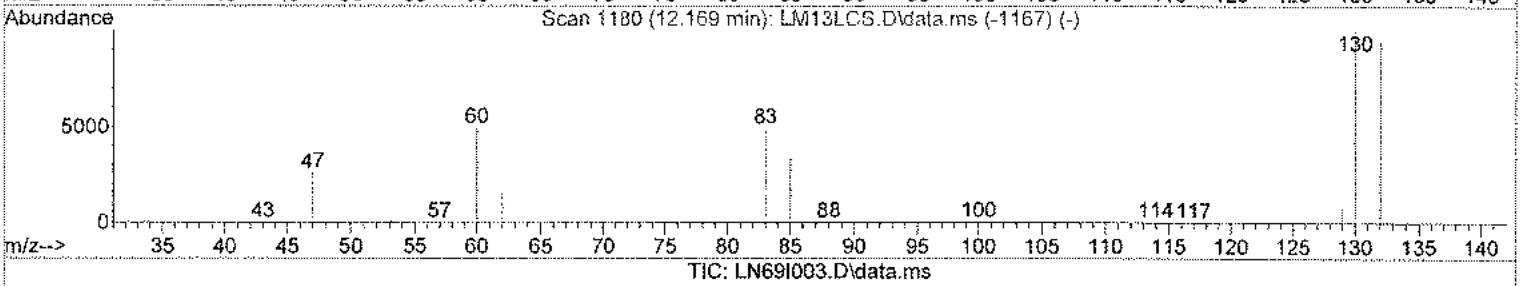
(#) = qualifier out of range (m) = manual integration

Data Path : I:\L - 5975-L\2017\APR17L\11APR17L\
Data File : LN69I003.D
Acq On : 04/11/2017 15:46
Operator : LMR
Sample : 1709321003
Inst : 5975-L
Misc : A-0002H-032317-TO-001-BAS
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 11 16:29:00 2017
Quant Method : Z:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration







TIC: LN69I003.D\data.ms

(38) Trichloroethene

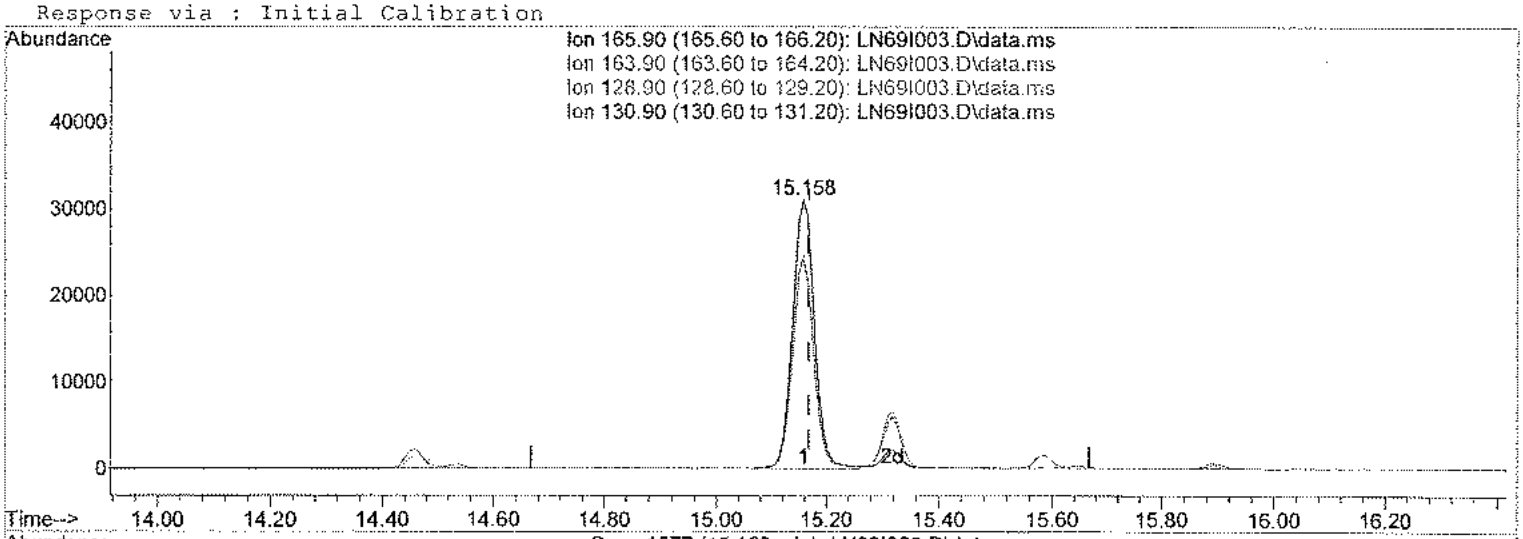
12.168min (-0.016) 53.22 ppt

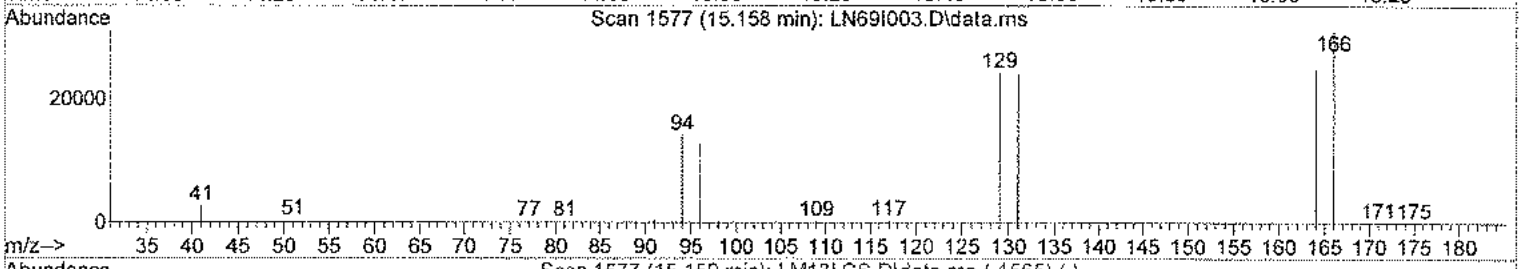
response 21461

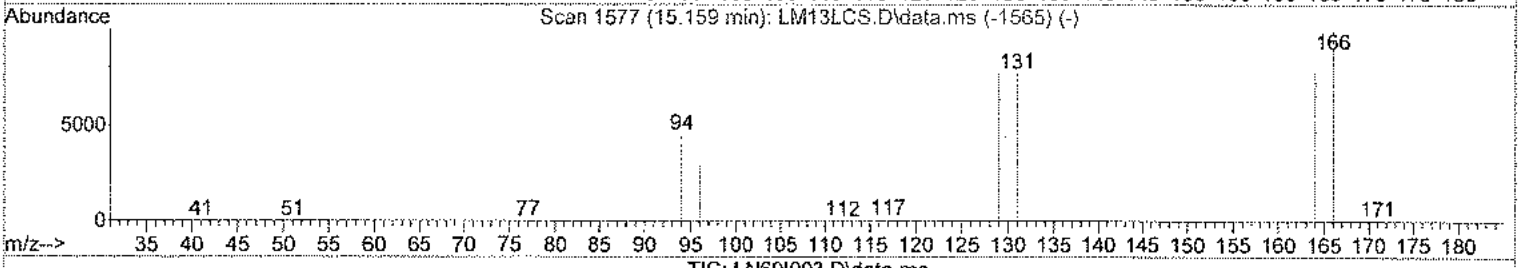
Ion	Exp%	Act%
129.90	100.00	100.00
131.90	96.40	95.84
95.00	77.10	0.00#
0.00	0.00	0.00

Data Path : I:\L - 5975-L\2017\APR17L\11APR17L\
Data File : LN69I003.D
Acq On : 04/11/2017 15:46
Operator : LMR
Sample : 1709321003
Inst : 5975-L
Misc : A-0002H-032317-TO-001-BAS
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 11 16:29:00 2017
Quant Method : Z:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration







TIC: LN69I003.D\data.ms

(49) Tetrachloroethene

15.158min (-0.008) 206.07 ppt

response 84546

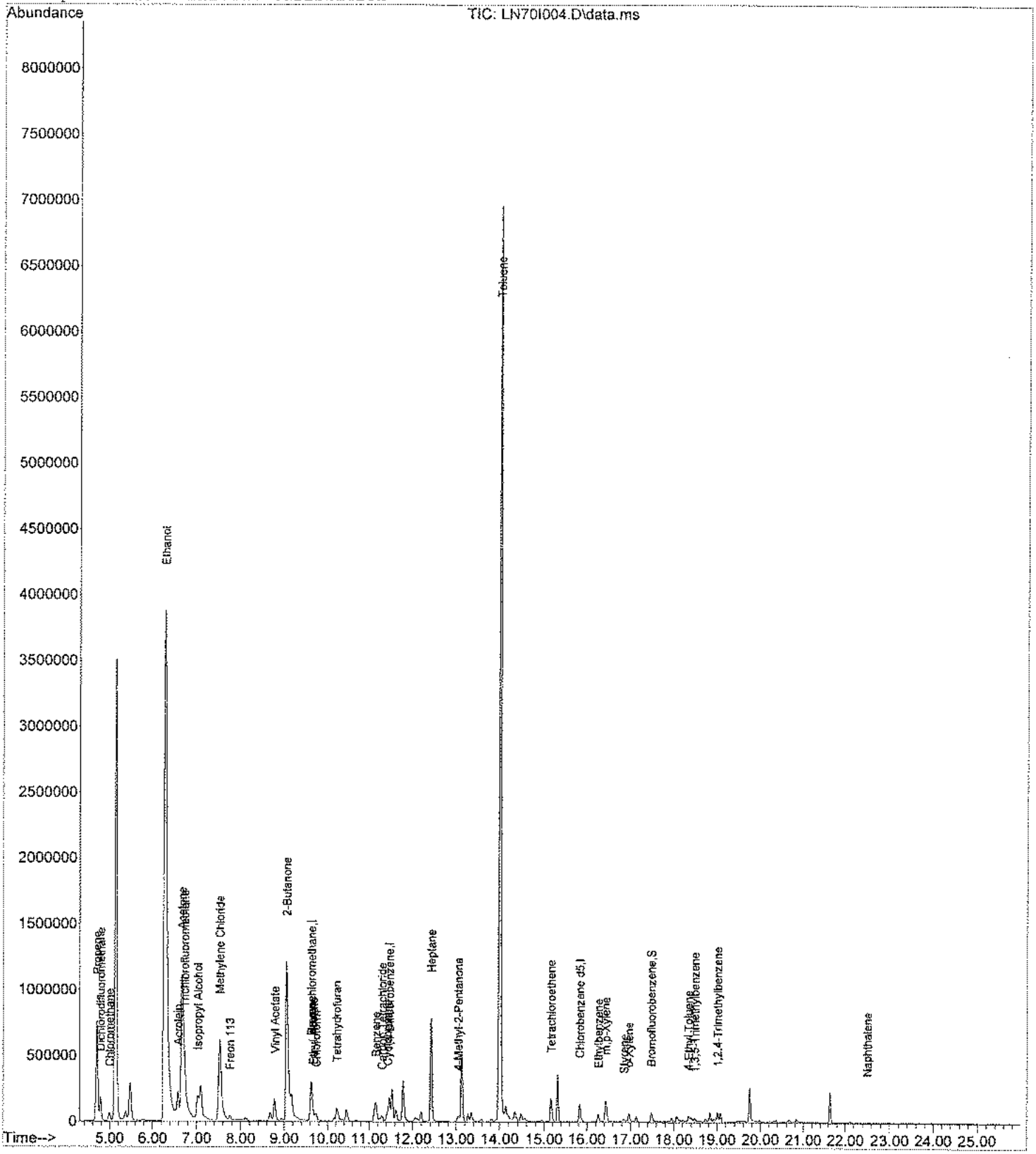
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	78.49
128.90	57.40	77.62#
130.90	56.90	77.48#

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN70I004.D Vial: 6
Acq Time : 04/11/2017 16:39 Operator: LMR
Sample : 1709321004 Inst : 5975-L
Misc : A-0029H-033117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 12 08:28:53 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN70I004.D Vial: 6
Acq Time : 04/11/2017 16:39 Operator: LMR
Sample : 1709321004 Inst : 5975-L
Misc : A-0029H-033117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 12 08:28:53 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.63	130	29022	1000.0000 ppt		112.19
25) 1,4-Difluorobenzene	11.47	114	428570	1000.0000 ppt		89.97
50) Chlorobenzene d5	15.84	117	381215	1000.0000 ppt		92.02
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.48	95	175645	1031.3639 ppt		103.14%
Target Compounds						Qvalue
2) Propene	4.70	41	1072783	3070.6092 ppt	#	30
3) Dichlorodifluoromethane	4.79	85	292762	323.9462 ppt		99
4) Chloromethane	5.00	50	155213	418.3302 ppt		98
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	0.00	54		Not Detected		
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	6.58	56	110586	814.8451 ppt	#	74
11) Acetone	6.67	43	3982780	7478.6176 ppt		98
12) Trichlorofluoromethane	6.73	101	184581	215.5337 ppt		99
13) Ethanol	6.28	45	12198267	127952.7228 ppt	#	76
14) Isopropyl Alcohol	7.03	45	673693	1086.4375 ppt	#	64
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	7.52	84	1071431	3383.1520 ppt	#	18
17) Freon 113	7.76	151	28409	47.4782 ppt	#	58
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	8.79	86	23281	318.5781 ppt	#	1
23) 2-Butanone	9.06	43	4088128	5606.8898 ppt	#	68
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	9.68	61	16829	208.3772 ppt	#	1
27) Hexane	9.63	57	276091	597.4476 ppt	#	58
28) Chloroform	9.74	83	76941	110.8597 ppt		98
29) Tetrahydrofuran	10.22	42	205387	603.4554 ppt	#	59
30) 1,2-Dichloroethane	0.00	62		Not Detected		
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	11.16	78	259845	295.7577 ppt	#	58
33) Carbon Tetrachloride	11.30	117	42768	63.7599 ppt	#	85
34) Cyclohexane	11.42	84	51402	149.1620 ppt	#	26
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	0.00	83		Not Detected		
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	0.00	130		Not Detected		
39) Methyl Methacrylate	0.00	69		Not Detected		
40) Heptane	12.42	71	334034	1308.8747 ppt	#	32
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	13.05	43	53796	82.2667 ppt	#	68
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	0.00	97		Not Detected		
45) Toluene	14.00	91	9847321	12668.1566 ppt		99
46) 2-Hexanone	0.00	43		Not Detected		
47) Dibromochloromethane	0.00	129		Not Detected		
48) 1,2-Dibromoethane	0.00	107		Not Detected		
49) Tetrachloroethene	15.16	166	115861	289.7905 ppt	#	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\11APR17L\LN70I004.D Vial: 6
Acq Time : 04/11/2017 16:39 Operator: LMR
Sample : 1709321004 Inst : 5975-L
Misc : A-0029H-033117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 12 08:28:53 2017 Results File: TO15LSIMA17.RES

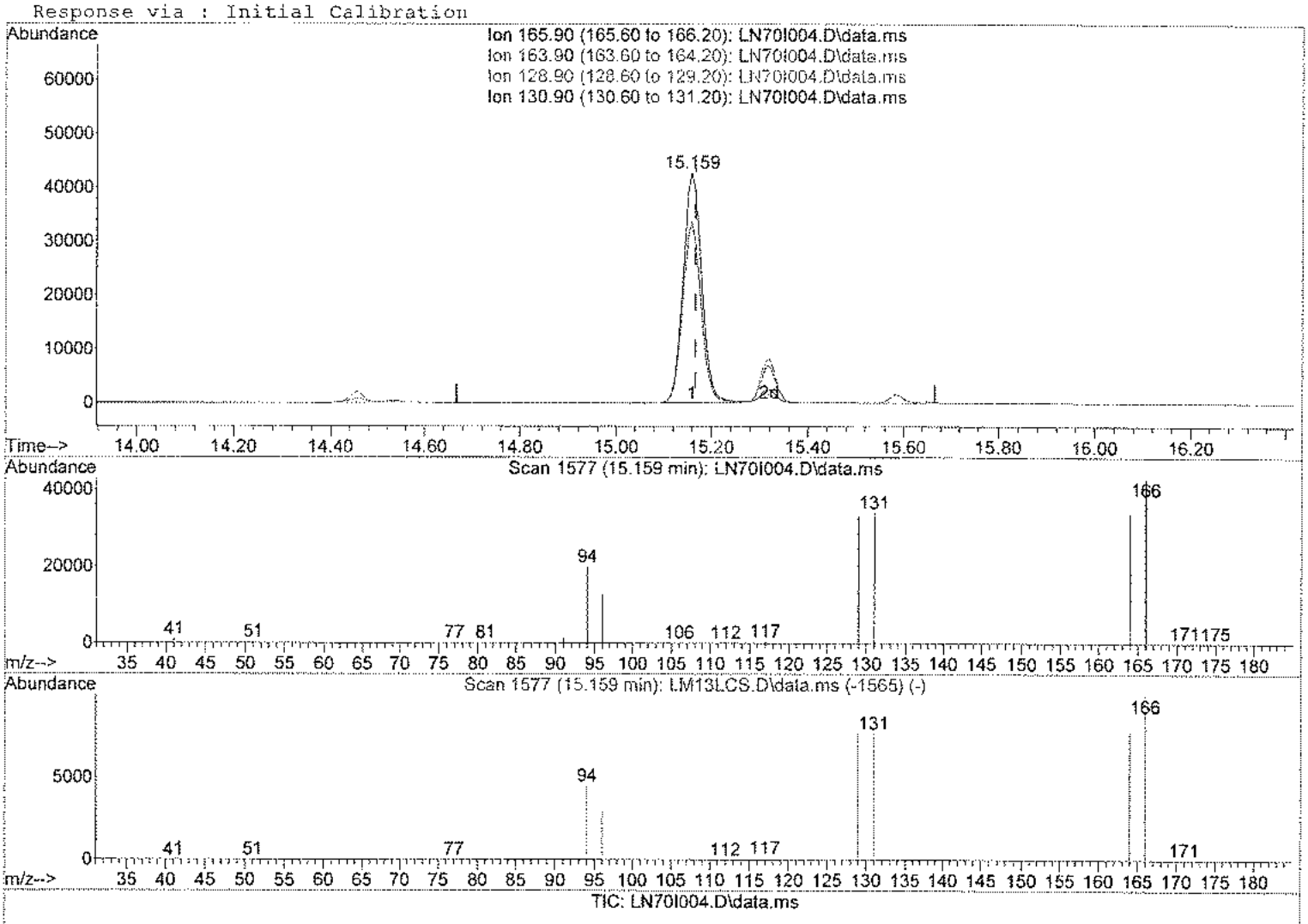
Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51)	Chlorobenzene	0.00	112		Not Detected	
52)	Ethylbenzene	16.26	91	101457	132.4952 ppt	93
53)	m,p-Xylene	16.43	91	273648	492.2263 ppt	94
54)	Bromoform	0.00	173		Not Detected	
55)	Styrene	16.85	104	22601	71.7807 ppt	98
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57)	o-Xylene	16.96	91	87343	152.3556 ppt	96
59)	4-Ethyl Toluene	18.34	105	53550	127.3088 ppt	96
60)	1,3,5-Trimethylbenzene	18.48	105	23626	47.4885 ppt	99
61)	1,2,4-Trimethylbenzene	19.01	105	91592	221.1173 ppt	95
62)	Benzyl Chloride	0.00	91		Not Detected	
63)	m-Dichlorobenzene	0.00	146		Not Detected	
64)	p-Dichlorobenzene	0.00	146		Not Detected	
65)	o-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67)	Naphthalene	22.51	128	13039	84.8374 ppt #	71
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected	

(#) = qualifier out of range (m) = manual integration

Data Path : I:\L - 5975-L\2017\APR17L\11APR17L\
Data File : LN70I004.D
Acq On : 04/11/2017 16:39
Operator : LMR
Sample : 1709321004
Inst : 5975-L
Misc : A-0029H-033117-TO-001-BAS
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 12 08:28:53 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Mar 31 11:38:11 2017
Response via : Initial Calibration



TIC: LN70I004.D\data.ms

(49) Tetrachloroethene

15.159min (-0.007) 289.79 ppt

response 115861

Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	78.73
128.90	57.40	77.34#
130.90	56.90	77.69#

Analyst Notebook

1709321 SIM

TO15
Instrument : See Batch Worklist
HBN: See Batch Worklist
Column: DB-1
Inst. Program: Initial 40 °C for 4 min; 10 °C/min to 220 °C hold for 3 mins.
Run time: 26 min for 5975-K, ~~25~~ min for 5975-L
Carrier Gas: Helium
Cold Trap Dehydration
Initial Calibration Curve is : TO15LSIMA17 (HBN 187783)

The following compounds in the CCS were outside of +/_30%: NA

Dilutions: NA

Notes: SIM for VC, cis-1,2-DCE, 1,4-Dioxane, TCE, PCE

Vacuum on each can was measured prior to analysis and is as follows:
1709321001 CCS 4-01-17, CCS = 8 in Hg, 1709321004 = 6 in Hg

Analyst Signature: _____ 04-12-17

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, USA 84123 | PHONE +1 801 266 7700 | FAX +1 801 268 9992
ALS GROUP USA, CORP. Part of the ALS Laboratory Group · A Campbell Brothers Limited Company
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

1709321

For lab use only

ANALYTICAL REQUEST FORM

1. ☒ REGULAR Status

☐ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____ DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date _____ Purchase Order No. 10006-7-107234 4. Quote No. EQ220655-F17-OW03

3. Company Name CHOM HILL ALS Project Manager Kevin Griffith

Address 4246 S. Riverboat Rd Suite 210 5. Sample Collection
Taylorsville, UT 84123 Sampling Site VA AOU7 (SLC, UT)

Person to Contact Mark Cichy Industrial Process Residential Indoor Air

Telephone (630) 229-3277 Date of Collection _____

Fax Telephone ( ) _____ Time Collected _____

E-mail Address Mark.Cichy@CHOM.com Date of Shipment Dropped off @ Lab

Billing Address (if different from above) Chain of Custody No. OW2

_____ 6. How did you first learn about ALS?

_____ _____

_____ _____

7. REQUEST FOR ANALYSES

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
CLOW-032317-TO-001-BAS	Indoor Air		SIM TO-15 (HOCs)*	5+6	000805
IOOW-032317-TO-002-BAS	"		SIM TO-15 (HOCs)*	5+6	0190
OOZW-032317-TO-001-BAS	"		SIM TO-15 (HOCs)*	5+6	0133
DZHW-032317-TO-001-BAS	"		SIM TO-15 (HOCs)*	5+6	0891

Vac
Bottle
Bottle
Bottle
Comb

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % 5. µg/m³ 6. ppbV (other) Please indicate one or more units in the column entitled Units**

Comments EDD type: Lapspec 7 Data Deliverable: Level 4

* HC, 1,4-Dioxane, TCE, PCE, cis-1,2-DCE by TO-15 SIM

Possible Contamination and/or Chemical Hazards None

7. Chain of Custody (Optional)

Relinquished by		Date/Time	3/31/17 @ 15:54
Received by		Date/Time	03/31/17 15:54
Relinquished by		Date/Time	
Received by		Date/Time	

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
ALS Environmental

ALS Environmental
Field Chain-of-Custody Record

CoC #: 002

Page 1 of 1

Client Name & Address:	Project Name & No.:
Arcadis — CHAM HILL 4246 S. Riverboat Rd. Suite 210 Taylorsville, UT	ROU-1 7005. 1600 E RE Plume
	ALS Quote No: 80Q20655-1217-0003
	Report to: Mark Crosby
Phone: 385-474-8805	Report to e-mail: Mark.Crosby@CHAM.com
e-mail: Quin.Bingham@cbzm.com	Bill to: PO# 10006-7-107234

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: TO-15 (SIM)*	Analyses Requested: Canister	Preservation Code	Sample Matrix Code	Remarks
A-0001H-032317-TO-001-BAS	0001H	—	3/23/17 1112	1		1	Canister: 000805			Final P: -7.4 in Hg
A-0001H-032317-TO-002-BAS	0001H	—	3/23/17 1112	1		1	Canister: 0190			Final P: -8.23 in Hg
A-0002H-032312-TO-001-BAS	0002H	—	3/23/17 1432	1		1	Canister: 0133			Final P: -8.03 in Hg
A-0029H-033117-TO-001-BAS	0029H	—	3/31/17 1458	1		1	Canister: 0294			Final P = -6.11 in Hg

Matrix Codes: W) Water, B) Bulk, L) Liquid, F) Filter, S) Soil, G) Wipe, C) Solid, M) Media

Preservation Codes: 1) Cool to 4°C; 2) HCl to pH<2, 4°C; 3) H_2SO_4 to pH<2, 4°C; 4) HNO_3 to pH<2, 4°C; 5) NaOH to pH>12, 4°C; 6) ZnOAc/NaOH to pH>9, 4°C

Possible Hazard Identification
☑ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Archive ____ Months
☑ Disposal by Lab
(fees assessed for samples retained > 3 months)

Data Deliverable:
☐ Level 1 ☐ Level 3
☐ Level 2 ☑ Level 4
EDD Type: Lab Spec 7

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days (Rush)
☐ 3 Days (Rush) ☑ 14 Days
(Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	3/31/17 ~~3/24/14~~	1509 ~~14:30~~		8-31-17	15:54
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Shipped to:
ALS Environmental
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
WEB: www.alsglobal.com

* VC, CIS-1,2-DCE, TCE, PCE, 1,4-Dioxane by TO-15 SIM

ALS Environmental
Sample Acceptance Check Form

Client: CH2MHill Work order:

Project: VA AOU1 (SLC, UT)

Sample(s) received on: 3/31/2017 Date opened: 4/3/2017 by: Julie Warath/Kevin Gr

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☒	☐	
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Client Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
A-0001H-032317-TO-001-BAS	Summa Can					Pressure on Receipt -8
A-0001H-032317-TO-002-BAS	Summa Can					Pressure on Receipt -10
A-0002H-032317-TO-001-BAS	Summa Can					Pressure on Receipt -8
A-0029H-033114-TO-001-BAS	Summa Can					Pressure on Receipt -7

Explain any discrepancies: (include lab sample ID numbers): _____

VA SLC AOU-1 (700 South 1600 East PCE Plume)
Data Package Completeness Review Checklist

SDG: 1710499

Date Received: 05/01/17

Required Documentation	Yes	No	Comments
1. Cover letter complete with the following information:	X		Cover is Case Narrative.
• Title of report and laboratory unique report identification (sample delivery group number)	X		Title of report and project name are absent. SDG ID present.
• Project name, site location		X	
• Name and location of laboratory and second-site or subcontracted laboratory	X		
• Client name and address	X		Client name was included. No address was present for the client on the cover letter.
• Statement of authenticity and official signature and title of person authorizing report release	X		Electronic signature at the end of "Analytical Results" section
2. Summary of samples received that correlates field sample IDs with the laboratory IDs	X		
3. Laboratory qualifier flags and definitions	X		
4. Preparation and/or analytical methods	X		
5. Sample results for each analyte (dry weight basis for soils)			
• Date received	X		
• Date analyzed (and time of analysis if the holding time is less than or equal to 48 hours)	X		
• Percent solids results for soil samples			N/A
• Dilution factor (provide both diluted and undiluted results when available)	X		
• Sample-specific reporting limit adjusted for sample size, dilution/concentration	X		
• Sample-specific MDL adjusted for sample size, dilution/concentration	X		MDL and RL only in ppb
• Units	X		
6. Case Narrative that addresses the following information at a minimum:		X	See comment for Item 1 above
• Sample receipt discrepancies	X		See Sample Acceptance Check Form for any noted discrepancies
• Descriptions of all non conformances in the sample receipt, handling, preparation, analytical and reporting processes and the corrective action taken in each occurrence	X		
• Identification and justification for sample dilution	X		No dilutions.
• Sample cooler temperature at time of receipt			N/A
• Final residual vacuum of each sample canister immediately prior to analysis, or upon receipt (Air analyses only)	X		On "Sample Acceptance Check Form".

Required Documentation	Yes	No	Comments
7. Surrogate percent recoveries (surrogate result, target concentration, percent recovery)	X		
8. MS/MSD and LCS spike concentrations, native sample results, spiked sample results, percent recoveries, and RPDs between the MS and MSD results (associated QC limits must also be provided)	X		*MS/MSDs not applicable to Air analyses.*
9. Method blank results	X		
10. Analytical batch reference number that cross references samples to QC sample analyses	X		Batch ID present.
11. Executed COC and sample receipt checklist	X		
12. Analytical sequence or laboratory run log that contains sufficient information to correlate samples reported in the summary results to the associated method QC information, such as initial and continuing calibration analyses	X		
13. Calibration blank results for inorganic analyses (required in hardcopy format only)			N/A
14. Inductively coupled plasma (ICP) interference check sample for inorganic analyses, true and measured concentrations and percent recoveries (required in hardcopy format only)			N/A
15. Reporting Limit Check Standard for inorganic analyses, true and measured concentrations and percent recoveries (if applicable, required in hardcopy format only)			N/A
16. Post-digestion spike recoveries for inorganic analyses, (if applicable; required in hardcopy format only)			N/A
17. Internal Standard recovery and retention time information, as applicable.	X		
18. Initial calibration summary, including standard concentrations, response factors, average response factors, RSDs or correlation coefficients, and calibration plots or equations, if applicable (required in hardcopy format only)	X		
19. Continuing calibration verification summary, including expected and recovered concentrations and percent differences (required in hardcopy format only)	X		
20. Instrument tuning and mass calibration information for ICP/mass spectrometry analyses	X		
21. All associated instrument printouts for all samples, standards, and QC samples (e.g., raw data) necessary to re-calculate results as well as all manual integrations (if performed)	X		
22. Sample preparation logs that include the following information			*Not applicable to Air analyses*
• Preparation start and end times			N/A
• Beginning and ending temperatures of water baths and digestion blocks			N/A

Data package complete and ready for Validation *Shannon Fitzsimmons* Date: 5/3/17

signature

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

Case Narrative

Method:	**TO15**	**Client:**	CH2M Hill
Analysis:	**VOA**		
Preparation SOP #:	**IH-AN-014**	**Matrix:**	**Air**
Work Order:	**1710499**		

Analysis / Method: Method TO15 is an EPA method used in the analysis of air samples for volatile organics by GC/MS, which have been sampled in a silonized canister.

General Set Information: ALS received three summa canisters for VOA analysis. The samples were analyzed within thirty days of sampling. Recoveries of target analytes are reported on the Sample Analysis Data Sheet in units of ppb v/v and μg/m³.

Sample Preparation: This method has no extraction procedure for air samples. The sample preparation date is the same as the date of analysis. Two hundred milliliters of air sample and 100 milliliters of Internal Standard were trapped using an Entech 7100 microscale purge and trap concentrator.

Instrument Calibration: The GC/MS was hardware tuned to meet the criteria for 4-Bromofluorobenzene as specified in the SOP. This tune check is valid for 24 hours.

Initial and Continuing Calibration Verification: The initial calibration curve, which was analyzed prior to sample analysis, met the specified criteria of the SOP. For the initial calibration curve, the %RSD of the response factors for the TO-15 analytes were checked.

A continuing calibration standard (CCS) was analyzed prior to sample analysis. The CCS met the criteria as specified in the SOP.

Method Blank Analysis: A laboratory method blank was prepared using 200 milliliters of humidified ultra high purity nitrogen and 100 milliliters of Internal Standards and analyzed prior to sample analysis. The blank was free of volatile organic contaminants.

Data Qualifier Codes: A "J" qualifier indicates that the result is greater than the MDL but less than the PQL. Analytes found in field samples, which also appear in the method blank above the PQL are reported with a "B" qualifier in the flag column. The "E" qualifier indicates a reported value above the analytical linear range.

LCS/LCSD: An LCS and LCSD pair was analyzed for the analytical batch.

Dilutions: 1710499003 was diluted 1:10 for toluene.

NC/CAR: None.

Miscellaneous Comments: Instrument designation is HP5972-L. Field samples were analyzed using auto sampler positions that were free from volatile contaminants. The "E" qualifier indicates a reported value above the analytical linear range.

Sample Calculations: Target Compounds

Relative Response Factor: $$\mathbf{RRF} = \left[\frac{A_x}{A_{is}}\right]\left[\frac{C_{is}}{C_x}\right]$$

Where $\mathbf{A_x}$ is the area of the characteristic ion for the compound to be measured, $\mathbf{A_{is}}$ is the area of the characteristic ion for the internal standard , $\mathbf{C_{is}}$ is the concentration of the internal standard, and $\mathbf{C_x}$ is the concentration of the compound to be measured.

Concentration in ppb v/v: $$C = \left[\frac{(A_x)\,(I_s)\,(Df)}{(A_{is})\,(RRF)}\right]$$

Concentration in ug/m^3 : $$C = \mathbf{ppb\ v/v\ (MW/24.45)}$$

Where $\mathbf{I_s}$ is the amount of internal standard spiked in ppb, **Df** is a dilution factor (1 if no dilutions are made), **RRF** is the relative response factor (assumed to be 1 for non target analytes) and **MW** is the molecular weight of the compound of interest.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Case Narrative

Method:	**TO15**	**Client:**	CH2M
Analysis:	**VOA**		
Preparation SOP #:	**IH-AN-014 (SIM)**	**Matrix:**	**Air**
Work Order:	**1710499 (SIM)**		

Analysis / Method: Method TO15 is an EPA method used in the analysis of air samples for volatile organics by GC/MS, which have been sampled in a silonized canister.

General Set Information: ALS received three summa canisters for VOA analysis. The samples were analyzed within thirty days of sampling. Recoveries of target analytes are reported on the Sample Analysis Data Sheet in units of ppb v/v and $\mu g/m^3$.

Sample Preparation: This method has no extraction procedure for air samples. The sample preparation date is the same as the date of analysis. Two hundred milliliters of air sample and 50 milliliters of Internal Standard were trapped using an Entech 7100 microscale purge and trap concentrator.

Instrument Calibration: 4-Bromofluorobenzene calibration is not required for SIM analysis.

Initial and Continuing Calibration Verification: The initial calibration curve, which was analyzed prior to sample analysis, met the specified criteria of the SOP. For the initial calibration curve, the %RSD of the response factors for the TO-15 analytes were checked.

A continuing calibration standard (CCS) was analyzed prior to sample analysis. The CCS met the criteria as specified in the SOP.

Method Blank Analysis: A laboratory method blank was prepared using 200 milliliters of humidified ultra high purity nitrogen and 50 milliliters of Internal Standards and analyzed prior to sample analysis. The blank was free of volatile organic contaminants.

Data Qualifier Codes: Analytes found in field samples, which also appear in the method blank above the PQL are reported with a "B" qualifier in the flag column. The "E" qualifier indicates a reported value above the analytical linear range.

LCS/LCSD: An LCS and LCSD pair was analyzed for the analytical batch.

Dilutions: None

NC/CAR: None.

Miscellaneous Comments: Instrument designation is HP5972-L. Field samples were analyzed using auto sampler positions that were free from volatile contaminants. The "E" qualifier indicates a reported value above the analytical linear range. The internal standard response for sample 1710499003 failed to meet criteria. This sample was analyzed twice with the same results. In the analyst opinion this is caused by the high hydrocarbon content in the sample.

Sample Calculations: Target Compounds

Relative Response Factor: $$RRF = \left[\frac{A_x}{A_{is}}\right]\left[\frac{C_{is}}{C_x}\right]$$

Where A_x is the area of the characteristic ion for the compound to be measured, A_{is} is the area of the characteristic ion for the internal standard , C_{is} is the concentration of the internal standard, and C_x is the concentration of the compound to be measured.

Concentration in ppb v/v: $$C = \left[\frac{(A_x)\,(I_s)\,(Df)}{(A_{is})\,(RRF)}\right]$$

Concentration in ug/m^3 : $$C = \textbf{ppb v/v (MW/24.45)}$$

Where I_s is the amount of internal standard spiked in ppb, **Df** is a dilution factor (1 if no dilutions are made), **RRF** is the relative response factor (assumed to be 1 for non target analytes) and **MW** is the molecular weight of the compound of interest.

ANALYTICAL REPORT
Amended-20170530

Report Date: May 30, 2017

Mark Cichy
CH2MHILL
2525 Airpark Dr.
Redding, CA 96001

Phone: (530) 229-3274

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Workorder: **34-1710499**

Project ID: VA AOU1 700 S. 1600 E. 041117
Purchase Order: VA AOU1 700 S. 1600
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
A-0038H-041117-TO-001-BAS	1710499001	04/11/17	04/14/17	VA AOU1 700 S. 1600
A-0038H-041117-TO-002-BAS	1710499002	04/11/17	04/14/17	VA AOU1 700 S. 1600
A-0064H-041417-TO-001-LIV	1710499003	04/14/17	04/14/17	VA AOU1 700 S. 1600

ANALYTICAL REPORT
Amended-20170530

Workorder: 34-1710499
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0038H-041117-TO-001-BAS** | Sampling Site: VA AOU1 700 S. 1600 | Collected: 04/11/2017
Lab ID: 1710499001 | Media: Summa 6 Liter Canister | Received: 04/14/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air
Batch: IVOA/3577 (HBN: 189608)
Analyzed: 04/25/2017 14:30
Instrument ID: 5975-L
Percent Solid: NA
Report Basis: Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	0.41	2.0	0.15	0.50	1	J
Chloromethane	**0.52**	**1.1**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.23	1.3	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**12**	**28**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	**0.90**	**3.1**	0.15	0.50	1	
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**0.64**	**1.9**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	ND	<1.1	0.30	1.0	1	U
Hexane	ND	<0.53	0.15	0.50	1	U
Chloroform	0.29	1.4	0.15	0.50	1	J
Tetrahydrofuran	ND	<0.44	0.15	0.50	1	U
1,2-Dichloroethane	ND	<0.61	0.15	0.50	1	U
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.16	0.51	0.15	0.50	1	J
Cyclohexane	ND	<0.52	0.15	0.50	1	U
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	ND	<0.61	0.15	0.50	1	U
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**0.55**	**2.1**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT
Amended-20170530

Workorder: 34-1710499
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0038H-041117-TO-001-BAS** | Sampling Site: VA AOU1 700 S. 1600 | Collected: 04/11/2017
Lab ID: 1710499001 | Media: Summa 6 Liter Canister | Received: 04/14/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable | **Analysis:** EPA TO-15, Air | **Batch:** IVOA/3577 (HBN: 189608) | **Analyzed:** 04/25/2017 14:30 | **Instrument ID:** 5975-L | **Percent Solid:** NA | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	ND	<0.65	0.15	0.50	1	U
m,p-Xylene	0.3	1.3	0.15	0.50	1	J
o-Xylene	ND	<0.65	0.15	0.50	1	U
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15

Preparation: Not Applicable | **Analysis:** EPA TO-15, Air | **Batch:** IVOA/3577 (HBN: 189608) | **Analyzed:** 04/25/2017 14:30 | **Instrument ID:** 5975-L | **Percent Solid:** NA | **Report Basis:** Wet

Tentatively Identified Compound	Result (ppb)	Retention Time	Dilution	Qual
Propane	9.4	3.74	1	J
Isobutane	11	4.11	1	J
Butane	12	4.41	1	J
Butane, 2-methyl-	2.8	5.40	1	J
Hexanal	5.0	13.32	1	J
Decane	2.7	17.97	1	J
D-Limonene	6.4	18.60	1	J
Undecane	6.0	19.72	1	J
Dodecane	2.1	21.34	1	J
Ethanol	120	5.19	1	J
Isopropyl Alcohol	8.0	5.86	1	J

Results Continued on Next Page

ANALYTICAL REPORT
Amended-20170530

Workorder: 34-1710499
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0038H-041117-TO-001-BAS** | Sampling Site: VA AOU1 700 S. 1600 | Collected: 04/11/2017
Lab ID: 1710499001 | Media: Summa 6 Liter Canister | Received: 04/14/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3576 (HBN: 189596) | **Percent Solid:** NA
Analyzed: 04/26/2017 13:20 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	ND	<0.34	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

Sample ID: **A-0038H-041117-TO-002-BAS** | Sampling Site: VA AOU1 700 S. 1600 | Collected: 04/11/2017
Lab ID: 1710499002 | Media: Summa 6 Liter Canister | Received: 04/14/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3577 (HBN: 189608) | **Percent Solid:** NA
Analyzed: 04/25/2017 15:21 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	0.42	2.1	0.15	0.50	1	J
Chloromethane	0.49	1.0	0.15	0.50	1	J
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.22	1.3	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**12**	**29**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	0.35	1.2	0.15	0.50	1	J
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**0.70**	**2.1**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	**2.1**	**7.5**	0.30	1.0	1	
Hexane	ND	<0.53	0.15	0.50	1	U
Chloroform	0.3	1.5	0.15	0.50	1	J

Results Continued on Next Page

ANALYTICAL REPORT
Amended-20170530

Workorder: 34-1710499
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0038H-041117-TO-002-BAS** | Sampling Site: VA AOU1 700 S. 1600 | Collected: 04/11/2017
Lab ID: 1710499002 | Media: Summa 6 Liter Canister | Received: 04/14/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3577 (HBN: 189608) | **Percent Solid:** NA
Analyzed: 04/25/2017 15:21 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Tetrahydrofuran	ND	<0.44	0.15	0.50	1	U
1,2-Dichloroethane	ND	<0.61	0.15	0.50	1	U
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.16	0.52	0.15	0.50	1	J
Cyclohexane	ND	<0.52	0.15	0.50	1	U
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	ND	<0.61	0.15	0.50	1	U
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Toluene	**0.53**	**2.0**	0.15	0.50	1	
2-Hexanone	ND	<1.3	0.32	1.0	1	U
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	ND	<0.65	0.15	0.50	1	U
m,p-Xylene	0.3	1.3	0.15	0.50	1	J
o-Xylene	ND	<0.65	0.15	0.50	1	U
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Results Continued on Next Page

ANALYTICAL REPORT
Amended-20170530

Workorder: 34-1710499
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0038H-041117-TO-002-BAS** | Sampling Site: VA AOU1 700 S. 1600 | Collected: 04/11/2017
Lab ID: 1710499002 | Media: Summa 6 Liter Canister | Received: 04/14/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3577 (HBN: 189608) | **Percent Solid:** NA
Analyzed: 04/25/2017 15:21 | **Report Basis:** Wet

Tentatively Identified Compound	Result (ppb)	Retention Time	Dilution	Qual
Propane	10	3.75	1	J
Isobutane	11	4.12	1	J
Butane	13	4.41	1	J
Butane, 2-methyl-	3.2	5.41	1	J
Hexanal	5.2	13.31	1	J
Nonane	2.9	17.97	1	J
D-Limonene	6.5	18.61	1	J
Undecane	6.2	19.72	1	J
Dodecane	2.2	21.34	1	J
Ethanol	120	5.19	1	J
Isopropyl Alcohol	8.5	5.86	1	J

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable
Analysis: EPA TO-15 SIM, Air | **Instrument ID:** 5975-L
Batch: IVOA/3576 (HBN: 189596) | **Percent Solid:** NA
Analyzed: 04/26/2017 14:11 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	ND	<0.34	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

Sample ID: **A-0064H-041417-TO-001-LIV** | Sampling Site: VA AOU1 700 S. 1600 | Collected: 04/14/2017
Lab ID: 1710499003 | Media: Summa 6 Liter Canister | Received: 04/14/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3577 (HBN: 189608) | **Percent Solid:** NA
Analyzed: 04/25/2017 16:12 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Dichlorodifluoromethane	0.37	1.8	0.15	0.50	1	J
Chloromethane	**0.52**	**1.1**	0.15	0.50	1	
Freon 114	ND	<1.0	0.15	0.50	1	U
1,3-Butadiene	ND	<0.33	0.15	0.50	1	U

Results Continued on Next Page

ANALYTICAL REPORT
Amended-20170530

Workorder: 34-1710499
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0064H-041417-TO-001-LIV** | Sampling Site: VA AOU1 700 S. 1600 | Collected: 04/14/2017
Lab ID: 1710499003 | Media: Summa 6 Liter Canister | Received: 04/14/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3577 (HBN: 189608) | **Percent Solid:** NA
Analyzed: 04/25/2017 16:12 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Bromomethane	ND	<0.58	0.15	0.50	1	U
Chloroethane	ND	<0.40	0.15	0.50	1	U
Freon 11	0.17	0.95	0.15	0.50	1	J
Freon 113	ND	<1.1	0.15	0.50	1	U
1,1-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Acetone	**37**	**88**	0.30	1.0	1	
Carbon disulfide	ND	<0.47	0.15	0.50	1	U
Methylene chloride	0.31	1.1	0.15	0.50	1	J
trans-1,2-Dichloroethene	ND	<0.59	0.15	0.50	1	U
Methyl t-butyl ether	ND	<0.54	0.15	0.50	1	U
Vinyl acetate	ND	<0.70	0.20	0.50	1	U
2-Butanone	**0.70**	**2.1**	0.15	0.50	1	
1,1-Dichloroethane	ND	<0.61	0.15	0.50	1	U
Ethyl acetate	0.8	2.9	0.30	1.0	1	J
Hexane	**0.52**	**1.8**	0.15	0.50	1	
Chloroform	ND	<0.73	0.15	0.50	1	U
Tetrahydrofuran	0.19	0.56	0.15	0.50	1	J
1,2-Dichloroethane	ND	<0.61	0.15	0.50	1	U
1,1,1-Trichloroethane	ND	<0.82	0.15	0.50	1	U
Carbon tetrachloride	ND	<0.94	0.15	0.50	1	U
Benzene	0.19	0.60	0.15	0.50	1	J
Cyclohexane	0.16	0.55	0.15	0.50	1	J
1,2-Dichloropropane	ND	<0.73	0.15	0.50	1	U
Bromodichloromethane	ND	<1.0	0.15	0.50	1	U
Heptane	ND	<0.61	0.15	0.50	1	U
cis-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
4-Methyl-2-pentanone	ND	<0.61	0.15	0.50	1	U
trans-1,3-Dichloropropene	ND	<0.68	0.15	0.50	1	U
1,1,2-Trichloroethane	ND	<0.82	0.15	0.50	1	U
2-Hexanone	ND	<1.3	0.32	1.0	1	U
Dibromochloromethane	ND	<1.3	0.15	0.50	1	U
1,2-Dibromoethane	ND	<1.2	0.15	0.50	1	U
Chlorobenzene	ND	<0.69	0.15	0.50	1	U
Ethyl benzene	0.38	1.7	0.15	0.50	1	J
m,p-Xylene	**1.3**	**5.6**	0.15	0.50	1	

Results Continued on Next Page

ANALYTICAL REPORT
Amended-20170530

Workorder: 34-1710499
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **A-0064H-041417-TO-001-LIV** | Sampling Site: VA AOU1 700 S. 1600 | Collected: 04/14/2017
Lab ID: 1710499003 | Media: Summa 6 Liter Canister | Received: 04/14/2017
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3577 (HBN: 189608) | **Percent Solid:** NA
Analyzed: 04/25/2017 16:12 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
o-Xylene	0.35	1.5	0.15	0.50	1	J
Styrene	ND	<1.3	0.30	1.0	1	U
Bromoform	ND	<3.1	0.30	1.0	1	U
1,1,2,2-Tetrachloroethane	ND	<1.0	0.15	0.50	1	U
4-Ethyl toluene	ND	<1.5	0.30	1.0	1	U
1,3,5-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,2,4-Trimethylbenzene	ND	<1.5	0.30	1.0	1	U
1,3-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,4-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
Benzyl chloride	ND	<1.9	0.37	1.0	1	U
1,2-Dichlorobenzene	ND	<1.8	0.30	1.0	1	U
1,2,4-Trichlorobenzene	ND	<3.1	0.42	1.0	1	U
Hexachlorobutadiene	ND	<3.2	0.30	1.0	1	U

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3577 (HBN: 189608) | **Percent Solid:** NA
Analyzed: 04/25/2017 16:59 | **Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	MDL (ppb)	RL (ppb)	Dilution	Qual
Toluene	**92**	**350**	1.5	5.0	10	

Analysis Method - EPA TO-15

Preparation: Not Applicable
Analysis: EPA TO-15, Air | **Instrument ID:** 5975-L
Batch: IVOA/3577 (HBN: 189608) | **Percent Solid:** NA
Analyzed: 04/25/2017 16:12 | **Report Basis:** Wet

Tentatively Identified Compound	Result (ppb)	Retention Time	Dilution	Qual
Propane	3.6	3.72	1	J
Isobutane	11	4.10	1	J
Butane	2.3	4.39	1	J
Butane, 2-methyl-	18	5.39	1	J
Pentane, 2-methyl-	2.9	7.55	1	J
Ethanol	830	5.26	1	J

Results Continued on Next Page

ANALYTICAL REPORT
Amended-20170530

Workorder: 34-1710499
Client: CH2M
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID:	A-0064H-041417-TO-001-LIV	Sampling Site:	VA AOU1 700 S. 1600	Collected:	04/14/2017
Lab ID:	1710499003	Media:	Summa 6 Liter Canister	Received:	04/14/2017
Matrix:	Air	Sampling Parameter:	NA		

Analysis Method - EPA TO-15 SIM

Preparation: Not Applicable	**Analysis:** EPA TO-15 SIM, Air	**Instrument ID:** 5975-L
	Batch: IVOA/3576 (HBN: 189596)	**Percent Solid:** NA
	Analyzed: 04/26/2017 15:01	**Report Basis:** Wet

Analyte	Result (ppb)	Result (ug/m³)	RL (ppb)	Dilution	Qual
Vinyl chloride	ND	<0.13	0.050	1	
cis-1,2-Dichloroethene	ND	<0.20	0.050	1	
Trichloroethene	ND	<0.27	0.050	1	
Tetrachloroethene	**0.28**	**1.9**	0.050	1	
1,4-Dioxane	ND	<0.18	0.050	1	

Comments

Workorder: 1710499

TO-15 Comments: Sample 1710499003 was analyzed at reduced volume due to a high concentration of Toluene.

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
EPA TO-15	/S/ Jorden Baum 04/28/2017 11:23	/S/ Lisa M. Reid 04/28/2017 15:18
EPA TO-15 SIM	/S/ Lisa M. Reid 04/28/2017 09:56	/S/ Jorden Baum 04/28/2017 14:11

Laboratory Contact Information

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ANALYTICAL REPORT
Amended-20170530

Workorder: 34-1710499
Client: CH2M
Project Manager: Kevin W. Griffiths

General Lab Comments

The results provided in this report relate only to the items tested.
Samples were received in acceptable condition unless otherwise noted.
Samples have not been blank corrected unless otherwise noted.
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ANAB (DoD ELAP)	ADE-1420	http://www.anab.org/accredited-organizations/
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdw/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
	Kansas	E-10416	http://www.kdheks.gov/lipo/index.html
Industrial Hygiene	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
Lead Testing:			
CPSC	ANAB (ISO 17025, CPSC)	ADE-1420	http://www.anab.org/accredited-organizations/
Soil, Dust, Paint ,Air	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	http://www.aclasscorp.com

Result Symbol Definitions

MDL = Method Detection Limit, a statistical estimate of method/media/instrument sensitivity.
RL = Reporting Limit, a verified value of method/media/instrument sensitivity.
CRDL = Contract Required Detection Limit
Reg. Limit = Regulatory Limit.
ND = Not Detected, testing result not detected above the MDL or RL.
< This testing result is less than the numerical value.
** No result could be reported, see sample comments for details.

Qualifier Symbol Definitions

U = Qualifier indicates that the analyte was not detected above the MDL.
J = Qualifier Indicates that the analyte value is between the MDL and the RL. It is also used to indicate an estimated value for tentatively identified compounds in mass spectrometry where a 1:1 response is assumed.
B = Qualifier indicates that the analyte was detected in the blank.
E = Qualifier indicates that the analyte result exceeds calibration range.
P = Qualifier indicates that the RPD between the two columns is greater than 40%.

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1710499

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15 SIM
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3576 (HBN: 189596)
		Prepared By:	NA	**Analyzed By:**	Lisa M. Reid

Blank

MB: 545966
Analyzed: 04/26/2017 12:30
Units: ppb

Analyte	Result	MDL	RL
Vinyl chloride	ND	NA	0.0500
cis-1,2-Dichloroethene	ND	NA	0.0500
Trichloroethene	ND	NA	0.0500
Tetrachloroethene	ND	NA	0.0500
1,4-Dioxane	ND	NA	0.0500

Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS: 545967
Analyzed: 04/26/2017 10:07
Dilution: 1
Units: ppb

LCSD: 545968
Analyzed: 04/26/2017 10:55
Dilution: 1
Units: ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Vinyl chloride	0.428	0.500	85.6	66.9	144.4	0.435	87.1	1.68	0.0	25.0
cis-1,2-Dichloroethene	0.453	0.500	90.6	52.2	167.4	0.479	95.8	5.53	0.0	25.0
Trichloroethene	0.463	0.500	92.6	33.8	166.6	0.469	93.8	1.23	0.0	25.0
Tetrachloroethene	0.509	0.500	102	63.6	150.7	0.513	103	0.806	0.0	25.0
1,4-Dioxane	0.471	0.500	94.2	70.0	130.0	0.475	94.9	0.759	0.0	25.0

Surrogate Recoveries

Surrogate	4-Bromofluorobenzene	
QC Limits	48.8	151.8
Units	ppb	

Lab ID	Result	Target	% Recovery
545967-LCS	1.02	1.00	102
545968-LCSD	1.02	1.00	102
545966-MB	0.850	1.00	85.0
1710499001	1.08	1.00	108
1710499002	1.10	1.00	110
1710499003	1.05	1.00	105

Quality Control Sample
Batch Report

Analysis Information

Workorder: **1710499**

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15 SIM
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3576 (HBN: 189596)
		Prepared By:	NA	**Analyzed By:**	Lisa M. Reid

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Lisa M. Reid	/S/ Jorden Baum
04/28/2017 09:58	04/28/2017 14:11

Symbols and Definitions

* - Analyte above reporting limit or outside of control limits
▲ - Sample result is greater than 4 times the spike added
◆ - Sample and Matrix Duplicate less than 5 times the reporting limit
● - Result is above the calibration range
- The Matrix Spike, Matrix Spike duplicate or Matrix Duplicate is reported for your information only. The sample matrix may be inappropriate for the method selected.

RPD - Relative % Difference (Spike / Spike Duplicate)
ND - Not Detected (U - Qualifier also flags analyte as not detected)
NA - Not Applicable
QC results are not adjusted for moisture correction, where applicable

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1710499

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3577 (HBN: 189608)
		Prepared By:	NA	**Analyzed By:**	Jorden Baum

Blank

MB: 545987
Analyzed: 04/25/2017 13:16

Units: ppb

Analyte	Result	MDL	RL
Dichlorodifluoromethane	ND	0.15	0.500
Chloromethane	ND	0.15	0.500
Freon 114	ND	0.15	0.500
1,3-Butadiene	ND	0.15	0.500
Bromomethane	ND	0.15	0.500
Chloroethane	ND	0.15	0.500
Freon 11	ND	0.15	0.500
Freon 113	ND	0.15	0.500
1,1-Dichloroethene	ND	0.15	0.500
Acetone	ND	0.3	1.00
Carbon disulfide	ND	0.15	0.500
Methylene chloride	ND	0.15	0.500
trans-1,2-Dichloroethene	ND	0.15	0.500
Methyl t-butyl ether	ND	0.15	0.500
Vinyl acetate	ND	0.2	0.500
2-Butanone	ND	0.15	0.500
1,1-Dichloroethane	ND	0.15	0.500
Ethyl acetate	ND	0.3	1.00
Hexane	ND	0.15	0.500
Chloroform	ND	0.15	0.500
Tetrahydrofuran	ND	0.15	0.500
1,2-Dichloroethane	ND	0.15	0.500
1,1,1-Trichloroethane	ND	0.15	0.500
Carbon tetrachloride	ND	0.15	0.500
Benzene	ND	0.15	0.500
Cyclohexane	ND	0.15	0.500
1,2-Dichloropropane	ND	0.15	0.500
Bromodichloromethane	ND	0.15	0.500
Heptane	ND	0.15	0.500
cis-1,3-Dichloropropene	ND	0.15	0.500
4-Methyl-2-pentanone	ND	0.15	0.500
trans-1,3-Dichloropropene	ND	0.15	0.500
1,1,2-Trichloroethane	ND	0.15	0.500
Toluene	ND	0.15	0.500
2-Hexanone	ND	0.32	1.00
Dibromochloromethane	ND	0.15	0.500
1,2-Dibromoethane	ND	0.15	0.500

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1710499

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3577 (HBN: 189608)
		Prepared By:	NA	**Analyzed By:**	Jorden Baum

Blank

MB: 545987
Analyzed: 04/25/2017 13:16
Units: ppb

Analyte	Result	MDL	RL
Chlorobenzene	ND	0.15	0.500
Ethyl benzene	ND	0.15	0.500
m,p-Xylene	ND	0.15	0.500
o-Xylene	ND	0.15	0.500
Styrene	ND	0.3	1.00
Bromoform	ND	0.3	1.00
1,1,2,2-Tetrachloroethane	ND	0.15	0.500
4-Ethyl toluene	ND	0.3	1.00
1,3,5-Trimethylbenzene	ND	0.3	1.00
1,2,4-Trimethylbenzene	ND	0.3	1.00
1,3-Dichlorobenzene	ND	0.3	1.00
1,4-Dichlorobenzene	ND	0.3	1.00
Benzyl chloride	ND	0.37	1.00
1,2-Dichlorobenzene	ND	0.3	1.00
1,2,4-Trichlorobenzene	ND	0.42	1.00
Hexachlorobutadiene	ND	0.3	1.00

Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS: 545988
Analyzed: 04/25/2017 10:49
Dilution: 1
Units: ppb

LCSD: 545989
Analyzed: 04/25/2017 11:38
Dilution: 1
Units: ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Dichlorodifluoromethane	8.48	10.0	84.8	44.8	152.0	8.42	84.2	0.820	0.0	25.0
Chloromethane	8.29	10.0	82.9	37.3	153.2	7.61	76.1	8.55	0.0	25.0
Freon 114	8.67	10.0	86.7	54.2	145.9	8.33	83.3	3.98	0.0	25.0
1,3-Butadiene	7.83	10.0	78.3	49.0	147.5	7.72	77.2	1.39	0.0	25.0
Bromomethane	8.30	10.0	83.0	51.7	149.4	8.25	82.5	0.549	0.0	25.0
Chloroethane	7.76	10.0	77.6	51.1	144.9	7.58	75.8	2.34	0.0	25.0
Freon 11	8.28	10.0	82.8	47.8	148.9	8.01	80.1	3.41	0.0	25.0
Freon 113	8.70	10.0	87.0	69.0	133.4	8.48	84.8	2.55	0.0	25.0
1,1-Dichloroethene	8.24	10.0	82.4	53.6	144.6	7.93	79.3	3.74	0.0	25.0
Acetone	7.64	10.0	76.4	30.7	150.8	7.23	72.3	5.57	0.0	25.0
Carbon disulfide	8.28	10.0	82.8	60.9	136.3	8.08	80.8	2.45	0.0	25.0
Methylene chloride	8.35	10.0	83.5	59.2	132.9	8.04	80.4	3.71	0.0	25.0
trans-1,2-Dichloroethene	8.80	10.0	88.0	62.5	139.3	8.57	85.7	2.61	0.0	25.0
Methyl t-butyl ether	9.86	10.0	98.6	66.1	138.6	9.38	93.8	4.99	0.0	25.0
Vinyl acetate	9.71	10.0	97.1	53.4	155.7	9.45	94.5	2.68	0.0	25.0

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1710499

Limits:	Historical/Performance	**Preparation:**	NA	**Analysis:**	EPA TO-15
Basis:	ALS Laboratory Group	**Batch:**	NA	**Batch:**	IVOA/3577 (HBN: 189608)
		Prepared By:	NA	**Analyzed By:**	Jorden Baum

Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS:	545988					**LCSD:**	545989				
Analyzed:	04/25/2017 10:49					**Analyzed:**	04/25/2017 11:38				
Dilution:	1					**Dilution:**	1				
Units:	ppb					**Units:**	ppb				
Analyte	**Result**	**Target**	**% Rec**	**QC Limits**		**Result**	**% Rec**	**RPD**	**QC Limits**	
2-Butanone	8.91	10.0	89.1	57.2	147.8	8.36	83.6	6.44	0.0	25.0
1,1-Dichloroethane	8.66	10.0	86.6	62.2	134.2	8.19	81.9	5.56	0.0	25.0
Ethyl acetate	9.22	10.0	92.2	54.4	150.1	9.36	93.6	1.47	0.0	25.0
Hexane	8.38	10.0	83.8	60.2	142.1	8.58	85.8	2.28	0.0	25.0
Chloroform	8.80	10.0	88.0	64.6	131.2	8.90	89.0	1.17	0.0	25.0
Tetrahydrofuran	8.40	10.0	84.0	64.2	147.0	8.43	84.3	0.383	0.0	25.0
1,2-Dichloroethane	8.48	10.0	84.8	52.7	143.7	8.54	85.4	0.658	0.0	25.0
1,1,1-Trichloroethane	8.76	10.0	87.6	61.5	137.3	8.88	88.8	1.34	0.0	25.0
Carbon tetrachloride	8.73	10.0	87.3	57.9	143.2	8.80	88.0	0.868	0.0	25.0
Benzene	9.06	10.0	90.6	56.5	143.5	9.20	92.0	1.54	0.0	25.0
Cyclohexane	9.26	10.0	92.6	61.8	131.9	9.33	93.3	0.795	0.0	25.0
1,2-Dichloropropane	8.38	10.0	83.8	59.7	139.7	8.48	84.8	1.13	0.0	25.0
Bromodichloromethane	8.60	10.0	86.0	63.3	136.4	8.65	86.5	0.556	0.0	25.0
Heptane	9.43	10.0	94.3	59.0	148.1	9.53	95.3	1.15	0.0	25.0
cis-1,3-Dichloropropene	9.09	10.0	90.9	65.9	142.6	9.25	92.5	1.76	0.0	25.0
4-Methyl-2-pentanone	8.32	10.0	83.2	62.1	149.0	8.30	83.0	0.196	0.0	25.0
trans-1,3-Dichloropropene	9.46	10.0	94.6	64.7	145.3	9.61	96.1	1.60	0.0	25.0
1,1,2-Trichloroethane	8.86	10.0	88.6	68.3	134.4	8.82	88.2	0.431	0.0	25.0
Toluene	9.38	10.0	93.8	66.1	146.5	9.39	93.9	0.0948	0.0	25.0
2-Hexanone	9.42	10.0	94.2	58.5	162.0	9.32	93.2	1.11	0.0	25.0
Dibromochloromethane	8.79	10.0	87.9	68.0	141.8	8.83	88.3	0.397	0.0	25.0
1,2-Dibromoethane	9.20	10.0	92.0	72.6	136.7	9.30	93.0	1.03	0.0	25.0
Chlorobenzene	8.73	10.0	87.3	67.4	134.7	8.73	87.3	0.0034	0.0	25.0
Ethyl benzene	7.68	10.0	76.8	64.2	147.4	7.88	78.8	2.57	0.0	25.0
m,p-Xylene	14.0	20.0	70.2	62.3	145.6	14.2	70.8	0.780	0.0	25.0
o-Xylene	7.38	10.0	73.8	60.8	147.6	7.32	73.2	0.724	0.0	25.0
Styrene	7.21	10.0	72.1	60.9	160.8	7.26	72.6	0.771	0.0	25.0
Bromoform	7.49	10.0	74.9	50.0	155.2	7.44	74.4	0.682	0.0	25.0
1,1,2,2-Tetrachloroethane	7.45	10.0	74.5	49.5	150.8	7.44	74.4	0.133	0.0	25.0
4-Ethyl toluene	9.28	10.0	92.8	57.1	161.2	9.33	93.3	0.534	0.0	25.0
1,3,5-Trimethylbenzene	7.34	10.0	73.4	54.1	155.1	7.26	72.6	1.00	0.0	25.0
1,2,4-Trimethylbenzene	8.50	10.0	85.0	50.4	163.6	8.79	87.9	3.34	0.0	25.0
1,3-Dichlorobenzene	7.84	10.0	78.4	53.9	158.0	7.78	77.8	0.721	0.0	25.0
1,4-Dichlorobenzene	7.94	10.0	79.4	52.0	161.4	7.90	79.0	0.528	0.0	25.0
Benzyl chloride	8.77	10.0	87.7	30.4	196.3	8.80	88.0	0.328	0.0	25.0
1,2-Dichlorobenzene	7.39	10.0	73.9	49.3	164.0	7.72	77.2	4.34	0.0	25.0
1,2,4-Trichlorobenzene	10.7	10.0	107	76.7	167.6	10.8	108	0.699	0.0	25.0

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1710499

Limits:	Historical/Performance	**Preparation:**	NA
Basis:	ALS Laboratory Group	**Batch:**	NA
		Prepared By:	NA
Analysis:	EPA TO-15		
Batch:	IVOA/3577 (HBN: 189608)		
Analyzed By:	Jorden Baum		

Laboratory Control Sample - Laboratory Control Sample Duplicate

	LCS: 545988	LCSD: 545989
	Analyzed: 04/25/2017 10:49	Analyzed: 04/25/2017 11:38
	Dilution: 1	Dilution: 1
	Units: ppb	Units: ppb

Analyte	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Hexachlorobutadiene	9.10	10.0	91.0	72.9	153.7	9.01	90.1	0.996	0.0	25.0

Surrogate Recoveries

Surrogate	4-Bromofluorobenzene	
QC Limits	67.7	129.9
Units	ppb	

Lab ID	Result	Target	% Recovery
545988-LCS	17.3	20.0	86.3
545989-LCSD	17.5	20.0	87.7
545987-MB	19.0	20.0	94.8
1710499001	18.7	20.0	93.3
1710499002	18.8	20.0	94.1
1710499003	18.6	20.0	93.2
1711146001	18.6	20.0	93.0
1711146002	18.6	20.0	93.2
1711146003	18.6	20.0	93.0
1711146004	18.5	20.0	92.4
1711146005	18.2	20.0	91.0
1711146006	18.6	20.0	93.2
1711145001	22.9	20.0	114
1711145002	22.8	20.0	114
1711145003	22.9	20.0	115
1711145004	23.1	20.0	115

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Jorden Baum	/S/ Lisa M. Reid
04/28/2017 11:23	04/28/2017 15:18

Symbols and Definitions

- * - Analyte above reporting limit or outside of control limits
- ▲ - Sample result is greater than 4 times the spike added
- ◒ - Sample and Matrix Duplicate less than 5 times the reporting limit
- ● - Result is above the calibration range
- # - The Matrix Spike, Matrix Spike duplicate or Matrix Duplicate is reported for your information only. The sample matrix may be inappropriate for the method selected.

RPD - Relative % Difference (Spike / Spike Duplicate)
ND - Not Detected (U - Qualifier also flags analyte as not detected)
NA - Not Applicable
QC results are not adjusted for moisture correction, where applicable

ALS Environmental

Chain of Custody Record

17568/#1+2

1710499

CoC #: 003

Page 1 of 1

| Client Name & Address: | Project Name & No.: | | |

For lab use only

ANALYTICAL REQUEST FORM

1. ☑ REGULAR Status 14 day TAT

☐ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____ DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 4/14/17 Purchase Order No. 10068-7-107234 4. Quote No. 80220655-RA7-0003

3. Company Name CHEM HILL ALS Project Manager Kevin Griffith

Address 4246 S. Riverboat Rd, STE 210 5. Sample Collection
Taylorsville, UT 84123

Person to Contact Mark Croby Sampling Site HA ARMY (SLC, UT)

Telephone (530) 229-3279 Industrial Process Residential Indoor Air

Fax Telephone ( ) Date of Collection 3/23/17 & 4/14/17

E-mail Address Mark.Croby@chem.com Time Collected

Billing Address (if different from above) Date of Shipment Dropped off @ Lab

Chain of Custody No. 003

6. How did you first learn about ALS?

7. REQUEST FOR ANALYSES

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
00884-041417-TO-001-BAS	Indoor Air		TO-15 / TO-15 SIM*	5+6	
00884-041417-TO-002-BAS	"		TO-15 / TO-15 SIM*	5+6	
00884-041417-TO-001-LIB	"		TO-15 / TO-15 SIM*	5+6	

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % (5) µg/m³ (6) ppbv (other) Please indicate one or more units in the column entitled Units**

Comments EDD type: LabSpec 7 Data Deliverable: Level 4

*TCE, cis-1,2-DCE, TCE, PCE, 1,4-Dioxane by TO-15 SIM

Possible Contamination and/or Chemical Hazards None

7. Chain of Custody (Optional)

Relinquished by		Date/Time	4/14/17 @ 1108
Received by		Date/Time	04-14-17 11:0
Relinquished by		Date/Time	
Received by		Date/Time	

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
ALS Environmental

ALS Environmental
Sample Acceptance Check Form

Client: CH2MHill Work order: _____

Project: VA AOU1 (SLC, UT)

Sample(s) received on: 4/14/2017 Date opened: 4/14/2017 by: Kevin Griffiths

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☒	☐	
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Client Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
A-0038H-041117-TO-001-BAS	Summa Can					Pressure on Receipt -3
A-0038H-041117-TO-002-BAS	Summa Can					Pressure on Receipt -2
A-0064H-041414-TO-001-LIV	Summa Can					Pressure on Receipt -2

Explain any discrepancies: (include lab sample ID numbers): _____

Batch Worklist

Batch: IVOA/ 3576 Created: 4/28/2017 09:38 Instrument: 5975-L HBN: 189596

Rule: EPA TO-15 SIM, Air Analyst: L. Reid Status: WP

Workorder: 1710499 [ENV_LVL4]

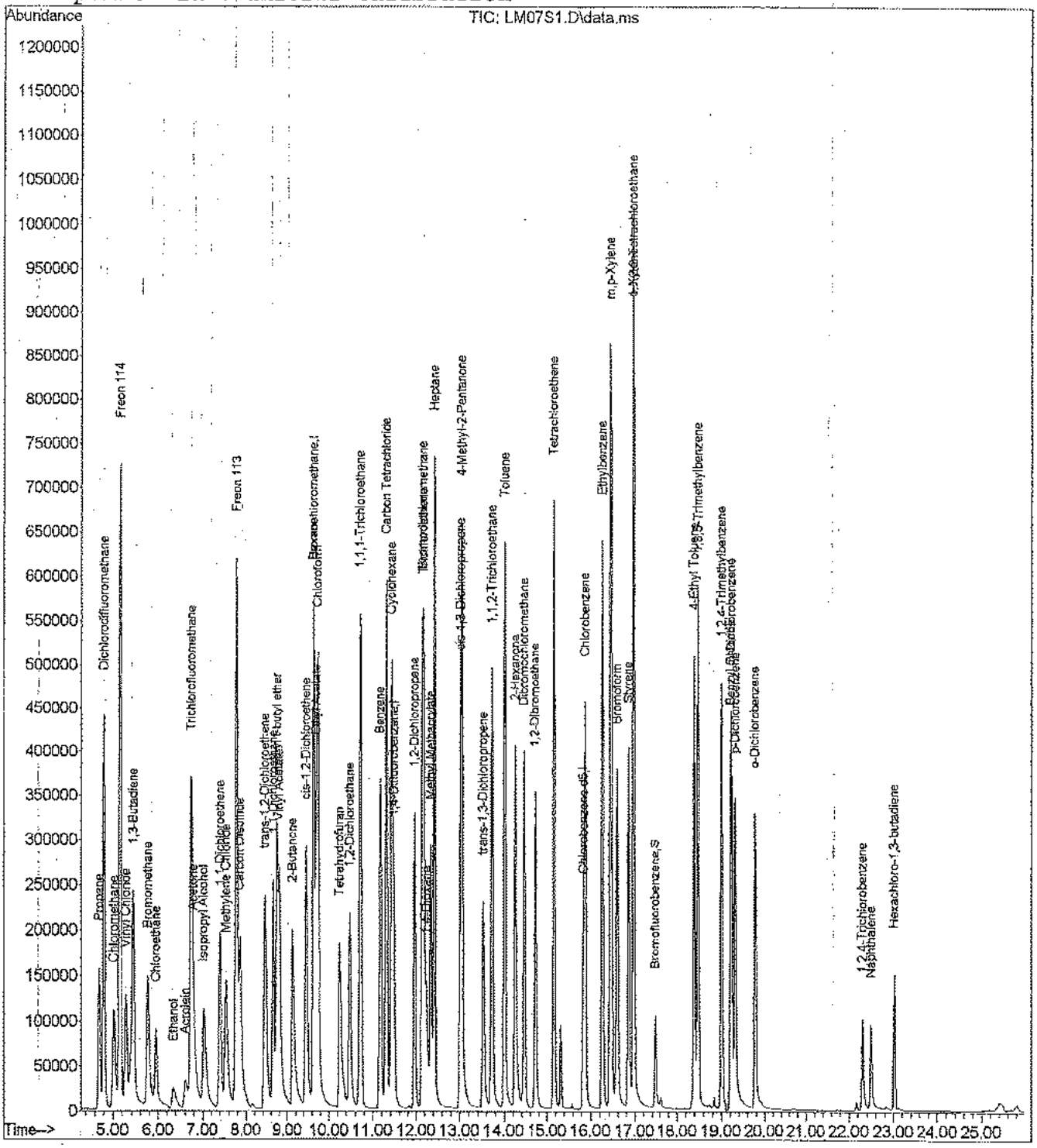
Pos	Lab ID	Sample ID	Prep Initial	Prep Final	Dust Weight	Type	Mx	Container	Procedure	Mgr	Expire Date	Due Date	Run Date
1	545966	MB for HBN 189596 [IVOA/3576]				MB	1		ETO15SIM1Q	5320		4/28/2017	4/26/2017
2	545967	LCS for HBN 189596 [IVOA/3576]				LCS	1		ETO15SIM1Q	5320		4/28/2017	4/26/2017
3	545968	LCSD for HBN 189596 [IVOA/3576				LCSD	1		ETO15SIM1Q	5320		4/28/2017	4/26/2017
4	1710499001	A0038H-041117-TO-001-BAS				SAMPLE	1	1710499001-A	ETO15SIM.1	5480		4/28/2017	4/26/2017
5	1710499002	A0038H-041117-TO-002-BAS				SAMPLE	1	1710499002-A	ETO15SIM.1	5480		4/28/2017	4/26/2017
6	1710499003	A0064H-041417-TO-001-LIV				SAMPLE	1	1710499003-A	ETO15SIM.1	5480		4/28/2017	4/26/2017

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM07S1.D Vial: 3
Acq Time : 03/27/2017 12:58 Operator: LMR
Sample : 1.0PPB Inst : 5975-L
Misc : 35941 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:21:59 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM07S1.D Vial: 3
Acq Time : 03/27/2017 12:58 Operator: LMR
Sample : 1.0PPB Inst : 5975-L
Misc : 35941 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:21:59 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 03 12:06:21 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	29094	1000.0000	ppt		81.05
25) 1,4-Difluorobenzene	11.48	114	516136	1000.0000	ppt		80.17
50) Chlorobenzene d5	15.84	117	481060	1000.0000	ppt		92.13
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.48	95	244026	1207.7388	ppt		120.77%
Target Compounds							Qvalue
2) Propene	4.69	41	293288	1481.3242	ppt	#	58
3) Dichlorodifluoromethane	4.80	85	772891	1489.3810	ppt		99
4) Chloromethane	5.01	50	326970	1420.1547	ppt		97
5) Freon 114	5.15	135	575463	1474.5759	ppt	#	57
6) Vinyl Chloride	5.28	62	387343	1489.6729	ppt		97
7) 1,3-Butadiene	5.44	54	355376	1493.6134	ppt	#	73
8) Bromomethane	5.76	94	339978	1566.5038	ppt		99
9) Chloroethane	5.95	64	211124	1437.2480	ppt	#	86
10) Acrolein	6.61	56	129021	57871.0678	ppt	m	64
11) Acetone	6.79	43	416998	1268.7515	ppt		95
12) Trichlorofluoromethane	6.74	101	731913	1523.3367	ppt		100
13) Ethanol	6.35	45	105117	405.9420	ppt	m	41
14) Isopropyl Alcohol	7.02	45	445410	1720.0893	ppt	#	80
15) 1,1-Dichloroethene	7.40	61	452917	1637.2631	ppt	m	83
16) Methylene Chloride	7.54	84	253189	1335.8885	ppt	#	18
17) Freon 113	7.76	151	514152	1513.0454	ppt	#	53
18) Carbon Disulfide	7.85	76	851903	1385.5393	ppt	#	57
19) trans-1,2-Dichloroethene	8.45	96	308683	1590.0315	ppt	#	73
20) 1,1-Dichloroethane	8.65	63	607389	1530.6621	ppt	#	85
21) methyl t-butyl ether	8.74	73	693616	1838.3902	ppt	#	60
22) Vinyl Acetate	8.81	86	77072	226745.2107	ppt	#	1
23) 2-Butanone	9.12	43	733216	1954.2016	ppt	#	67
24) cis-1,2-Dichloroethene	9.46	96	328438	1747.5020	ppt	#	72
26) Ethyl Acetate	9.69	61	103423	1139.7471	ppt	#	1
27) Hexane	9.63	57	544369	1834.6820	ppt	#	82
28) Chloroform	9.74	83	714133	1593.3297	ppt		98
29) Tetrahydrofuran	10.24	42	383373	1761.1253	ppt	#	61
30) 1,2-Dichloroethane	10.48	62	425478	1502.6101	ppt	#	79
31) 1,1,1-Trichloroethane	10.71	97	634416	1474.5934	ppt	#	87
32) Benzene	11.16	78	901918	1501.5640	ppt	#	60
33) Carbon Tetrachloride	11.30	117	689241	1479.3200	ppt	#	86
34) Cyclohexane	11.43	84	393324	1712.9832	ppt	#	27
35) 1,2-Dichloropropane	11.96	63	364718	1557.4720	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM07S1.D Vial: 3
Acq Time : 03/27/2017 12:58 Operator: LMR
Sample : 1.0PPB Inst : 5975-L
Misc : 35941 (400mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:21:59 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Mar 03 12:06:21 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	12.15	83	666069	1535.0701	ppt		98
37) 1,4-Dioxane	12.25	88	192886	2385.7129	ppt	#	76
38) Trichloroethene	12.18	130	435509	1697.9805	ppt	#	60
39) Methyl Methacrylate	12.34	69	293538	2681.7420	ppt	#	60
40) Heptane	12.43	71	310251	2022.2571	ppt	#	34
41) cis-1,3-Dichloropropene	13.02	75	427258	1914.4431	ppt		94
42) 4-Methyl-2-Pentanone	13.05	43	829659	2235.6505	ppt	#	72
43) trans-1,3-Dichloropropene	13.53	75	341395	1529.7111	ppt	m	92
44) 1,1,2-Trichloroethane	13.72	97	354601	1704.2383	ppt	#	85
45) Toluene	14.01	91	966500	2182.3896	ppt		97
46) 2-Hexanone	14.24	43	652311	3316.0404	ppt	#	75
47) Dibromochloromethane	14.45	129	659449	1795.9402	ppt	#	32
48) 1,2-Dibromoethane	14.72	107	492999	1917.7118	ppt		97
49) Tetrachloroethene	15.16	166	441472	1831.5673	ppt	#	83
51) Chlorobenzene	15.88	112	714229	1822.4949	ppt	#	71
52) Ethylbenzene	16.26	91	1008545	2342.8169	ppt		94
53) m,p-Xylene	16.44	91	1526106	4969.9815	ppt		92
54) Bromoform	16.58	173	445168	2118.7660	ppt		99
55) Styrene	16.84	104	480337	3061.1337	ppt		98
56) 1,1,2,2-Tetrachloroethane	16.96	83	599321	2365.6274	ppt		99
57) o-Xylene	16.96	91	775192	2593.8340	ppt		94
59) 4-Ethyl Toluene	18.39	105	716585	4437.8502	ppt		96
60) 1,3,5-Trimethylbenzene	18.48	105	723978	3801.5396	ppt		94
61) 1,2,4-Trimethylbenzene	19.00	105	612364	4283.6287	ppt		96
62) Benzyl Chloride	19.21	91	388654	6120.3446	ppt		91
63) m-Dichlorobenzene	19.23	146	410718	4132.9650	ppt		95
64) p-Dichlorobenzene	19.32	146	438245	3719.7574	ppt	#	95
65) o-Dichlorobenzene	19.78	146	402390	3824.8641	ppt		96
66) 1,2,4-Trichlorobenzene	22.30	180	95195	5473.4682	ppt	#	83
67) Naphthalene	22.49	128	292392	8254.8850	ppt	#	71
68) Hexachloro-1,3-butadiene	23.02	225	117823	2386.9187	ppt	#	19

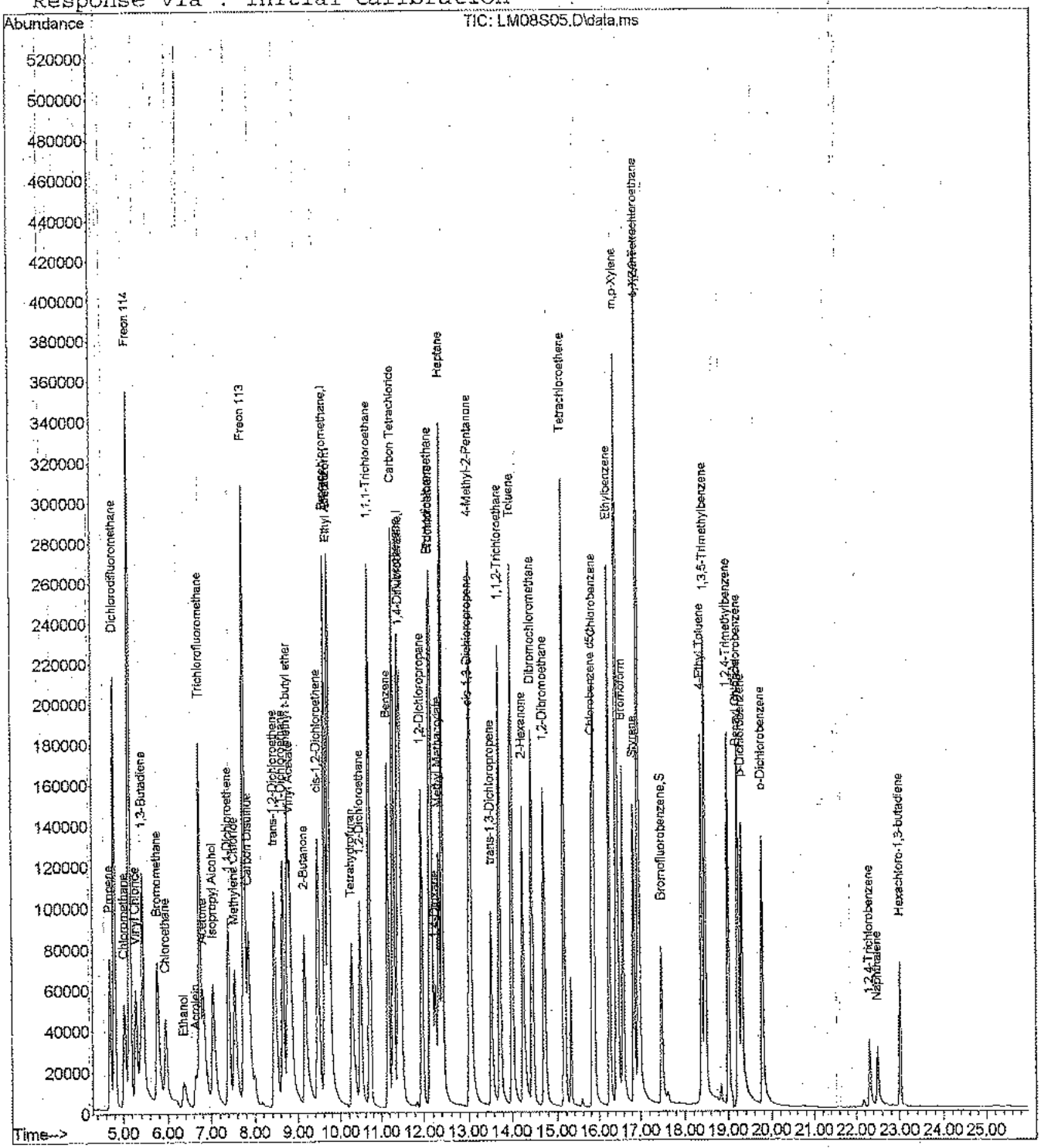
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM08S05.D Vial: 3
Acq Time : 03/27/2017 13:46 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:23:04 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM08S05.D Vial: 3
Acq Time : 03/27/2017 13:46 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:23:04 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:22:48 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	25868	1000.0000	ppt		100.00
25) 1,4-Difluorobenzene	11.48	114	476353	1000.0000	ppt		100.00
50) Chlorobenzene d5	15.84	117	414291	1000.0000	ppt		100.00
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	195526	1056.4407	ppt		105.64%
Target Compounds							Qvalue
2) Propene	4.69	41	139563	448.1748	ppt	#	59
3) Dichlorodifluoromethane	4.80	85	374138	464.4665	ppt		99
4) Chloromethane	5.03	50	157066	474.9389	ppt		97
5) Freon 114	5.15	135	277179	466.3587	ppt	#	57
6) Vinyl Chloride	5.29	62	187779	463.9646	ppt		98
7) 1,3-Butadiene	5.44	54	173442	466.1210	ppt	#	71
8) Bromomethane	5.77	94	167711	473.7250	ppt		98
9) Chloroethane	5.96	64	96052	456.5770	ppt	#	85
10) Acrolein	6.64	56	60403	458.7736	ppt	#	95
11) Acetone	6.82	43	202447	426.4919	ppt		95
12) Trichlorofluoromethane	6.74	101	357981	468.9782	ppt		100
13) Ethanol	6.37	45	48076	97.6773	ppt	#	77
14) Isopropyl Alcohol	7.05	45	229815	415.8010	ppt	#	81
15) 1,1-Dichloroethene	7.40	61	214187	484.6108	ppt	#	53
16) Methylene Chloride	7.55	84	124709	441.7938	ppt	#	17
17) Freon 113	7.77	151	251297	471.1831	ppt	#	53
18) Carbon Disulfide	7.86	76	416362	466.6146	ppt	#	60
19) trans-1,2-Dichloroethene	8.45	96	144897	468.6199	ppt	#	72
20) 1,1-Dichloroethane	8.65	63	296940	484.0070	ppt	#	85
21) methyl t-butyl ether	8.77	73	321121	500.7281	ppt	#	60
22) Vinyl Acetate	8.83	86	35301	541.9581	ppt	#	1
23) 2-Butanone	9.15	43	343510	528.2971	ppt	#	66
24) cis-1,2-Dichloroethene	9.47	96	156259	493.2141	ppt	#	72
26) Ethyl Acetate	9.72	61	44809	499.1717	ppt	#	1
27) Hexane	9.64	57	249709	486.1549	ppt	#	83
28) Chloroform	9.74	83	350419	454.2514	ppt		96
29) Tetrahydrofuran	10.27	42	179086	473.3983	ppt	#	59
30) 1,2-Dichloroethane	10.49	62	205373	452.0767	ppt	#	78
31) 1,1,1-Trichloroethane	10.71	97	305276	448.4057	ppt	#	86
32) Benzene	11.17	78	431424	441.7930	ppt	#	60
33) Carbon Tetrachloride	11.31	117	333306	447.0587	ppt	#	86
34) Cyclohexane	11.43	84	181047	472.6748	ppt	#	24
35) 1,2-Dichloropropane	11.96	63	172671	455.6486	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM08S05.D Vial: 3
Acq Time : 03/27/2017 13:46 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 35941 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:23:04 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:22:48 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	12.15	83	319780	453.7438	ppt		98
37) 1,4-Dioxane	12.26	88	91415	493.1001	ppt	#	75
38) Trichloroethene	12.18	130	202451	463.5144	ppt	#	60
39) Methyl Methacrylate	12.34	69	133936	516.0459	ppt	#	66
40) Heptane	12.43	71	143185	504.7749	ppt	#	34
41) cis-1,3-Dichloropropene	13.02	75	192176	480.7677	ppt		94
42) 4-Methyl-2-Pentanone	13.06	43	368368	506.8143	ppt	#	71
43) trans-1,3-Dichloropropene	13.54	75	149064	388.3104	ppt		93
44) 1,1,2-Trichloroethane	13.73	97	165750	452.0261	ppt	#	85
45) Toluene	14.01	91	423643	490.3297	ppt		97
46) 2-Hexanone	14.26	43	266415	538.3758	ppt	#	73
47) Dibromochloromethane	14.46	129	308863	461.5936	ppt	#	32
48) 1,2-Dibromoethane	14.72	107	224107	471.0485	ppt		98
49) Tetrachloroethene	15.17	166	204634	460.4872	ppt	#	82
51) Chlorobenzene	15.89	112	326025	477.5076	ppt	#	71
52) Ethylbenzene	16.26	91	428903	515.3969	ppt		94
53) m,p-Xylene	16.45	91	663416	1098.0522	ppt		92
54) Bromoform	16.59	173	203069	481.8470	ppt		99
55) Styrene	16.85	104	192524	562.6382	ppt		99
56) 1,1,2,2-Tetrachloroethane	16.97	83	284083	486.0284	ppt		97
57) o-Xylene	16.97	91	337228	541.2755	ppt		95
59) 4-Ethyl Toluene	18.40	105	268590	587.5614	ppt		96
60) 1,3,5-Trimethylbenzene	18.48	105	315436	583.4096	ppt		92
61) 1,2,4-Trimethylbenzene	19.01	105	252028	559.8587	ppt		96
62) Benzyl Chloride	19.21	91	144147	606.1910	ppt		93
63) m-Dichlorobenzene	19.23	146	166665	572.3699	ppt	#	95
64) p-Dichlorobenzene	19.33	146	200825	591.9193	ppt		92
65) o-Dichlorobenzene	19.78	146	171415	534.1960	ppt		96
66) 1,2,4-Trichlorobenzene	22.31	180	35021	578.7596	ppt	#	85
67) Naphthalene	22.50	128	98802	591.5250	ppt	#	71
68) Hexachloro-1,3-butadiene	23.02	225	53841	478.0110	ppt	#	19

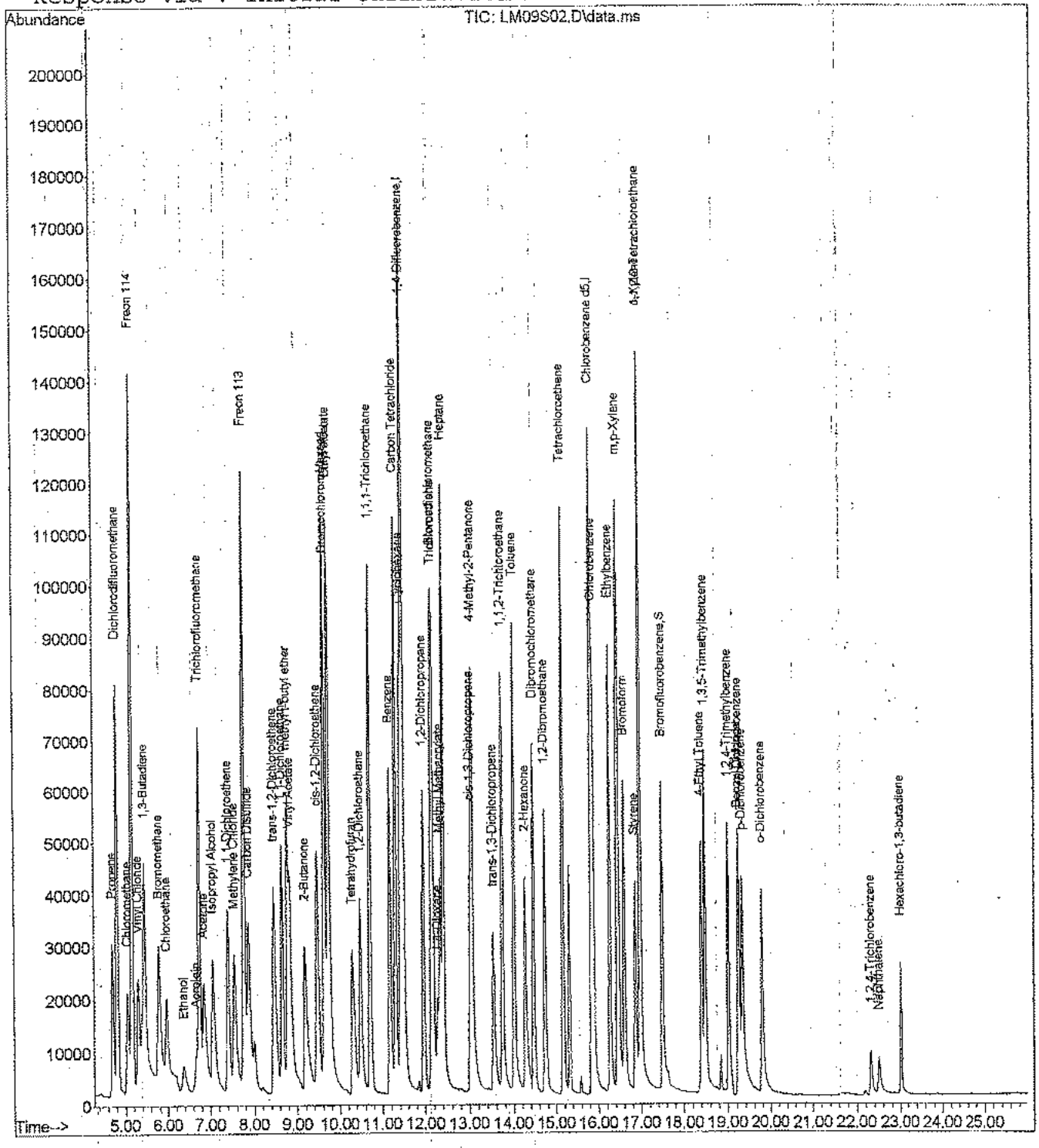
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM09S02.D Vial: 3
Acq Time : 03/27/2017 14:32 Operator: LMR
Sample : 0.2PPB Inst : 5975-L
Misc : 35941 (80mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:24:32 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM09S02.D Vial: 3
Acq Time : 03/27/2017 14:32 Operator: LMR
Sample : 0.2PPB Inst : 5975-L
Misc : 35941 (80mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:24:32 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.66	130	23413	1000.0000	ppt		90.51
25) 1,4-Difluorobenzene	11.48	114	413058	1000.0000	ppt		86.71
50) Chlorobenzene d5	15.84	117	360188	1000.0000	ppt		86.94
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	162087	1007.3145	ppt		100.73%
Target Compounds							Qvalue
2) Propene	4.70	41	55593	197.2437	ppt	#	59
3) Dichlorodifluoromethane	4.80	85	146849	201.4185	ppt		99
4) Chloromethane	5.05	50	58861	196.6478	ppt		93
5) Freon 114	5.16	135	108620	201.9182	ppt	#	56
6) Vinyl Chloride	5.31	62	74390	203.0758	ppt		100
7) 1,3-Butadiene	5.45	54	68076	202.1362	ppt	#	63
8) Bromomethane	5.79	94	64598	201.5996	ppt		99
9) Chloroethane	5.97	64	38795	203.7460	ppt	#	86
10) Acrolein	6.67	56	22471	190.5245	ppt	#	91
11) Acetone	6.85	43	81968	190.7874	ppt		96
12) Trichlorofluoromethane	6.74	101	139892	202.4843	ppt		100
13) Ethanol	6.38	45	18851	49.6492	ppt	#	72
14) Isopropyl Alcohol	7.05	45	93819	187.5443	ppt	#	80
15) 1,1-Dichloroethene	7.41	61	81043	201.7911	ppt	#	53
16) Methylene Chloride	7.56	84	50732	198.5681	ppt	#	18
17) Freon 113	7.77	151	98135	203.2975	ppt	#	53
18) Carbon Disulfide	7.87	76	162748	201.5156	ppt	#	62
19) trans-1,2-Dichloroethene	8.46	96	55865	199.6213	ppt	#	72
20) 1,1-Dichloroethane	8.65	63	113152	203.7750	ppt	#	85
21) methyl t-butyl ether	8.78	73	116862	201.3318	ppt	#	60
22) Vinyl Acetate	8.84	86	12032	204.0903	ppt	#	1
23) 2-Butanone	9.18	43	119843	203.7420	ppt	#	68
24) cis-1,2-Dichloroethene	9.48	96	57795	201.5517	ppt	#	71
26) Ethyl Acetate	9.74	61	16467	211.5520	ppt	#	1
27) Hexane	9.64	57	89026	199.8827	ppt	#	82
28) Chloroform	9.74	83	133583	199.6998	ppt		97
29) Tetrahydrofuran	10.30	42	65007	198.1723	ppt	#	58
30) 1,2-Dichloroethane	10.49	62	78352	198.9009	ppt	#	79
31) 1,1,1-Trichloroethane	10.71	97	117114	198.3833	ppt	#	86
32) Benzene	11.17	78	164587	194.3694	ppt	#	60
33) Carbon Tetrachloride	11.30	117	128590	198.9054	ppt	#	85
34) Cyclohexane	11.42	84	64703	194.8110	ppt	#	18
35) 1,2-Dichloropropane	11.96	63	65906	200.5642	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM09S02.D Vial: 3
Acq Time : 03/27/2017 14:32 Operator: LMR
Sample : 0.2PPB Inst : 5975-L
Misc : 35941 (80mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:24:32 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	12.15	83	122462	200.3912	ppt		98
37) 1,4-Dioxane	12.29	88	32272	200.7527	ppt	#	80
38) Trichloroethene	12.18	130	74881	197.7119	ppt	#	60
39) Methyl Methacrylate	12.35	69	46849	208.1657	ppt	#	68
40) Heptane	12.43	71	49145	199.8009	ppt	#	33
41) cis-1,3-Dichloropropene	13.02	75	68682	198.1513	ppt	#	92
42) 4-Methyl-2-Pentanone	13.07	43	126056	200.0084	ppt	#	70
43) trans-1,3-Dichloropropene	13.54	75	51461	161.8690	ppt	#	94
44) 1,1,2-Trichloroethane	13.74	97	63857	200.8336	ppt	#	85
45) Toluene	14.01	91	148737	198.5295	ppt		98
46) 2-Hexanone	14.27	43	83393	194.3454	ppt	#	71
47) Dibromochloromethane	14.47	129	116459	200.7173	ppt	#	31
48) 1,2-Dibromoethane	14.74	107	82860	200.8506	ppt		97
49) Tetrachloroethene	15.17	166	76867	199.4792	ppt	#	82
51) Chlorobenzene	15.89	112	122361	206.1335	ppt	#	69
52) Ethylbenzene	16.27	91	146875	203.0051	ppt		94
53) m,p-Xylene	16.45	91	216753	412.6467	ppt		93
54) Bromoform	16.60	173	75880	207.0947	ppt		99
55) Styrene	16.86	104	59429	199.7648	ppt		99
56) 1,1,2,2-Tetrachloroethane	16.98	83	105770	208.1398	ppt		98
57) o-Xylene	16.98	91	111943	206.6655	ppt		94
59) 4-Ethyl Toluene	18.41	105	77899	196.0070	ppt		96
60) 1,3,5-Trimethylbenzene	18.49	105	95339	202.8192	ppt		89
61) 1,2,4-Trimethylbenzene	19.02	105	76896	196.4760	ppt		95
62) Benzyl Chloride	19.23	91	36228	175.2365	ppt		94
63) m-Dichlorobenzene	19.25	146	52085	205.7412	ppt	#	95
64) p-Dichlorobenzene	19.33	146	64037	217.0961	ppt		97
65) o-Dichlorobenzene	19.79	146	57299	205.3880	ppt		96
66) 1,2,4-Trichlorobenzene	22.32	180	9852	187.2709	ppt	#	86
67) Naphthalene	22.51	128	26660	183.5878	ppt	#	71
68) Hexachloro-1,3-butadiene	23.03	225	19776	201.9480	ppt	#	19

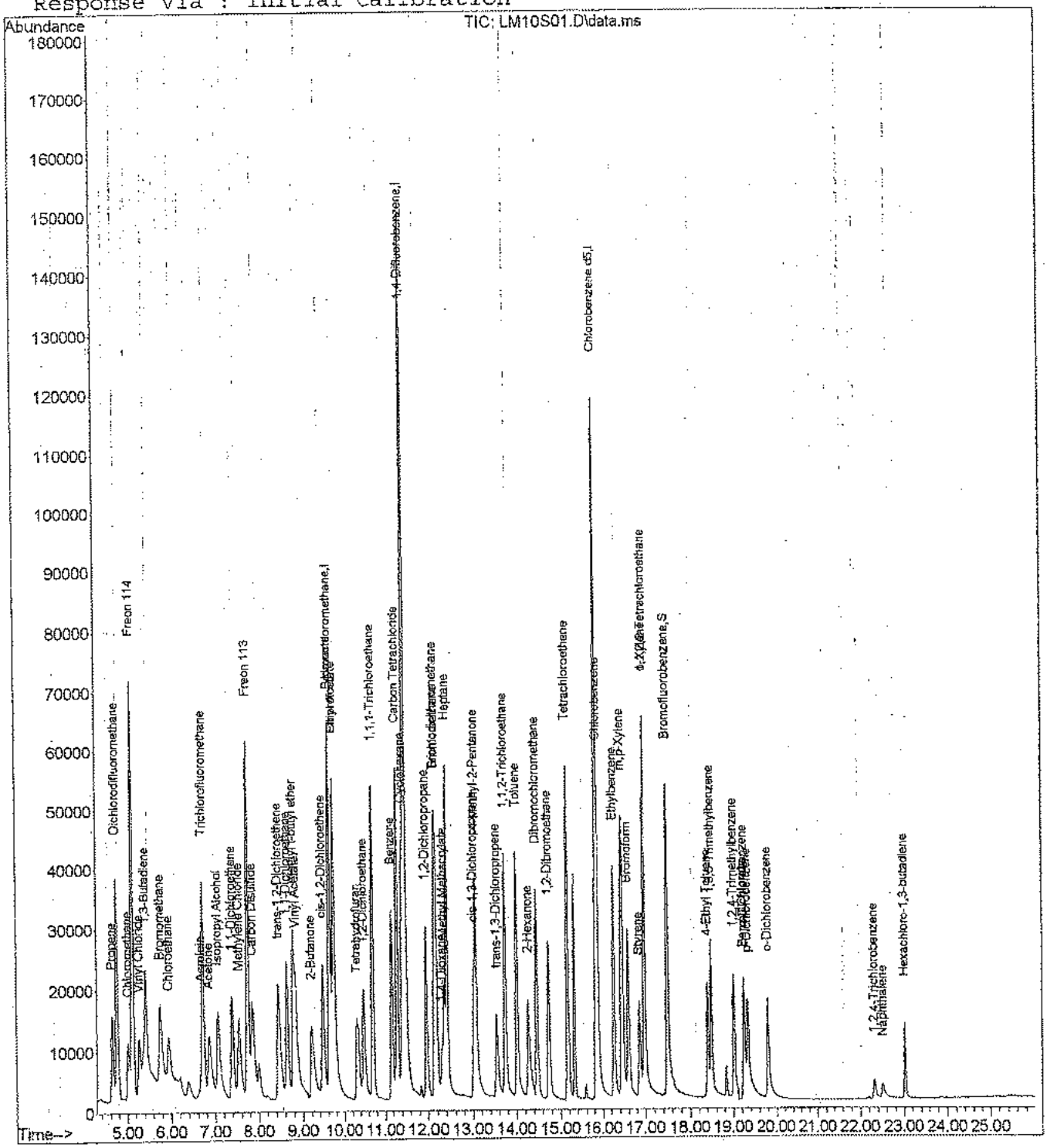
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM10S01.D Vial: 3
Acq Time : 03/27/2017 15:18 Operator: LMR
Sample : 0.1PPB Inst : 5975-L
Misc : 35941 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:25:26 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM10S01.D Vial: 3
Acq Time : 03/27/2017 15:18 Operator: LMR
Sample : 0.1PPB Inst : 5975-L
Misc : 35941 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:25:26 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:57 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	21847	1000.0000	ppt		84.46
25) 1,4-Difluorobenzene	11.48	114	383090	1000.0000	ppt		80.42
50) Chlorobenzene d5	15.84	117	339627	1000.0000	ppt		81.98
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	141843	934.8713	ppt		93.49%
Target Compounds							Qvalue
2) Propene	4.65	41	29463	112.0276	ppt	#	59
3) Dichlorodifluoromethane	4.75	85	75663	111.2185	ppt		99
4) Chloromethane	5.01	50	29689	106.2973	ppt		92
5) Freon 114	5.12	135	55087	109.7438	ppt	#	56
6) Vinyl Chloride	5.28	62	36967	108.1491	ppt		93
7) 1,3-Butadiene	5.42	54	34248	108.9810	ppt	#	63
8) Bromomethane	5.76	94	33113	110.7476	ppt		98
9) Chloroethane	5.95	64	19017	107.0337	ppt	#	86
10) Acrolein	6.67	56	10913	99.9271	ppt	#	94
11) Acetone	6.86	43	45464	113.4066	ppt		98
12) Trichlorofluoromethane	6.72	101	71176	110.4072	ppt		100
13) Ethanol	0.00	45	Not Detected				
14) Isopropyl Alcohol	7.06	45	52130	111.6776	ppt	#	73
15) 1,1-Dichloroethene	7.39	61	40707	108.6136	ppt	#	53
16) Methylene Chloride	7.54	84	26298	110.3102	ppt	#	17
17) Freon 113	7.74	151	49660	110.2504	ppt	#	54
18) Carbon Disulfide	7.85	76	83327	110.5717	ppt	#	65
19) trans-1,2-Dichloroethene	8.46	96	28339	108.5218	ppt	#	74
20) 1,1-Dichloroethane	8.64	63	55880	107.8476	ppt	#	86
21) methyl t-butyl ether	8.79	73	56798	104.8666	ppt	#	60
22) Vinyl Acetate	8.84	86	5100	92.7086	ppt	#	1
23) 2-Butanone	9.20	43	58634	106.8274	ppt	#	66
24) cis-1,2-Dichloroethene	9.47	96	28505	106.5326	ppt	#	70
26) Ethyl Acetate	9.74	61	7719	106.9237	ppt	#	1
27) Hexane	9.63	57	42001	101.6783	ppt	#	83
28) Chloroform	9.73	83	66973	107.9534	ppt		98
29) Tetrahydrofuran	10.31	42	31158	102.4148	ppt	#	58
30) 1,2-Dichloroethane	10.49	62	39347	107.6982	ppt	#	79
31) 1,1,1-Trichloroethane	10.70	97	59342	108.3849	ppt	#	86
32) Benzene	11.16	78	84472	107.5611	ppt	#	60
33) Carbon Tetrachloride	11.29	117	65258	108.8387	ppt	#	86
34) Cyclohexane	11.42	84	31769	103.1342	ppt	#	10
35) 1,2-Dichloropropane	11.96	63	32486	106.5946	ppt	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM10S01.D Vial: 3
Acq Time : 03/27/2017 15:18 Operator: LMR
Sample : 0.1PPB Inst : 5975-L
Misc : 35941 (40mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:25:26 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:24:57 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	12.15	83	61475	108.4641	ppt		97
37) 1,4-Dioxane	12.31	88	13888	93.1505	ppt	#	75
38) Trichloroethene	12.18	130	37195	105.8903	ppt	#	60
39) Methyl Methacrylate	12.36	69	23042	110.3924	ppt	#	64
40) Heptane	12.42	71	22472	98.5077	ppt	#	28
41) cis-1,3-Dichloropropene	13.02	75	32905	102.3590	ppt	#	92
42) 4-Methyl-2-Pentanone	13.07	43	58025	99.2682	ppt	#	70
43) trans-1,3-Dichloropropene	13.54	75	24484	87.7939	ppt	#	93
44) 1,1,2-Trichloroethane	13.73	97	31623	107.2361	ppt	#	83
45) Toluene	14.01	91	69869	100.5543	ppt		97
46) 2-Hexanone	14.28	43	36457	91.6085	ppt	#	69
47) Dibromochloromethane	14.46	129	56815	105.5808	ppt	#	30
48) 1,2-Dibromoethane	14.73	107	40120	104.8574	ppt		97
49) Tetrachloroethene	15.17	166	37763	105.6658	ppt	#	81
51) Chlorobenzene	15.89	112	59480	106.2683	ppt	#	67
52) Ethylbenzene	16.27	91	66648	97.6952	ppt		94
53) m,p-Xylene	16.45	91	92799	187.3629	ppt		92
54) Bromoform	16.59	173	36875	106.7335	ppt		99
55) Styrene	16.86	104	25356	90.3917	ppt		98
56) 1,1,2,2-Tetrachloroethane	16.98	83	50615	105.6328	ppt		98
57) o-Xylene	16.97	91	48627	95.2085	ppt		95
59) 4-Ethyl Toluene	18.41	105	30000	80.0549	ppt		97
60) 1,3,5-Trimethylbenzene	18.49	105	38440	86.7259	ppt		89
61) 1,2,4-Trimethylbenzene	19.02	105	33296	90.2246	ppt		95
62) Benzyl Chloride	19.23	91	15107	77.4971	ppt	#	88
63) m-Dichlorobenzene	19.25	146	22259	93.2484	ppt		93
64) p-Dichlorobenzene	19.33	146	28557	102.6740	ppt		91
65) o-Dichlorobenzene	19.80	146	26034	98.9683	ppt		94
66) 1,2,4-Trichlorobenzene	22.32	180	4228	85.2330	ppt	#	84
67) Naphthalene	22.51	128	10167	74.2512	ppt	#	71
68) Hexachloro-1,3-butadiene	23.02	225	9856	106.7404	ppt	#	19

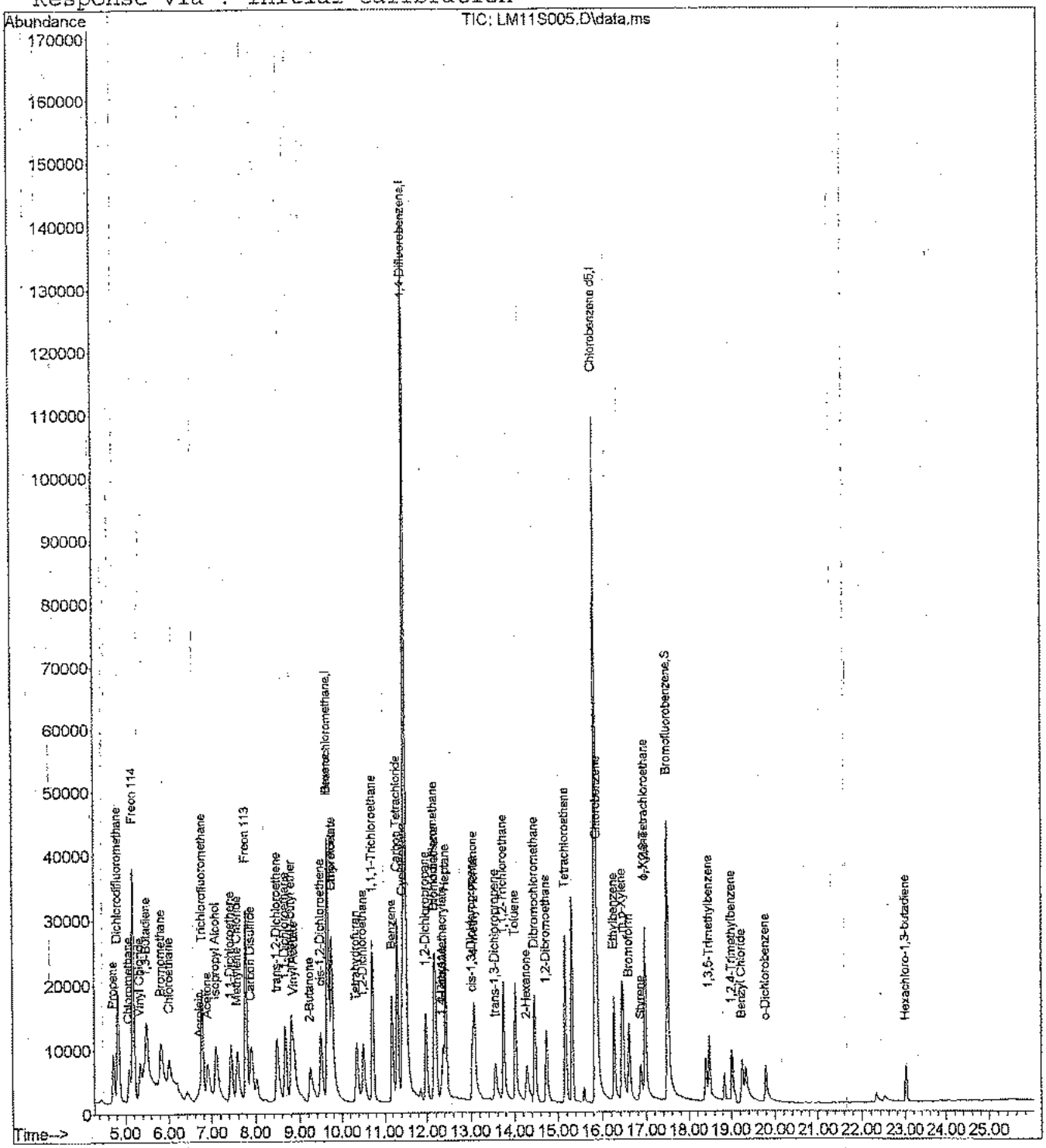
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM11S005.D Vial: 3
Acq Time : 03/27/2017 16:04 Operator: LMR
Sample : 0.05PPB Inst : 5975-L
Misc : 35941 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:26:03 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM11S005.D Vial: 3
Acq Time : 03/27/2017 16:04 Operator: LMR
Sample : 0.05PPB Inst : 5975-L
Misc : 35941 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:26:03 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:25:50 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.67	130	21952	1000.0000	ppt		84.86
25) 1,4-Difluorobenzene	11.49	114	349527	1000.0000	ppt		73.38
50) Chlorobenzene d5	15.85	117	313654	1000.0000	ppt		75.71
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	121329	865.8844	ppt		86.59%
Target Compounds							Qvalue
2) Propene	4.72	41	15324	57.9880	ppt	#	57
3) Dichlorodifluoromethane	4.83	85	37552	54.9344	ppt		98
4) Chloromethane	5.09	50	15784	56.2421	ppt		95
5) Freon 114	5.19	135	27725	54.9693	ppt	#	57
6) Vinyl Chloride	5.34	62	19307	56.2136	ppt		92
7) 1,3-Butadiene	5.49	54	17653	55.9051	ppt	#	38
8) Bromomethane	5.83	94	16272	54.1620	ppt		100
9) Chloroethane	6.01	64	9868	55.2746	ppt	#	90
10) Acrolein	6.71	56	4920	45.8386	ppt	#	94
11) Acetone	6.90	43	25739	63.8969	ppt		99
12) Trichlorofluoromethane	6.77	101	35401	54.6509	ppt		100
13) Ethanol	0.00	45		Not Detected			
14) Isopropyl Alcohol	7.10	45	32771	69.8692	ppt	#	76
15) 1,1-Dichloroethene	7.44	61	20193	53.3733	ppt	#	52
16) Methylene Chloride	7.58	84	14648	61.1489	ppt	#	15
17) Freon 113	7.78	151	24474	54.0749	ppt	#	51
18) Carbon Disulfide	7.90	76	41822	55.2307	ppt	#	59
19) trans-1,2-Dichloroethene	8.49	96	14324	54.5902	ppt	#	74
20) 1,1-Dichloroethane	8.68	63	27447	52.7189	ppt	#	85
21) methyl t-butyl ether	8.82	73	26710	49.0790	ppt	#	60
22) Vinyl Acetate	8.88	86	2533	45.8250	ppt	#	1
23) 2-Butanone	9.24	43	23515	42.6379	ppt	#	70
24) cis-1,2-Dichloroethene	9.50	96	13695	50.9379	ppt	#	71
26) Ethyl Acetate	9.77	61	2672	40.5667	ppt	#	1
27) Hexane	9.65	57	19473	51.6680	ppt	#	80
28) Chloroform	9.76	83	32804	57.9540	ppt		97
29) Tetrahydrofuran	10.34	42	15307	55.1446	ppt	#	58
30) 1,2-Dichloroethane	10.51	62	19333	57.9984	ppt	#	78
31) 1,1,1-Trichloroethane	10.73	97	29158	58.3693	ppt	#	85
32) Benzene	11.19	78	43585	60.8275	ppt	#	60
33) Carbon Tetrachloride	11.32	117	31996	58.4878	ppt	#	86
34) Cyclohexane	11.44	84	15479	55.0760	ppt	#	5
35) 1,2-Dichloropropane	11.98	63	15734	56.5846	ppt	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\M...L\27MAR17L\LM11S005.D Vial: 3
Acq Time : 03/27/2017 16:04 Operator: LMR
Sample : 0.05PPB Inst : 5975-L
Misc : 35941 (20mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:26:03 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:25:50 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	12.16	83	29312	56.6830	ppt	#	97
37) 1,4-Dioxane	12.34	88	7606	55.9142	ppt		94
38) Trichloroethene	12.20	130	17711	55.2630	ppt	#	60
39) Methyl Methacrylate	12.38	69	7421	38.9674	ppt	#	65
40) Heptane	12.43	71	10375	49.8467	ppt	#	26
41) cis-1,3-Dichloropropene	13.04	75	15217	51.8816	ppt	#	90
42) 4-Methyl-2-Pentanone	13.08	43	25070	47.0077	ppt	#	70
43) trans-1,3-Dichloropropene	13.55	75	11110	46.4696	ppt	#	92
44) 1,1,2-Trichloroethane	13.75	97	15160	56.3453	ppt	#	83
45) Toluene	14.02	91	31341	49.4367	ppt		97
46) 2-Hexanone	14.29	43	14866	40.9420	ppt	#	69
47) Dibromochloromethane	14.47	129	27196	55.3920	ppt	#	28
48) 1,2-Dibromoethane	14.74	107	18305	52.4358	ppt		97
49) Tetrachloroethene	15.17	166	18066	55.4051	ppt	#	82
51) Chlorobenzene	15.89	112	27157	52.5371	ppt	#	62
52) Ethylbenzene	16.27	91	29407	46.6754	ppt		94
53) m,p-Xylene	16.45	91	38690	84.5844	ppt		92
54) Bromoform	16.61	173	16333	51.1901	ppt		99
55) Styrene	16.87	104	9884	38.1533	ppt		95
56) 1,1,2,2-Tetrachloroethane	16.98	83	23185	52.3936	ppt		97
57) o-Xylene	16.98	91	20294	43.0246	ppt		94
59) 4-Ethyl Toluene	0.00	105		Not Detected			
60) 1,3,5-Trimethylbenzene	18.49	105	16346	39.9327	ppt		86
61) 1,2,4-Trimethylbenzene	19.02	105	14044	41.2074	ppt		96
62) Benzyl Chloride	19.23	91	6561	36.4442	ppt	#	87
63) m-Dichlorobenzene	0.00	146		Not Detected			
64) p-Dichlorobenzene	0.00	146		Not Detected			
65) o-Dichlorobenzene	19.80	146	10143	41.7516	ppt		93
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected			
67) Naphthalene	0.00	128		Not Detected			
68) Hexachloro-1,3-butadiene	23.03	225	4545	53.2983	ppt	#	19

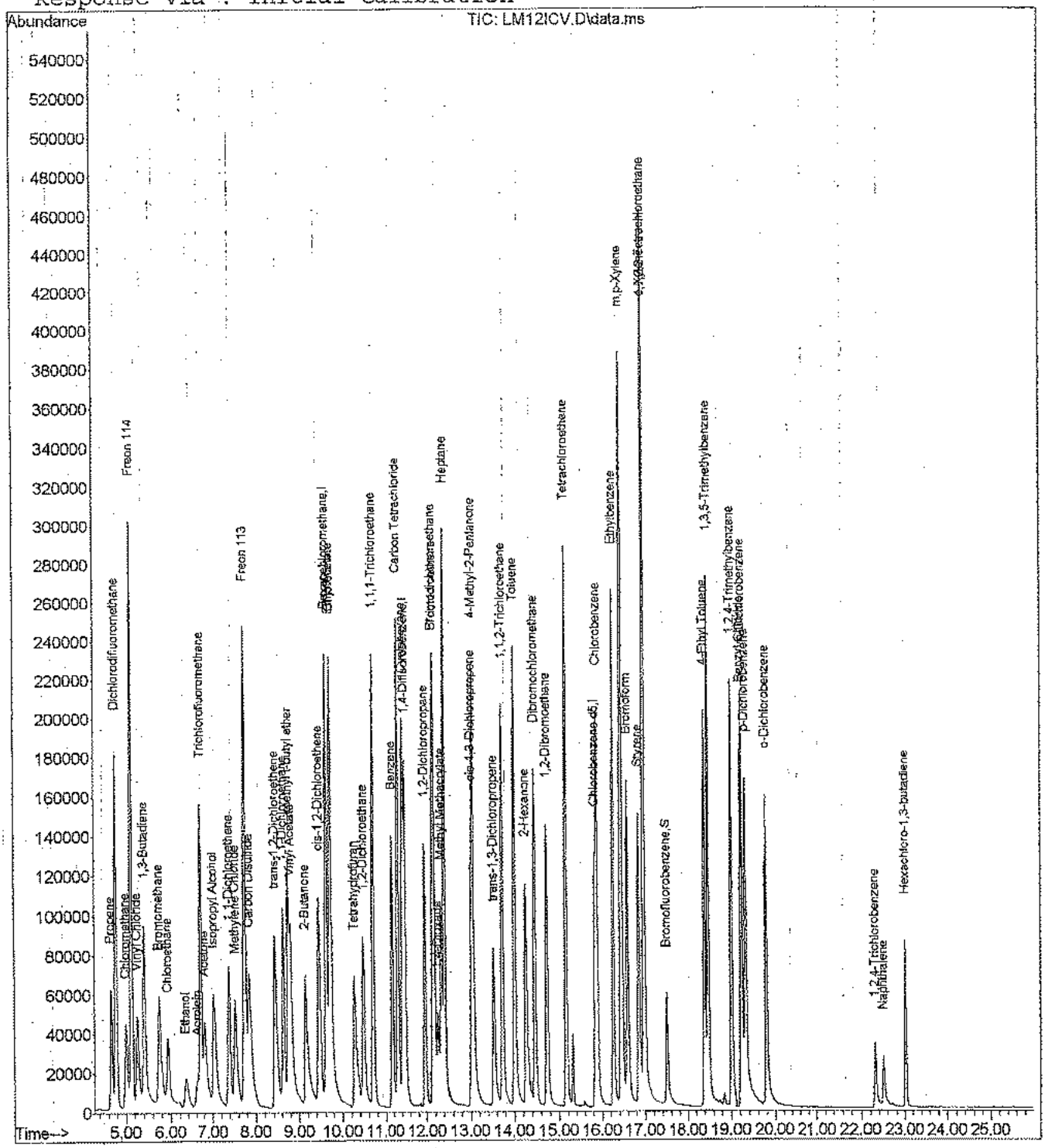
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM12ICV.D Vial: 2
Acq Time : 03/27/2017 16:52 Operator: LMR
Sample : 0.5 PPB ICV Inst : 5975-L
Misc : 36126 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:27:54 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM12ICV.D Vial: 2
Acq Time : 03/27/2017 16:52 Operator: LMR
Sample : 0.5 PPB ICV Inst : 5975-L
Misc : 36126 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:27:54 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.63	130	21982	1000.0000	ppt		84.98
25) 1,4-Difluorobenzene	11.47	114	399227	1000.0000	ppt		83.81
50) Chlorobenzene d5	15.84	117	332984	1000.0000	ppt		80.37
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	149346	1003.9599	ppt		100.40%
Target Compounds							Qvalue
2) Propene	4.67	41	116644	440.7935	ppt	#	59
3) Dichlorodifluoromethane	4.77	85	317216	463.4185	ppt		98
4) Chloromethane	5.00	50	133955	476.6616	ppt		97
5) Freon 114	5.13	135	235153	465.5925	ppt	#	56
6) Vinyl Chloride	5.26	62	154153	448.2141	ppt		96
7) 1,3-Butadiene	5.41	54	144443	456.8110	ppt	#	80
8) Bromomethane	5.75	94	140236	466.1438	ppt		100
9) Chloroethane	5.94	64	81286	454.6937	ppt	#	88
10) Acrolein	6.64	56	50577	492.0261	ppt	#	96
11) Acetone	6.81	43	164111	406.8486	ppt		93
12) Trichlorofluoromethane	6.72	101	304603	469.5939	ppt		100
13) Ethanol	6.36	45	63926	885.2971	ppt	#	77
14) Isopropyl Alcohol	7.03	45	213500	454.5700	ppt	#	76
15) 1,1-Dichloroethene	7.39	61	169954	447.0899	ppt	#	53
16) Methylene Chloride	7.53	84	100726	419.9127	ppt	#	15
17) Freon 113	7.75	151	198649	438.3131	ppt	#	53
18) Carbon Disulfide	7.85	76	367259	484.3455	ppt	#	57
19) trans-1,2-Dichloroethene	8.44	96	127681	485.9406	ppt	#	72
20) 1,1-Dichloroethane	8.63	63	249965	479.4660	ppt	#	85
21) methyl t-butyl ether	8.75	73	262336	481.3786	ppt	#	60
22) Vinyl Acetate	8.81	86	27420	495.3838	ppt	#	1
23) 2-Butanone	9.15	43	288146	521.7594	ppt	#	66
24) cis-1,2-Dichloroethene	9.46	96	129418	480.7073	ppt	#	71
26) Ethyl Acetate	9.71	61	40147	533.6381	ppt	#	1
27) Hexane	9.63	57	208162	483.5606	ppt	#	82
28) Chloroform	9.73	83	274280	424.2402	ppt		97
29) Tetrahydrofuran	10.27	42	161141	508.2532	ppt	#	58
30) 1,2-Dichloroethane	10.47	62	178346	468.4261	ppt	#	79
31) 1,1,1-Trichloroethane	10.70	97	261476	458.2678	ppt	#	86
32) Benzene	11.16	78	362172	442.5256	ppt	#	60
33) Carbon Tetrachloride	11.29	117	289812	463.8172	ppt	#	86
34) Cyclohexane	11.42	84	149452	465.5667	ppt	#	22
35) 1,2-Dichloropropane	11.96	63	151294	476.3667	ppt	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\MAR17L\27MAR17L\LM12ICV.D Vial: 2
Acq Time : 03/27/2017 16:52 Operator: LMR
Sample : 0.5 PPB ICV Inst : 5975-L
Misc : 36126 (200mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 28 10:27:54 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36) Bromodichloromethane	12.14	83	285553	483.4540	ppt		98
37) 1,4-Dioxane	12.26	88	76272	490.8985	ppt	#	75
38) Trichloroethene	12.18	130	174768	477.4350	ppt	#	60
39) Methyl Methacrylate	12.34	69	114668	527.1598	ppt	#	66
40) Heptane	12.42	71	121968	513.0446	ppt	#	32
41) cis-1,3-Dichloropropene	13.02	75	170177	507.9792	ppt	#	93
42) 4-Methyl-2-Pentanone	13.06	43	327544	537.7069	ppt	#	70
43) trans-1,3-Dichloropropene	13.54	75	132947	522.7703	ppt	#	93
44) 1,1,2-Trichloroethane	13.73	97	157719	513.2193	ppt	#	85
45) Toluene	14.01	91	376170	519.4950	ppt		97
46) 2-Hexanone	14.26	43	217842	525.2638	ppt	#	72
47) Dibromochloromethane	14.46	129	291351	519.5405	ppt	#	32
48) 1,2-Dibromoethane	14.73	107	214868	538.8786	ppt		96
49) Tetrachloroethene	15.17	166	195796	525.7176	ppt	#	83
51) Chlorobenzene	15.89	112	322254	587.2322	ppt	#	71
52) Ethylbenzene	16.27	91	426357	637.4385	ppt		94
53) m,p-Xylene	16.45	91	697670	1436.7103	ppt		92
54) Bromoform	16.59	173	206571	609.8415	ppt		99
55) Styrene	16.86	104	201283	731.8694	ppt		99
56) 1,1,2,2-Tetrachloroethane	16.98	83	313647	667.6359	ppt		98
57) o-Xylene	16.97	91	366594	732.0862	ppt		94
59) 4-Ethyl Toluene	18.41	105	301368	820.2433	ppt		96
60) 1,3,5-Trimethylbenzene	18.49	105	372573	857.3454	ppt		93
61) 1,2,4-Trimethylbenzene	19.02	105	296730	820.1121	ppt		96
62) Benzyl Chloride	19.22	91	170482	891.9993	ppt	#	90
63) m-Dichlorobenzene	19.24	146	206030	880.3289	ppt		95
64) p-Dichlorobenzene	19.33	146	232691	853.3092	ppt	#	94
65) o-Dichlorobenzene	19.79	146	204241	791.9118	ppt		95
66) 1,2,4-Trichlorobenzene	22.31	180	34213	703.4658	ppt	#	86
67) Naphthalene	22.50	128	88662	660.4303	ppt	#	71
68) Hexachloro-1,3-butadiene	23.02	225	65652	725.1952	ppt	#	19

(#) = qualifier out of range (m) = manual integration

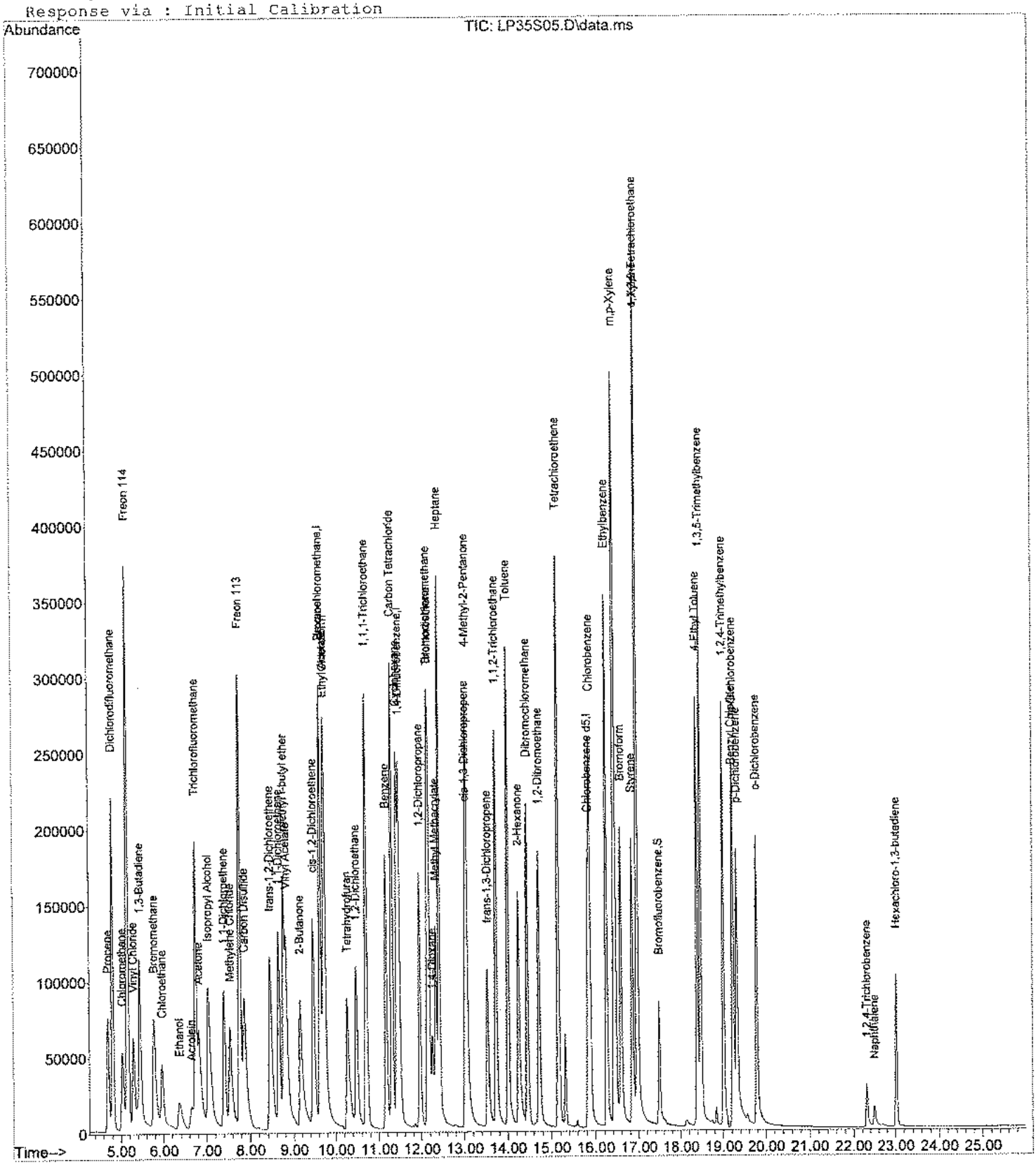
Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\26APR17L\LP35S05.D Vial: 2
Acq Time : 04/26/2017 10:07 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 36126 Multiplr: 1.00
MS Integration Params: rteint.p

CCS/QC

Quant Time: Apr 28 09:22:47 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\26APR17L\LP35S05.D Vial: 2
Acq Time : 04/26/2017 10:07 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 36126 Multiplr: 1.00
MS Integration Params: rteint.p

CLS/QC

Quant Time: Apr 28 09:22:47 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Wed Apr 12 10:55:34 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.64	130	29415	1000.0000	ppt		113.71
25) 1,4-Difluorobenzene	11.48	114	533430	1000.0000	ppt		111.98
50) Chlorobenzene d5	15.84	117	463757	1000.0000	ppt		111.94
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.49	95	211402	1020.3866	ppt		102.04%
Target Compounds							Qvalue
2) Propene	4.71	41	141995	400.9998	ppt	#	59
3) Dichlorodifluoromethane	4.81	85	388067	423.6657	ppt		99
4) Chloromethane	5.04	50	158305	420.9633	ppt		97
5) Freon 114	5.16	135	293004	433.5382	ppt	#	59
6) Vinyl Chloride	5.30	62	196987	428.0253	ppt		97
7) 1,3-Butadiene	5.45	54	175222	414.1208	ppt	#	82
8) Bromomethane	5.79	94	180371	448.0489	ppt		99
9) Chloroethane	5.97	64	109859	459.2374	ppt	#	87
10) Acrolein	6.65	56	52913	384.6766	ppt	#	95
11) Acetone	6.82	43	225639	418.0302	ppt		99
12) Trichlorofluoromethane	6.74	101	379850	437.6216	ppt		100
13) Ethanol	6.37	45	85295	882.7413	ppt	#	77
14) Isopropyl Alcohol	7.04	45	376175	598.5372	ppt	#	86
15) 1,1-Dichloroethene	7.41	61	210561	413.9422	ppt	#	54
16) Methylene Chloride	7.55	84	127469	397.1187	ppt	#	21
17) Freon 113	7.77	151	251155	414.1315	ppt	#	54
18) Carbon Disulfide	7.87	76	446633	440.1817	ppt	#	62
19) trans-1,2-Dichloroethene	8.46	96	160232	455.7268	ppt	#	73
20) 1,1-Dichloroethane	8.65	63	307686	441.0468	ppt	#	84
21) methyl t-butyl ether	8.77	73	347140	476.0273	ppt	#	60
22) Vinyl Acetate	8.83	86	36163	488.2443	ppt	#	1
23) 2-Butanone	9.15	43	354882	480.2197	ppt	#	67
24) cis-1,2-Dichloroethene	9.47	96	163241	453.1205	ppt	#	72
26) Ethyl Acetate	9.72	61	51072	508.0648	ppt	#	1
27) Hexane	9.64	57	268939	467.5690	ppt	#	83
28) Chloroform	9.74	83	335236	388.0706	ppt		97
29) Tetrahydrofuran	10.27	42	197987	467.3618	ppt	#	61
30) 1,2-Dichloroethane	10.48	62	219236	430.9552	ppt	#	79
31) 1,1,1-Trichloroethane	10.71	97	330473	433.4769	ppt	#	87
32) Benzene	11.17	78	465809	425.9650	ppt	#	60
33) Carbon Tetrachloride	11.31	117	364718	436.8478	ppt	#	85
34) Cyclohexane	11.42	84	196152	457.3149	ppt	#	26
35) 1,2-Dichloropropane	11.96	63	187968	442.9412	ppt	#	88
36) Bromodichloromethane	12.15	83	353284	447.6461	ppt		98
37) 1,4-Dioxane	12.27	88	97778	470.9884	ppt	#	79
38) Trichloroethene	12.18	130	226550	463.1897	ppt	#	60
39) Methyl Methacrylate	12.34	69	142783	491.2686	ppt	#	68
40) Heptane	12.43	71	157168	494.7842	ppt	#	37
41) cis-1,3-Dichloropropene	13.02	75	215082	480.4980	ppt		95
42) 4-Methyl-2-Pentanone	13.06	43	412146	506.3718	ppt	#	72
43) trans-1,3-Dichloropropene	13.54	75	169351	498.3822	ppt	#	93
44) 1,1,2-Trichloroethane	13.73	97	193823	472.0269	ppt	#	86
45) Toluene	14.01	91	510687	527.8305	ppt		98
46) 2-Hexanone	14.26	43	280963	507.0228	ppt	#	74
47) Dibromochloromethane	14.46	129	359612	479.9318	ppt	#	32
48) 1,2-Dibromoethane	14.73	107	266478	500.1762	ppt		98
49) Tetrachloroethene	15.17	166	253240	508.8895	ppt	#	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\26APR17L\LP35S05.D Vial: 2
Acq Time : 04/26/2017 10:07 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 36126 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:22:47 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Wed Apr 12 10:55:34 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51) Chlorobenzene	15.89	112	414401	542.2071	ppt	#	71
52) Ethylbenzene	16.26	91	575989	618.3181	ppt		93
53) m,p-Xylene	16.45	91	901677	1333.2238	ppt		92
54) Bromoform	16.59	173	243133	515.3763	ppt		99
55) Styrene	16.85	104	250636	654.3390	ppt		98
56) 1,1,2,2-Tetrachloroethane	16.97	83	371938	568.4627	ppt		99
57) o-Xylene	16.97	91	464805	666.4699	ppt		95
59) 4-Ethyl Toluene	18.40	105	417966	816.8069	ppt		95
60) 1,3,5-Trimethylbenzene	18.48	105	464308	767.1557	ppt		94
61) 1,2,4-Trimethylbenzene	19.01	105	380863	755.8114	ppt		95
62) Benzyl Chloride	19.21	91	170978	642.3314	ppt		94
63) m-Dichlorobenzene	19.23	146	238201	730.7872	ppt		95
64) p-Dichlorobenzene	19.33	146	245427	646.2225	ppt	#	93
65) o-Dichlorobenzene	19.78	146	239452	666.6306	ppt	#	96
66) 1,2,4-Trichlorobenzene	22.31	180	30411	448.9680	ppt	#	84
67) Naphthalene	22.50	128	49761	266.1408	ppt	#	71
68) Hexachloro-1,3-butadiene	23.02	225	78978	626.3917	ppt	#	19

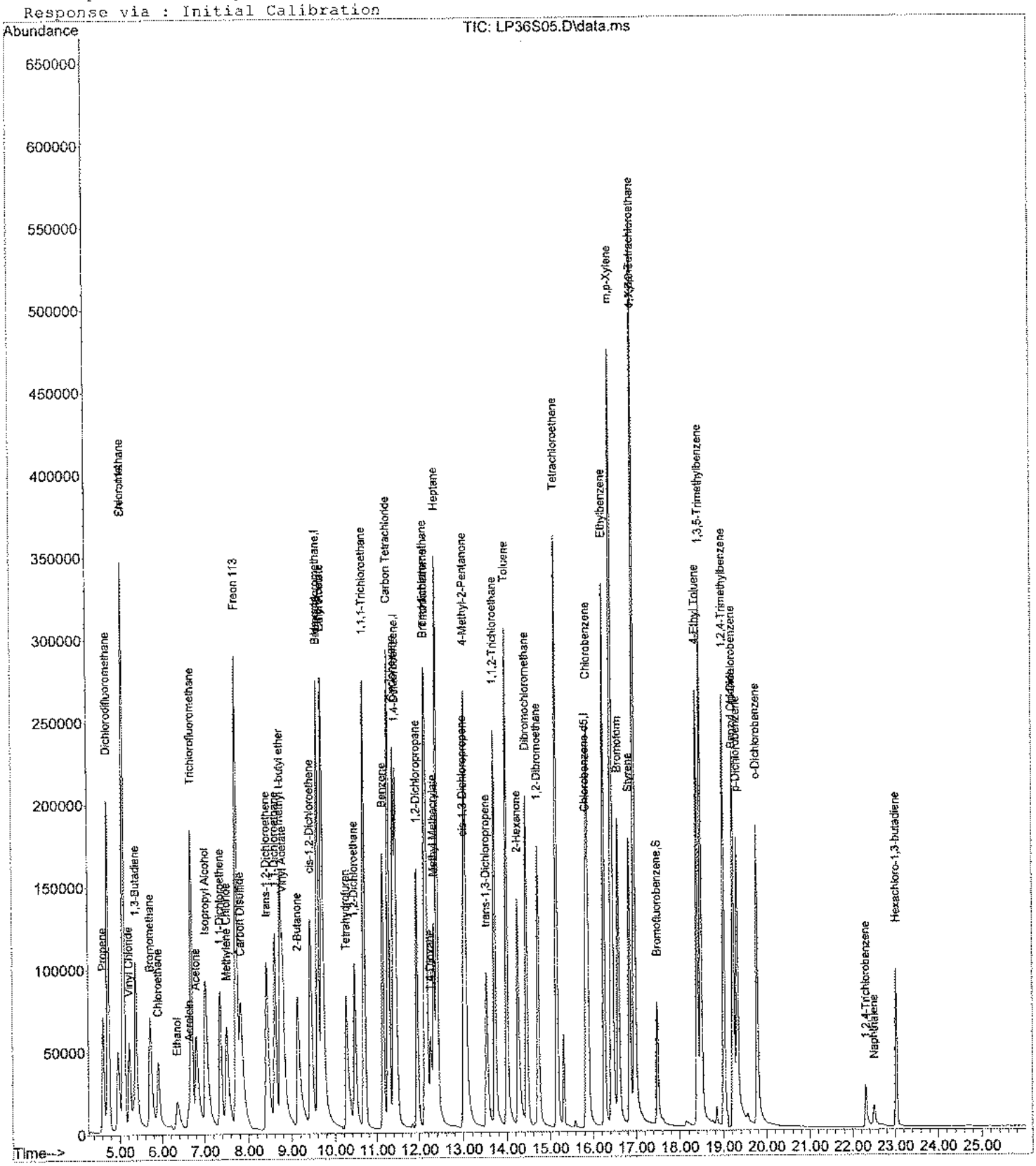
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\26APR17L\LP36S05.D Vial: 2
Acq Time : 04/26/2017 10:55 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 36126 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:17 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\26APR17L\LP36S05.D Vial: 2
Acq Time : 04/26/2017 10:55 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 36126 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:17 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.63	130	26572	1000.0000	ppt		102.72
25) 1,4-Difluorobenzene	11.47	114	505121	1000.0000	ppt		106.04
50) Chlorobenzene d5	15.84	117	429964	1000.0000	ppt		103.78
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	195836	1019.5454	ppt		101.95%
Target Compounds							Qvalue
2) Propene	4.62	41	140325	438.6830	ppt	#	59
3) Dichlorodifluoromethane	4.73	85	378793	457.7867	ppt		99
4) Chloromethane	5.09	50	58355	171.7799	ppt	#	41
5) Freon 114	5.09	135	282764	463.1509	ppt	#	58
6) Vinyl Chloride	5.23	62	180955	435.2583	ppt		94
7) 1,3-Butadiene	5.39	54	161623	422.8498	ppt	#	81
8) Bromomethane	5.72	94	174166	478.9241	ppt		99
9) Chloroethane	5.91	64	100375	464.4851	ppt	#	87
10) Acrolein	6.64	56	51425	413.8589	ppt	#	96
11) Acetone	6.80	43	219071	449.2861	ppt		100
12) Trichlorofluoromethane	6.69	101	366522	467.4458	ppt		100
13) Ethanol	6.35	45	81128	929.4483	ppt	#	75
14) Isopropyl Alcohol	7.03	45	362327	638.1849	ppt	#	85
15) 1,1-Dichloroethene	7.36	61	204011	443.9765	ppt	#	54
16) Methylene Chloride	7.51	84	119763	413.0314	ppt	#	21
17) Freon 113	7.73	151	239111	436.4561	ppt	#	56
18) Carbon Disulfide	7.83	76	430018	469.1508	ppt	#	63
19) trans-1,2-Dichloroethene	8.43	96	154148	485.3307	ppt	#	73
20) 1,1-Dichloroethane	8.62	63	292722	464.4906	ppt	#	85
21) methyl t-butyl ether	8.75	73	328240	498.2684	ppt	#	60
22) Vinyl Acetate	8.81	86	35270	527.1361	ppt	#	1
23) 2-Butanone	9.15	43	329840	494.0876	ppt	#	68
24) cis-1,2-Dichloroethene	9.45	96	155858	478.9147	ppt	#	72
26) Ethyl Acetate	9.71	61	50093	526.2538	ppt	#	1
27) Hexane	9.61	57	258367	474.3632	ppt	#	84
28) Chloroform	9.72	83	324365	396.5301	ppt		97
29) Tetrahydrofuran	10.27	42	191691	477.8595	ppt	#	61
30) 1,2-Dichloroethane	10.46	62	211029	438.0709	ppt	#	79
31) 1,1,1-Trichloroethane	10.69	97	314809	436.0729	ppt	#	87
32) Benzene	11.16	78	443714	428.5003	ppt	#	60
33) Carbon Tetrachloride	11.29	117	347685	439.7855	ppt	#	86
34) Cyclohexane	11.42	84	187552	461.7706	ppt	#	25
35) 1,2-Dichloropropane	11.96	63	180122	448.2403	ppt	#	88
36) Bromodichloromethane	12.14	83	338317	452.7065	ppt		98
37) 1,4-Dioxane	12.27	88	93295	474.5800	ppt	#	78
38) Trichloroethene	12.17	130	217170	468.8961	ppt	#	60
39) Methyl Methacrylate	12.34	69	136406	495.6305	ppt	#	67
40) Heptane	12.42	71	150506	500.3657	ppt	#	35
41) cis-1,3-Dichloropropene	13.02	75	208332	491.5023	ppt	#	93
42) 4-Methyl-2-Pentanone	13.05	43	389173	504.9439	ppt	#	72
43) trans-1,3-Dichloropropene	13.53	75	162658	505.5129	ppt	#	93
44) 1,1,2-Trichloroethane	13.73	97	185981	478.3128	ppt	#	85
45) Toluene	14.01	91	487609	532.2227	ppt		98
46) 2-Hexanone	14.26	43	264884	504.7962	ppt	#	74
47) Dibromochloromethane	14.46	129	347912	490.3394	ppt	#	32
48) 1,2-Dibromoethane	14.72	107	258571	512.5350	ppt		96
49) Tetrachloroethene	15.16	166	241743	513.0115	ppt	#	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\26APR17L\LP36S05.D Vial: 2
Acq Time : 04/26/2017 10:55 Operator: LMR
Sample : 0.5 PPB Inst : 5975-L
Misc : 36126 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:17 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51) Chlorobenzene	15.89	112	397987	561.6577	ppt	#	72
52) Ethylbenzene	16.27	91	547601	634.0455	ppt		94
53) m,p-Xylene	16.45	91	859956	1371.4711	ppt		92
54) Bromoform	16.59	173	234000	535.0012	ppt		99
55) Styrene	16.85	104	239597	674.6820	ppt		99
56) 1,1,2,2-Tetrachloroethane	16.98	83	364022	600.0915	ppt		98
57) o-Xylene	16.97	91	452561	699.9149	ppt		94
59) 4-Ethyl Toluene	18.41	105	388214	818.2915	ppt		97
60) 1,3,5-Trimethylbenzene	18.49	105	452794	806.9310	ppt		92
61) 1,2,4-Trimethylbenzene	19.02	105	362689	776.3140	ppt		96
62) Benzyl Chloride	19.22	91	162887	660.0300	ppt		93
63) m-Dichlorobenzene	19.24	146	224122	741.6351	ppt		96
64) p-Dichlorobenzene	19.33	146	250139	710.3944	ppt		92
65) o-Dichlorobenzene	19.79	146	233595	701.4371	ppt		96
66) 1,2,4-Trichlorobenzene	22.32	180	27770	442.2002	ppt	#	85
67) Naphthalene	22.51	128	45637	263.2679	ppt	#	71
68) Hexachloro-1,3-butadiene	23.02	225	75511	645.9642	ppt	#	19

(#) = qualifier out of range (m) = manual integration

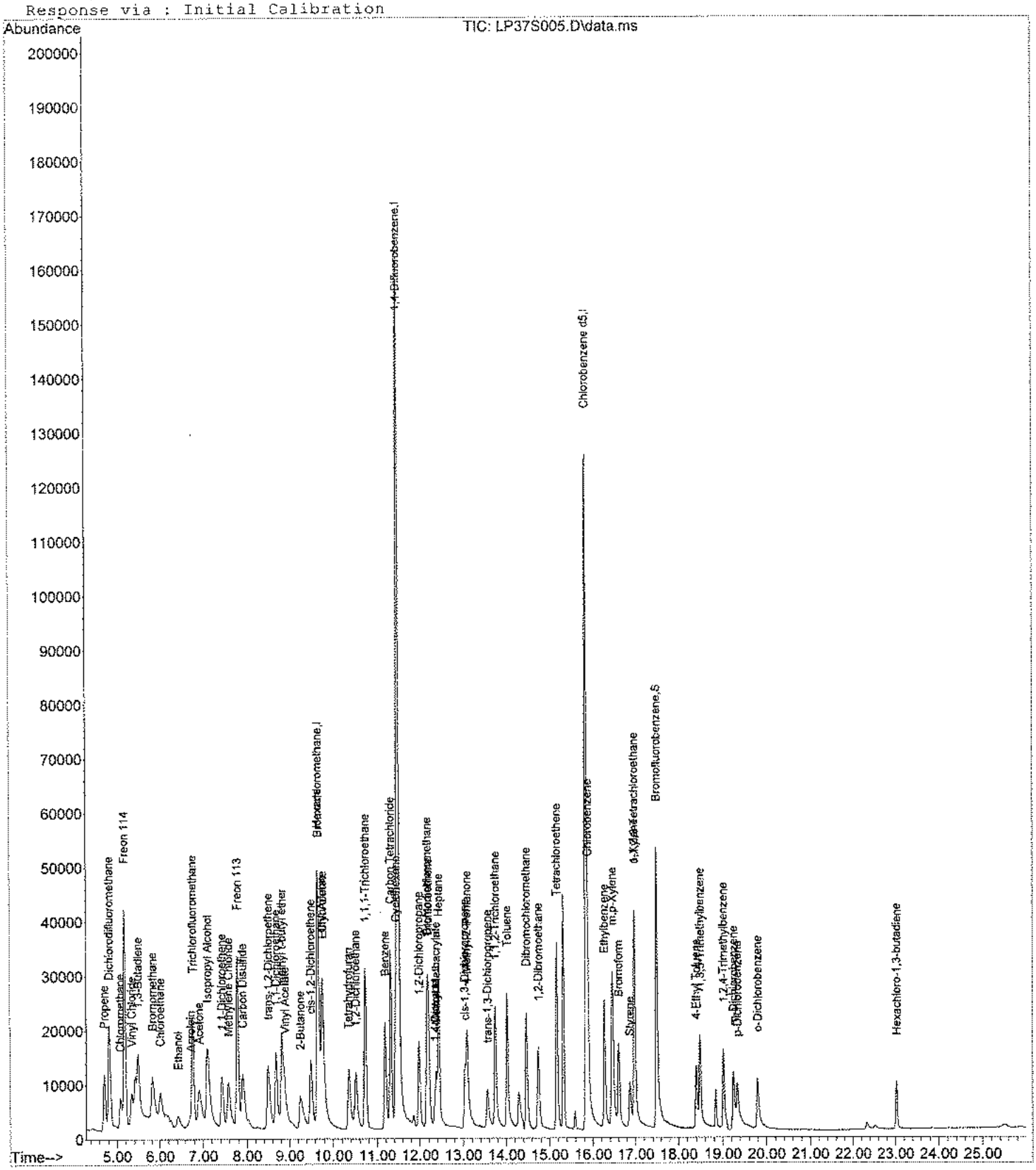
Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP37S005.D Vial: 2
Acq Time : 04/26/2017 11:41 Operator: LMR
Sample : 0.05 PPB Inst : 5975-L
Misc : 36126(20 mL) Multiplr: 1.00
MS Integration Params: rteint.p

RLVS

Quant Time: Apr 28 09:23:28 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP37S005.D Vial: 2
Acq Time : 04/26/2017 11:41 Operator: LMR
Sample : 0.05 PPB Inst : 5975-L
Misc : 36126(20 mL) Multiplr: 1.00
MS Integration Params: rteint.p

RLVS

Quant Time: Apr 28 09:23:28 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.68	130	24846	1000.0000	ppt		96.05
25) 1,4-Difluorobenzene	11.49	114	426983	1000.0000	ppt		89.64
50) Chlorobenzene d5	15.85	117	376326	1000.0000	ppt		90.84
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	145469	865.2714	ppt		86.53%
Target Compounds							Qvalue
2) Propene	4.71	41	21423	71.6249	ppt	#	58
3) Dichlorodifluoromethane	4.83	85	43210	55.8487	ppt		99
4) Chloromethane	5.09	50	17708	55.7483	ppt		92
5) Freon 114	5.18	135	31549	55.2652	ppt	#	57
6) Vinyl Chloride	5.34	62	22216	57.1492	ppt		97
7) 1,3-Butadiene	5.49	54	19750	55.2609	ppt	#	37
8) Bromomethane	5.82	94	19953	58.6785	ppt		99
9) Chloroethane	6.00	64	10738	53.1419	ppt	#	88
10) Acrolein	6.72	56	5232	45.0312	ppt	#	72
11) Acetone	6.92	43	33145	72.6982	ppt		97
12) Trichlorofluoromethane	6.77	101	40699	55.5115	ppt		100
13) Ethanol	6.43	45	6022	73.7841	ppt	#	69
14) Isopropyl Alcohol	7.10	45	57158	107.6690	ppt	#	82
15) 1,1-Dichloroethene	7.44	61	21912	50.9984	ppt	#	52
16) Methylene Chloride	7.58	84	16702	61.6023	ppt	#	20
17) Freon 113	7.79	151	26359	51.4562	ppt	#	52
18) Carbon Disulfide	7.90	76	49424	57.6675	ppt	#	64
19) trans-1,2-Dichloroethene	8.50	96	16583	55.8381	ppt	#	72
20) 1,1-Dichloroethane	8.68	63	32356	54.9091	ppt	#	85
21) methyl t-butyl ether	8.82	73	32254	52.3628	ppt	#	60
22) Vinyl Acetate	8.90	86	3108	49.6782	ppt	#	1
23) 2-Butanone	9.26	43	29578	47.3846	ppt	#	60
24) cis-1,2-Dichloroethene	9.50	96	15835	52.0373	ppt	#	69
26) Ethyl Acetate	9.78	61	4027	50.0478	ppt	#	1
27) Hexane	9.65	57	24286	52.7491	ppt	#	83
28) Chloroform	9.77	83	35343	51.1129	ppt		96
29) Tetrahydrofuran	10.34	42	18795	55.4276	ppt	#	61
30) 1,2-Dichloroethane	10.51	62	22413	55.0411	ppt	#	80
31) 1,1,1-Trichloroethane	10.72	97	34296	56.2005	ppt	#	87
32) Benzene	11.19	78	53522	61.1456	ppt	#	60
33) Carbon Tetrachloride	11.32	117	37777	56.5285	ppt	#	86
34) Cyclohexane	11.44	84	18603	54.1842	ppt	#	5
35) 1,2-Dichloropropane	11.99	63	18808	55.3696	ppt	#	87
36) Bromodichloromethane	12.16	83	35215	55.7449	ppt		98
37) 1,4-Dioxane	12.34	88	7614	45.8193	ppt		90
38) Trichloroethene	12.20	130	21965	56.1039	ppt	#	60
39) Methyl Methacrylate	12.38	69	12688	54.5384	ppt	#	58
40) Heptane	12.44	71	12975	51.0300	ppt	#	39
41) cis-1,3-Dichloropropene	13.04	75	18737	52.2943	ppt		95
42) 4-Methyl-2-Pentanone	13.09	43	31660	48.5955	ppt	#	70
43) trans-1,3-Dichloropropene	13.56	75	13879	51.0270	ppt	#	92
44) 1,1,2-Trichloroethane	13.75	97	18801	57.2017	ppt	#	85
45) Toluene	14.02	91	43700	56.4271	ppt		98
46) 2-Hexanone	0.00	43		Not Detected			
47) Dibromochloromethane	14.48	129	34185	56.9965	ppt	#	28
48) 1,2-Dibromoethane	14.74	107	24231	56.8198	ppt		95
49) Tetrachloroethene	15.17	166	23886	59.9655	ppt	#	81

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP37S005.D Vial: 2
Acq Time : 04/26/2017 11:41 Operator: LMR
Sample : 0.05 PPB Inst : 5975-L
Misc : 36126(20 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:28 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51) Chlorobenzene	15.89	112	37405	60.3115 ppt	#	64
52) Ethylbenzene	16.27	91	43055	56.9571 ppt		94
53) m,p-Xylene	16.45	91	57979	105.6450 ppt		93
54) Bromoform	16.60	173	21290	55.6138 ppt		99
55) Styrene	16.87	104	13891	44.6909 ppt		98
56) 1,1,2,2-Tetrachloroethane	16.98	83	32132	60.5195 ppt		99
57) o-Xylene	16.98	91	30881	54.5667 ppt		94
59) 4-Ethyl Toluene	18.41	105	18934	45.5981 ppt		97
60) 1,3,5-Trimethylbenzene	18.49	105	26526	54.0101 ppt		88
61) 1,2,4-Trimethylbenzene	19.02	105	23916	58.4870 ppt		97
62) Benzyl Chloride	0.00	91		Not Detected		
63) m-Dichlorobenzene	19.26	146	12745	48.1852 ppt		95
64) p-Dichlorobenzene	19.34	146	14570	47.2765 ppt		93
65) o-Dichlorobenzene	19.80	146	15718	53.9250 ppt		93
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected		
67) Naphthalene	0.00	128		Not Detected		
68) Hexachloro-1,3-butadiene	23.02	225	7089	69.2869 ppt	#	19

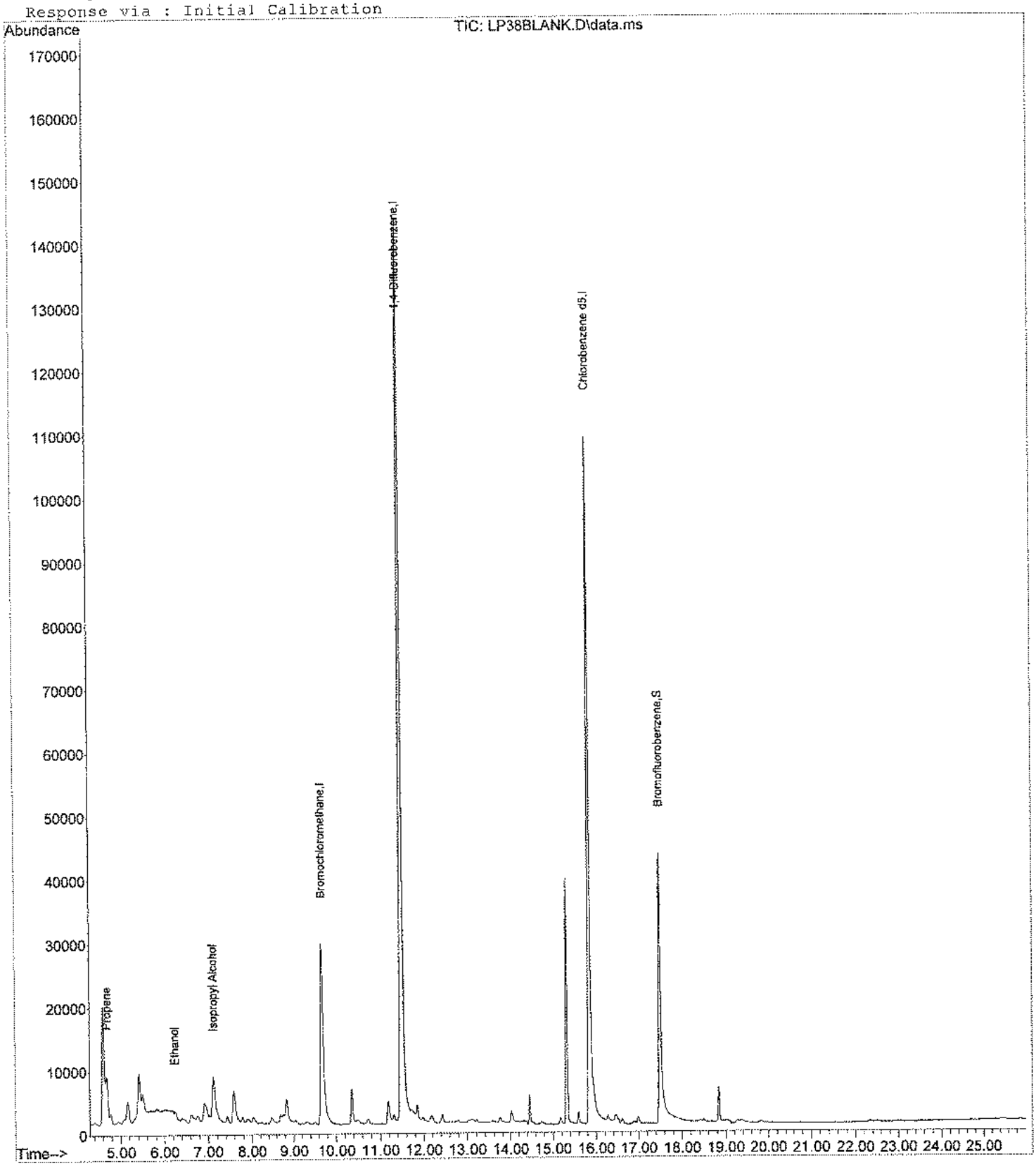
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...\26APR17L\LP38BLANK.D Vial: 1
Acq Time : 04/26/2017 12:30 Operator: LMR
Sample : BLANK Inst : 5975-L
Misc : BL- Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:37 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...\26APR17L\LP38BLANK.D Vial: 1
Acq Time : 04/26/2017 12:30 Operator: LMR
Sample : BLANK Inst : 5975-L
Misc : BL- Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:37 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.67	130	23542	1000.0000	ppt		91.01
25) 1,4-Difluorobenzene	11.49	114	380943	1000.0000	ppt		79.97
50) Chlorobenzene d5	15.85	117	350399	1000.0000	ppt		84.58
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.50	95	133083	850.1701	ppt		85.02%
Target Compounds							Qvalue
2) Propene	4.69	41	11796	41.6228	ppt	#	49
3) Dichlorodifluoromethane	0.00	85		Not Detected			
4) Chloromethane	0.00	50		Not Detected			
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	0.00	54		Not Detected			
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	0.00	56		Not Detected			
11) Acetone	0.00	43		Not Detected			
12) Trichlorofluoromethane	0.00	101		Not Detected			
13) Ethanol	6.24	45	3875	50.1080	ppt	#	56
14) Isopropyl Alcohol	7.11	45	24233	48.1763	ppt	#	82
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	0.00	84		Not Detected			
17) Freon 113	0.00	151		Not Detected			
18) Carbon Disulfide	0.00	76		Not Detected			
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	0.00	86		Not Detected			
23) 2-Butanone	0.00	43		Not Detected			
24) cis-1,2-Dichloroethene	0.00	96		Not Detected			
26) Ethyl Acetate	0.00	61		Not Detected			
27) Hexane	0.00	57		Not Detected			
28) Chloroform	0.00	83		Not Detected			
29) Tetrahydrofuran	0.00	42		Not Detected			
30) 1,2-Dichloroethane	0.00	62		Not Detected			
31) 1,1,1-Trichloroethane	0.00	97		Not Detected			
32) Benzene	0.00	78		Not Detected			
33) Carbon Tetrachloride	0.00	117		Not Detected			
34) Cyclohexane	0.00	84		Not Detected			
35) 1,2-Dichloropropane	0.00	63		Not Detected			
36) Bromodichloromethane	0.00	83		Not Detected			
37) 1,4-Dioxane	0.00	88		Not Detected			
38) Trichloroethene	0.00	130		Not Detected			
39) Methyl Methacrylate	0.00	69		Not Detected			
40) Heptane	0.00	71		Not Detected			
41) cis-1,3-Dichloropropene	0.00	75		Not Detected			
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected			
43) trans-1,3-Dichloropropene	0.00	75		Not Detected			
44) 1,1,2-Trichloroethane	0.00	97		Not Detected			
45) Toluene	0.00	91		Not Detected			
46) 2-Hexanone	0.00	43		Not Detected			
47) Dibromochloromethane	0.00	129		Not Detected			
48) 1,2-Dibromoethane	0.00	107		Not Detected			
49) Tetrachloroethene	0.00	166		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...\26APR17L\LP38BLANK.D Vial: 1
Acq Time : 04/26/2017 12:30 Operator: LMR
Sample : BLANK Inst : 5975-L
Misc : BL- Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:37 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	0.00	91		Not Detected	
53) m,p-Xylene	0.00	91		Not Detected	
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	0.00	91		Not Detected	
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

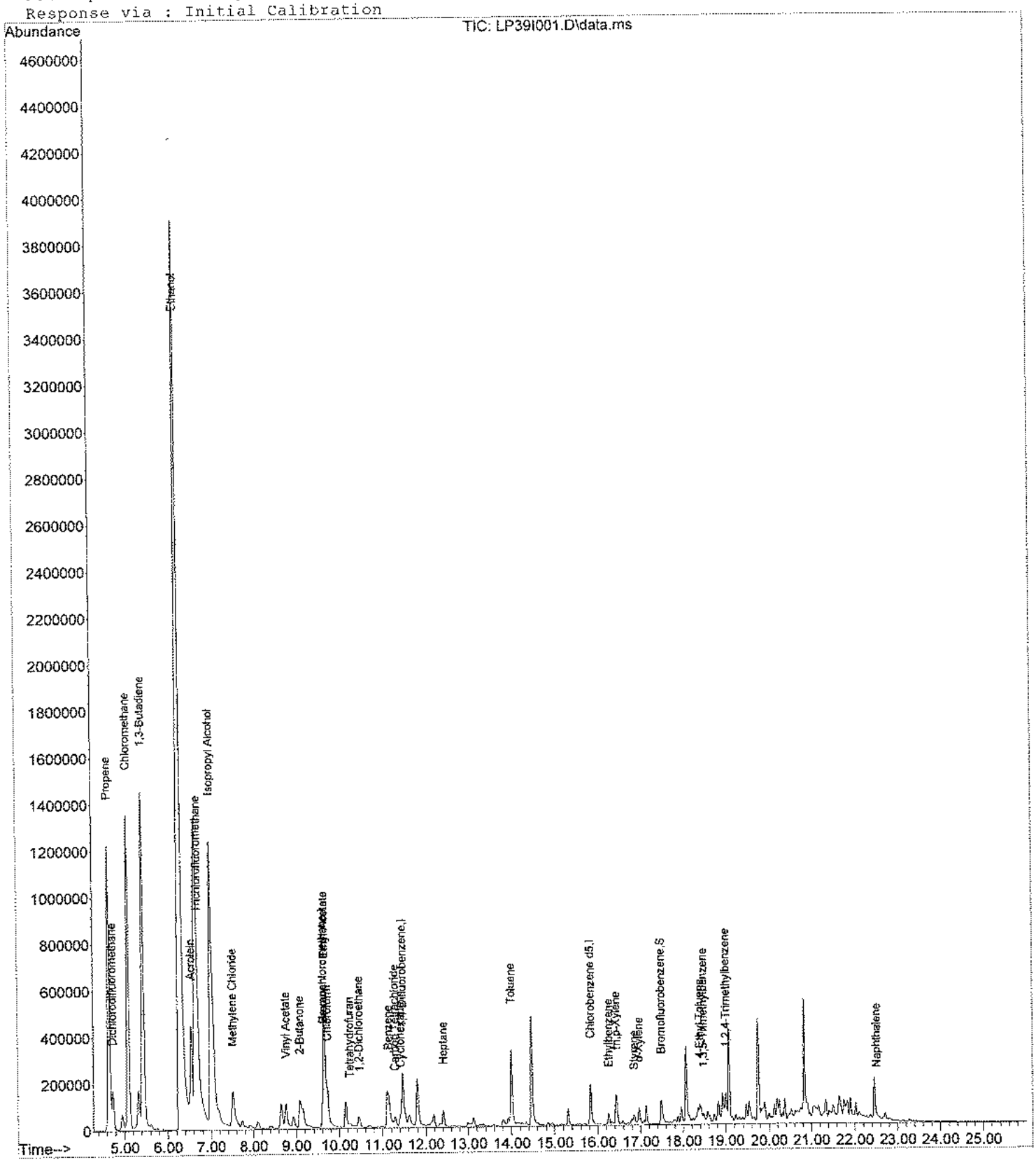
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP39I001.D Vial: 3
Acq Time : 04/26/2017 13:20 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:44 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP39I001.D Vial: 3
Acq Time : 04/26/2017 13:20 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:44 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	9.62	130	33888	1000.0000 ppt	131.00
25) 1,4-Difluorobenzene	11.47	114	549559	1000.0000 ppt	115.37
50) Chlorobenzene d5	15.84	117	481255	1000.0000 ppt	116.16
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	17.49	95	232178	1079.9209 ppt	107.99%
Target Compounds					Qvalue
2) Propene	4.65	41	1799801	4411.8278 ppt #	29
3) Dichlorodifluoromethane	4.74	85	286805	271.7855 ppt	98
4) Chloromethane	5.09	50	91694	211.6476 ppt #	69
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	5.44	54	27168	55.7338 ppt #	1
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	6.55	56	210819	1330.3505 ppt #	73
11) Acetone	0.00	43		Not Detected	
12) Trichlorofluoromethane	6.70	101	147785	147.7883 ppt	99
13) Ethanol	6.27	45	12432771	111686.5127 ppt #	75
14) Isopropyl Alcohol	7.00	45	4027291	5562.0788 ppt #	90
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	7.51	84	214562	580.2184 ppt #	21
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	8.78	86	23026	269.8449 ppt #	1
23) 2-Butanone	9.08	43	489111	574.4952 ppt #	65
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	9.65	61	183215	1769.1324 ppt #	1
27) Hexane	9.62	57	90520	152.7565 ppt #	40
28) Chloroform	9.73	83	170197	191.2384 ppt	97
29) Tetrahydrofuran	10.24	42	34608	79.2969 ppt #	48
30) 1,2-Dichloroethane	10.46	62	23134	44.1402 ppt #	80
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	11.15	78	128460	114.0242 ppt #	53
33) Carbon Tetrachloride	11.29	117	40688	47.3045 ppt #	86
34) Cyclohexane	11.41	84	42762	96.7707 ppt #	1
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	12.41	71	29260	89.4106 ppt #	1
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	
45) Toluene	14.00	91	499652	501.2685 ppt	98
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP39I001.D Vial: 3
Acq Time : 04/26/2017 13:20 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:44 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51) Chlorobenzene	0.00	112		Not Detected		
52) Ethylbenzene	16.26	91	78854	81.5712 ppt		93
53) m,p-Xylene	16.43	91	214332	305.3896 ppt		95
54) Bromoform	0.00	173		Not Detected		
55) Styrene	16.85	104	43451	109.3136 ppt		98
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected		
57) o-Xylene	16.96	91	85027	117.4848 ppt		95
59) 4-Ethyl Toluene	18.39	105	29432	55.4260 ppt		90
60) 1,3,5-Trimethylbenzene	18.48	105	31812	50.6505 ppt		90
61) 1,2,4-Trimethylbenzene	19.01	105	117960	225.5769 ppt		94
62) Benzyl Chloride	0.00	91		Not Detected		
63) m-Dichlorobenzene	0.00	146		Not Detected		
64) p-Dichlorobenzene	0.00	146		Not Detected		
65) o-Dichlorobenzene	0.00	146		Not Detected		
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected		
67) Naphthalene	22.51	128	22514	116.0353 ppt	#	71
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected		

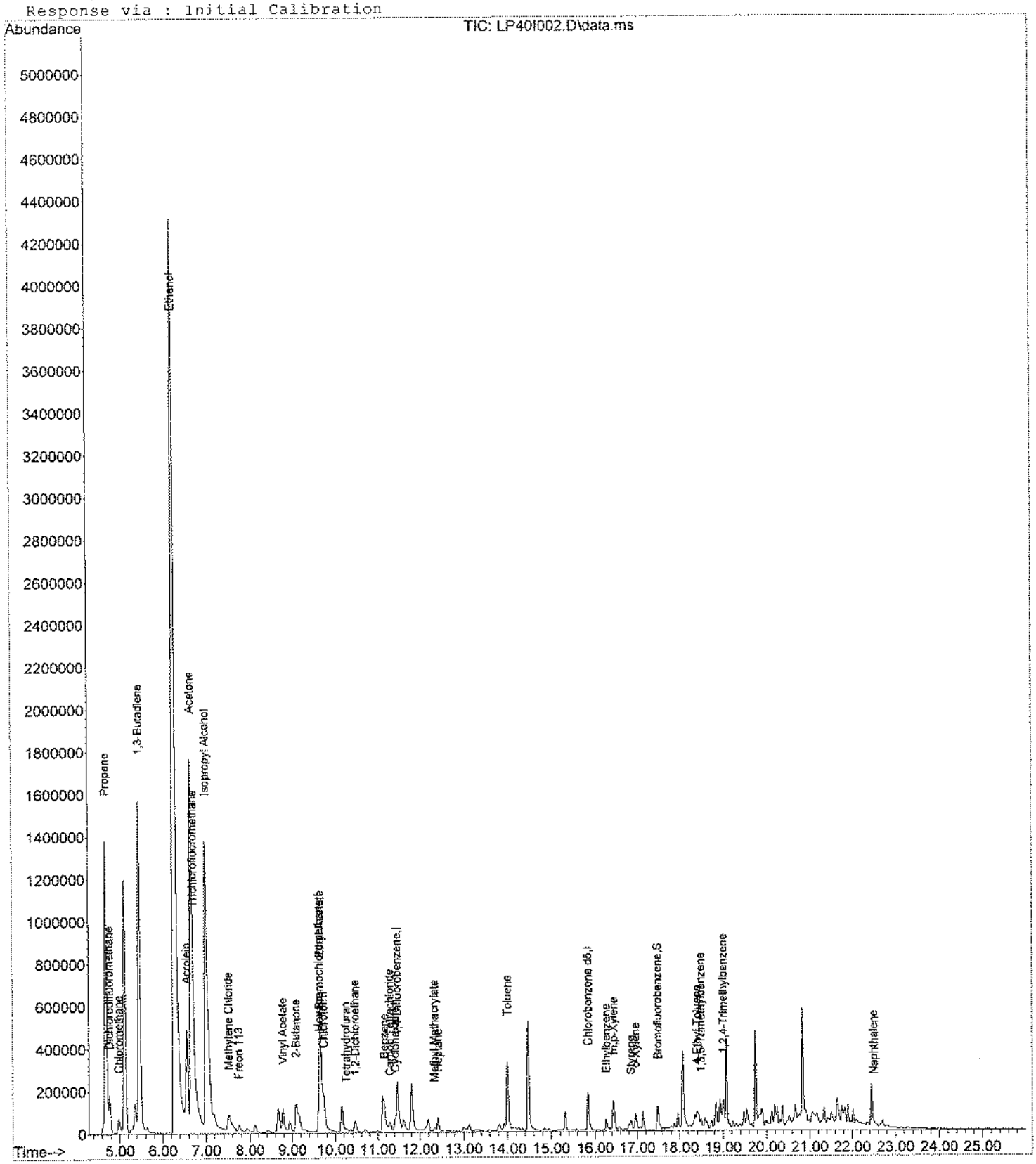
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : 1:\L - 5975-L\2017\A...L\26APR17L\LP40I002.D Vial: 4
Acq Time : 04/26/2017 14:11 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:52 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP40I002.D Vial: 4
Acq Time : 04/26/2017 14:11 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:52 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.63	130	35116	1000.0000 ppt		135.75
25) 1,4-Difluorobenzene	11.47	114	567301	1000.0000 ppt		119.09
50) Chlorobenzene d5	15.84	117	509578	1000.0000 ppt		123.00
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.50	95	250890	1102.0944 ppt		110.21%
Target Compounds						Qvalue
2) Propene	4.69	41	1936100	4579.9712 ppt	#	30
3) Dichlorodifluoromethane	4.77	85	297539	272.0974 ppt		99
4) Chloromethane	4.99	50	167643	373.4211 ppt		98
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	5.47	54	29888	59.1697 ppt	#	1
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	6.57	56	227313	1384.2722 ppt	#	70
11) Acetone	6.66	43	5470244	8489.1460 ppt		96
12) Trichlorofluoromethane	6.72	101	153518	148.1528 ppt		100
13) Ethanol	6.28	45	13460344	116688.9826 ppt	#	75
14) Isopropyl Alcohol	7.00	45	4487707	5981.2164 ppt	#	90
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	7.51	84	79870	208.4315 ppt	#	18
17) Freon 113	7.74	151	29008	40.0662 ppt	#	59
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	8.79	86	23133	261.6185 ppt	#	1
23) 2-Butanone	9.09	43	531304	602.2307 ppt	#	67
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	9.66	61	206473	1931.3606 ppt	#	1
27) Hexane	9.62	57	95174	155.5873 ppt	#	42
28) Chloroform	9.74	83	184427	200.7467 ppt		98
29) Tetrahydrofuran	10.25	42	27924	61.9809 ppt	#	47
30) 1,2-Dichloroethane	10.47	62	24268	44.8557 ppt	#	80
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	11.16	78	135123	116.1874 ppt	#	54
33) Carbon Tetrachloride	11.30	117	43300	48.7669 ppt	#	86
34) Cyclohexane	11.41	84	47554	104.2494 ppt	#	1
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	0.00	83		Not Detected		
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	0.00	130		Not Detected		
39) Methyl Methacrylate	12.34	69	12712	41.1264 ppt	#	54
40) Heptane	12.42	71	27911	82.6211 ppt	#	2
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected		
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	0.00	97		Not Detected		
45) Toluene	14.00	91	504695	490.4927 ppt		97
46) 2-Hexanone	0.00	43		Not Detected		
47) Dibromochloromethane	0.00	129		Not Detected		
48) 1,2-Dibromoethane	0.00	107		Not Detected		
49) Tetrachloroethene	0.00	166		Not Detected		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP40I002.D Vial: 4
Acq Time : 04/26/2017 14:11 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:23:52 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	16.26	91	87355	85.3425 ppt	92
53) m,p-Xylene	16.44	91	233558	314.2871 ppt	95
54) Bromoform	0.00	173		Not Detected	
55) Styrene	16.86	104	49506	117.6243 ppt	96
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	16.97	91	94180	122.8990 ppt	94
59) 4-Ethyl Toluene	18.40	105	33984	60.4412 ppt	91
60) 1,3,5-Trimethylbenzene	18.48	105	34851	52.4050 ppt	89
61) 1,2,4-Trimethylbenzene	19.01	105	128102	231.3558 ppt	94
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	22.50	128	21993	107.0500 ppt #	71
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

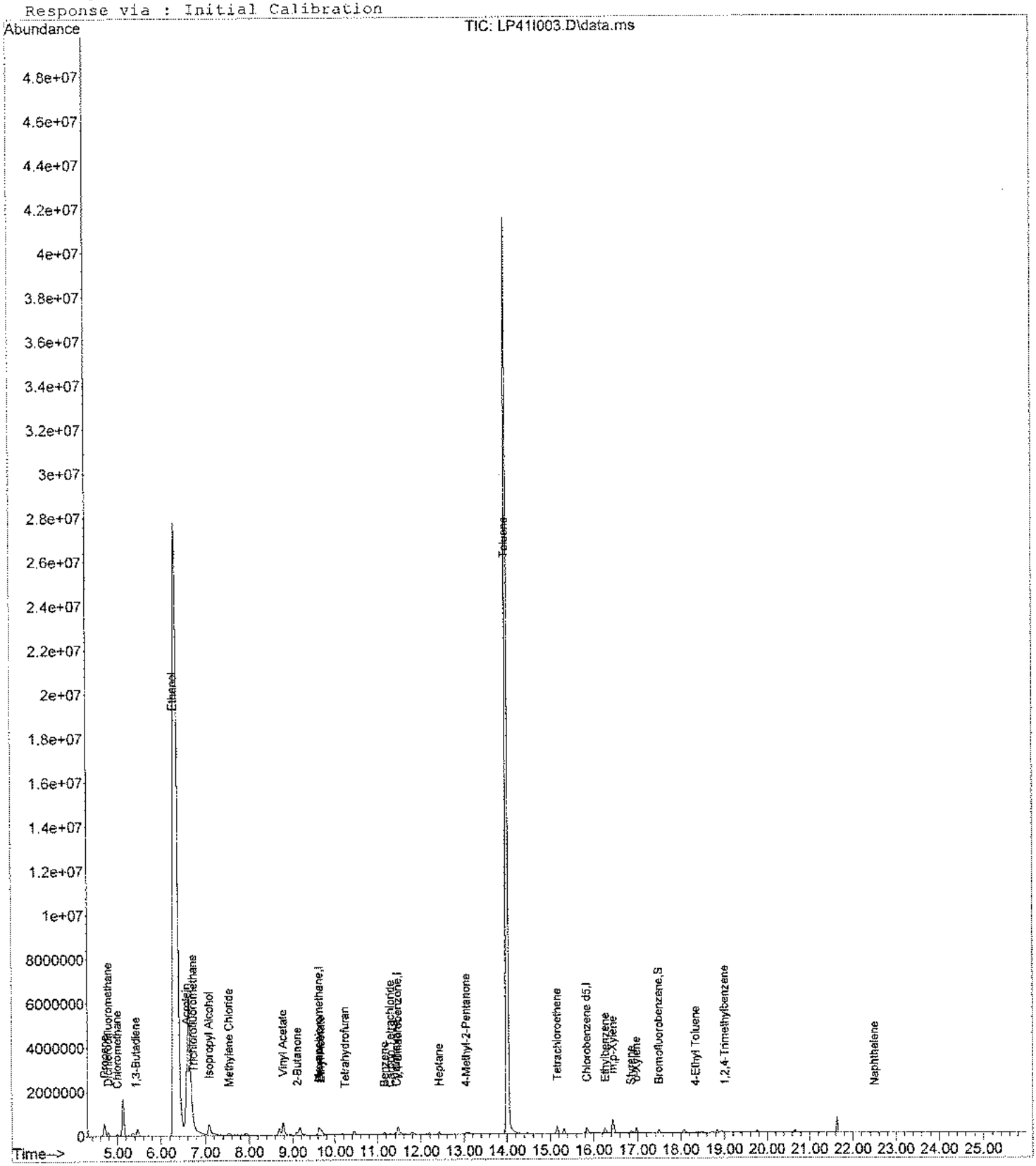
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP41I003.D Vial: 5
Acq Time : 04/26/2017 15:01 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:28:38 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP41I003.D Vial: 5
Acq Time : 04/26/2017 15:01 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:28:38 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.64	130	48395	1000.0000 ppt		187.08#
25) 1,4-Difluorobenzene	11.47	114	783577	1000.0000 ppt		164.50#
50) Chlorobenzene d5	15.84	117	691334	1000.0000 ppt		166.87#
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.49	95	323493	1047.4254 ppt		104.74%
Target Compounds						Qvalue
2) Propene	4.69	41	868393	1490.5818 ppt	#	34
3) Dichlorodifluoromethane	4.78	85	304190	201.8505 ppt		99
4) Chloromethane	4.99	50	201847	326.2423 ppt		98
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	5.43	54	37970	54.5440 ppt	#	12
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	6.58	56	1153759	5098.2000 ppt	#	63
11) Acetone	0.00	43		Not Detected		
12) Trichlorofluoromethane	6.73	101	133315	93.3542 ppt		99
13) Ethanol	6.30	45	77058263	484727.2727 ppt	m	0
14) Isopropyl Alcohol	7.09	45	934401	903.6554 ppt	#	64
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	7.55	84	83916	158.9018 ppt	#	18
17) Freon 113	0.00	151		Not Detected		
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	8.78	86	58325	478.6255 ppt	#	1
23) 2-Butanone	9.10	43	378927	311.6592 ppt	#	77
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	9.67	61	82339	557.6190 ppt	#	1
27) Hexane	9.62	57	282740	334.6377 ppt	#	50
28) Chloroform	0.00	83		Not Detected		
29) Tetrahydrofuran	10.24	42	74122	119.1131 ppt	#	56
30) 1,2-Dichloroethane	0.00	62		Not Detected		
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	11.16	78	159226	99.1233 ppt	#	60
33) Carbon Tetrachloride	11.31	117	50996	41.5819 ppt	#	86
34) Cyclohexane	11.42	84	64263	101.9951 ppt	#	6
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	0.00	83		Not Detected		
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	0.00	130		Not Detected		
39) Methyl Methacrylate	0.00	69		Not Detected		
40) Heptane	12.42	71	40281	86.3272 ppt	#	1
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	13.05	43	107360	89.7959 ppt	#	69
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	0.00	97		Not Detected		
45) Toluene	13.98	91	39029468	27461.7398 ppt	m	0
46) 2-Hexanone	0.00	43		Not Detected		
47) Dibromochloromethane	0.00	129		Not Detected		
48) 1,2-Dibromoethane	0.00	107		Not Detected		
49) Tetrachloroethene	15.17	166	201035	275.0164 ppt	#	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP41I003.D Vial: 5
Acq Time : 04/26/2017 15:01 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:28:38 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

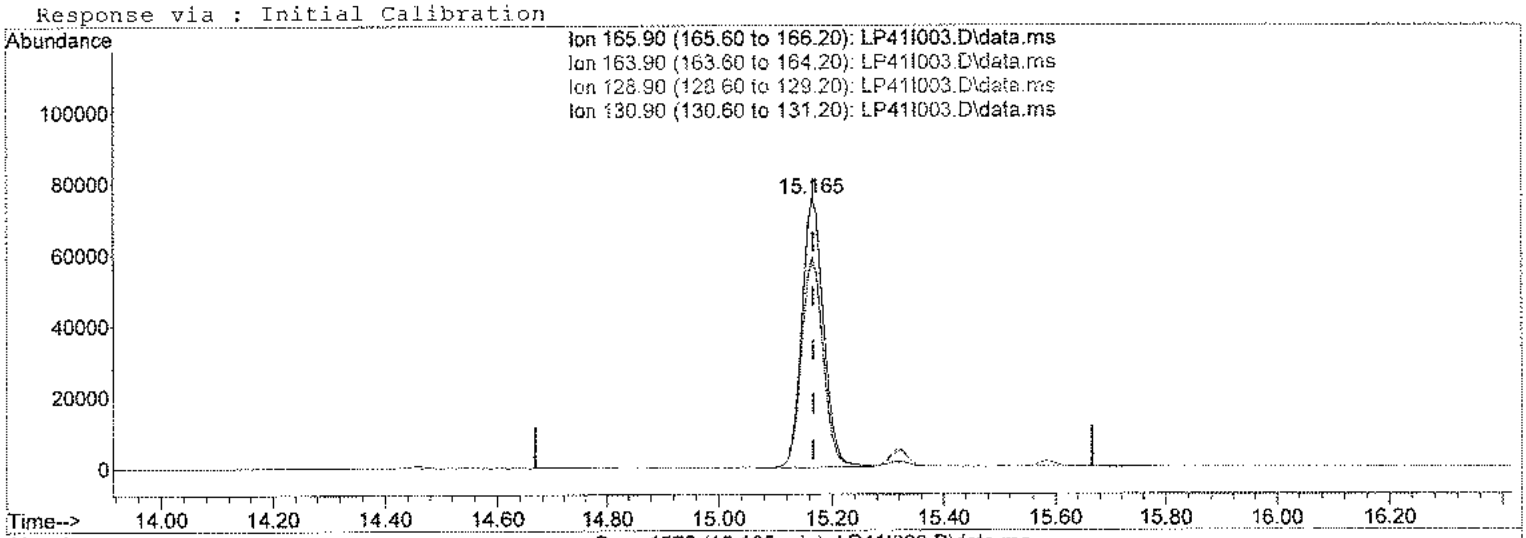
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	16.26	91	393959	283.6948 ppt	93
53) m,p-Xylene	16.44	91	994640	986.5533 ppt	94
54) Bromoform	0.00	173		Not Detected	
55) Styrene	16.86	104	116315	203.7031 ppt	98
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	16.97	91	314295	302.3081 ppt	94
59) 4-Ethyl Toluene	18.34	105	38029	49.8535 ppt	100
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	19.02	105	67352	89.6598 ppt	94
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	22.50	128	27070	97.1210 ppt #	71
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

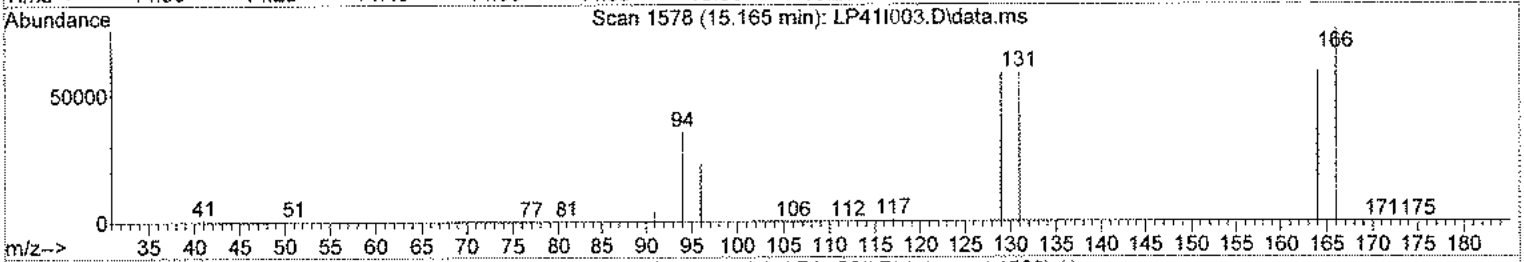
(#) = qualifier out of range (m) = manual integration

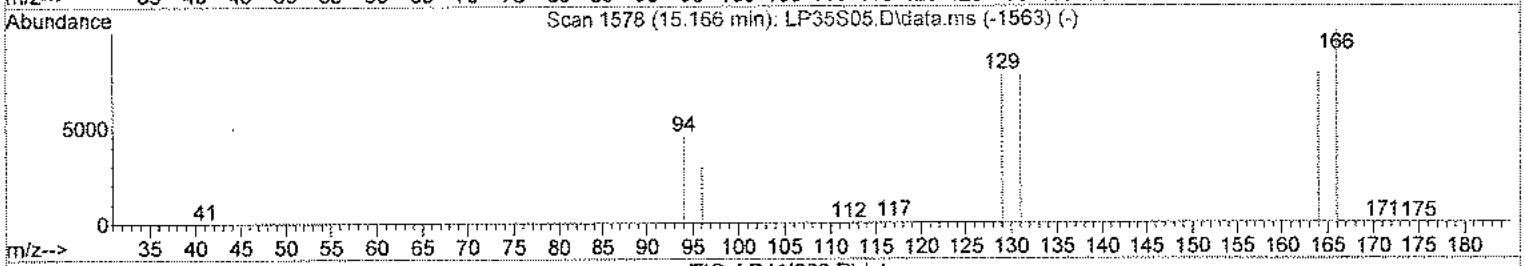
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\26APR17L\
Data File : LP41I003.D
Acq On : 04/26/2017 15:01
Operator : LMR
Sample : 1710499003
Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 28 09:23:59 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration







TIC: LP41I003.D\data.ms

(49) Tetrachloroethene

15.165min (-0.001) 275.02 ppt

response 201035

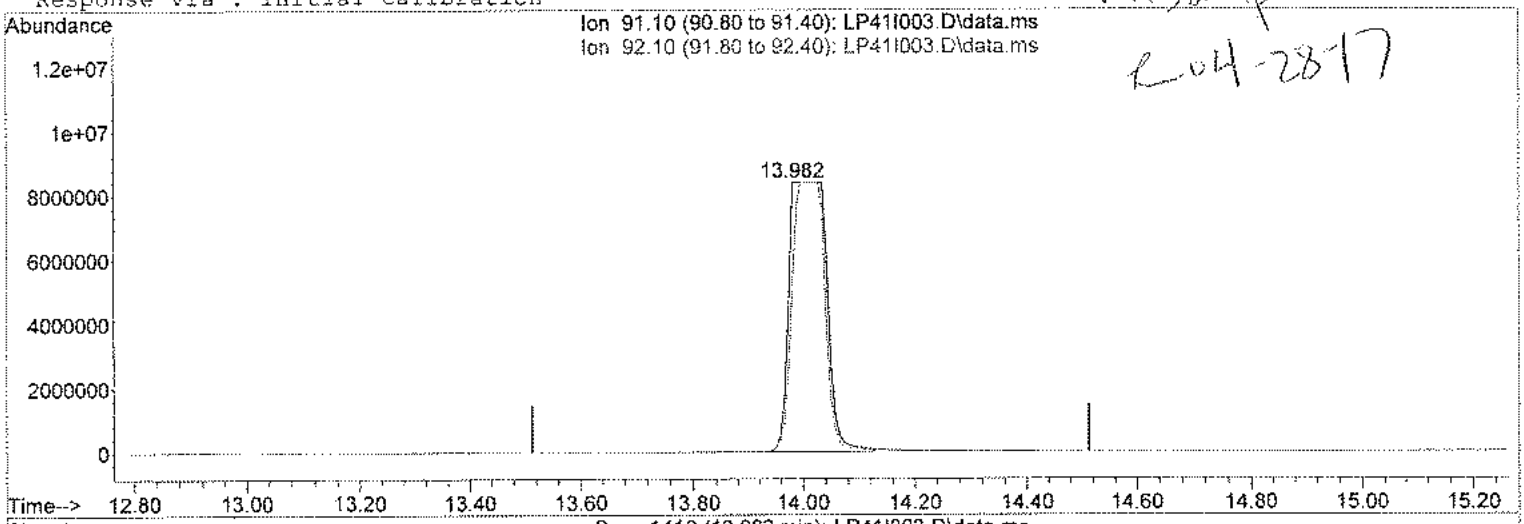
Ion	Exp%	Act%
165.90	100.00	100.00
163.90	76.20	78.85
128.90	57.40	77.43#
130.90	56.90	78.04#

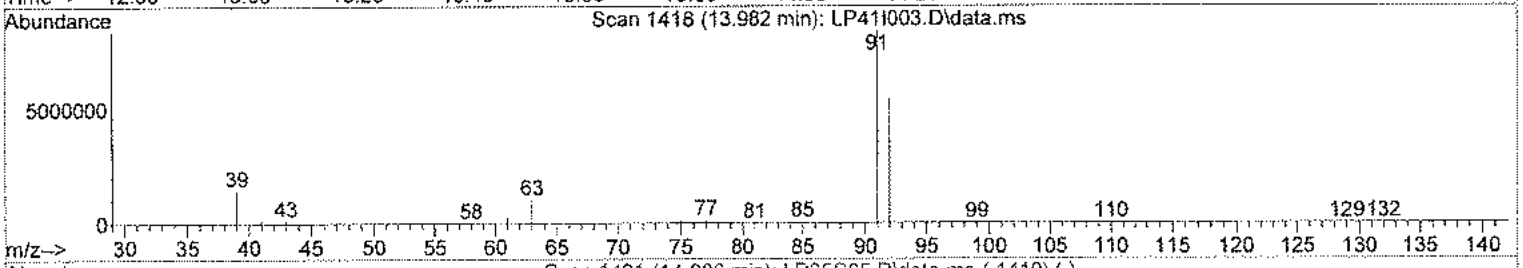
Quantitation Report (Qedit)

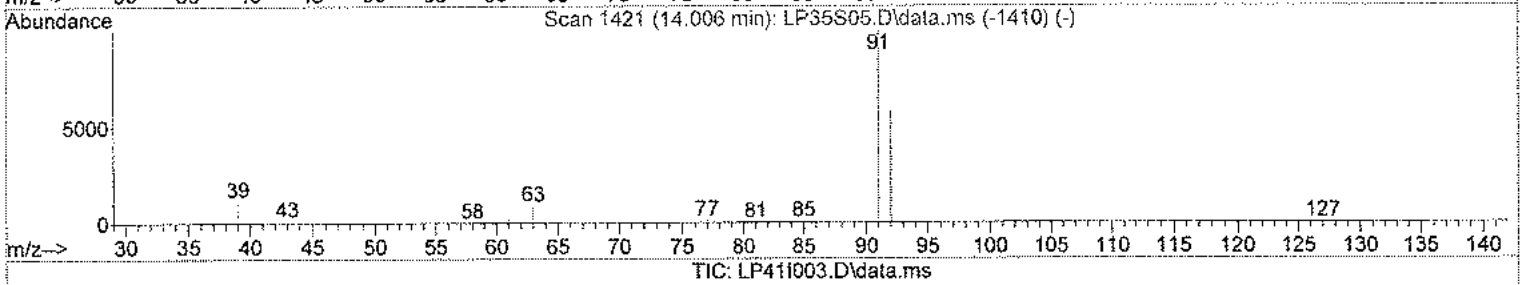
Data Path : I:\L - 5975-L\2017\APR17L\26APR17L\
Data File : LP41I003.D
Acq On : 04/26/2017 15:01
Operator : LMR
Sample : 1710499003
Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 28 09:23:59 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration

MISS dpm
4-28-17







TIC: LP41I003.D\data.ms

(45) Toluene

13.982min (-0.032) 27461.74 ppt m

response 39029468

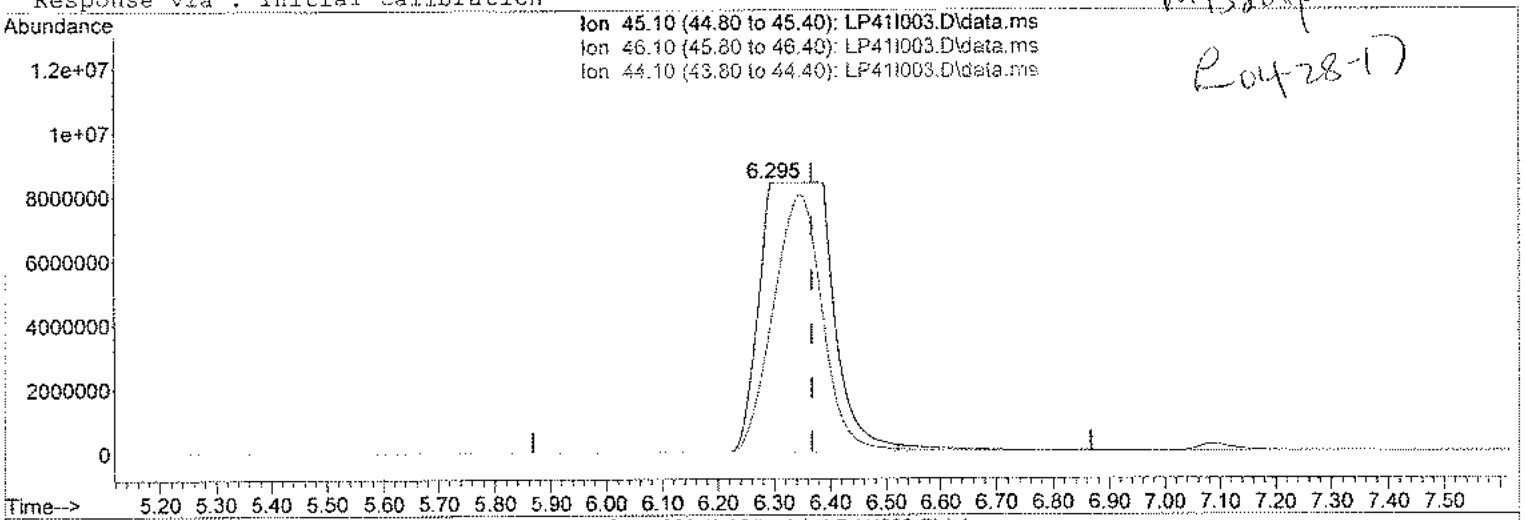
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	60.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

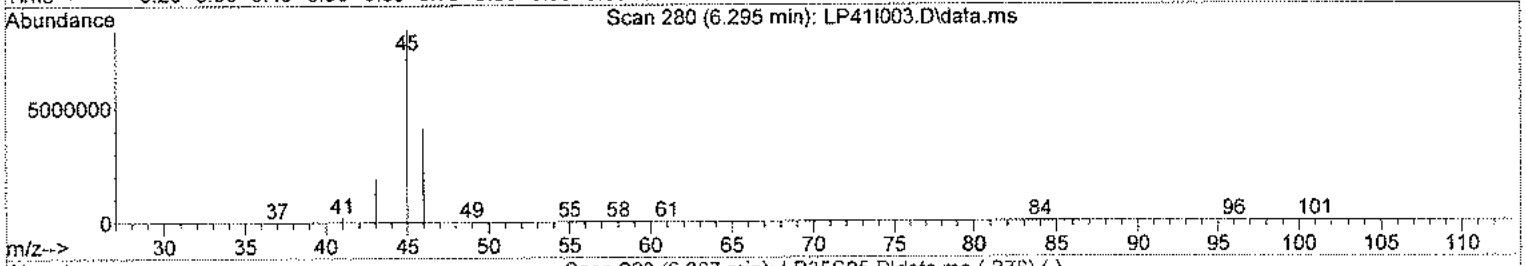
Quantitation Report (Qedit)

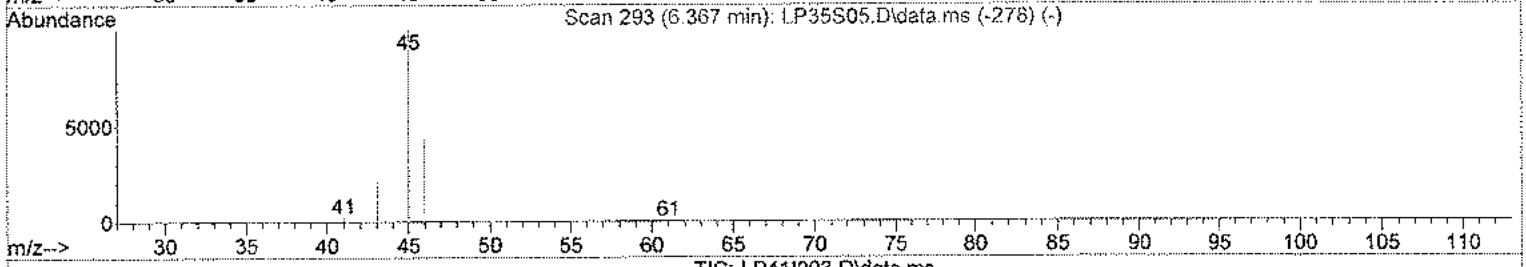
Data Path : I:\L - 5975-L\2017\APR17L\26APR17L\
Data File : LP41I003.D
Acq On : 04/26/2017 15:01
Operator : LMR
Sample : 1710499003
Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 28 09:23:59 2017
Quant Method : J:\L\METHODS\TO15LSIMA17.m
Quant Title : TO-15 SIM
QLast Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration

M:158dpw
L04-28-17







TIC: LP41I003.D\data.ms

(13) Ethanol

6.295min (-0.072) 484727.27 ppt m

response 77058263

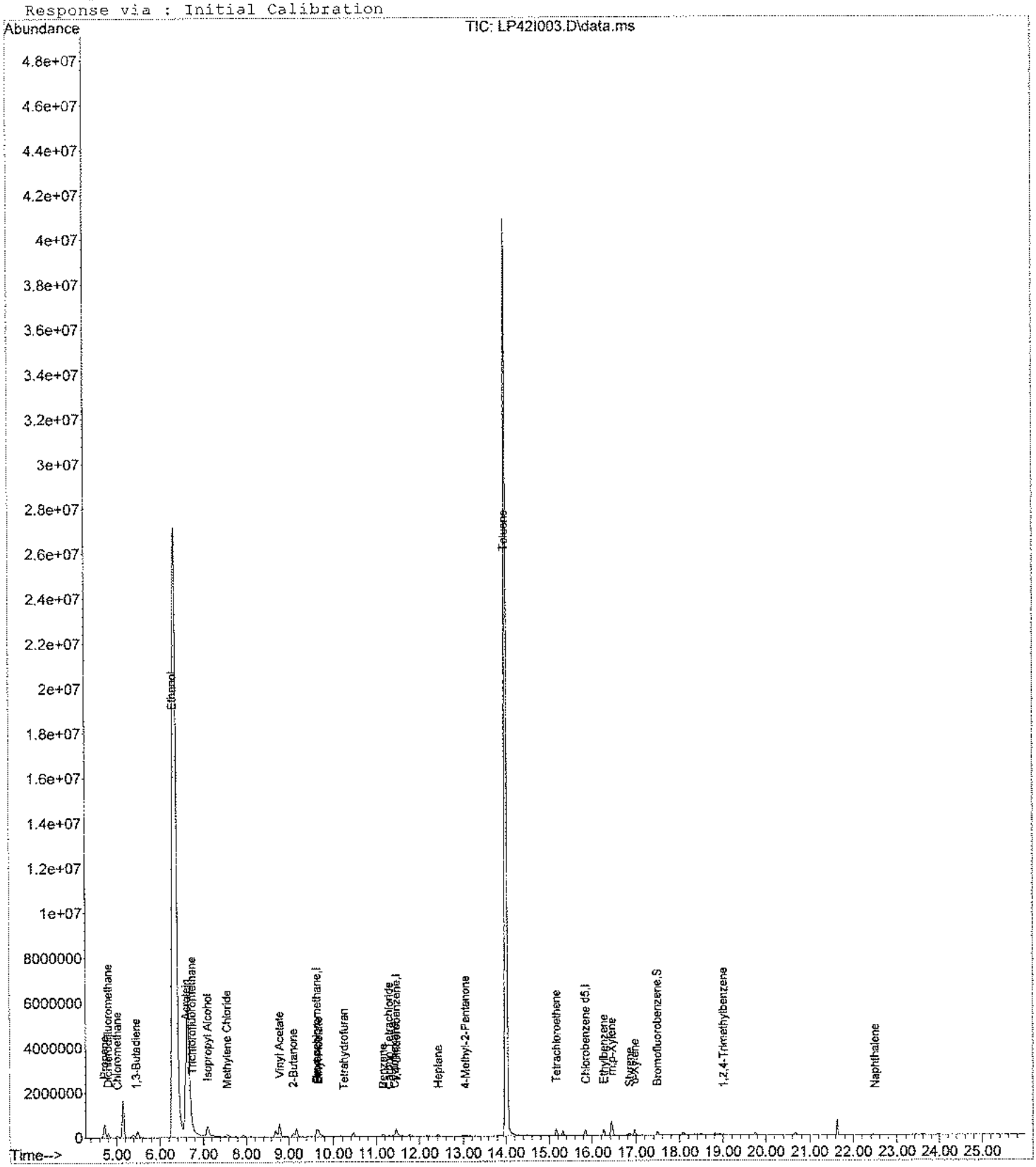
Ion	Exp%	Act%
45.10	100.00	100.00
46.10	40.50	0.00#
44.10	29.30	0.00#
0.00	0.00	0.00

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP42I003.D Vial: 5
Acq Time : 04/26/2017 15:59 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:25:23 2017 Results File: TO15LSIMA17.RES

Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP42I003.D Vial: 5
Acq Time : 04/26/2017 15:59 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:25:23 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.64	130	48141	1000.0000 ppt		186.10#
25) 1,4-Difluorobenzene	11.48	114	762013	1000.0000 ppt		159.97#
50) Chlorobenzene d5	15.84	117	679870	1000.0000 ppt		164.10#
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.49	95	328495	1081.5560 ppt		108.16%
Target Compounds						Qvalue
2) Propene	4.72	41	851463	1469.2330 ppt	#	34
3) Dichlorodifluoromethane	4.80	85	297626	198.5369 ppt		99
4) Chloromethane	5.01	50	200742	326.1682 ppt		97
5) Freon 114	0.00	135		Not Detected		
6) Vinyl Chloride	0.00	62		Not Detected		
7) 1,3-Butadiene	5.45	54	36799	53.1408 ppt	#	12
8) Bromomethane	0.00	94		Not Detected		
9) Chloroethane	0.00	64		Not Detected		
10) Acrolein	6.60	56	1125152	4998.0242 ppt	#	63
11) Acetone	0.00	43		Not Detected		
12) Trichlorofluoromethane	6.74	101	129143	90.9099 ppt		100
13) Ethanol	6.30	45	76457707	483487.1059 ppt	m	0
14) Isopropyl Alcohol	7.09	45	914630	889.2019 ppt	#	64
15) 1,1-Dichloroethene	0.00	61		Not Detected		
16) Methylene Chloride	7.56	84	87694	166.9319 ppt	#	22
17) Freon 113	0.00	151		Not Detected		
18) Carbon Disulfide	0.00	76		Not Detected		
19) trans-1,2-Dichloroethene	0.00	96		Not Detected		
20) 1,1-Dichloroethane	0.00	63		Not Detected		
21) methyl t-butyl ether	0.00	73		Not Detected		
22) Vinyl Acetate	8.79	86	58034	478.7502 ppt	#	1
23) 2-Butanone	9.10	43	377126	311.8145 ppt	#	77
24) cis-1,2-Dichloroethene	0.00	96		Not Detected		
26) Ethyl Acetate	9.68	61	79587	554.2343 ppt	#	1
27) Hexane	9.63	57	278794	339.3051 ppt	#	49
28) Chloroform	0.00	83		Not Detected		
29) Tetrahydrofuran	10.24	42	72496	119.7969 ppt	#	55
30) 1,2-Dichloroethane	0.00	62		Not Detected		
31) 1,1,1-Trichloroethane	0.00	97		Not Detected		
32) Benzene	11.16	78	156004	99.8658 ppt	#	60
33) Carbon Tetrachloride	11.31	117	50262	42.1432 ppt	#	86
34) Cyclohexane	11.42	84	62621	102.2016 ppt	#	6
35) 1,2-Dichloropropane	0.00	63		Not Detected		
36) Bromodichloromethane	0.00	83		Not Detected		
37) 1,4-Dioxane	0.00	88		Not Detected		
38) Trichloroethene	0.00	130		Not Detected		
39) Methyl Methacrylate	0.00	69		Not Detected		
40) Heptane	12.42	71	39753	87.6066 ppt	#	1
41) cis-1,3-Dichloropropene	0.00	75		Not Detected		
42) 4-Methyl-2-Pentanone	13.05	43	106221	91.3574 ppt	#	69
43) trans-1,3-Dichloropropene	0.00	75		Not Detected		
44) 1,1,2-Trichloroethane	0.00	97		Not Detected		
45) Toluene	13.98	91	38506230	27860.2954 ppt	m	0
46) 2-Hexanone	0.00	43		Not Detected		
47) Dibromochloromethane	0.00	129		Not Detected		
48) 1,2-Dibromoethane	0.00	107		Not Detected		
49) Tetrachloroethene	15.17	166	199448	280.5666 ppt	#	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\26APR17L\LP42I003.D Vial: 5
Acq Time : 04/26/2017 15:59 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Apr 28 09:25:23 2017 Results File: TO15LSIMA17.RES

Quant Method : J:\L\METHODS\TO15LSIMA17.m (RTE Integrator)
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response via : Initial Calibration
DataAcq Meth : TO-15SIML1.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51)	Chlorobenzene	0.00	112		Not Detected		
52)	Ethylbenzene	16.26	91	402177	294.4961 ppt		94
53)	m,p-Xylene	16.43	91	1002514	1011.1303 ppt		96
54)	Bromoform	0.00	173		Not Detected		
55)	Styrene	16.85	104	120425	214.4572 ppt		99
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected		
57)	o-Xylene	16.97	91	315993	309.0664 ppt		93
59)	4-Ethyl Toluene	0.00	105		Not Detected		
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected		
61)	1,2,4-Trimethylbenzene	19.01	105	68601	92.8624 ppt		95
62)	Benzyl Chloride	0.00	91		Not Detected		
63)	m-Dichlorobenzene	0.00	146		Not Detected		
64)	p-Dichlorobenzene	0.00	146		Not Detected		
65)	o-Dichlorobenzene	0.00	146		Not Detected		
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected		
67)	Naphthalene	22.50	128	27565	100.5646 ppt	#	71
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected		

(#) = qualifier out of range (m) = manual integration

Analyst Notebook

TO15 SIM HBN: 189596
Workorder#'s: 1710499001-003
Sample#'s:

Instrument: 5975 L
Column: DB-1
Inst. Program: Initial 40 °C for 4 min; 10 °C/min to 220 °C hold for 3 mins.
Run time: 26 min for 5975-K, 25 min for 5975-L
Carrier Gas: Helium
Cold Trap Dehydration
Initial Calibration Curve is: TO15LSIM A17 (HBN 18783)

The following compounds in the CCS were outside of +/_30%: NA

Dilutions: NA

Notes: The ISTD response for sample 1710499003 failed to meet criteria. This sample was analyzed twice with the same results. In the analysts opinion this is caused by the high HC content of the sample.

Analyst Signature: 04-28-17

Response Factor Report 5975-L

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM
Last Update : Tue Mar 28 10:26:28 2017
Response Via : Initial Calibration

Calibration Files
50 =LM11S005.D 100 =LM10S01.D 200 =LM09S02.D 500 =LM08S05.D
1000=LM07S1.D

		Compound	50	100	200	500	1000	Avg		%RSD
1)	I	Bromochloromethane	ISTD							
2)		Propene	1.396	1.349	1.187	1.079	1.008	1.204	E1	13.91
3)		Dichlorodifluoro...	3.421	3.463	3.136	2.893	2.657	3.114	E1	11.07
4)		Chloromethane	1.438	1.359	1.257	1.214	1.124	1.278	E1	9.61
5)		Freon 114	2.526	2.521	2.320	2.143	1.978	2.298	E1	10.41
6)		Vinyl Chloride	1.759	1.692	1.589	1.452	1.331	1.565	E1	11.15
7)		1,3-Butadiene	1.608	1.568	1.454	1.341	1.221	1.438	E1	11.12
8)		Bromomethane	1.483	1.516	1.380	1.297	1.169	1.369	E1	10.33
9)		Chloroethane	8.991	8.705	8.285	7.426	7.257	8.133		9.43
10)		Acrolein	4.483	4.995	4.799	4.670	4.435	4.676		4.93
11)		Acetone	2.345	2.081	1.750	1.565	1.433	1.835	E1	20.43
12)		Trichlorofluorom...	3.225	3.258	2.987	2.768	2.516	2.951	E1	10.63
13)		Ethanol	1.473	3.595	4.026	3.717	3.613	3.285		31.28
14)		Isopropyl Alcohol	2.986	2.386	2.004	1.777	1.531	2.137	E1	26.65
15)		1,1-Dichloroethene	1.840	1.863	1.731	1.656	1.557	1.729	E1	7.39
16)		Methylene Chloride	1.335	1.204	1.083	0.964	0.870	1.091	E1	16.95
17)		Freon 113	2.230	2.273	2.096	1.943	1.767	2.062	E1	10.14
18)		Carbon Disulfide	3.810	3.814	3.476	3.219	2.928	3.449	E1	11.12
19)		trans-1,2-Dichlo...	1.305	1.297	1.193	1.120	1.061	1.195	E1	8.98
20)		1,1-Dichloroethane	2.501	2.558	2.416	2.296	2.088	2.372	E1	7.88
21)		methyl t-butyl e...	2.433	2.600	2.496	2.483	2.384	2.479	E1	3.25
22)		Vinyl Acetate	2.308	2.334	2.570	2.729	2.649	2.518		7.49
23)		2-Butanone	2.142	2.684	2.559	2.656	2.520	2.512	E1	8.66
24)		cis-1,2-Dichloro...	1.248	1.305	1.234	1.208	1.129	1.225	E1	5.24
25)	I	1,4-Difluorobenzene	ISTD							
26)		Ethyl Acetate	0.153	0.201	0.199	0.188	0.200	0.188		10.92
27)		Hexane	1.114	1.096	1.078	1.048	1.055	1.078		2.57
28)		Chloroform	1.877	1.748	1.617	1.471	1.384	1.619		12.37
29)		Tetrahydrofuran	0.876	0.813	0.787	0.752	0.743	0.794		6.76
30)		1,2-Dichloroethane	1.106	1.027	0.948	0.862	0.824	0.954		12.16
31)		1,1,1-Trichloroe...	1.668	1.549	1.418	1.282	1.229	1.429		12.78
32)		Benzene	2.494	2.205	1.992	1.811	1.747	2.050		14.89
33)		Carbon Tetrachlo...	1.831	1.703	1.557	1.399	1.335	1.565		13.17
34)		Cyclohexane	0.886	0.829	0.783	0.760	0.762	0.804		6.65
35)		1,2-Dichloropropane	0.900	0.848	0.798	0.725	0.707	0.796		10.25
36)		Bromodichloromet...	1.677	1.605	1.482	1.343	1.290	1.479		11.17
37)		1,4-Dioxane	0.435	0.363	0.391	0.384	0.374	0.389		7.15
38)		Trichloroethene	1.013	0.971	0.906	0.850	0.844	0.917		8.12
39)		Methyl Methacrylate	0.425	0.601	0.567	0.562	0.569	0.545		12.66
40)		Heptane	0.594	0.587	0.595	0.601	0.601	0.595		1.02
41)		cis-1,3-Dichloro...	0.871	0.859	0.831	0.807	0.828	0.839		3.05
42)		4-Methyl-2-Penta...	1.435	1.515	1.526	1.547	1.607	1.526		4.09
43)		trans-1,3-Dichlo...	0.636	0.639	0.623	0.626	0.661	0.637		2.39
44)		1,1,2-Trichloroe...	0.867	0.825	0.773	0.696	0.687	0.770		10.26

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM

45)		Toluene	1.793	1.824	1.800	1.779	1.873	1.814	2.02
46)		2-Hexanone	0.851	0.952	1.009	1.119	1.264	1.039	15.29
47)		Dibromochloromet...	1.556	1.483	1.410	1.297	1.278	1.405	8.49
48)		1,2-Dibromoethane	1.047	1.047	1.003	0.941	0.955	0.999	5.00
49)		Tetrachloroethene	1.034	0.986	0.930	0.859	0.855	0.933	8.38
50)	I	Chlorobenzene d5	----------	----------	ISTD	----------	----------	----------	
51)		Chlorobenzene	1.732	1.751	1.699	1.574	1.485	1.648	6.94
52)		Ethylbenzene	1.875	1.962	2.039	2.071	2.097	2.009	4.48
53)		m,p-Xylene	1.234	1.366	1.504	1.601	1.586	1.458	10.73
54)		Bromoform	1.041	1.086	1.053	0.980	0.925	1.017	6.29
55)		Styrene	0.630	0.747	0.825	0.929	0.998	0.826	17.66
56)		1,1,2,2-Tetrachl...	1.478	1.490	1.468	1.371	1.246	1.411	7.35
57)		o-Xylene	1.294	1.432	1.554	1.628	1.611	1.504	9.33
58)	S	Bromofluorobenzene	0.387	0.418	0.450	0.472	0.507	0.447	10.47
59)		4-Ethyl Toluene	0.766	0.883	1.081	1.297	1.490	1.103	26.78
60)		1,3,5-Trimethylb...	1.042	1.132	1.323	1.523	1.505	1.305	16.56
61)		1,2,4-Trimethylb...	0.896	0.980	1.067	1.217	1.273	1.087	14.54
62)		Benzyl Chloride	0.418	0.445	0.503	0.696	0.808	0.574	29.61
63)		m-Dichlorobenzene	0.477	0.655	0.723	0.805	0.854	0.703	20.93
64)		p-Dichlorobenzene	0.484	0.841	0.889	0.969	0.911	0.819	23.52
65)		o-Dichlorobenzene	0.647	0.767	0.795	0.828	0.836	0.775	9.89
66)		1,2,4-Trichlorob...	0.102	0.124	0.137	0.169	0.198	0.146	25.85
67)		Naphthalene	0.262	0.299	0.370	0.477	0.608	0.403	34.91
68)		Hexachloro-1,3-b...	0.290	0.290	0.275	0.260	0.245	0.272	7.20

(#) = Out of Range

Continuing Calibration Report 5975-L

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response Via : Initial Calibration

CC Data File: LP35S05.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	Bromochloromethane	1.000	1.000	0.0	114
2		Propene	12.038	9.655	19.8	102
3		Dichlorodifluoromethane	31.140	26.386	15.3	104
4		Chloromethane	12.784	10.764	15.8	101
5		Freon 114	22.976	19.922	13.3	106
6		Vinyl Chloride	15.646	13.394	14.4	105
7		1,3-Butadiene	14.384	11.914	17.2	101
8		Bromomethane	13.686	12.264	10.4	108
9		Chloroethane	8.133	7.470	8.2	114
10		Acrolein	4.676	3.598	23.1	88
11		Acetone	18.350	15.342	16.4	111
12		Trichlorofluoromethane	29.508	25.827	12.5	106
13		Ethanol	3.285	5.799	-76.5#	177#
14		Isopropyl Alcohol	21.366	25.577	-19.7	164#
15		1,1-Dichloroethene	17.293	14.317	17.2	98
16		Methylene Chloride	10.912	8.667	20.6	102
17		Freon 113	20.617	17.077	17.2	100
18		Carbon Disulfide	34.495	30.368	12.0	107
19		trans-1,2-Dichloroethene	11.953	10.895	8.9	111
20		1,1-Dichloroethane	23.717	20.920	11.8	104
21		methyl t-butyl ether	24.792	23.603	4.8	108
22		Vinyl Acetate	2.518	2.459	2.4	102
23		2-Butanone	25.123	24.129	4.0	103
24		cis-1,2-Dichloroethene	12.247	11.099	9.4	104
25	I	1,4-Difluorobenzene	1.000	1.000	0.0	112
26		Ethyl Acetate	0.188	0.191	-1.6	114
27		Hexane	1.078	1.008	6.5	108
28		Chloroform	1.619	1.257	22.4	96
29		Tetrahydrofuran	0.794	0.742	6.5	111
30		1,2-Dichloroethane	0.954	0.822	13.8	107
31		1,1,1-Trichloroethane	1.429	1.239	13.3	108
32		Benzene	2.050	1.746	14.8	108
33		Carbon Tetrachloride	1.565	1.367	12.6	109
34		Cyclohexane	0.804	0.735	8.5	108
35		1,2-Dichloropropane	0.796	0.705	11.4	109
36		Bromodichloromethane	1.479	1.325	10.5	110
37		1,4-Dioxane	0.389	0.367	5.8	107
38		Trichloroethene	0.917	0.849	7.4	112
39		Methyl Methacrylate	0.545	0.535	1.7	107
40		Heptane	0.595	0.589	1.0	110
41		cis-1,3-Dichloropropene	0.839	0.806	3.9	112
42		4-Methyl-2-Pentanone	1.526	1.545	-1.3	112
43		trans-1,3-Dichloropropene	0.637	0.635	0.3	114
44		1,1,2-Trichloroethane	0.770	0.727	5.6	117
45		Toluene	1.814	1.915	-5.6	121
46		2-Hexanone	1.039	1.053	-1.4	105
47		Dibromochloromethane	1.405	1.348	4.0	116
48		1,2-Dibromoethane	0.999	0.999	-0.0	119
49		Tetrachloroethene	0.933	0.949	-1.8	124
50	I	Chlorobenzene d5	1.000	1.000	0.0	112
51		Chlorobenzene	1.648	1.787	-8.4	127
52		Ethylbenzene	2.009	2.484	-23.7	134
53		m,p-Xylene	1.458	3.889	-166.6#	136
54		Bromoform	1.017	1.049	-3.1	120
55		Styrene	0.826	1.081	-30.9#	130
56		1,1,2,2-Tetrachloroethane	1.411	1.604	-13.7	131
57		o-Xylene	1.504	2.005	-33.3#	138

Method Path : J:\L\METHODS\
Method File : TO15LSIMA17.m
Title : TO-15 SIM
Last Update : Fri Apr 28 09:22:54 2017
Response Via : Initial Calibration

CC Data File: LP35S05.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
58	S	Bromofluorobenzene	0.447	0.456	-2.0	108
59		4-Ethyl Toluene	1.103	1.803	-63.4#	156#
60		1,3,5-Trimethylbenzene	1.305	2.002	-53.4#	147
61		1,2,4-Trimethylbenzene	1.087	1.643	-51.2#	151#
62		Benzyl Chloride	0.574	0.737	-28.5	119
63		m-Dichlorobenzene	0.703	1.027	-46.2#	143
64		p-Dichlorobenzene	0.819	1.058	-29.2	122
65		o-Dichlorobenzene	0.775	1.033	-33.3#	140
66		1,2,4-Trichlorobenzene	0.146	0.131	10.2	87
67		Naphthalene	0.403	0.215	46.8#	50
68		Hexachloro-1,3-butadiene	0.272	0.341	-25.3	147

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GC/MS QA-QC Check Report

une File : I:\L - 5975-L\2017\APR17L\26APR17L\LP35S05.D
une Time : 26 Apr 2017 10:07 am

aily Calibration File : I:\L - 5975-L\2017\APR17L\26APR17L\LP35S05.D

			29415	533430	463757
ile	Sample	Surrogate Recovery %	Internal Standard Responses		
P35S05.D	0.5 PPB	102	29415	533430	463757
P36S05.D	0.5 PPB	102	26572	505121	429964
P37S005.D	0.05 PPB	87	24846	426983	376326
P38BLANK.D	BLANK	85	23542	380943	350399
P39I001.D	1710499001	108	33888	549559	481255
P40I002.D	1710499002	110	35116	567301	509578
P41I003.D	1710499003	105	48395*	783577*	691334*
P42I003.D	1710499003	108	48141*	762013*	679870*

fails) - fails 24hr time check * - fails criteria

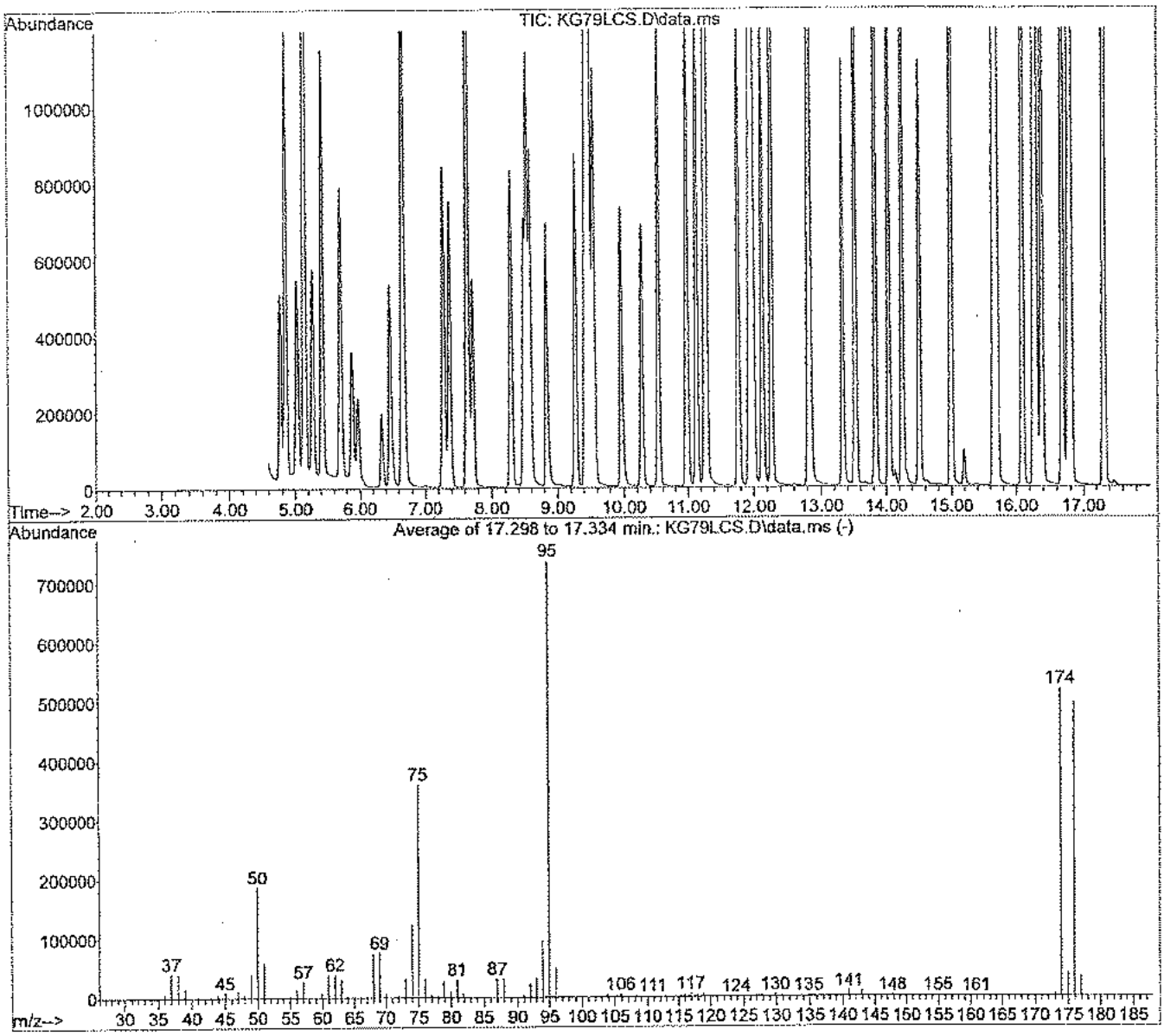
Created: Fri Apr 28 10:58:17 2017 5975-L

The ISTD response for 1710499003 failed to meet criteria. This sample was analyzed twice with similar results. In the analysts opinion, it is caused by the high hydrocarbon content in the sample.

BFB

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG79LCS.D Vial: 3
Acq Time : 03/20/2017 12:52 Operator:
Sample : LCS Inst : 5975-K
Misc : 35928 (200 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15



Peak Apex is scan: Average of 17.298 to 17.334 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	30	25.36	186743	PASS
75	95	30	66	48.87	359909	PASS
95	95	100	100	100.00	736457	PASS
96	95	5	9	6.66	49029	PASS
173	174	0.00	2	0.96	5006	PASS
174	95	50	120	70.44	518775	PASS
175	174	5	9	7.33	38016	PASS
176	174	93	101	95.59	495872	PASS
177	176	5	9	6.50	32213	PASS

/erage of 17.298 to 17.334 min.: KG79LCS.D\data.ms
:S
)dified:subtracted

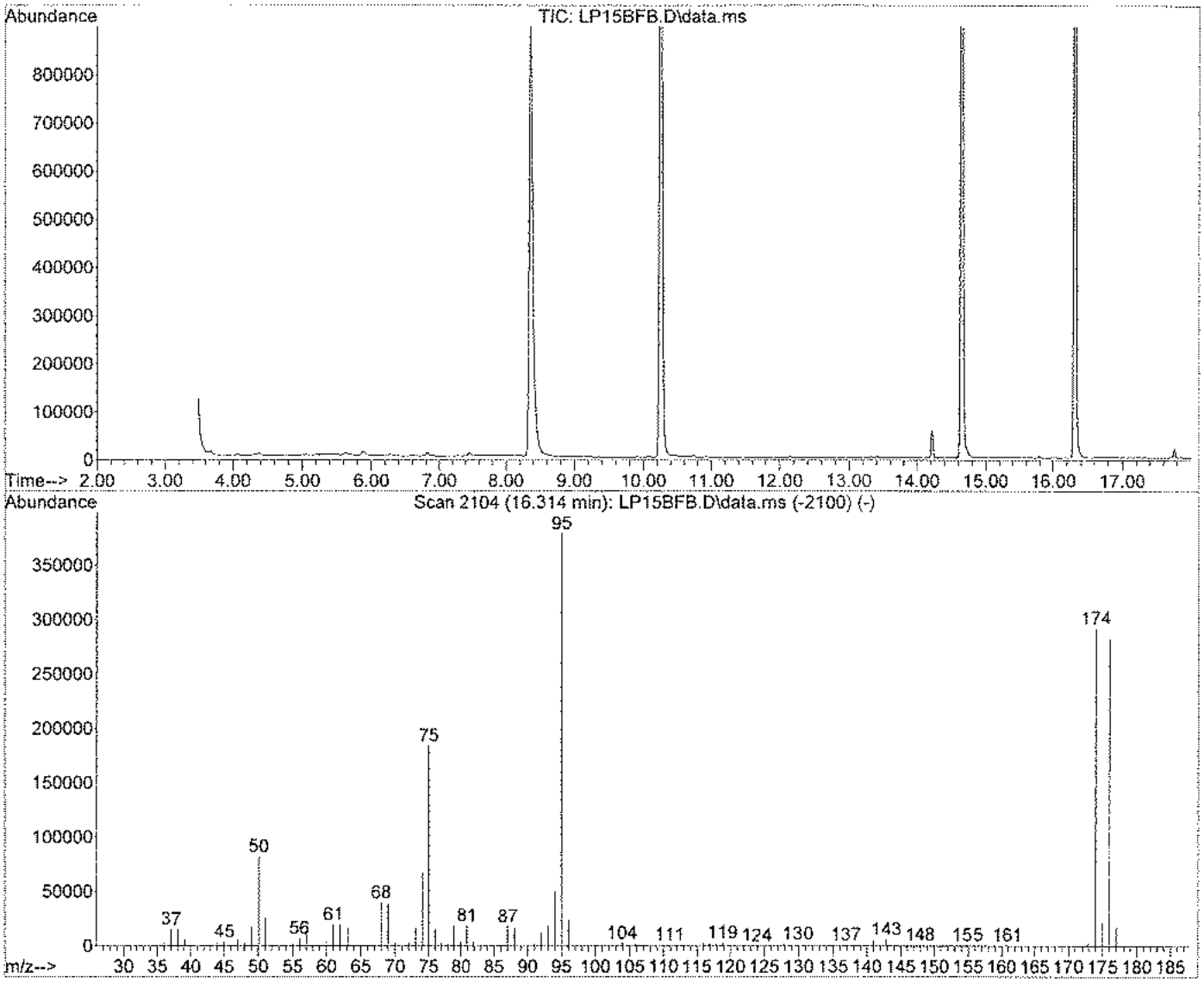
m/z	Abundance
36.00	6951.0
37.00	40845.0
38.00	38944.0
39.00	15673.0
40.05	1031.0
42.95	556.0
43.95	5847.0
45.00	8356.0
46.05	822.0
47.00	11159.0
47.95	5107.0
49.00	39245.0
50.00	186743.0
51.00	57530.0
52.05	2489.0
52.95	234.0
55.05	2493.0
56.00	14676.0
57.00	26859.0
58.05	1160.0
59.95	7203.0
61.00	38995.0
62.00	39137.0
63.00	30982.0
64.00	2861.0
65.00	1664.0
65.95	108.0
66.95	1871.0
68.00	73253.0
69.00	75434.0
70.00	6146.0
70.90	119.0
72.00	3751.0
73.00	31695.0
74.00	122775.0
75.00	359909.0
76.00	30913.0
76.95	4426.0
77.95	2824.0
78.90	27910.0
79.90	8567.0
80.90	29827.0
81.90	6929.0
82.95	896.0
84.80	52.0
85.75	408.0
85.95	467.0
86.95	31191.0
87.95	30368.0
90.95	3571.0
92.00	21625.0
93.00	32865.0
94.00	93857.0
95.00	736457.0
96.00	49029.0
97.00	1378.0
102.90	459.0
103.90	4085.0
104.85	1165.0
105.90	4276.0
106.90	826.0
109.90	562.0
110.85	928.0
111.90	803.0
112.85	998.0
114.85	849.0
115.90	3020.0
116.90	5252.0
117.85	3262.0
118.85	4587.0
122.90	109.0
123.70	67.0
123.85	311.0
125.95	125.0
126.90	59.0
127.85	2813.0
128.85	1310.0
129.85	2994.0
130.85	1133.0
134.85	1497.0
135.80	60.0
136.85	1548.0
138.80	72.0
139.85	386.0
140.90	8693.0
141.85	1048.0
142.90	8599.0
143.90	465.0
144.85	822.0

145.85	1074.0
146.85	417.0
147.85	1678.0
148.90	496.0
149.85	635.0
151.75	135.0
152.85	452.0
153.85	337.0
154.90	1550.0
156.00	78.0
156.95	1143.0
158.80	316.0
158.95	402.0
160.85	732.0
170.10	53.0
170.75	155.0
171.95	2423.0
173.00	5006.0
173.90	518775.0
174.90	38016.0
175.90	495872.0
176.90	32213.0
177.85	846.0

BFB

Data File : I:\L - 5975-L\2017\APR17L\25APR17L\LP15BFB.D Vial: 1
Acq Time : 04/25/2017 10:00 Operator: LMR
Sample : BFB Inst : 5975-L
Misc : 107IS31366 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15



Peak Apex is scan: Scan 2104

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	30	21.70	82384	PASS
75	95	30	66	48.53	184200	PASS
95	95	100	100	100.00	379584	PASS
96	95	5	9	6.45	24501	PASS
173	174	0.00	2	0.74	2155	PASS
174	95	50	120	76.99	292224	PASS
175	174	5	9	7.21	21082	PASS
176	174	93	101	96.55	282128	PASS
177	176	5	9	6.29	17745	PASS

can 2104 (16.314 min): LP15BFB.D\data.ms (-2100)
FB
odified:subtracted

m/z	Abundance
36.05	2598.0
37.05	15439.0
38.10	14887.0
39.05	5834.0
41.10	163.0
43.00	245.0
44.00	2630.0
45.05	3570.0
46.00	445.0
47.00	5928.0
48.00	2597.0
49.00	17622.0
50.10	82384.0
51.10	25576.0
52.00	1122.0
54.95	1386.0
56.00	6953.0
57.00	13799.0
58.00	522.0
60.00	3872.0
61.00	19799.0
62.00	19325.0
63.10	16101.0
64.10	1318.0
67.00	655.0
68.00	39903.0
69.00	39365.0
70.00	3225.0
72.05	1966.0
73.00	16642.0
74.05	66917.0
75.00	184200.0
76.00	15617.0
77.00	2180.0
78.00	1467.0
78.90	18094.0
80.00	4266.0
80.90	18563.0
81.90	3643.0
83.00	586.0
86.00	580.0
87.00	17959.0
88.00	16657.0
90.90	1674.0
92.00	12273.0
93.00	18677.0
94.00	50188.0
95.00	379584.0
96.00	24501.0
97.05	473.0
102.90	348.0
103.90	2671.0
104.90	698.0
105.85	2545.0
106.90	523.0
109.90	340.0
110.90	783.0
111.80	568.0
112.90	782.0
115.00	551.0
115.95	2201.0
116.90	2862.0
117.90	1755.0
118.85	3283.0
122.80	160.0
123.90	489.0
126.00	200.0
127.90	1827.0
128.95	790.0
129.90	1910.0
130.90	913.0
134.85	998.0
136.90	1221.0
138.80	232.0
139.90	388.0
140.90	5318.0
141.90	748.0
142.90	6073.0
144.00	362.0
145.00	643.0
145.90	813.0
146.80	266.0
147.90	1123.0
149.00	301.0
149.90	382.0
151.90	257.0
153.00	293.0
153.90	234.0
154.90	943.0

156.00	212.0
156.90	745.0
158.90	452.0
160.90	541.0
171.80	260.0
172.85	2155.0
174.00	292224.0
175.00	21082.0
176.00	282128.0
177.00	17745.0
177.90	431.0

Method Path : I:\K - 5975-K\METHODS\
Method File : TO15KA17.m
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response Via : Initial Calibration

Calibration Files
5 =KG86S05.D 1 =KG85S1.D 2 =KG84S2.D 5 =KG83S5.D 10 =KG79LCS.D 20 =KG82S20.D 50 =KG81S50.D

		Compound	.5	1	2	5	10	20	50	Avg		%RSD	
1)	I	Bromochloromethane	----------ISTD----------										
2)		Propene	3.488	3.206	3.237	3.285	2.975	2.994	2.857	3.149		6.91	TC
3)		Dichlorodifluo...	1.310	1.242	1.232	1.144	1.126	1.041	0.969	1.152	E1	10.39	
4)		Chloromethane	7.836	7.284	7.047	6.714	6.327	5.734	5.444	6.627		12.87	
5)		Freon 114	1.536	1.434	1.386	1.349	1.298	1.190	1.122	1.331	E1	10.67	
6)		Vinyl Chloride	7.483	7.052	6.862	6.754	6.397	5.859	5.565	6.568		10.27	
7)		1,3-Butadiene	6.624	6.302	6.109	6.104	5.750	5.352	5.088	5.904		9.15	
8)		Bromomethane	6.920	6.334	6.078	5.988	5.644	5.207	4.893	5.866		11.69	
9)		Chloroethane	3.762	3.548	3.402	3.288	3.025	2.796	2.643	3.209		12.65	
10)		Acrolein	1.741	1.733	1.895	1.967	1.757	1.877	1.781	1.822		5.00	TC
11)		Acetone	1.059	0.877	0.820	0.789	0.695	0.703	0.647	0.799	E1	17.53	
12)		Trichlorofluor...	1.016	0.990	0.977	1.042	0.909	0.979	0.953	0.981	E1	4.37	
13)		Ethanol	4.314	3.417	2.745	2.731	2.352	2.247	2.047	2.836		27.85	TC
14)		Isopropyl Alcohol	6.620	6.545	6.931	7.572	6.452	7.154	6.566	6.834		5.98	TC
15)		1,1-Dichloroet...	5.479	5.626	5.749	6.113	5.522	6.102	5.929	5.789		4.56	
16)		Methylene Chlo...	3.766	3.469	3.306	3.181	3.008	2.955	2.865	3.221		9.90	
17)		Freon 113	6.281	5.845	5.587	5.440	5.275	5.398	5.717	5.649		6.01	
18)		Carbon Disulfide	6.876	7.106	7.434	7.913	7.610	7.828	7.893	7.523		5.40	
19)		trans-1,2-Dich...	3.072	2.994	3.082	3.261	2.969	3.180	3.225	3.112		3.62	
20)		1,1-Dichloroet...	7.324	7.034	6.987	7.048	6.476	6.784	6.895	6.935		3.78	
21)		methyl t-butyl...	6.046	6.842	7.701	8.477	7.711	8.994	9.171	7.849		14.49	
22)		Vinyl Acetate	0.619	0.719	0.886	0.952	0.929	1.030	1.053	0.884		18.11	
23)		2-Butanone	7.993	8.133	8.313	8.834	8.520	8.952	9.183	8.561		5.19	
24)		cis-1,2-Dichlo...	2.825	3.028	3.294	3.581	3.360	3.616	3.751	3.351		9.96	
25)	I	1,4-Difluorobenzene	----------ISTD----------										
26)		Ethyl Acetate	0.095	0.095	0.100	0.099	0.103	0.109	0.109	0.101		5.80	
27)		Hexane	0.458	0.481	0.517	0.512	0.522	0.548	0.574	0.516		7.53	
28)		Chloroform	0.648	0.604	0.609	0.578	0.574	0.600	0.603	0.602		4.04	
29)		Tetrahydrofuran	0.283	0.302	0.344	0.367	0.359	0.383	0.387	0.346		11.53	
30)		1,2-Dichloroet...	0.429	0.417	0.426	0.421	0.395	0.423	0.413	0.418		2.77	
31)		1,1,1-Trichlor...	0.565	0.547	0.562	0.554	0.533	0.591	0.612	0.566		4.73	
32)		Benzene	0.740	0.738	0.794	0.792	0.802	0.844	0.870	0.797		6.11	
33)		Carbon Tetrach...	0.585	0.565	0.591	0.592	0.583	0.643	0.685	0.606		6.96	
34)		Cyclohexane	0.506	0.443	0.423	0.407	0.399	0.408	0.421	0.429		8.52	
35)		1,2-Dichloropr...	0.340	0.331	0.340	0.336	0.338	0.353	0.366	0.344		3.51	
36)		Bromodichlorom...	0.546	0.551	0.571	0.582	0.597	0.656	0.728	0.604		10.85	
37)		1,4-Dioxane	0.135	0.156	0.183	0.196	0.201	0.215	0.248	0.190		19.55	TC
38)		Trichloroethene	0.375	0.387	0.406	0.406	0.425	0.432	0.503	0.419		10.05	
39)		Methyl Methacr...	0.198	0.217	0.257	0.284	0.299	0.328	0.353	0.276		20.42	TC
40)		Heptane	0.214	0.248	0.283	0.299	0.314	0.329	0.367	0.293		17.42	
41)		cis-1,3-Dichlo...	0.298	0.324	0.389	0.433	0.464	0.514	0.589	0.430		24.02	

ethod Path : I:\K - 5975-K\METHODS\
ethod File : TO15KA17.m

)		4-Methyl-2-Pen...	0.662	0.733	0.828	0.871	0.915	0.942	1.005	0.851	14.14
)		trans-1,3-Dich...	0.232	0.249	0.308	0.364	0.387	0.446	0.500	0.355	27.89
)		1,1,2-Trichlor...	0.363	0.336	0.347	0.342	0.359	0.366	0.410	0.360	6.81
)		Toluene	0.680	0.765	0.905	1.022	1.073	1.147	1.294	0.984	21.91
)		2-Hexanone	0.423	0.545	0.658	0.750	0.809	0.843	0.932	0.708	25.16
)		Dibromochlorom...	0.519	0.511	0.572	0.617	0.674	0.734	0.900	0.647	21.26
)		1,2-Dibromoethane	0.449	0.426	0.489	0.524	0.561	0.596	0.701	0.535	17.64
)		Tetrachloroethene	0.385	0.387	0.411	0.434	0.456	0.490	0.603	0.452	16.86
)	I	Chlorobenzene d5	----------ISTD----------								
)		Chlorobenzene	1.105	0.962	0.982	0.999	1.006	1.060	1.223	1.048	8.72
)		Ethylbenzene	0.906	1.056	1.246	1.479	1.539	1.707	1.947	1.412	25.94
)		m,p-Xylene	0.763	0.928	1.060	1.213	1.309	1.419		1.115	22.02
)		Bromoform	0.357	0.372	0.432	0.517	0.577	0.638		0.482	23.65
)		Styrene		0.442	0.631	0.836	0.913	1.002		0.765	29.65
)		1,1,2,2-Tetrac...	0.819	0.785	0.786	0.848	0.908	0.949	1.115	0.887	13.26
)		o-Xylene	0.748	0.930	1.084	1.233	1.305	1.390	1.679	1.196	25.75
)	S	Bromofluoroben...	0.542	0.570	0.601	0.626	0.649	0.642	0.660	0.613	7.17
)		4-Ethyl Toluene		0.776	1.040	1.408	1.565	1.761		1.310	~~30.45~~
)		1,3,5-Trimethy...	0.692	0.918	1.099	1.251	1.384	1.490		1.139	26.23
)		1,2,4-Trimethy...	0.454	0.640	0.860	1.105	1.231	1.364		0.942	~~37.48~~
)		Benzyl Chloride		0.346	0.436	0.621	0.786	1.044		0.647	43.23
)		m-Dichlorobenzene	0.518	0.547	0.572	0.721	0.821	0.887		0.678	22.84
)		p-Dichlorobenzene	0.405	0.455	0.492	0.663	0.764	0.839		0.603	29.53
)		o-Dichlorobenzene	0.417	0.456	0.503	0.616	0.686	0.752		0.572	23.43
)		1,2,4-Trichlor...		0.044	0.061	0.099	0.119	0.160		0.096	48.29
)		Naphthalene		0.101	0.161	0.317	0.416	0.525		0.304	57.80
)		Hexachloro-1,3...	0.103	0.109	0.110	0.122	0.130	0.137		0.119	11.18

) = Out of Range

Continuing Calibration Report 5975-L

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LA17.m
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response Via : Initial Calibration

CC Data File: LP16LCS.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	Bromochloromethane	1.000	1.000	0.0	114
2		Propene	3.685	2.788	24.3	91
3		Dichlorodifluoromethane	12.276	10.415	15.2	103
4		Chloromethane	4.787	3.969	17.1	93
5		Freon 114	8.864	7.681	13.3	108
6		Vinyl Chloride	4.596	3.822	16.8	99
7		1,3-Butadiene	3.828	2.997	21.7	93
8		Bromomethane	4.411	3.659	17.0	109
9		Chloroethane	2.325	1.803	22.4	102
10		Acrolein	2.048	1.851	9.6	100
11		Acetone	7.842	5.993	23.6	93
12		Trichlorofluoromethane	15.143	12.546	17.2	102
13		Ethanol	1.461	1.392	4.7	98
14		Isopropyl Alcohol	8.919	7.186	19.4	98
15		1,1-Dichloroethene	7.593	6.254	17.6	99
16		Methylene Chloride	4.007	3.345	16.5	104
17		Freon 113	7.262	6.319	13.0	107
18		Carbon Disulfide	11.823	9.786	17.2	102
19		trans-1,2-Dichloroethene	4.565	4.016	12.0	102
20		1,1-Dichloroethane	8.441	7.312	13.4	100
21		methyl t-butyl ether	9.806	9.669	1.4	109
22		Vinyl Acetate	1.041	1.011	2.9	100
23		2-Butanone	9.432	8.406	10.9	93
24		cis-1,2-Dichloroethene	4.779	4.344	9.1	103
25	I	1,4-Difluorobenzene	1.000	1.000	0.0	108
26		Ethyl Acetate	0.118	0.109	7.8	99
27		Hexane	0.674	0.565	16.2	97
28		Chloroform	0.832	0.732	12.0	102
29		Tetrahydrofuran	0.477	0.401	16.0	92
30		1,2-Dichloroethane	0.611	0.519	15.2	100
31		1,1,1-Trichloroethane	0.889	0.779	12.4	105
32		Benzene	1.012	0.917	9.4	100
33		Carbon Tetrachloride	1.046	0.912	12.7	104
34		Cyclohexane	0.468	0.433	7.4	101
35		1,2-Dichloropropane	0.463	0.388	16.2	99
36		Bromodichloromethane	0.965	0.831	14.0	103
37		1,4-Dioxane	0.282	0.240	14.9	90
38		Trichloroethene	0.624	0.543	13.0	105
39		Methyl Methacrylate	0.350	0.335	4.2	99
40		Heptane	0.347	0.327	5.7	99
41		cis-1,3-Dichloropropene	0.601	0.546	9.1	101
42		4-Methyl-2-Pentanone	1.026	0.853	16.8	90
43		trans-1,3-Dichloropropene	0.523	0.495	5.4	100
44		1,1,2-Trichloroethane	0.507	0.449	11.4	101
45		Toluene	1.256	1.178	6.2	99
46		2-Hexanone	0.838	0.790	5.8	87
47		Dibromochloromethane	1.080	0.950	12.1	101
48		1,2-Dibromoethane	0.773	0.711	8.0	101
49		Tetrachloroethene	0.671	0.582	13.3	105
50	I	Chlorobenzene d5	1.000	1.000	0.0	103
51		Chlorobenzene	1.020	0.891	12.7	100
52		Ethylbenzene	1.704	1.309	23.2	94

Method Path : I:\L - 5975-L\METHODS\
Method File : TO15LA17.m
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response Via : Initial Calibration

CC Data File: LP16LCS.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
53		m,p-Xylene	1.332	0.935	29.8	99
54		Bromoform	0.690	0.517	25.1	93
55		Styrene	1.019	0.734	27.9	90
56		1,1,2,2-Tetrachloroethane	1.174	0.875	25.5	93
57		o-Xylene	1.519	1.120	26.2	97
58	S	Bromofluorobenzene	0.563	0.486	13.7	94
59		4-Ethyl Toluene	1.885	1.749	7.2	98
60		1,3,5-Trimethylbenzene	1.582	1.160	26.6	100
61		1,2,4-Trimethylbenzene	1.522	1.293	15.0	97
62		Benzyl Chloride	1.162	1.020	12.3	96
63		m-Dichlorobenzene	1.116	0.875	21.6	96
64		p-Dichlorobenzene	1.073	0.851	20.6	97
65		o-Dichlorobenzene	1.092	0.807	26.1	93
66		1,2,4-Trichlorobenzene	0.473	0.506	-6.9	99
67		Naphthalene	1.368	1.394	-1.9	98
68		Hexachloro-1,3-butadiene	0.452	0.412	9.0	102

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GC/MS QA-QC Check Report

'une File : I:\L - 5975-L\2017\APR17L\25APR17L\LP16LCS.D
'une Time : 25 Apr 2017 10:49 am

)aily Calibration File : I:\L - 5975-L\2017\APR17L\25APR17L\LP16LCS.D

			173952	2121580	1779980
'ile	Sample	Surrogate Recovery %	Internal Standard Responses		
,P16LCS.D					
	QC	86	173952	2121578	1779975
,P17LCSD.D					
	QD	88	186944	2139949	1821832
P18RLVS.D					
	RLVS	95	176256	2146770	1691712
P19IBLK.D					
	BL-	95	143808	1961025	1529438
P20I001.D					
	1710499001	93	169344	1945071	1562213
P20I003.D					
	1710499003	93	203648	2126327	1722544
P21I002.D					
	1710499002	94	177344	2034193	1626813
P21I003.D					
	1710499003	89	171776	1968476	1497334

fails) - fails 24hr time check * - fails criteria

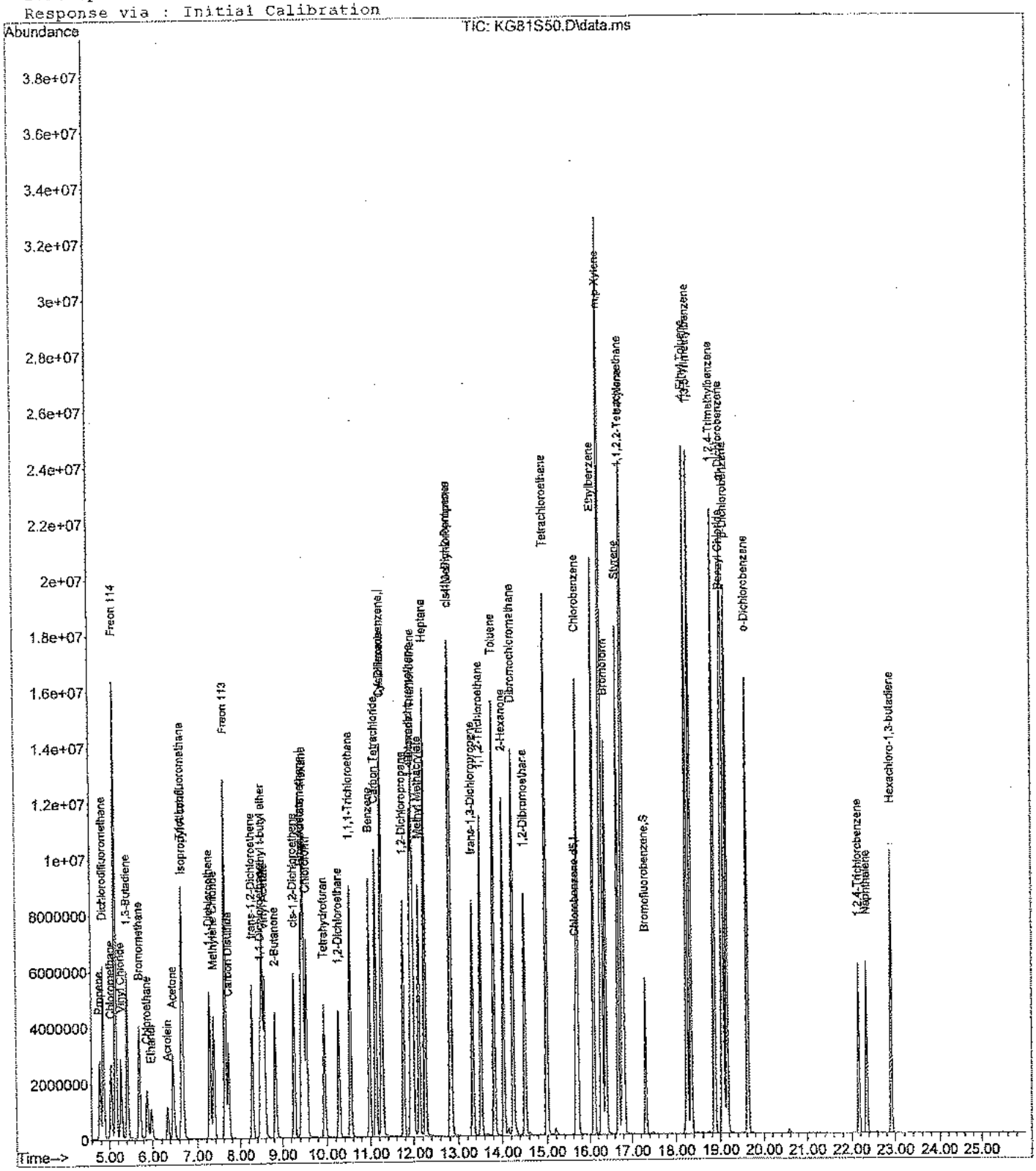
Created: Fri Apr 28 15:41:29 2017 5975-L

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG81S50.D Vial: 3
Acq Time : 03/20/2017 14:52 Operator:
Sample : 50 ppb Inst : 5975-K
Misc : 35928 (1000 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:06:38 2017 Results File: TO15KA17.RES

Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG81S50.D Vial: 3
Acq Time : 03/20/2017 14:52 Operator:
Sample : 50 ppb Inst : 5975-K
Misc : 35928 (1000 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:06:38 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 14:20:12 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.44	130	355776	20.0000	ppb		121.27
25) 1,4-Difluorobenzene	11.28	114	4649636	20.0000	ppb		124.42
50) Chlorobenzene d5	15.66	117	4133259	20.0000	ppb		120.93
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.32	95	2726517	20.7736	ppb		103.87%
Target Compounds							Qvalue
2) Propene	4.78	41	2541414	52.3825	ppb		98
3) Dichlorodifluoromethane	4.86	85	8622815	44.9735	ppb		99
4) Chloromethane	5.04	50	4842243	43.6110	ppb		98
5) Freon 114	5.15	135	9976940	44.7774	ppb	#	76
6) Vinyl Chloride	5.28	62	4949972	45.3875	ppb		94
7) 1,3-Butadiene	5.42	54	4525737	46.3409	ppb		89
8) Bromomethane	5.71	94	4351867	44.9061	ppb		99
9) Chloroethane	5.89	64	2350769	44.1590	ppb	#	88
10) Acrolein	6.34	56	1584152	57.2095	ppb		97
11) Acetone	6.46	43	5752701	49.2349	ppb	#	87
12) Trichlorofluoromethane	6.66	101	8473956	56.2904	ppb		100
13) Ethanol	5.97	45	1820933	39.8692	ppb	#	85
14) Isopropyl Alcohol	6.68	45	5839806	54.7220	ppb		98
15) 1,1-Dichloroethene	7.28	61	5273129	57.4630	ppb	#	66
16) Methylene Chloride	7.37	84	2547963	53.3738	ppb	#	42
17) Freon 113	7.65	151	5084489	59.9637	ppb	#	50
18) Carbon Disulfide	7.73	76	7020598	64.5193	ppb	#	61
19) trans-1,2-Dichloroethene	8.29	96	2868105	60.5880	ppb	#	64
20) 1,1-Dichloroethane	8.48	63	6132432	58.4691	ppb	#	93
21) methyl t-butyl ether	8.53	73	8156852	67.3161	ppb	#	74
22) Vinyl Acetate	8.59	86	936585	70.1598	ppb	#	1
23) 2-Butanone	8.83	43	8168116	62.7692	ppb	#	68
24) cis-1,2-Dichloroethene	9.28	96	3336588	64.6310	ppb	#	65
26) Ethyl Acetate	9.45	61	1262966	61.3148	ppb	#	1
27) Hexane	9.49	57	6676841	64.7639	ppb	#	51
28) Chloroform	9.56	83	7013062	59.4245	ppb		99
29) Tetrahydrofuran	9.95	42	4495919	65.2359	ppb	#	62
30) 1,2-Dichloroethane	10.27	62	4802282	56.0952	ppb	#	86
31) 1,1,1-Trichloroethane	10.54	97	7109767	63.9789	ppb	#	88
32) Benzene	10.99	78	10113350	63.7440	ppb	#	90
33) Carbon Tetrachloride	11.13	117	7959414	66.2774	ppb		99
34) Cyclohexane	11.27	84	4891489	55.2153	ppb	#	34
35) 1,2-Dichloropropane	11.77	63	4257015	62.4660	ppb	#	88
36) Bromodichloromethane	11.95	83	8460094	70.8345	ppb		98
37) 1,4-Dioxane	11.96	88	2879702	75.8167	ppb	#	76
38) Trichloroethene	11.99	130	5850574	69.8428	ppb		92
39) Methyl Methacrylate	12.13	69	4100294	74.9551	ppb	#	80
40) Heptane	12.27	71	4267832	71.4517	ppb	#	44
41) cis-1,3-Dichloropropene	12.82	75	6851748	79.8472	ppb	#	94
42) 4-Methyl-2-Pentanone	12.84	43	11683317	67.9653	ppb	#	76
43) trans-1,3-Dichloropropene	13.33	75	5809507	82.7170	ppb	#	92
44) 1,1,2-Trichloroethane	13.52	97	4765520	68.3896	ppb	#	86
45) Toluene	13.83	91	15037164	75.1113	ppb		98
46) 2-Hexanone	14.04	43	10834470	74.3484	ppb	#	80
47) Dibromochloromethane	14.26	129	10456823	84.1073	ppb		99
48) 1,2-Dibromoethane	14.52	107	8151331	76.2220	ppb		98
49) Tetrachloroethene	15.00	166	7006260	76.3294	ppb	#	79

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG81S50.D Vial: 3
Acq Time : 03/20/2017 14:52 Operator:
Sample : 50 ppb Inst : 5975-K
Misc : 35928 (1000 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:06:38 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 14:20:12 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue	
51) Chlorobenzene	15.71	112	12641147	69.2653	ppb		93	
52) Ethylbenzene	16.10	91	20121180	78.3412	ppb		95	
53) m,p-Xylene	16.28	91	30867094	153.1459	ppb	m	23	not used in curve
54) Bromoform	16.39	173	8823611	107.8345	ppb		99	
55) Styrene	16.68	104	12625374	88.4292	ppb		96	
56) 1,1,2,2-Tetrachloroethane	16.79	83	11519557	75.9144	ppb		99	
57) o-Xylene	16.81	91	17346612	85.7575	ppb		95	
59) 4-Ethyl Toluene	18.25	105	20778648	84.8699	ppb		99	
60) 1,3,5-Trimethylbenzene	18.34	105	18543407	82.7183	ppb		95	
61) 1,2,4-Trimethylbenzene	18.87	105	17530887	91.9521	ppb		95	
62) Benzyl Chloride	19.05	91	14938796	142.7068	ppb		92	
63) m-Dichlorobenzene	19.08	146	12105273	94.6189	ppb	#	94	
64) p-Dichlorobenzene	19.17	146	11322725	97.3656	ppb	#	94	
65) o-Dichlorobenzene	19.63	146	9753650	90.0995	ppb	#	94	
66) 1,2,4-Trichlorobenzene	22.17	180	2310059	136.9667	ppb	#	95	
67) Naphthalene	22.35	128	7098577	134.3487	ppb		100	
68) Hexachloro-1,3-butadiene	22.91	225	1790554	91.2057	ppb		98	

(#) = qualifier out of range (m) = manual integration

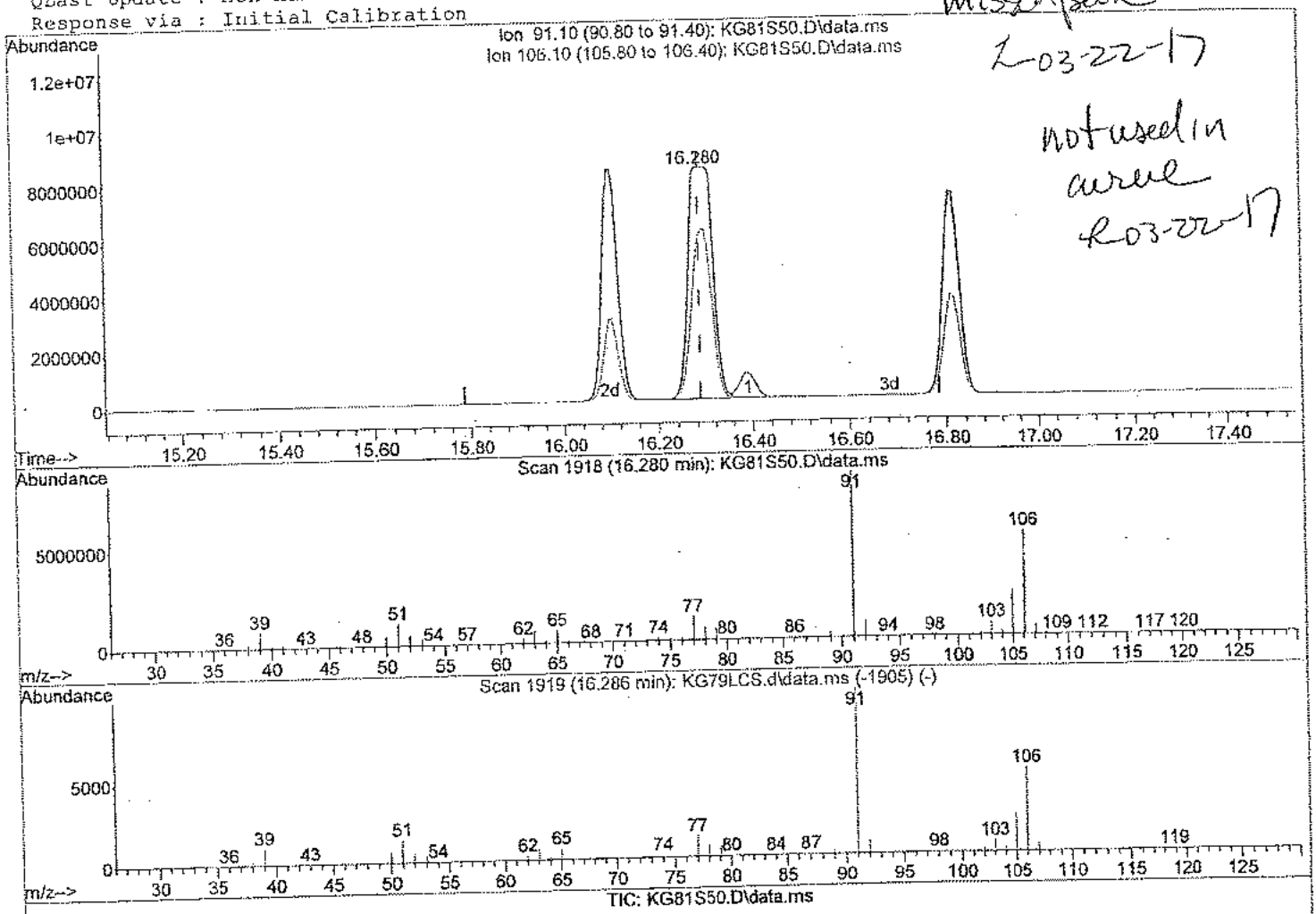
Quantitation Report (Qedit)

Data Path : I:\K - 5975-K\2017\MAR17K\20MAR17K\
Data File : KG81S50.D
Acq On : 03/20/2017 14:52
Operator :
Sample : 50 ppb
Inst : 5975-K
Misc : 35928 (1000 mL)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 21 09:06:38 2017
Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m
Quant Title : TO-15
QLast Update : Mon Mar 20 14:20:12 2017
Response via : Initial Calibration

missed peak
L-03-22-17

not used in curve
R-03-22-17



(53) m,p-Xylene

16.280min (-0.006) 153.15 ppb m

response 30867094

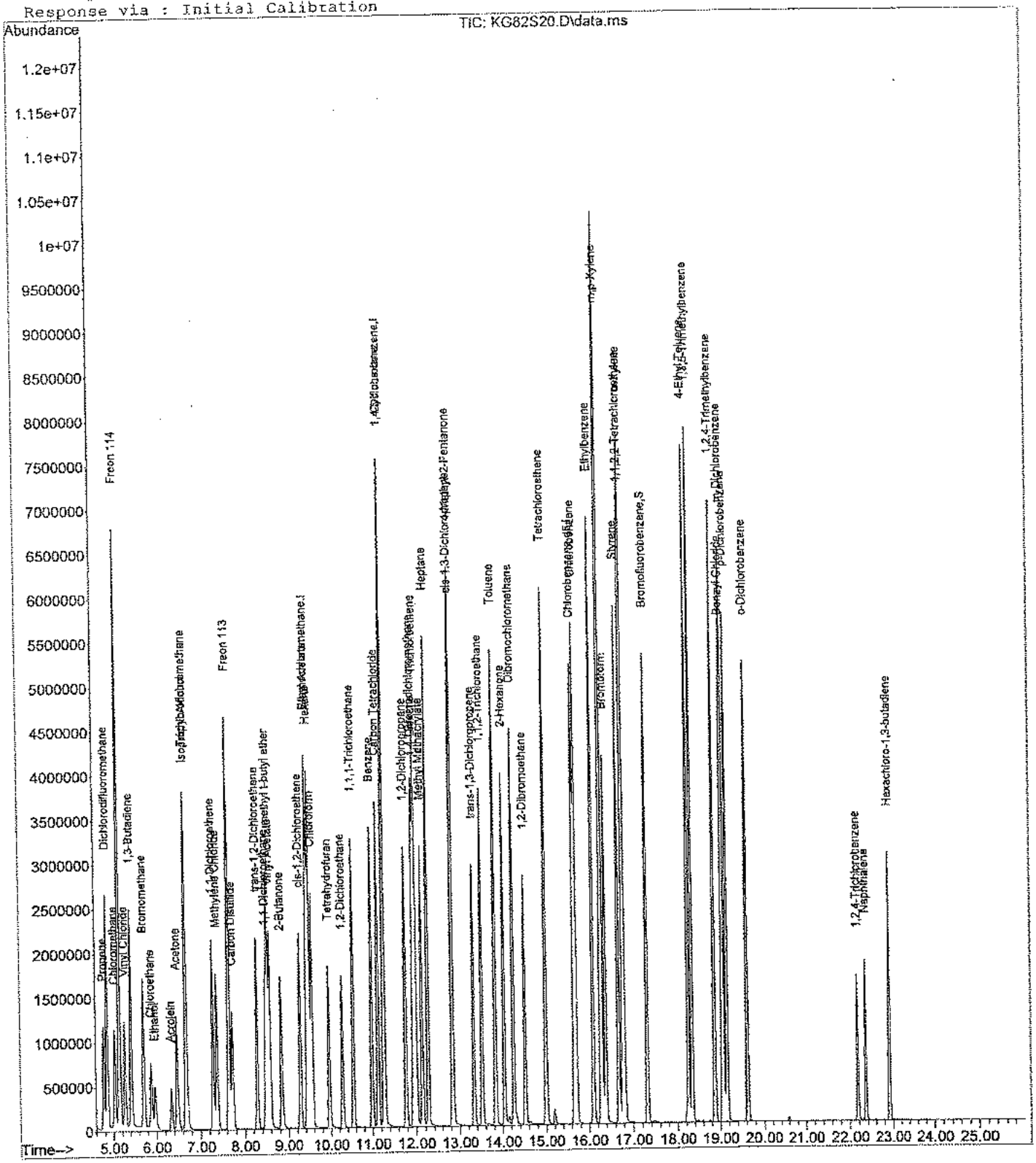
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	55.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG82S20.D Vial: 3
Acq Time : 03/20/2017 15:46 Operator:
Sample : 20 ppb Inst : 5975-K
Misc : 35928 (400 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 20 17:47:32 2017 Results File: TO15KA17.RES

Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG82S20.D Vial: 3
Acq Time : 03/20/2017 15:46 Operator:
Sample : 20 ppb Inst : 5975-K
Misc : 35928 (400 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 20 17:47:32 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 15:35:14 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.43	130	347712	20.0000	ppb		118.52
25) 1,4-Difluorobenzene	11.29	114	4419756	20.0000	ppb		118.27
50) Chlorobenzene d5	15.66	117	3959856	20.0000	ppb		115.85
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.32	95	2543683	20.3046	ppb		101.52%
Target Compounds							Qvalue
2) Propene	4.77	41	1040910	21.2954	ppb		97
3) Dichlorodifluoromethane	4.86	85	3620865	19.1048	ppb		99
4) Chloromethane	5.03	50	1993623	18.0748	ppb		98
5) Freon 114	5.14	135	4138585	18.7496	ppb	#	76
6) Vinyl Chloride	5.27	62	2037315	18.7904	ppb		94
7) 1,3-Butadiene	5.42	54	1861103	19.2301	ppb		89
8) Bromomethane	5.70	94	1810399	18.8101	ppb		99
9) Chloroethane	5.88	64	972246	18.3996	ppb	#	88
10) Acrolein	6.34	56	652768	23.4438	ppb		97
11) Acetone	6.46	43	2443284	20.9352	ppb	#	87
12) Trichlorofluoromethane	6.66	101	3402930	22.6957	ppb		99
13) Ethanol	5.96	45	781180	17.4828	ppb	#	89
14) Isopropyl Alcohol	6.68	45	2487411	23.8339	ppb		95
15) 1,1-Dichloroethene	7.28	61	2121686	23.1594	ppb	#	66
16) Methylene Chloride	7.37	84	1027380	21.4398	ppb	#	43
17) Freon 113	7.65	151	1876989	22.0513	ppb	#	49
18) Carbon Disulfide	7.73	76	2722002	24.7869	ppb	#	61
19) trans-1,2-Dichloroethene	8.29	96	1105809	23.2200	ppb	#	63
20) 1,1-Dichloroethane	8.48	63	2358750	22.4007	ppb	#	93
21) methyl t-butyl ether	8.53	73	3127180	25.6911	ppb	#	74
22) Vinyl Acetate	8.59	86	358291	26.6311	ppb	#	1
23) 2-Butanone	8.83	43	3112683	23.7975	ppb	#	68
24) cis-1,2-Dichloroethene	9.27	96	1257354	24.1340	ppb	#	65
26) Ethyl Acetate	9.45	61	482947	24.2165	ppb	#	1
27) Hexane	9.49	57	2423183	24.1522	ppb	#	50
28) Chloroform	9.56	83	2651721	23.0658	ppb		100
29) Tetrahydrofuran	9.95	42	1692497	25.1626	ppb	#	62
30) 1,2-Dichloroethane	10.27	62	1870746	22.4825	ppb	#	87
31) 1,1,1-Trichloroethane	10.54	97	2611526	24.1058	ppb	#	87
32) Benzene	10.99	78	3729198	24.0335	ppb	#	89
33) Carbon Tetrachloride	11.13	117	2841585	24.3893	ppb		99
34) Cyclohexane	11.27	84	1804625	21.0262	ppb	#	29
35) 1,2-Dichloropropane	11.77	63	1561796	23.4991	ppb	#	89
36) Bromodichloromethane	11.94	83	2898637	24.8513	ppb	#	98
37) 1,4-Dioxane	11.96	88	948051	25.1870	ppb	#	70
38) Trichloroethene	11.99	130	1910458	23.2487	ppb	#	91
39) Methyl Methacrylate	12.13	69	1448904	27.0567	ppb	#	75
40) Heptane	12.27	71	1453218	24.9723	ppb	#	39
41) cis-1,3-Dichloropropene	12.82	75	2271124	26.9866	ppb	#	93
42) 4-Methyl-2-Pentanone	12.84	43	4163123	24.9004	ppb	#	74
43) trans-1,3-Dichloropropene	13.33	75	1971197	28.3765	ppb	#	93
44) 1,1,2-Trichloroethane	13.52	97	1617371	23.5976	ppb	#	83
45) Toluene	13.83	91	5071408	25.8383	ppb		97
46) 2-Hexanone	14.04	43	3723755	26.0652	ppb	#	78
47) Dibromochloromethane	14.26	129	3244279	26.4186	ppb		99
48) 1,2-Dibromoethane	14.52	107	2635677	25.0009	ppb		97
49) Tetrachloroethene	15.00	166	2167869	24.0879	ppb	#	78

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG82S20.D Vial: 3
Acq Time : 03/20/2017 15:46 Operator:
Sample : 20 ppb Inst : 5975-K
Misc : 35928 (400 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 20 17:47:32 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 15:35:14 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51) Chlorobenzene	15.71	112	4195671	23.2272	ppb	#	91
52) Ethylbenzene	16.10	91	6759426	26.6640	ppb		92
53) m,p-Xylene	16.29	91	11234122	66.6322	ppb		92
54) Bromoform	16.39	173	2527492	27.6693	ppb		99
55) Styrene	16.68	104	3969699	25.7262	ppb		95
56) 1,1,2,2-Tetrachloroethane	16.78	83	3757972	24.8023	ppb		98
57) o-Xylene	16.81	91	5503848	25.7686	ppb		92
59) 4-Ethyl Toluene	18.25	105	6972547	26.6309	ppb		95
60) 1,3,5-Trimethylbenzene	18.34	105	5900188	24.7706	ppb		92
61) 1,2,4-Trimethylbenzene	18.87	105	5399570	25.9350	ppb		93
62) Benzyl Chloride	19.05	91	4132640	31.4791	ppb		90
63) m-Dichlorobenzene	19.08	146	3513071	24.9509	ppb	#	94
64) p-Dichlorobenzene	19.16	146	3320422	25.7392	ppb	#	94
65) o-Dichlorobenzene	19.63	146	2978523	25.3329	ppb	#	94
66) 1,2,4-Trichlorobenzene	22.17	180	634701	30.4524	ppb	#	95
67) Naphthalene	22.35	128	2079119	32.0590	ppb		99
68) Hexachloro-1,3-butadiene	22.91	225	542943	25.8265	ppb		99

(#) = qualifier out of range (m) = manual integration

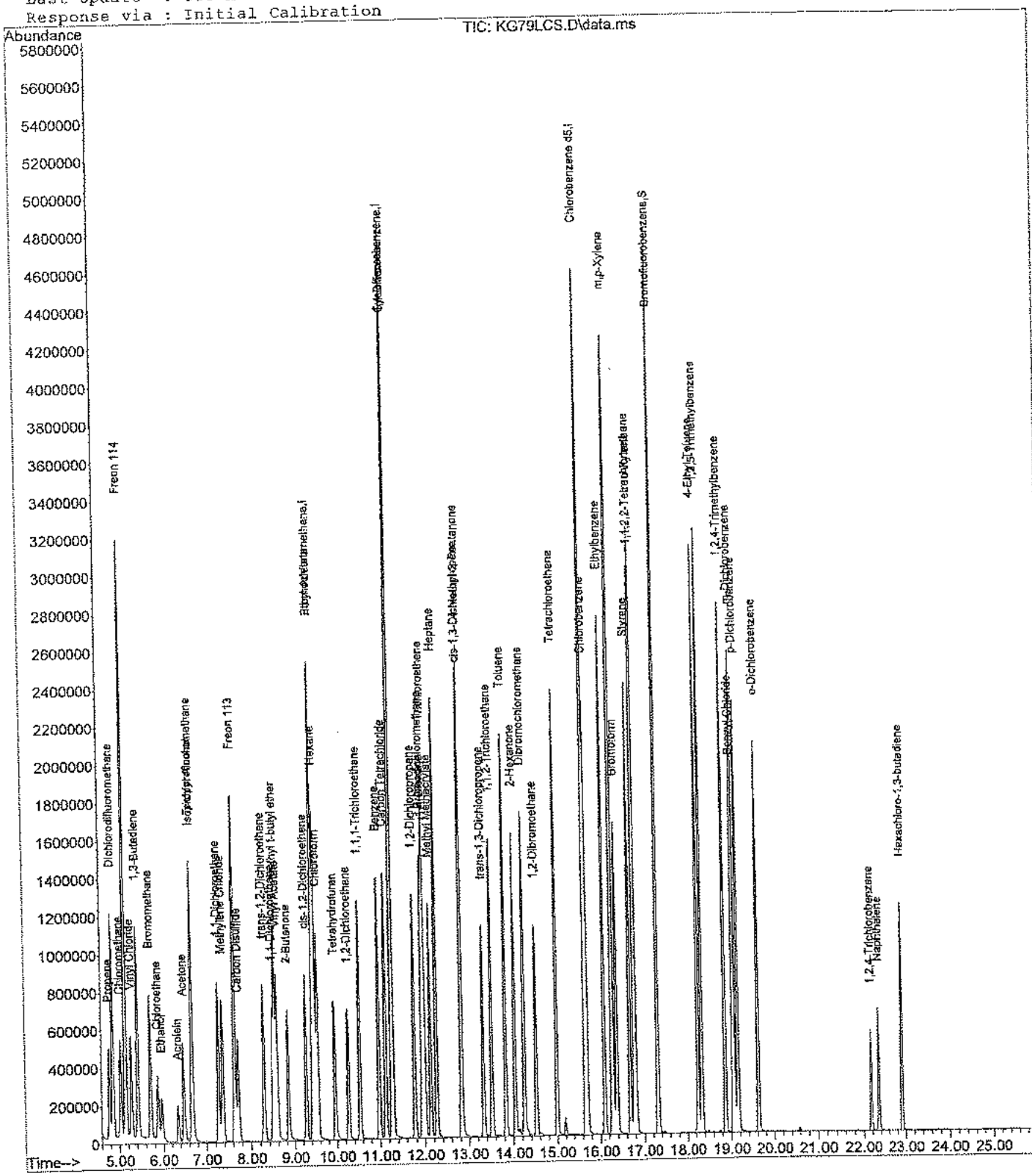
Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG79LCS.D Vial: 3
Acq Time : 03/20/2017 12:52 Operator:
Sample : LCS Inst : 5975-K
Misc : 35928 (200 mL) Multiplr: 1.00
MS Integration Params: rteint.p

10 ppb std

Quant Time: Mar 20 14:19:57 2017 Results File: TO15KA17.RES

Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG79LCS.D Vial: 3
Acq Time : 03/20/2017 12:52 Operator:
Sample : LCS Inst : 5975-K
Misc : 35928 (200 mL) Multiplr: 1.00
MS Integration Params: rteint.p 10 ppb STD

Quant Time: Mar 20 14:19:57 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 14:19:45 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.43	130	293376	20.0000 ppb		100.00
25) 1,4-Difluorobenzene	11.28	114	3736902	20.0000 ppb		100.00
50) Chlorobenzene d5	15.66	117	3418035	20.0000 ppb		100.00
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.32	95	2217227	20.4282 ppb		102.14%
Target Compounds						Qvalue
2) Propene	4.77	41	436390	10.9078 ppb		96
3) Dichlorodifluoromethane	4.85	85	1651254	10.4442 ppb		99
4) Chloromethane	5.03	50	928025	10.1364 ppb		99
5) Freon 114	5.14	135	1904440	10.3653 ppb	#	75
6) Vinyl Chloride	5.27	62	938362	10.4341 ppb		95
7) 1,3-Butadiene	5.42	54	843508	10.4741 ppb		87
8) Bromomethane	5.71	94	827902	10.3600 ppb		98
9) Chloroethane	5.88	64	443755	10.1089 ppb	#	87
10) Acrolein	6.34	56	257696	11.2858 ppb		96
11) Acetone	6.47	43	1020000	10.5865 ppb		87
12) Trichlorofluoromethane	6.66	101	1333822	10.7448 ppb		100
13) Ethanol	5.96	45	344979	9.1598 ppb		97
14) Isopropyl Alcohol	6.68	45	946425	10.7548 ppb	#	87
15) 1,1-Dichloroethene	7.28	61	809973	10.7039 ppb	#	68
16) Methylene Chloride	7.37	84	441260	11.2094 ppb	#	43
17) Freon 113	7.65	151	773777	11.0665 ppb	#	52
18) Carbon Disulfide	7.73	76	1116311	12.4409 ppb	#	61
19) trans-1,2-Dichloroethene	8.29	96	435526	11.1573 ppb	#	66
20) 1,1-Dichloroethane	8.48	63	950017	10.9844 ppb	#	93
21) methyl t-butyl ether	8.53	73	1131145	11.3205 ppb	#	72
22) Vinyl Acetate	8.58	86	136335	12.3851 ppb	#	1
23) 2-Butanone	8.84	43	1249783	11.6469 ppb	#	68
24) cis-1,2-Dichloroethene	9.27	96	492854	11.5773 ppb	#	67
26) Ethyl Acetate	9.45	61	192170	11.6082 ppb	#	1
27) Hexane	9.49	57	974730	11.7640 ppb	#	49
28) Chloroform	9.55	83	1073287	11.3157 ppb		100
29) Tetrahydrofuran	9.96	42	670570	12.1065 ppb	#	61
30) 1,2-Dichloroethane	10.27	62	737262	10.7154 ppb	#	84
31) 1,1,1-Trichloroethane	10.54	97	996236	11.1545 ppb	#	86
32) Benzene	10.98	78	1498955	11.7555 ppb	#	89
33) Carbon Tetrachloride	11.13	117	1090083	11.2941 ppb		98
34) Cyclohexane	11.27	84	745016	10.4639 ppb	#	22
35) 1,2-Dichloropropane	11.77	63	631875	11.5366 ppb	#	88
36) Bromodichloromethane	11.94	83	1116171	11.6281 ppb		99
37) 1,4-Dioxane	11.96	88	374708	12.2749 ppb	#	68
38) Trichloroethene	11.99	130	794722	11.8045 ppb		92
39) Methyl Methacrylate	12.13	69	558533	12.7040 ppb	#	74
40) Heptane	12.27	71	585913	12.2052 ppb	#	38
41) cis-1,3-Dichloropropene	12.82	75	866442	12.5633 ppb	#	93
42) 4-Methyl-2-Pentanone	12.84	43	1710485	12.3808 ppb	#	73
43) trans-1,3-Dichloropropene	13.33	75	723785	12.8225 ppb	#	93
44) 1,1,2-Trichloroethane	13.52	97	670967	11.9809 ppb	#	84
45) Toluene	13.83	91	2005452	12.4640 ppb		97
46) 2-Hexanone	14.04	43	1512142	12.9111 ppb	#	76
47) Dibromochloromethane	14.25	129	1258951	12.5994 ppb		100
48) 1,2-Dibromoethane	14.52	107	1047430	12.1866 ppb		97
49) Tetrachloroethene	14.99	166	851928	11.5482 ppb	#	80

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG79LCS.D Vial: 3
Acq Time : 03/20/2017 12:52 Operator:
Sample : LCS Inst : 5975-K
Misc : 35928 (200 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 20 14:19:57 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 14:19:45 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51) Chlorobenzene	15.71	112	1719724	11.3947	ppb	#	91
52) Ethylbenzene	16.10	91	2630225	12.3836	ppb		93
53) m,p-Xylene	16.29	91	4475266	26.8500	ppb		93
54) Bromoform	16.38	173	985301	14.5612	ppb		99
55) Styrene	16.68	104	1561102	13.2220	ppb		96
56) 1,1,2,2-Tetrachloroethane	16.78	83	1552307	12.3703	ppb		98
57) o-Xylene	16.81	91	2231021	13.3376	ppb		93
59) 4-Ethyl Toluene	18.25	105	2675415	13.2143	ppb		95
60) 1,3,5-Trimethylbenzene	18.34	105	2365599	12.7605	ppb		93
61) 1,2,4-Trimethylbenzene	18.86	105	2103015	13.3388	ppb		93
62) Benzyl Chloride	19.04	91	1343969	15.5251	ppb		90
63) m-Dichlorobenzene	19.08	146	1402417	13.2555	ppb	#	95
64) p-Dichlorobenzene	19.16	146	1306241	13.5829	ppb	#	94
65) o-Dichlorobenzene	19.63	146	1172602	13.0985	ppb	#	95
66) 1,2,4-Trichlorobenzene	22.17	180	203618	14.5990	ppb	#	96
67) Naphthalene	22.35	128	711110	16.2748	ppb		99
68) Hexachloro-1,3-butadiene	22.91	225	222063	13.6781	ppb		98

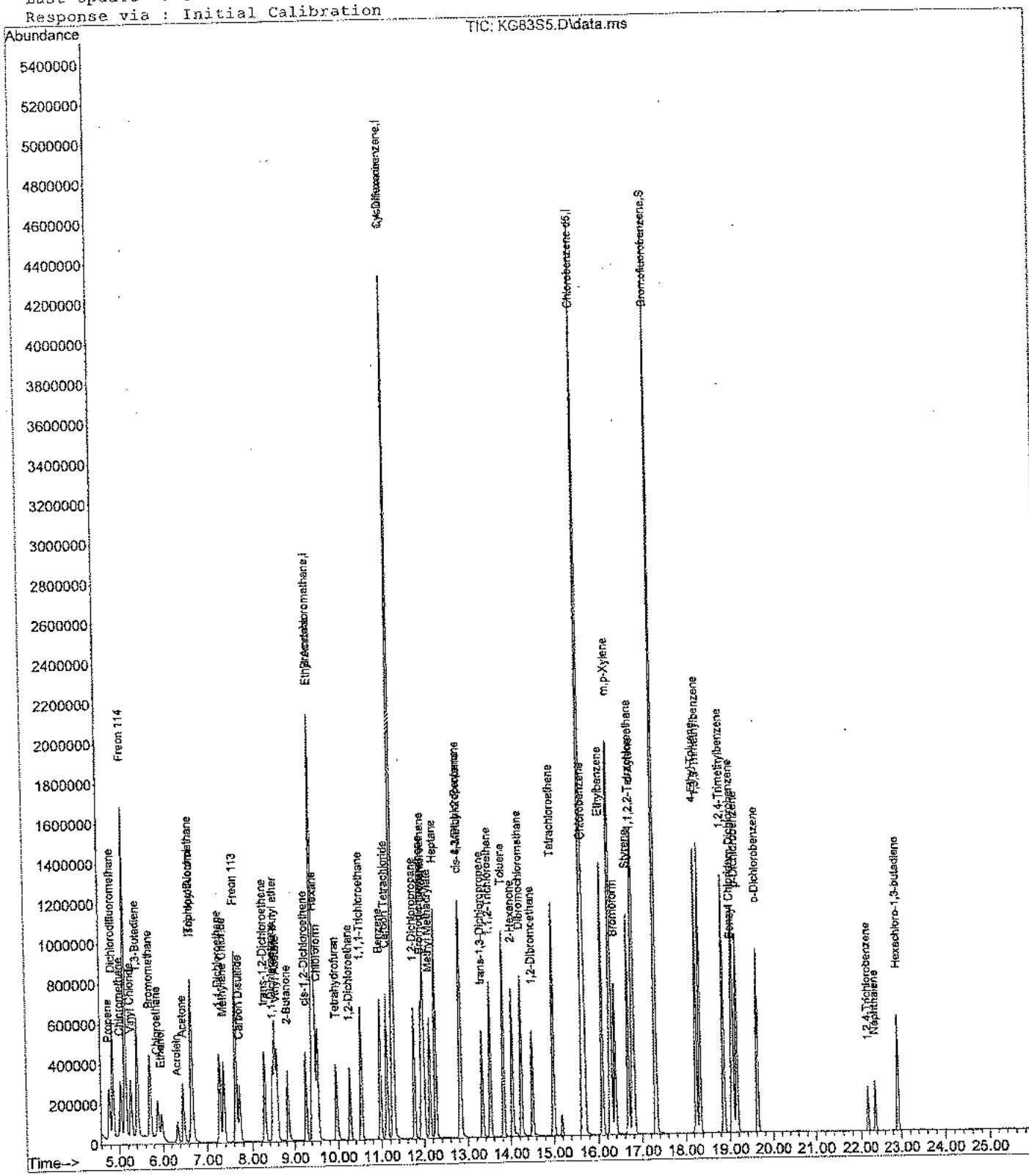
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG83S5.D Vial: 3
Acq Time : 03/20/2017 16:36 Operator:
Sample : 5 ppb Inst : 5975-K
Misc : 35928 (100 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 20 17:47:53 2017 Results File: TO15KA17.RES

Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG83S5.D Vial: 3
Acq Time : 03/20/2017 16:36 Operator:
Sample : 5 ppb Inst : 5975-K
Misc : 35928 (100 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 20 17:47:53 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 17:47:39 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.43	130	293632	20.0000	ppb		100.09
25) 1,4-Difluorobenzene	11.28	114	3825417	20.0000	ppb		102.37
50) Chlorobenzene d5	15.66	117	3495135	20.0000	ppb		102.26
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.32	95	2187106	19.8492	ppb		99.25%
Target Compounds							Qvalue
2) Propene	4.78	41	241131	5.7361	ppb		98
3) Dichlorodifluoromethane	4.86	85	840004	5.2252	ppb		99
4) Chloromethane	5.03	50	492863	5.2846	ppb		98
5) Freon 114	5.14	135	990186	5.3100	ppb	#	76
6) Vinyl Chloride	5.28	62	495804	5.4090	ppb		94
7) 1,3-Butadiene	5.42	54	448067	5.4801	ppb		88
8) Bromomethane	5.71	94	439541	5.3913	ppb		99
9) Chloroethane	5.88	64	241394	5.4114	ppb	#	87
10) Acrolein	6.34	56	144392	6.0316	ppb		96
11) Acetone	6.48	43	579526	5.7815	ppb	#	87
12) Trichlorofluoromethane	6.66	101	764808	5.9552	ppb		99
13) Ethanol	5.97	45	200472	5.3657	ppb	#	77
14) Isopropyl Alcohol	6.68	45	555835	6.2853	ppb	#	88
15) 1,1-Dichloroethene	7.28	61	448778	5.7122	ppb	#	66
16) Methylene Chloride	7.37	84	233492	5.6587	ppb	#	43
17) Freon 113	7.65	151	399303	5.4649	ppb	#	50
18) Carbon Disulfide	7.73	76	580861	6.1189	ppb	#	61
19) trans-1,2-Dichloroethene	8.29	96	239355	5.8350	ppb	#	64
20) 1,1-Dichloroethane	8.48	63	517388	5.7189	ppb	#	93
21) methyl t-butyl ether	8.53	73	622273	5.9292	ppb	#	73
22) Vinyl Acetate	8.59	86	69860	5.9825	ppb	#	1
23) 2-Butanone	8.84	43	648509	5.7507	ppb	#	68
24) cis-1,2-Dichloroethene	9.27	96	262896	5.8416	ppb	#	66
26) Ethyl Acetate	9.45	61	94853	5.3703	ppb	#	1
27) Hexane	9.49	57	489336	5.5047	ppb	#	48
28) Chloroform	9.55	83	552859	5.4313	ppb		100
29) Tetrahydrofuran	9.96	42	350577	5.8836	ppb	#	61
30) 1,2-Dichloroethane	10.27	62	403079	5.4931	ppb	#	86
31) 1,1,1-Trichloroethane	10.54	97	530221	5.5281	ppb	#	86
32) Benzene	10.98	78	757910	5.4889	ppb	#	88
33) Carbon Tetrachloride	11.13	117	565758	5.4912	ppb		98
34) Cyclohexane	11.27	84	389464	5.1689	ppb	#	11
35) 1,2-Dichloropropane	11.76	63	321367	5.4456	ppb	#	89
36) Bromodichloromethane	11.94	83	556753	5.3791	ppb		98
37) 1,4-Dioxane	11.97	88	187033	5.5729	ppb	#	67
38) Trichloroethene	11.99	130	388555	5.3581	ppb	#	91
39) Methyl Methacrylate	12.13	69	271877	5.6946	ppb	#	71
40) Heptane	12.27	71	285571	5.5565	ppb	#	36
41) cis-1,3-Dichloropropene	12.82	75	414079	5.5392	ppb	#	93
42) 4-Methyl-2-Pentanone	12.84	43	833186	5.6549	ppb	#	72
43) trans-1,3-Dichloropropene	13.32	75	347925	5.5769	ppb	#	93
44) 1,1,2-Trichloroethane	13.52	97	326836	5.3489	ppb	#	83
45) Toluene	13.83	91	976981	5.5944	ppb		97
46) 2-Hexanone	14.04	43	716857	5.6592	ppb	#	75
47) Dibromochloromethane	14.25	129	590093	5.3904	ppb		99
48) 1,2-Dibromoethane	14.52	107	500699	5.3276	ppb		98
49) Tetrachloroethene	14.99	166	415255	5.2145	ppb	#	80

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KGB3S5.D Vial: 3
Acq Time : 03/20/2017 16:36 Operator:
Sample : 5 ppb Inst : 5975-K
Misc : 35928 (100 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 20 17:47:53 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 17:47:39 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51) Chlorobenzene	15.71	112	872612	5.3279	ppb	#	88
52) Ethylbenzene	16.10	91	1292646	5.6177	ppb		93
53) m,p-Xylene	16.29	91	2119741	13.7811	ppb		93
54) Bromoform	16.38	173	451855	5.4253	ppb		99
55) Styrene	16.68	104	730729	5.1722	ppb		95
56) 1,1,2,2-Tetrachloroethane	16.77	83	740979	5.3581	ppb		99
57) o-Xylene	16.81	91	1077785	5.5773	ppb		93
59) 4-Ethyl Toluene	18.25	105	1230367	5.1202	ppb		96
60) 1,3,5-Trimethylbenzene	18.34	105	1092745	5.0140	ppb		93
61) 1,2,4-Trimethylbenzene	18.86	105	965680	5.0496	ppb		94
62) Benzyl Chloride	19.04	91	542725	4.3121	ppb	#	89
63) m-Dichlorobenzene	19.08	146	629767	4.8486	ppb	#	94
64) p-Dichlorobenzene	19.16	146	578920	4.8366	ppb	#	94
65) o-Dichlorobenzene	19.63	146	537867	4.9265	ppb	#	95
66) 1,2,4-Trichlorobenzene	22.17	180	86350	4.3115	ppb	#	94
67) Naphthalene	22.35	128	276806	4.3869	ppb		100
68) Hexachloro-1,3-butadiene	22.91	225	106473	5.4096	ppb		98

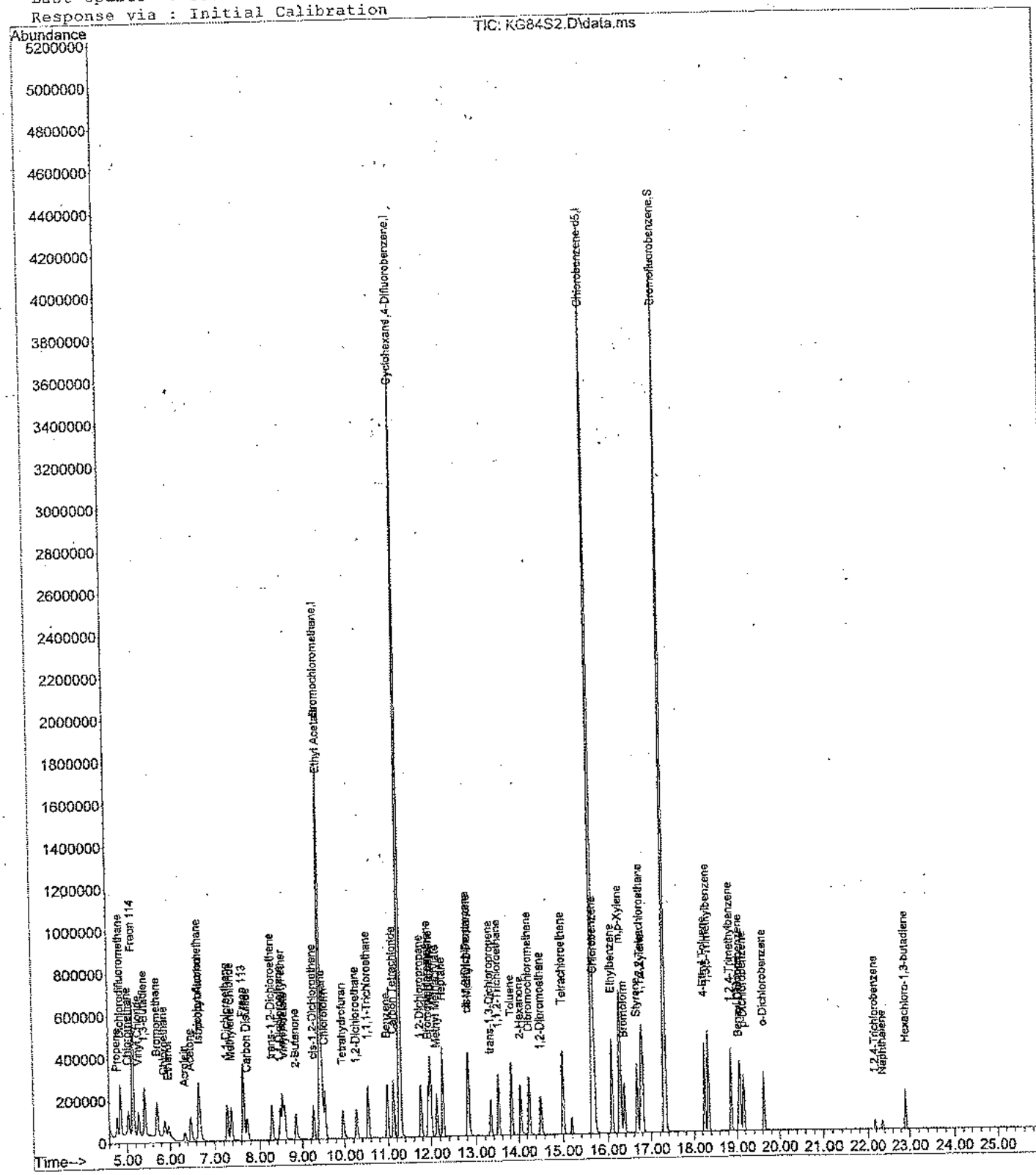
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG84S2.D Vial: 3
Acq Time : 03/20/2017 17:26 Operator:
Sample : 2 ppb Inst : 5975-K
Misc : 35928 (40 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:04:39 2017 Results File: TO15KA17.RES

Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG84S2.D Vial: 3
Acq Time : 03/20/2017 17:26 Operator:
Sample : 2 ppb Inst : 5975-K
Misc : 35928 (40 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:04:39 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 17:50:04 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Area%
1) Bromochloromethane	9.43	130	280384	20.0000 ppb		95.57
25) 1,4-Difluorobenzene	11.28	114	3518953	20.0000 ppb		94.17
50) Chlorobenzene d5	15.66	117	3241607	20.0000 ppb		94.84
System Monitoring Compounds						%Recovery
58) Bromofluorobenzene	17.32	95	1947660	19.2115 ppb		96.06%
Target Compounds						Qvalue
2) Propene	4.77	41	90760	2.2040 ppb		97
3) Dichlorodifluoromethane	4.86	85	345523	2.2538 ppb		100
4) Chloromethane	5.03	50	197586	2.2114 ppb		98
5) Freon 114	5.14	135	388736	2.1783 ppb	#	76
6) Vinyl Chloride	5.27	62	192412	2.1865 ppb		96
7) 1,3-Butadiene	5.42	54	171300	2.1778 ppb		85
8) Bromomethane	5.71	94	170417	2.1733 ppb		99
9) Chloroethane	5.87	64	95377	2.2233 ppb	#	87
10) Acrolein	6.34	56	53126	2.2644 ppb		95
11) Acetone	6.48	43	229835	2.3395 ppb	#	87
12) Trichlorofluoromethane	6.66	101	274053	2.1694 ppb		99
13) Ethanol	5.96	45	76973	2.1175 ppb	#	74
14) Isopropyl Alcohol	6.68	45	194345	2.2235 ppb	#	76
15) 1,1-Dichloroethene	7.28	61	161204	2.1067 ppb	#	68
16) Methylene Chloride	7.37	84	92708	2.2911 ppb	#	41
17) Freon 113	7.65	151	156660	2.1939 ppb	#	51
18) Carbon Disulfide	7.73	76	208433	2.2215 ppb	#	62
19) trans-1,2-Dichloroethene	8.29	96	86420	2.1483 ppb	#	64
20) 1,1-Dichloroethane	8.48	63	195913	2.2123 ppb	#	94
21) methyl t-butyl ether	8.54	73	215932	2.1024 ppb	#	72
22) Vinyl Acetate	8.59	86	24837	2.1674 ppb	#	1
23) 2-Butanone	8.85	43	233084	2.1127 ppb	#	66
24) cis-1,2-Dichloroethene	9.27	96	92347	2.0920 ppb	#	64
26) Ethyl Acetate	9.45	61	35077	2.1447 ppb	#	1
27) Hexane	9.49	57	181862	2.1941 ppb	#	47
28) Chloroform	9.55	83	214471	2.2535 ppb		99
29) Tetrahydrofuran	9.97	42	121022	2.1636 ppb	#	60
30) 1,2-Dichloroethane	10.27	62	149907	2.1855 ppb	#	86
31) 1,1,1-Trichloroethane	10.54	97	197654	2.1935 ppb	#	85
32) Benzene	10.98	78	279380	2.1564 ppb	#	89
33) Carbon Tetrachloride	11.13	117	207935	2.1497 ppb		97
34) Cyclohexane	11.27	84	148703	2.1213 ppb	#	1
35) 1,2-Dichloropropane	11.77	63	119774	2.1625 ppb	#	89
36) Bromodichloromethane	11.95	83	201089	2.0747 ppb		98
37) 1,4-Dioxane	11.98	88	64569	2.0681 ppb	#	63
38) Trichloroethene	11.99	130	142707	2.1057 ppb	#	92
39) Methyl Methacrylate	12.13	69	90338	2.0124 ppb	#	70
40) Heptane	12.27	71	99610	2.0703 ppb	#	35
41) cis-1,3-Dichloropropene	12.82	75	136950	1.9520 ppb	#	92
42) 4-Methyl-2-Pentanone	12.85	43	291364	2.1206 ppb	#	71
43) trans-1,3-Dichloropropene	13.33	75	108504	1.8543 ppb	#	93
44) 1,1,2-Trichloroethane	13.52	97	121981	2.1307 ppb	#	83
45) Toluene	13.83	91	318443	1.9454 ppb		97
46) 2-Hexanone	14.04	43	231524	1.9639 ppb	#	73
47) Dibromochloromethane	14.25	129	201364	1.9605 ppb		99
48) 1,2-Dibromoethane	14.52	107	172231	1.9617 ppb		96
49) Tetrachloroethene	15.00	166	144694	1.9442 ppb	#	81

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG0482.D Vial: 3
Acq Time : 03/20/2017 17:26 Operator:
Sample : 2 ppb Inst : 5975-K
Misc : 35928 (40 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:04:39 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Mon Mar 20 17:50:04 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51) Chlorobenzene	15.71	112	318308	2.0565	ppb	#	85
52) Ethylbenzene	16.10	91	403961	1.8592	ppb		93
53) m,p-Xylene	16.29	91	687077	4.6980	ppb		94
54) Bromoform	16.38	173	140029	1.7665	ppb		100
55) Styrene	16.68	104	204525	1.5300	ppb		96
56) 1,1,2,2-Tetrachloroethane	16.77	83	254763	1.9523	ppb		98
57) o-Xylene	16.81	91	351426	1.9226	ppb		93
59) 4-Ethyl Toluene	18.25	105	337170	1.4882	ppb		96
60) 1,3,5-Trimethylbenzene	18.34	105	356097	1.7289	ppb		93
61) 1,2,4-Trimethylbenzene	18.87	105	278925	1.5445	ppb		94
62) Benzyl Chloride	19.05	91	141233	1.1776	ppb	#	85
63) m-Dichlorobenzene	19.08	146	185491	1.5150	ppb		95
64) p-Dichlorobenzene	19.16	146	159457	1.4153	ppb	#	95
65) o-Dichlorobenzene	19.63	146	163134	1.5820	ppb	#	95
66) 1,2,4-Trichlorobenzene	22.17	180	19631	1.0466	ppb	#	95
67) Naphthalene	22.35	128	52101	0.8821	ppb	#	97
68) Hexachloro-1,3-butadiene	22.91	225	35595	1.9130	ppb		97

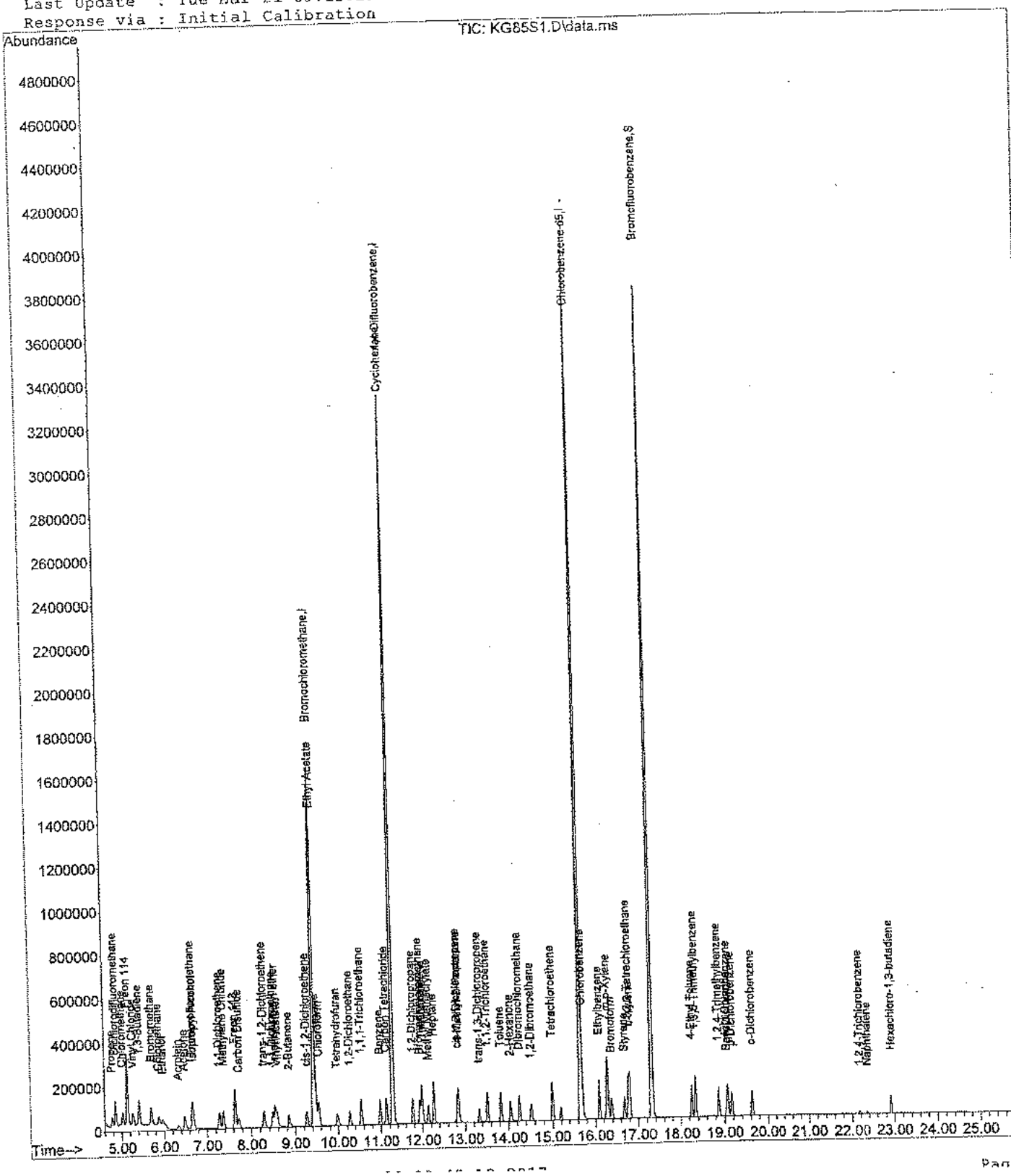
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG85S1.D Vial: 3
Acq Time : 03/20/2017 18:17 Operator:
Sample : 1 ppb Inst : 5975-K
Misc : 35928 (20 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:05:00 2017 Results File: TO15KA17.RES

Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG85S1.D Vial: 3
Acq Time : 03/20/2017 18:17 Operator:
Sample : 1 ppb Inst : 5975-K
Misc : 35928 (20 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:05:00 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:04:51 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.43	130	265216	20.0000	ppb		90.40
25) 1,4-Difluorobenzene	11.28	114	3338471	20.0000	ppb		89.34
50) Chlorobenzene d5	15.66	117	3040832	20.0000	ppb		88.96
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.32	95	1732889	18.3689	ppb		91.84%
Target Compounds							Qvalue
2) Propene	4.76	41	42515	1.0683	ppb		95
3) Dichlorodifluoromethane	4.85	85	164708	1.1250	ppb		100
4) Chloromethane	5.02	50	96592	1.1370	ppb		99
5) Freon 114	5.14	135	190177	1.1207	ppb	#	76
6) Vinyl Chloride	5.27	62	93521	1.1160	ppb		97
7) 1,3-Butadiene	5.42	54	83576	1.1143	ppb		87
8) Bromomethane	5.70	94	83988	1.1265	ppb		99
9) Chloroethane	5.87	64	47050	1.1491	ppb	#	89
10) Acrolein	6.34	56	22976	1.0068	ppb	#	92
11) Acetone	6.48	43	116349	1.2157	ppb	#	86
12) Trichlorofluoromethane	6.65	101	131332	1.0740	ppb		99
13) Ethanol	5.96	45	45306	1.3123	ppb	#	74
14) Isopropyl Alcohol	6.68	45	86796	1.0199	ppb	#	71
15) 1,1-Dichloroethene	7.28	61	74602	1.0129	ppb	#	65
16) Methylene Chloride	7.37	84	46001	1.1678	ppb	#	41
17) Freon 113	7.64	151	77508	1.1184	ppb	#	54
18) Carbon Disulfide	7.73	76	94226	1.0230	ppb	#	61
19) trans-1,2-Dichloroethene	8.29	96	39702	1.0210	ppb	#	65
20) 1,1-Dichloroethane	8.48	63	93271	1.0861	ppb	#	93
21) methyl t-butyl ether	8.53	73	90730	0.9144	ppb	#	74
22) Vinyl Acetate	8.59	86	9541	0.8542	ppb	#	1
23) 2-Butanone	8.85	43	107845	1.0123	ppb	#	67
24) cis-1,2-Dichloroethene	9.27	96	40149	0.9404	ppb	#	67
26) Ethyl Acetate	9.45	61	15845	0.9969	ppb	#	1
27) Hexane	9.49	57	80283	0.9922	ppb	#	45
28) Chloroform	9.55	83	100759	1.0820	ppb		99
29) Tetrahydrofuran	9.98	42	50382	0.9264	ppb	#	57
30) 1,2-Dichloroethane	10.27	62	69547	1.0498	ppb	#	85
31) 1,1,1-Trichloroethane	10.54	97	91302	1.0376	ppb	#	85
32) Benzene	10.98	78	123207	0.9754	ppb	#	87
33) Carbon Tetrachloride	11.13	117	94259	0.9975	ppb		99
34) Cyclohexane	11.27	84	73885	1.0896	ppb	#	1
35) 1,2-Dichloropropane	11.77	63	55284	1.0260	ppb	#	89
36) Bromodichloromethane	11.94	83	91935	0.9737	ppb	#	97
37) 1,4-Dioxane	11.99	88	26097	0.8634	ppb	#	60
38) Trichloroethene	11.99	130	64566	0.9788	ppb	#	92
39) Methyl Methacrylate	12.14	69	36169	0.8290	ppb	#	65
40) Heptane	12.27	71	41316	0.8818	ppb	#	32
41) cis-1,3-Dichloropropene	12.82	75	54037	0.7899	ppb	#	92
42) 4-Methyl-2-Pentanone	12.85	43	122320	0.9168	ppb	#	70
43) trans-1,3-Dichloropropene	13.33	75	41564	0.7334	ppb	#	92
44) 1,1,2-Trichloroethane	13.52	97	56150	1.0084	ppb	#	82
45) Toluene	13.83	91	127755	0.8068	ppb		94
46) 2-Hexanone	14.05	43	90956	0.8007	ppb	#	69
47) Dibromochloromethane	14.26	129	85298	0.8502	ppb		98
48) 1,2-Dibromoethane	14.51	107	71119	0.8343	ppb		99
49) Tetrachloroethene	15.00	166	64681	0.8982	ppb	#	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG85S1.D Vial: 3
Acq Time : 03/20/2017 18:17 Operator:
Sample : 1 ppb Inst : 5975-K
Misc : 35928 (20 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:05:00 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:04:51 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51) Chlorobenzene	15.71	112	146206	0.9848	ppb	#	76
52) Ethylbenzene	16.10	91	160580	0.7752	ppb		93
53) m,p-Xylene	16.29	91	282157	2.0096	ppb		93
54) Bromoform	16.38	173	56508	0.7393	ppb		98
55) Styrene	16.68	104	67204	0.5295	ppb		95
56) 1,1,2,2-Tetrachloroethane	16.77	83	119278	0.9529	ppb		100
57) o-Xylene	16.81	91	141323	0.8095	ppb		93
59) 4-Ethyl Toluene	18.25	105	117952	0.5487	ppb		95
60) 1,3,5-Trimethylbenzene	18.34	105	139538	0.7066	ppb		96
61) 1,2,4-Trimethylbenzene	18.87	105	97264	0.5642	ppb		93
62) Benzyl Chloride	19.05	91	52648	0.4557	ppb	#	87
63) m-Dichlorobenzene	19.08	146	83158	0.7107	ppb		95
64) p-Dichlorobenzene	19.16	146	69107	0.6448	ppb	#	94
65) o-Dichlorobenzene	19.63	146	69296	0.7038	ppb	#	94
66) 1,2,4-Trichlorobenzene	22.16	180	6624	0.3743	ppb	#	95
67) Naphthalene	22.36	128	15328	0.2760	ppb	#	87
68) Hexachloro-1,3-butadiene	22.91	225	16610	0.9334	ppb		96

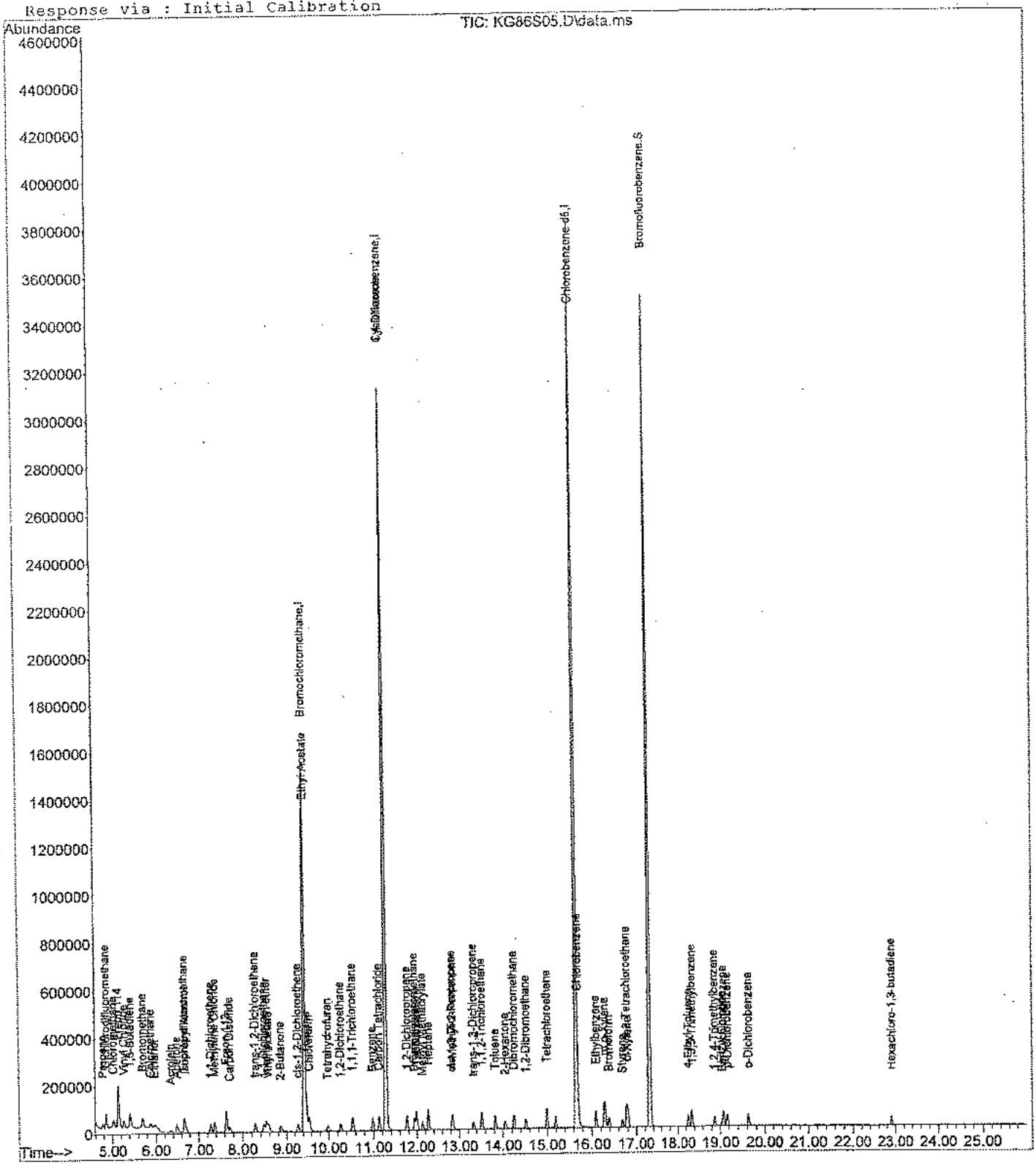
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG86S05.D Vial: 3
Acq Time : 03/20/2017 19:07 Operator:
Sample : 0.5 ppb Inst : 5975-K
Misc : 35928 (10 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:05:23 2017 Results File: TO15KA17.RES

Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG86S05.D Vial: 3
Acq Time : 03/20/2017 19:07 Operator:
Sample : 0.5 ppb Inst : 5975-K
Misc : 35928 (10 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:05:23 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:05:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.43	130	256192	20.0000	ppb		87.33
25) 1,4-Difluorobenzene	11.28	114	3208449	20.0000	ppb		85.86
50) Chlorobenzene d5	15.66	117	2910515	20.0000	ppb		85.15
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.32	95	1576658	17.5667	ppb		87.83%
Target Compounds							Qvalue
2) Propene	4.78	41	22340	0.5718	ppb		92
3) Dichlorodifluoromethane	4.86	85	83917	0.5842	ppb		99
4) Chloromethane	5.03	50	50191	0.6046	ppb		98
5) Freon 114	5.14	135	98405	0.5933	ppb	#	76
6) Vinyl Chloride	5.27	62	47927	0.5840	ppb		100
7) 1,3-Butadiene	5.42	54	42426	0.5774	ppb	#	71
8) Bromomethane	5.70	94	44320	0.6074	ppb		97
9) Chloroethane	5.88	64	24092	0.5994	ppb	#	86
10) Acrolein	6.34	56	11153	0.4936	ppb	#	92
11) Acetone	6.48	43	67847	0.7056	ppb		89
12) Trichlorofluoromethane	6.66	101	65098	0.5361	ppb		98
13) Ethanol	5.96	45	27628	0.8023	ppb	#	73
14) Isopropyl Alcohol	6.68	45	42398	0.5019	ppb	#	54
15) 1,1-Dichloroethene	7.29	61	35094	0.4844	ppb	#	66
16) Methylene Chloride	7.37	84	24118	0.6122	ppb	#	41
17) Freon 113	7.64	151	40227	0.5821	ppb	#	56
18) Carbon Disulfide	7.72	76	44038	0.4764	ppb	#	61
19) trans-1,2-Dichloroethene	8.29	96	19674	0.5121	ppb	#	68
20) 1,1-Dichloroethane	8.48	63	46910	0.5494	ppb	#	92
21) methyl t-butyl ether	8.54	73	38722	0.3952	ppb	#	71
22) Vinyl Acetate	8.59	86	3966	0.3616	ppb	#	1
23) 2-Butanone	8.85	43	51194	0.4848	ppb	#	65
24) cis-1,2-Dichloroethene	9.27	96	18094	0.4308	ppb	#	61
26) Ethyl Acetate	9.45	61	7621	0.4843	ppb	#	1
27) Hexane	9.49	57	36769	0.4599	ppb	#	1
28) Chloroform	9.55	83	52009	0.5636	ppb		100
29) Tetrahydrofuran	9.98	42	22681	0.4226	ppb	#	53
30) 1,2-Dichloroethane	10.27	62	34428	0.5300	ppb	#	84
31) 1,1,1-Trichloroethane	10.54	97	45296	0.5196	ppb	#	84
32) Benzene	10.98	78	59393	0.4787	ppb	#	87
33) Carbon Tetrachloride	11.13	117	46900	0.5025	ppb		99
34) Cyclohexane	11.27	84	40588	0.6078	ppb	#	1
35) 1,2-Dichloropropane	11.77	63	27276	0.5132	ppb	#	89
36) Bromodichloromethane	11.94	83	43778	0.4691	ppb		98
37) 1,4-Dioxane	11.99	88	10802	0.3639	ppb	#	57
38) Trichloroethene	11.99	130	30079	0.4615	ppb		94
39) Methyl Methacrylate	12.14	69	15889	0.3721	ppb	#	69
40) Heptane	12.28	71	17155	0.3731	ppb	#	30
41) cis-1,3-Dichloropropene	12.82	75	23893	0.3560	ppb	#	93
42) 4-Methyl-2-Pentanone	12.85	43	53082	0.4036	ppb	#	67
43) trans-1,3-Dichloropropene	13.33	75	18616	0.3355	ppb	#	93
44) 1,1,2-Trichloroethane	13.52	97	29112	0.5277	ppb	#	85
45) Toluene	13.83	91	54521	0.3529	ppb		96
46) 2-Hexanone	14.05	43	33935	0.3057	ppb	#	67
47) Dibromochloromethane	14.25	129	41642	0.4198	ppb		99
48) 1,2-Dibromoethane	14.52	107	36039	0.4331	ppb		99
49) Tetrachloroethene	14.99	166	30860	0.4368	ppb	#	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG86S05.D Vial: 3
Acq Time : 03/20/2017 19:07 Operator:
Sample : 0.5 ppb Inst : 5975-K
Misc : 35928 (10 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:05:23 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:05:11 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51) Chlorobenzene	15.70	112	80415	0.5524 ppb		95
52) Ethylbenzene	16.10	91	65899	0.3277 ppb		92
53) m,p-Xylene	16.29	91	110993	0.8079 ppb		94
54) Bromoform	16.38	173	25949	0.3455 ppb		98
55) Styrene	16.68	104	24185	0.1976 ppb		93
56) 1,1,2,2-Tetrachloroethane	16.77	83	59619	0.4838 ppb		100
57) o-Xylene	16.81	91	54396	0.3192 ppb		94
59) 4-Ethyl Toluene	18.25	105	42306	0.2037 ppb		94
60) 1,3,5-Trimethylbenzene	18.35	105	50360	0.2616 ppb		97
61) 1,2,4-Trimethylbenzene	18.86	105	33050	0.1976 ppb		94
62) Benzyl Chloride	19.05	91	21102	0.1860 ppb	#	85
63) m-Dichlorobenzene	19.08	146	37707	0.3294 ppb		95
64) p-Dichlorobenzene	19.16	146	29496	0.2823 ppb	#	94
65) o-Dichlorobenzene	19.63	146	30335	0.3161 ppb		95
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected		
67) Naphthalene	0.00	128		Not Detected		
68) Hexachloro-1,3-butadiene	22.91	225	7523	0.4261 ppb		96

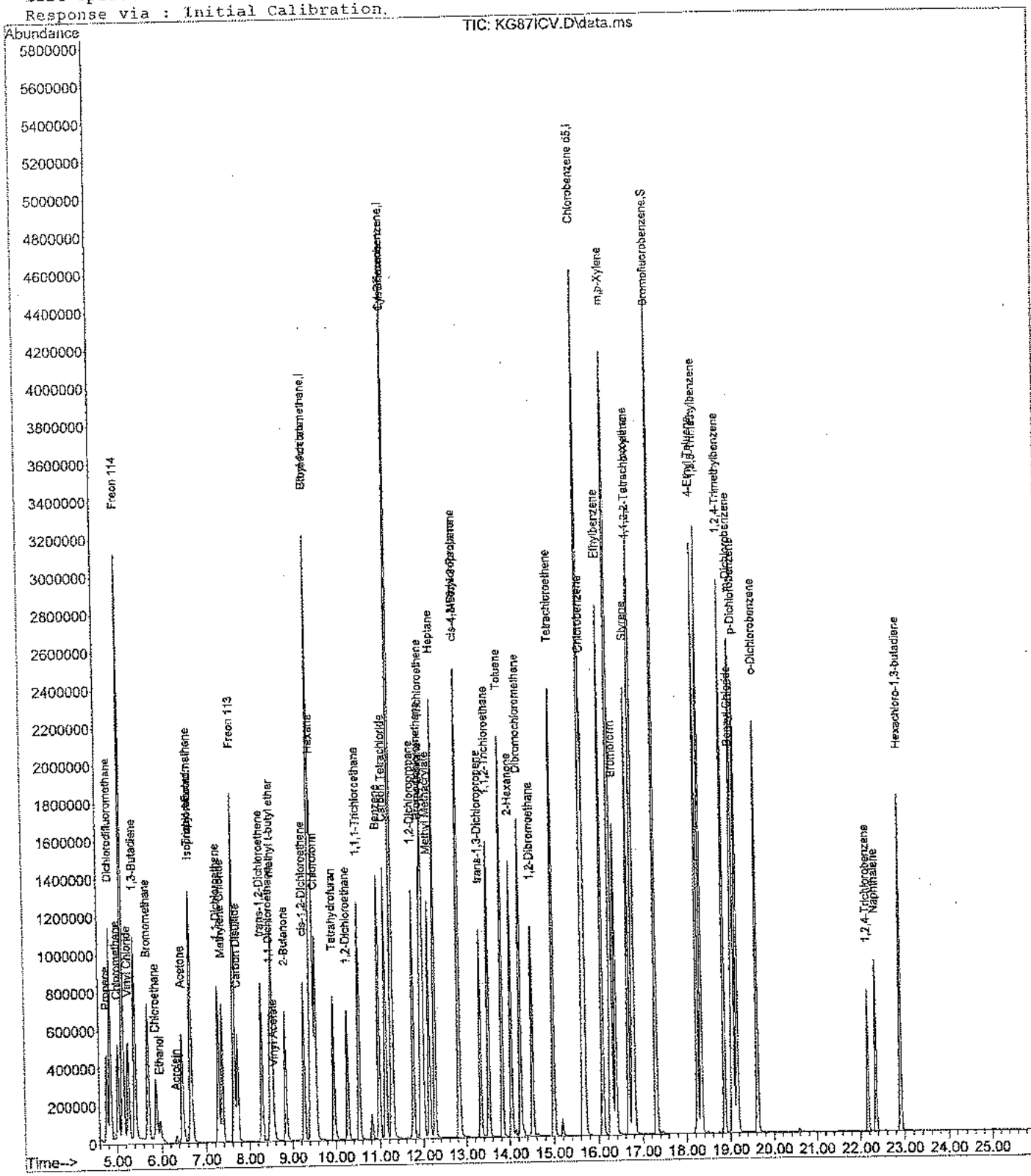
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG87ICV.D Vial: 4
Acq Time : 03/20/2017 19:59 Operator:
Sample : 10 pp ICV Inst : 5975-K
Misc : 35646 (200 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:13:16 2017 Results File: TO15KA17.RES

Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration.



Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG87ICV.D Vial: 4
Acq Time : 03/20/2017 19:59 Operator:
Sample : 10 pp ICV Inst : 5975-K
Misc : 35646 (200 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:13:16 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	9.43	130	282752	20.0000	ppb		96.38
25) 1,4-Difluorobenzene	11.28	114	3617173	20.0000	ppb		96.80
50) Chlorobenzene d5	15.66	117	3381871	20.0000	ppb		98.94
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	17.32	95	2191106	21.1490	ppb		105.75%
Target Compounds							Qvalue
2) Propene	4.77	41	416222	9.3498	ppb		98
3) Dichlorodifluoromethane	4.85	85	1546437	9.4936	ppb		99
4) Chloromethane	5.03	50	900071	9.6076	ppb		98
5) Freon 114	5.14	135	1802108	9.5779	ppb	#	76
6) Vinyl Chloride	5.27	62	877122	9.4466	ppb		95
7) 1,3-Butadiene	5.42	54	789629	9.4595	ppb		86
8) Bromomethane	5.70	94	769680	9.2809	ppb		99
9) Chloroethane	5.88	64	423791	9.3409	ppb	#	86
10) Acrolein	6.34	56	46113	1.7906	ppb	#	96
11) Acetone	6.46	43	1114482	9.8703	ppb		89
12) Trichlorofluoromethane	6.66	101	1257421	9.0668	ppb		100
13) Ethanol	5.96	45	154666	3.8575	ppb	#	77
14) Isopropyl Alcohol	6.68	45	741128	7.6706	ppb	#	85
15) 1,1-Dichloroethene	7.28	61	802077	9.8009	ppb	#	67
16) Methylene Chloride	7.37	84	424050	9.3112	ppb	#	42
17) Freon 113	7.65	151	764395	9.5715	ppb	#	52
18) Carbon Disulfide	7.73	76	1159973	10.9067	ppb	#	61
19) trans-1,2-Dichloroethene	8.29	96	445691	10.1309	ppb	#	66
20) 1,1-Dichloroethane	8.48	63	940163	9.5886	ppb	#	93
21) methyl t-butyl ether	8.53	73	1125645	10.1443	ppb	#	72
22) Vinyl Acetate	8.58	86	9689	0.7751	ppb	#	1
23) 2-Butanone	8.84	43	1230601	10.1673	ppb	#	67
24) cis-1,2-Dichloroethene	9.27	96	481091	10.1558	ppb	#	67
26) Ethyl Acetate	9.45	61	332250	18.1230	ppb	#	1
27) Hexane	9.49	57	986734	10.5728	ppb	#	48
28) Chloroform	9.56	83	1065043	9.7744	ppb		99
29) Tetrahydrofuran	9.96	42	684762	10.9351	ppb	#	60
30) 1,2-Dichloroethane	10.27	62	729213	9.6514	ppb	#	85
31) 1,1,1-Trichloroethane	10.54	97	993428	9.7010	ppb	#	85
32) Benzene	10.99	78	1522478	10.5583	ppb	#	89
33) Carbon Tetrachloride	11.13	117	1085771	9.9044	ppb		99
34) Cyclohexane	11.27	84	750827	9.6664	ppb	#	23
35) 1,2-Dichloropropane	11.77	63	642650	10.3405	ppb	#	87
36) Bromodichloromethane	11.94	83	1101714	10.0778	ppb		99
37) 1,4-Dioxane	11.97	88	341293	9.9107	ppb	#	68
38) Trichloroethene	11.99	130	796413	10.5041	ppb		92
39) Methyl Methacrylate	12.13	69	547100	10.9417	ppb	#	72
40) Heptane	12.27	71	585904	11.0480	ppb	#	36
41) cis-1,3-Dichloropropene	12.82	75	838830	10.7834	ppb	#	94
42) 4-Methyl-2-Pentanone	12.84	43	1672077	10.8653	ppb	#	72
43) trans-1,3-Dichloropropene	13.33	75	706131	10.9920	ppb	#	93
44) 1,1,2-Trichloroethane	13.52	97	664669	10.1975	ppb	#	83
45) Toluene	13.83	91	1993952	11.2075	ppb		96
46) 2-Hexanone	14.04	43	1347314	10.5148	ppb	#	76
47) Dibromochloromethane	14.26	129	1225356	10.4768	ppb		99
48) 1,2-Dibromoethane	14.52	107	1034203	10.6841	ppb		98
49) Tetrachloroethene	15.00	166	855242	10.4527	ppb	#	80

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\K - 5975-K\2017\MAR17K\20MAR17K\KG87ICV.D Vial: 4
Acq Time : 03/20/2017 19:59 Operator:
Sample : 10 pp ICV Inst : 5975-K
Misc : 35646 (200 mL) Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Mar 21 09:13:16 2017 Results File: TO15KA17.RES

Quant Method : I:\K - 5975-K\METHODS\TO15KA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Mar 21 09:12:19 2017
Response via : Initial Calibration
DataAcq Meth : TO-15.M

Compound	R.T.	Qlon	Response	Conc	Unit		Qvalue
51) Chlorobenzene	15.71	112	1739540	9.8155	ppb		92
52) Ethylbenzene	16.10	91	2656549	11.1302	ppb		93
53) m,p-Xylene	16.29	91	4454656	23.6231	ppb		93
54) Bromoform	16.38	173	964035	11.8274	ppb		99
55) Styrene	16.68	104	1557064	12.0365	ppb		96
56) 1,1,2,2-Tetrachloroethane	16.78	83	1584203	10.5608	ppb		99
57) o-Xylene	16.81	91	2275619	11.2567	ppb		93
59) 4-Ethyl Toluene	18.25	105	2740275	12.3702	ppb		96
60) 1,3,5-Trimethylbenzene	18.34	105	2399863	12.4620	ppb		93
61) 1,2,4-Trimethylbenzene	18.86	105	2208011	13.8578	ppb		94
62) Benzyl Chloride	19.05	91	1164723	10.6523	ppb	#	89
63) m-Dichlorobenzene	19.08	146	1470089	12.8296	ppb	#	94
64) p-Dichlorobenzene	19.16	146	1398547	13.7192	ppb	#	94
65) o-Dichlorobenzene	19.63	146	1249241	12.9242	ppb	#	95
66) 1,2,4-Trichlorobenzene	22.17	180	284271	17.4257	ppb	#	96
67) Naphthalene	22.35	128	997186	19.4056	ppb		99
68) Hexachloro-1,3-butadiene	22.91	225	316950	15.8101	ppb		99

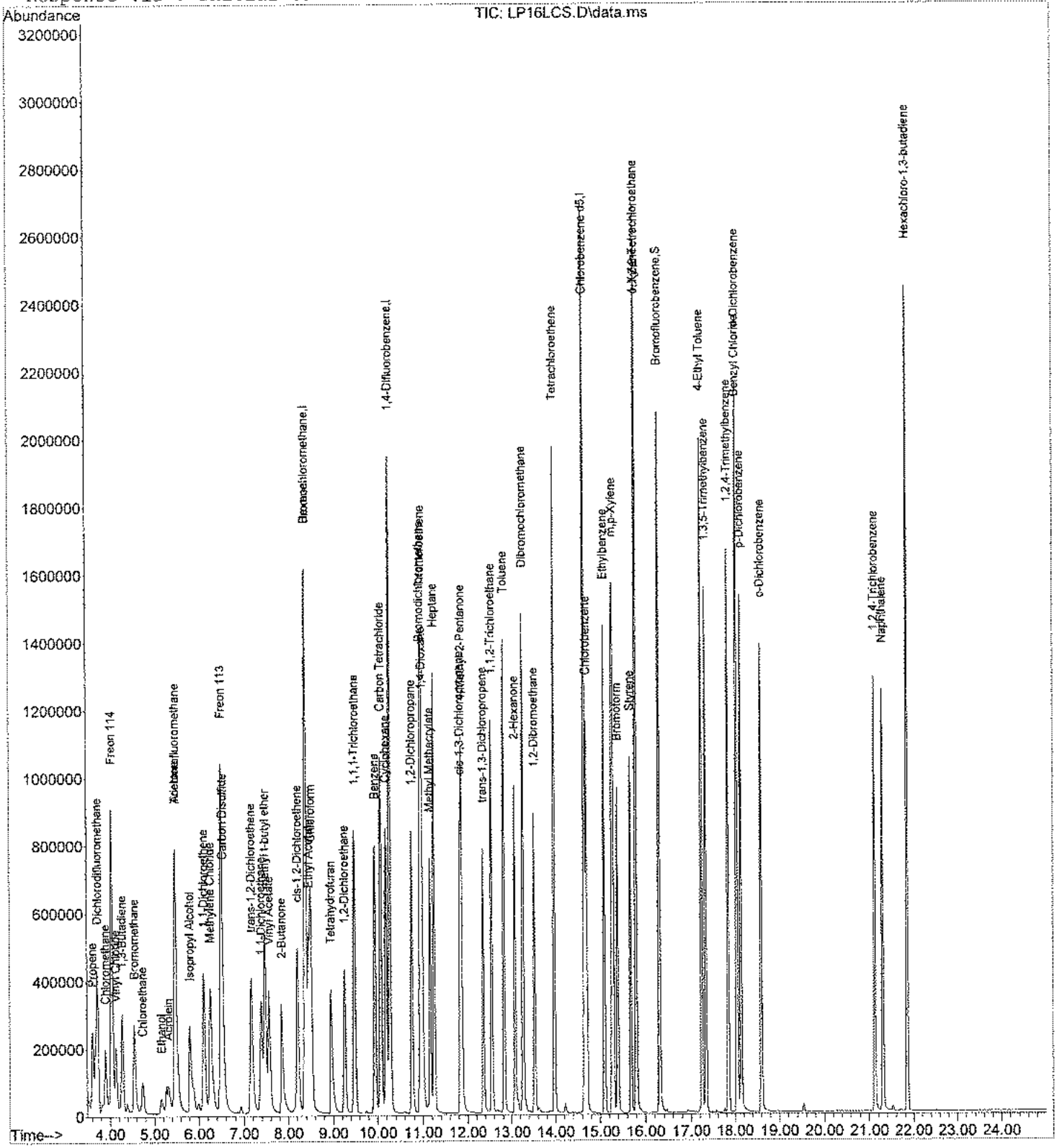
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\25APR17L\LP16LCS.D Vial: 2
Acq Time : 04/25/2017 10:49 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 36322 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:13:49 2017 Results File: TO15LA17.RES

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\25APR17L\LP16LCS.D Vial: 2
Acq Time : 04/25/2017 10:49 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 36322 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:13:49 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:11:46 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.39	130	173952	20.0000	ppb		114.06
25) 1,4-Difluorobenzene	10.28	114	2121578	20.0000	ppb		107.60
50) Chlorobenzene d5	14.66	117	1779975	20.0000	ppb		103.17
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.31	95	864988	17.2589	ppb		86.29%
Target Compounds							Qvalue
2) Propene	3.61	41	242504	7.5660	ppb	m	0
3) Dichlorodifluoromethane	3.72	85	905873	8.4844	ppb	m	92
4) Chloromethane	3.90	50	345216	8.2912	ppb	m	41
5) Freon 114	4.05	135	668093	8.6656	ppb	#	63
6) Vinyl Chloride	4.13	62	332443	8.3164	ppb	m	0
7) 1,3-Butadiene	4.28	54	260647	7.8292	ppb	m	0
8) Bromomethane	4.55	94	318271	8.2952	ppb		99
9) Chloroethane	4.74	64	156852	7.7569	ppb	#	89
10) Acrolein	5.32	56	160986	9.0369	ppb	m	0
11) Acetone	5.49	43	521229	7.6420	ppb		93
12) Trichlorofluoromethane	5.47	101	1091185	8.2848	ppb		99
13) Ethanol	5.16	45	121092	9.5265	ppb	#	79
14) Isopropyl Alcohol	5.80	45	625031	8.0572	ppb		99
15) 1,1-Dichloroethene	6.11	61	543953	8.2370	ppb	#	71
16) Methylene Chloride	6.26	84	290898	8.3460	ppb	#	55
17) Freon 113	6.49	151	549627	8.7020	ppb	#	54
18) Carbon Disulfide	6.54	76	851158	8.2772	ppb	#	66
19) trans-1,2-Dichloroethene	7.18	96	349284	8.7967	ppb	#	73
20) 1,1-Dichloroethane	7.39	63	635993	8.6625	ppb		95
21) methyl t-butyl ether	7.47	73	841013	9.8605	ppb	#	80
22) Vinyl Acetate	7.57	86	87893	9.7058	ppb	#	1
23) 2-Butanone	7.85	43	731123	8.9126	ppb	#	71
24) cis-1,2-Dichloroethene	8.21	96	377836	9.0893	ppb	#	73
26) Ethyl Acetate	8.46	61	115658	9.2222	ppb	#	1
27) Hexane	8.39	57	599051	8.3828	ppb	#	84
28) Chloroform	8.51	83	776301	8.7986	ppb		98
29) Tetrahydrofuran	8.95	42	425277	8.3963	ppb	#	66
30) 1,2-Dichloroethane	9.25	62	550190	8.4848	ppb	#	93
31) 1,1,1-Trichloroethane	9.49	97	826253	8.7582	ppb	#	90
32) Benzene	9.95	78	972527	9.0574	ppb	#	91
33) Carbon Tetrachloride	10.08	117	967735	8.7251	ppb		99
34) Cyclohexane	10.20	84	459432	9.2574	ppb	#	42
35) 1,2-Dichloropropane	10.76	63	411793	8.3825	ppb		90
36) Bromodichloromethane	10.94	83	880986	8.6047	ppb		99
37) 1,4-Dioxane	11.00	88	254774	8.5110	ppb	#	76
38) Trichloroethene	10.98	130	575862	8.6966	ppb		94
39) Methyl Methacrylate	11.16	69	355145	9.5764	ppb		90
40) Heptane	11.25	71	347222	9.4254	ppb	#	43
41) cis-1,3-Dichloropropene	11.83	75	579513	9.0860	ppb		96
42) 4-Methyl-2-Pentanone	11.87	43	905309	8.3153	ppb	#	78
43) trans-1,3-Dichloropropene	12.36	75	524846	9.4569	ppb		95
44) 1,1,2-Trichloroethane	12.55	97	475814	8.8552	ppb	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\APR17L\25APR17L\LP16LCS.D Vial: 2
Acq Time : 04/25/2017 10:49 Operator: LMR
Sample : QC Inst : 5975-L
Misc : 36322 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:13:49 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:11:46 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	Toluene	12.83	91	1250026	9.3840	ppb		99
46)	2-Hexanone	13.08	43	837892	9.4227	ppb	#	83
47)	Dibromochloromethane	13.27	129	1007596	8.7921	ppb		98
48)	1,2-Dibromoethane	13.53	107	754157	9.2029	ppb		98
49)	Tetrachloroethene	13.98	166	617087	8.6681	ppb	#	75
51)	Chlorobenzene	14.70	112	793116	8.7348	ppb		97
52)	Ethylbenzene	15.09	91	1165388	7.6838	ppb		97
53)	m,p-Xylene	15.29	91	1664265	14.0407	ppb		99
54)	Bromoform	15.39	173	459971	7.4893	ppb		99
55)	Styrene	15.68	104	653215	7.2055	ppb		99
56)	1,1,2,2-Tetrachloroethane	15.80	83	778544	7.4515	ppb		99
57)	o-Xylene	15.80	91	997108	7.3768	ppb		98
59)	4-Ethyl Toluene	17.24	105	1556697	9.2768	ppb		98
60)	1,3,5-Trimethylbenzene	17.33	105	1032653	7.3356	ppb		99
61)	1,2,4-Trimethylbenzene	17.85	105	1150858	8.4966	ppb		98
62)	Benzyl Chloride	18.04	91	907686	8.7742	ppb		96
63)	m-Dichlorobenzene	18.06	146	778934	7.8397	ppb	#	95
64)	p-Dichlorobenzene	18.15	146	757808	7.9378	ppb	#	95
65)	o-Dichlorobenzene	18.61	146	718019	7.3910	ppb		96
66)	1,2,4-Trichlorobenzene	21.12	180	450088	10.6881	ppb	#	95
67)	Naphthalene	21.30	128	1240324	10.1888	ppb		99
68)	Hexachloro-1,3-butadiene	21.86	225	366511	9.1013	ppb		97

(#) = qualifier out of range (m) = manual integration

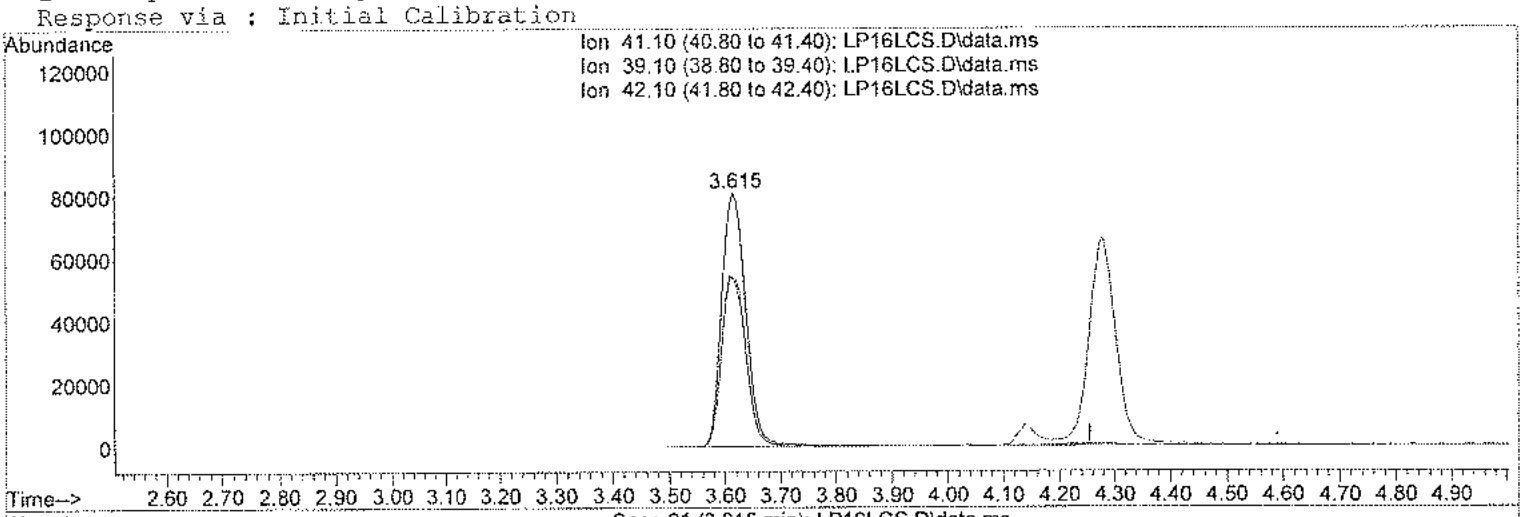
Quantitation Report (Qedit)

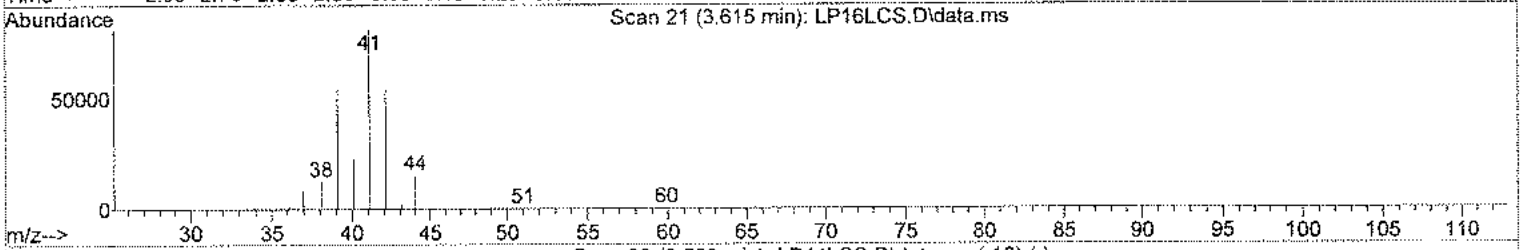
Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP16LCS.D
Acq On : 04/25/2017 10:49
Operator : LMR
Sample : QC
Inst : 5975-L
Misc : 36322 200 mL
ALS Vial : 2 Sample Multiplier: 1

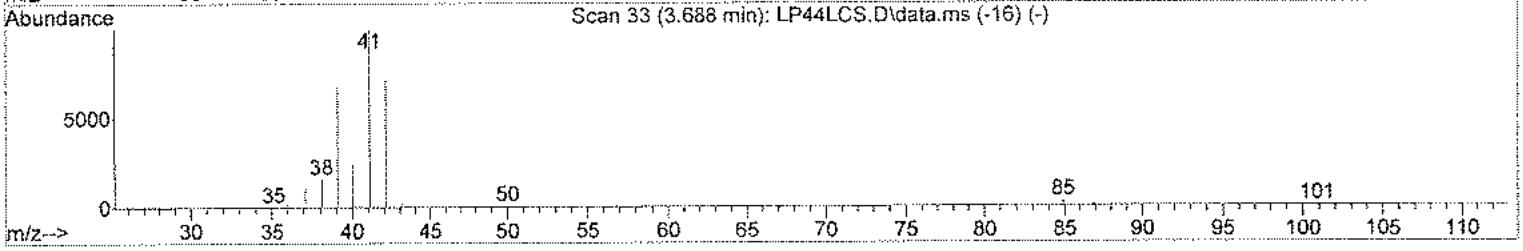
Quant Time: Apr 28 09:12:12 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Fri Apr 28 09:11:46 2017
Response via : Initial Calibration

MANUAL RE-INTEGRATION
☒ missed peak assignment
☐ assigned incorrect name to peak
☐ over-integrated peak's area
☐ under-integrated peak's area
☐ other _____

initials SJB *date* 04/29/17







TIC: LP16LCS.D\data.ms

(2) Propene

3.615min (-0.140) 7.57 ppb m

response 242504

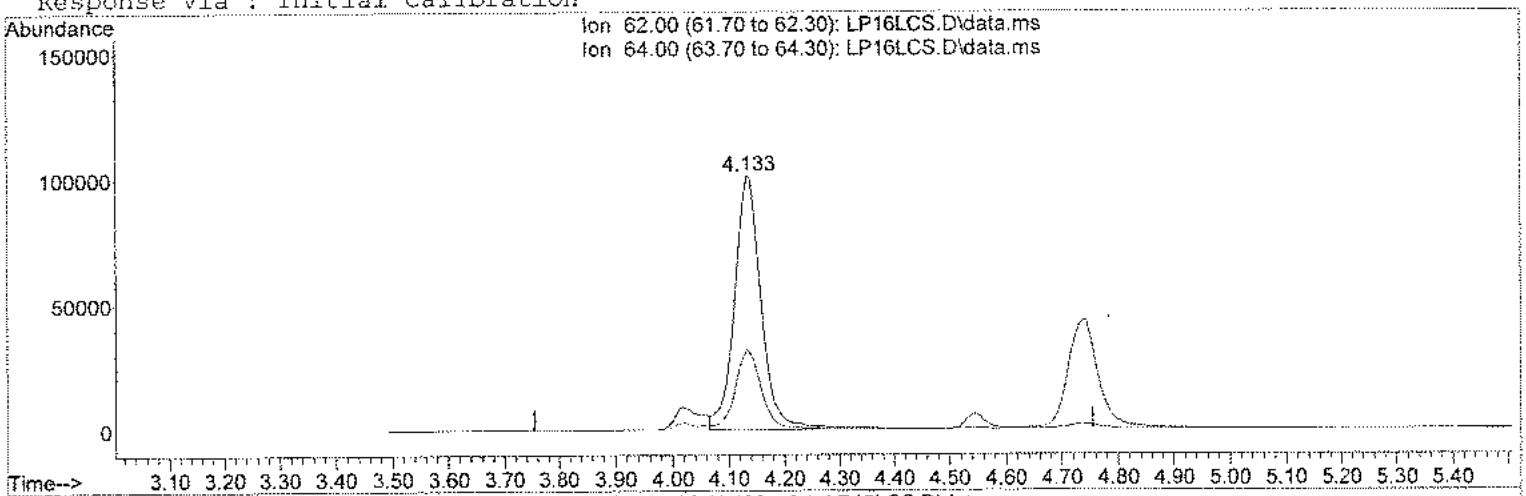
Ion	Exp%	Act%
41.10	100.00	100.00
39.10	70.30	0.00#
42.10	67.20	0.00#
0.00	0.00	0.00

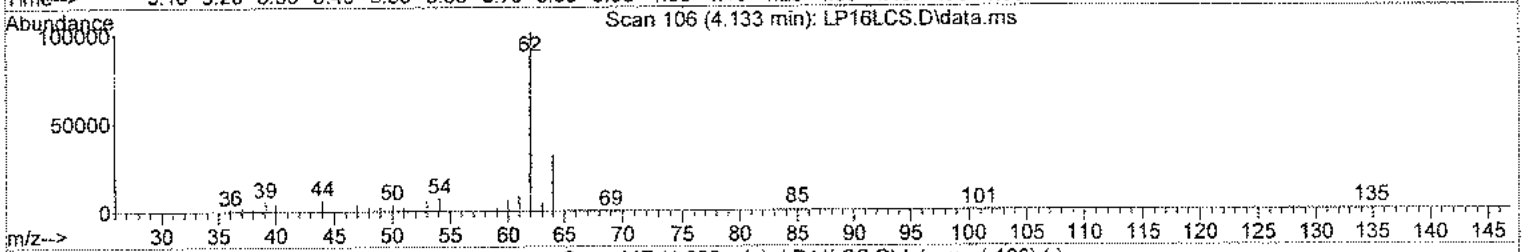
Quantitation Report (Qedit)

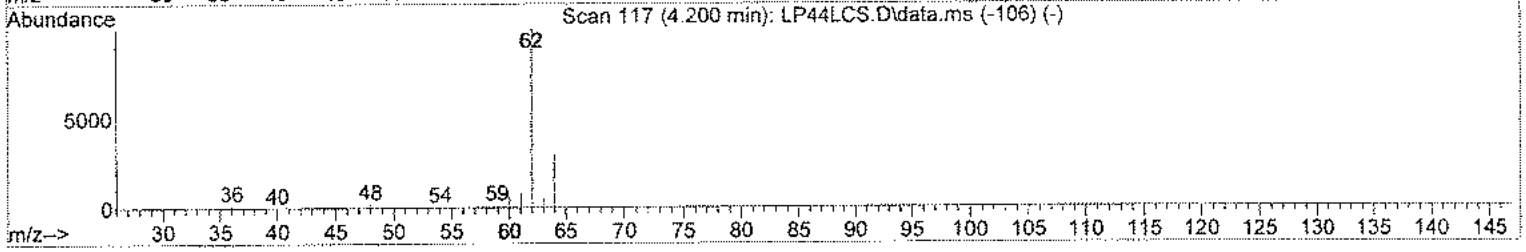
Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP16LCS.D
Acq On : 04/25/2017 10:49
Operator : LMR
Sample : QC
Inst : 5975-L
Misc : 36322 200 mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 09:12:12 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Fri Apr 28 09:11:46 2017
Response via : Initial Calibration

MANUAL RE-INTEGRATION
☑ missed peak assignment
☐ assigned incorrect name to peak
☐ over-integrated peak's area
☐ under-integrated peak's area
☐ other _____
initials VB date 4.28.17







TIC: LP16LCS.D\data.ms

(6) Vinyl Chloride

4.133min (-0.122) 8.32 ppb m

response 332443

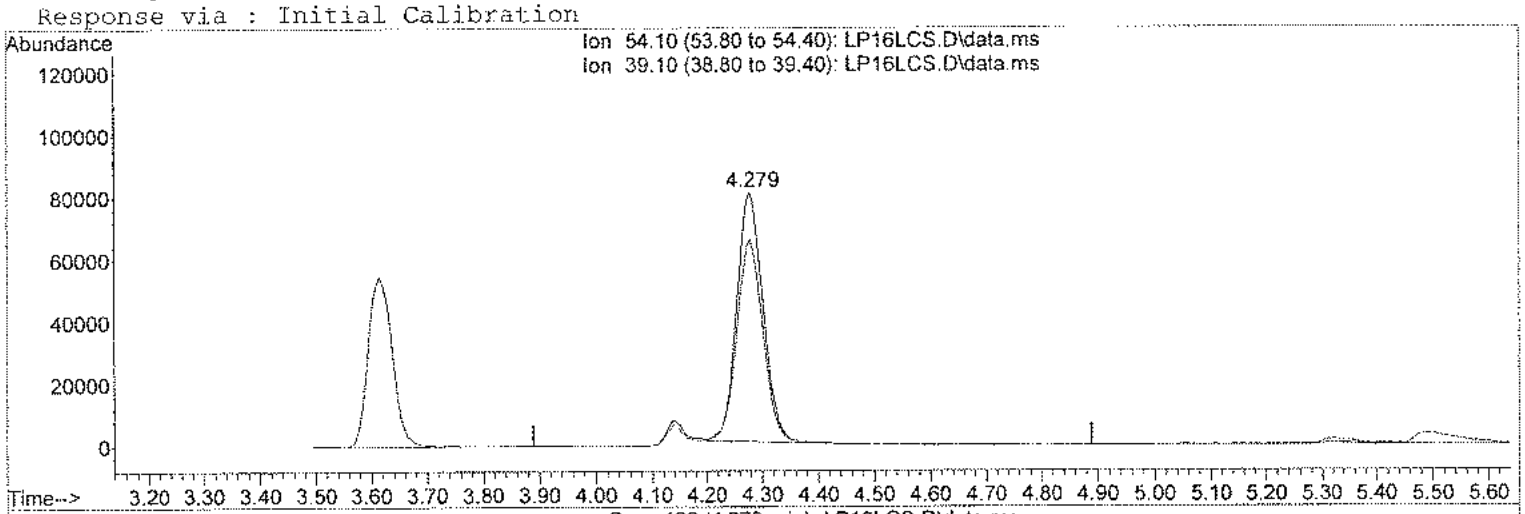
Ion	Exp%	Act%
62.00	100.00	100.00
64.00	33.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

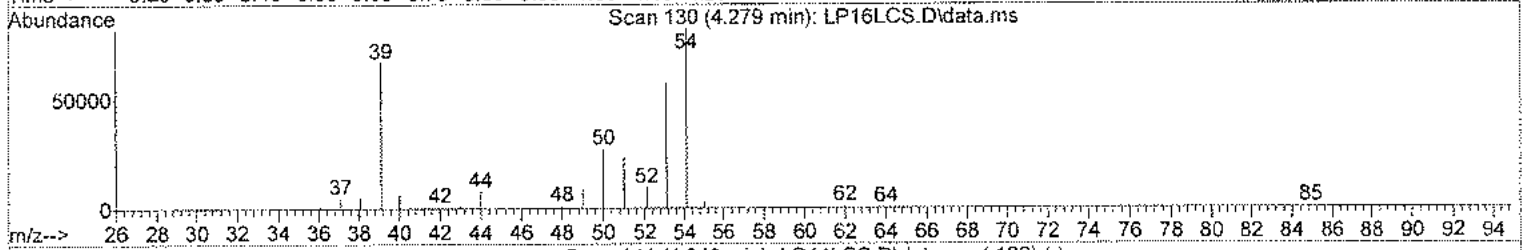
Quantitation Report (Qedit)

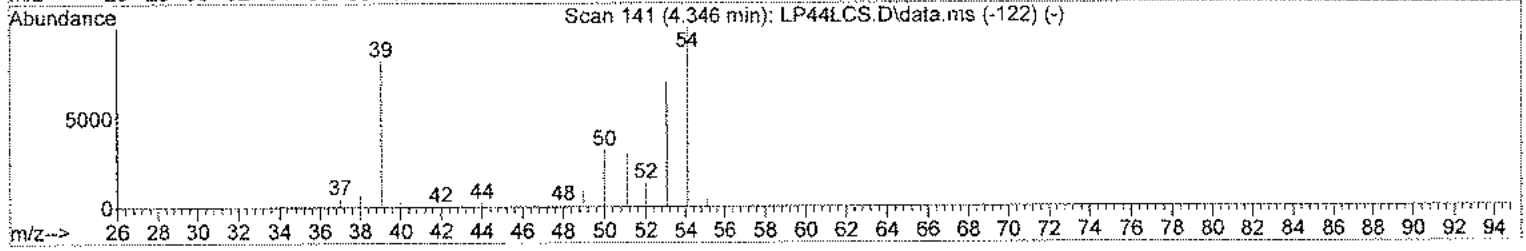
Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP16LCS.D
Acq On : 04/25/2017 10:49
Operator : LMR
Sample : QC
Inst : 5975-L
Misc : 36322 200 mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 09:12:12 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Fri Apr 28 09:11:46 2017
Response via : Initial Calibration

MANUAL RE-INTEGRATION
☑ missed peak assignment
☐ assigned incorrect name to peak
☐ over-integrated peak's area
☐ under-integrated peak's area
☐ other _____
initials TB date 04/28/17







TIC: LP16LCS.D\data.ms

(7) 1,3-Butadiene

4.279min (-0.110) 7.83 ppb m

response 260647

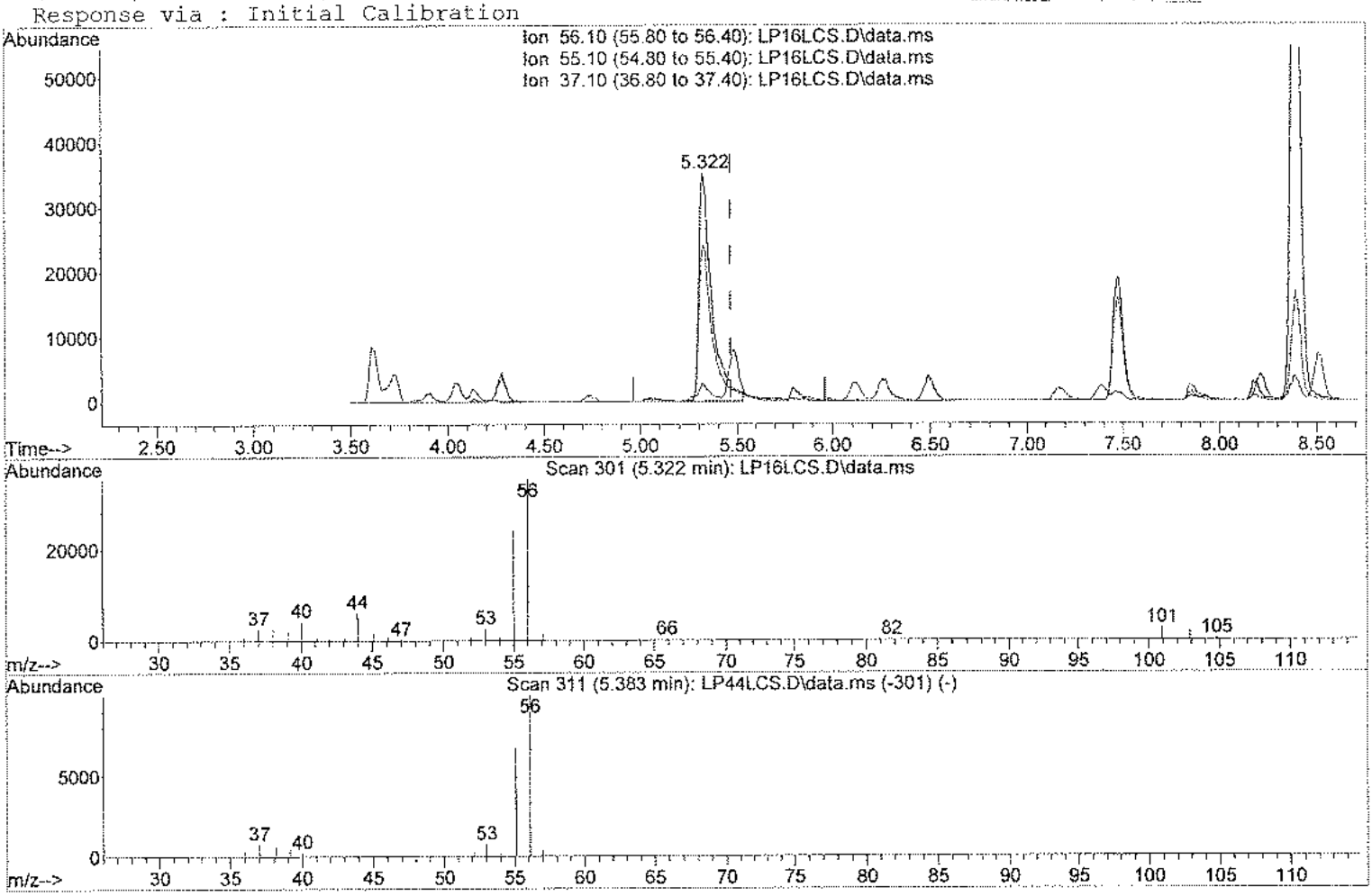
Ion	Exp%	Act%
54.10	100.00	100.00
39.10	74.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP16LCS.D
Acq On : 04/25/2017 10:49
Operator : LMR
Sample : QC
Inst : 5975-L
Misc : 36322 200 mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 09:12:12 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Fri Apr 28 09:11:46 2017
Response via : Initial Calibration

MANUAL RE-INTEGRATION
☐ missed peak assignment
☐ assigned incorrect name to peak
☐ over-integrated peak's area
☐ under-integrated peak's area
☐ other _____
initials ND date 04/28/17



TIC: LP16LCS.D\data.ms

(10) Acrolein

5.322min (-0.140) 9.04 ppb m

response 160986

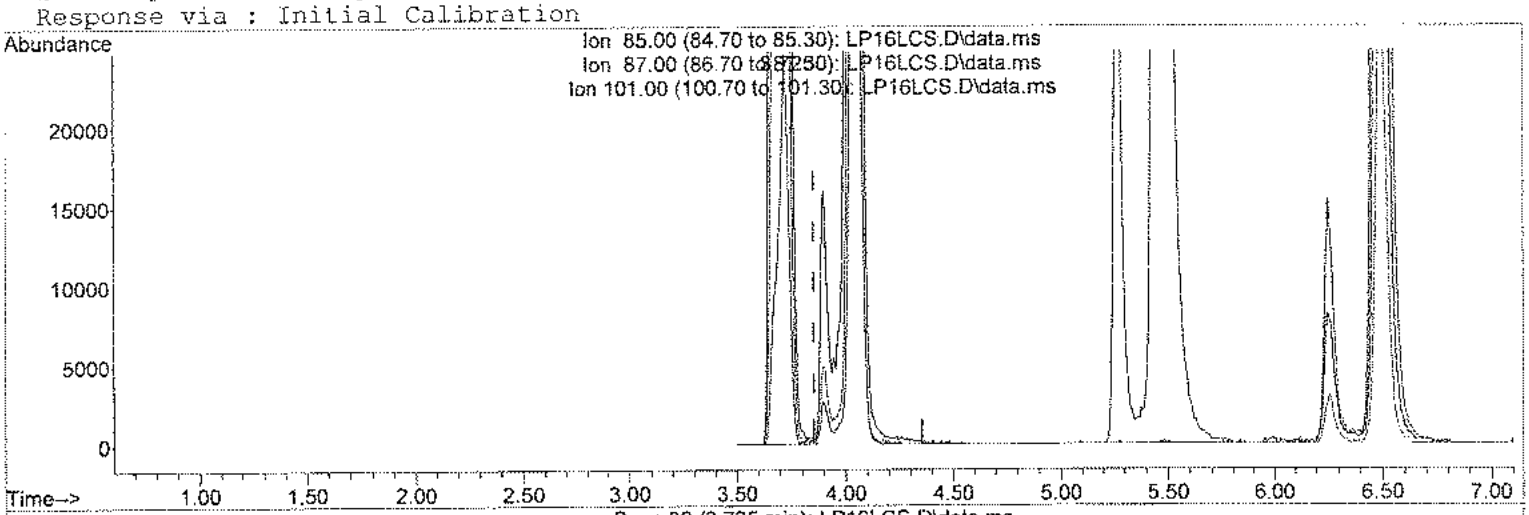
Ion	Exp%	Act%
56.10	100.00	100.00
55.10	68.90	0.00#
37.10	9.90	0.00#
0.00	0.00	0.00

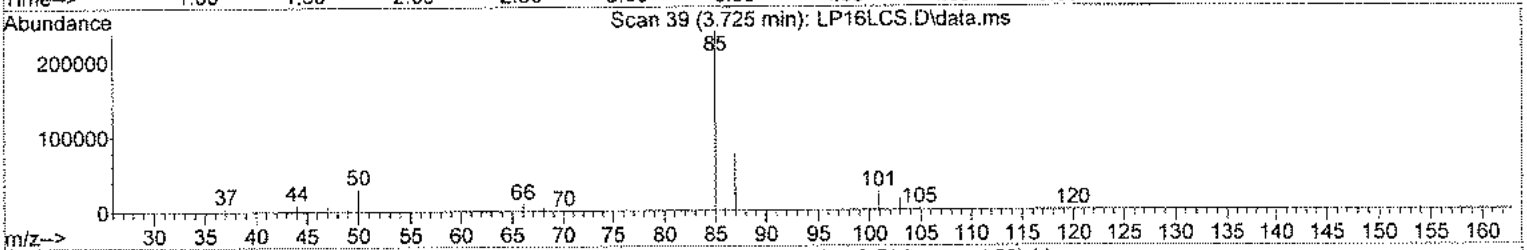
Quantitation Report (Qedit)

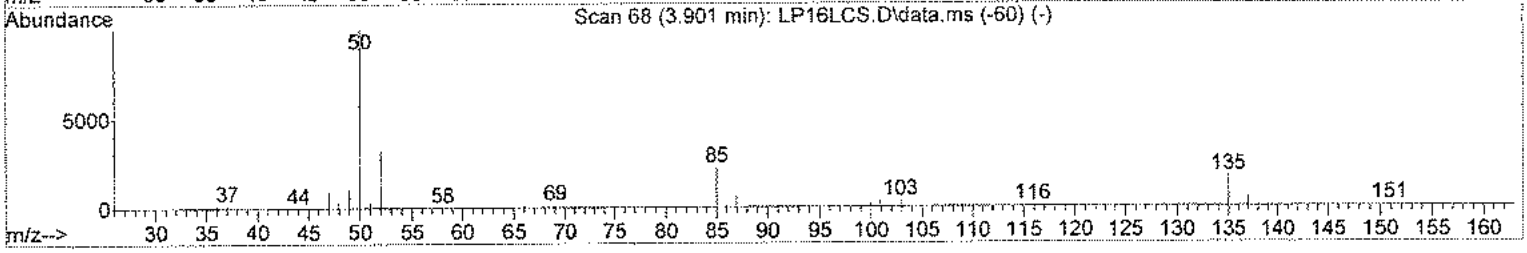
Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP16LCS.D
Acq On : 04/25/2017 10:49
Operator : LMR
Sample : QC
Inst : 5975-L
Misc : 36322 200 mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 09:12:44 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Fri Apr 28 09:11:46 2017
Response via : Initial Calibration

MANUAL RE-INTEGRATION
☑ missed peak assignment
☐ assigned incorrect name to peak
☐ over-integrated peak's area
☐ under-integrated peak's area
☐ other _____
initials RB *date* 04/28/17







TIC: LP16LCS.D\data.ms

(3) Dichlorodifluoromethane

3.725min (-0.128) 8.48 ppb m

response 905873

Ion	Exp%	Act%
85.00	100.00	100.00
87.00	32.60	1.36#
101.00	10.00	0.85#
0.00	0.00	0.00

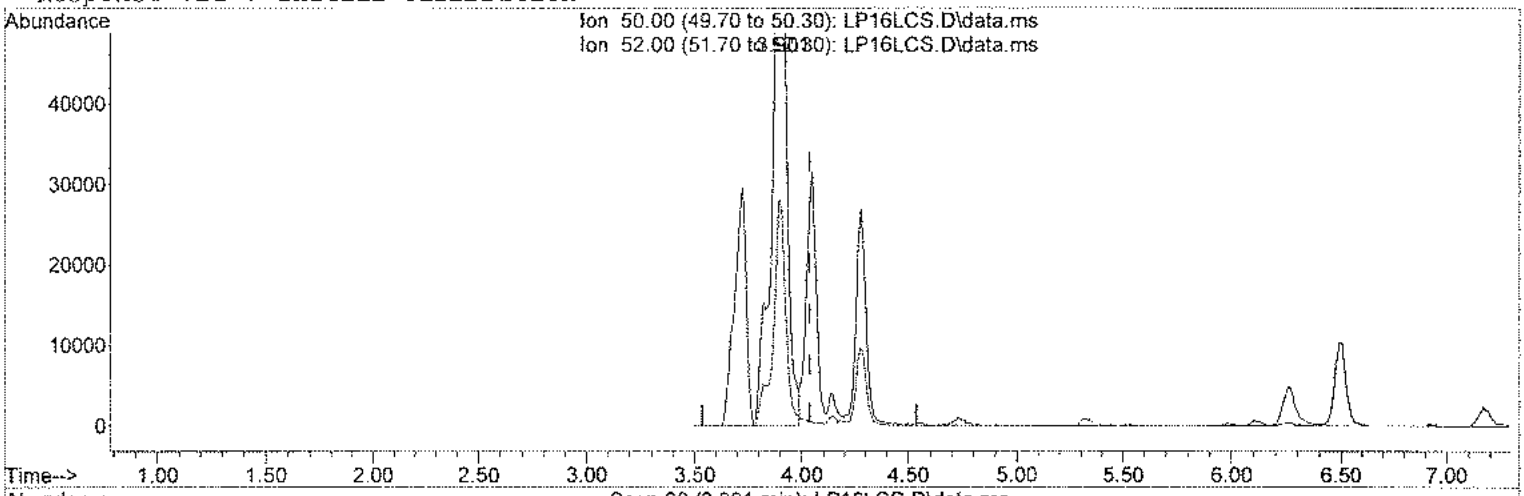
Quantitation Report (Qedit)

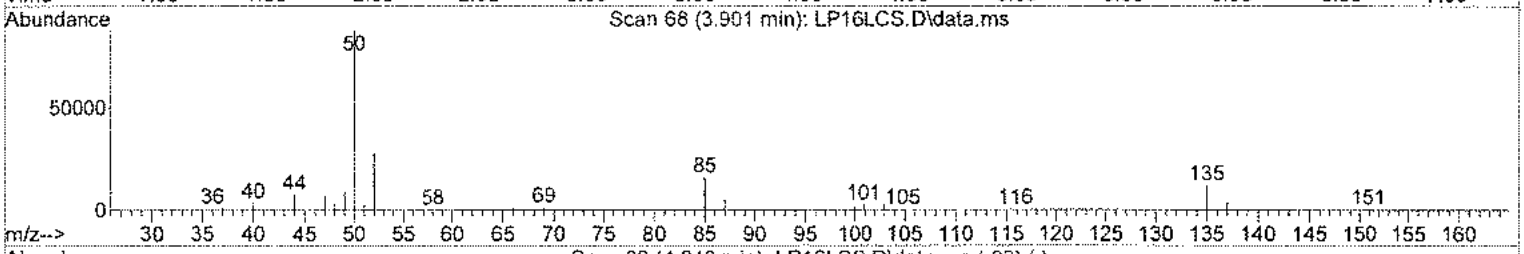
Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP16LCS.D
Acq On : 04/25/2017 10:49
Operator : LMR
Sample : QC
Inst : 5975-L
Misc : 36322 200 mL
ALS Vial : 2 Sample Multiplier: 1

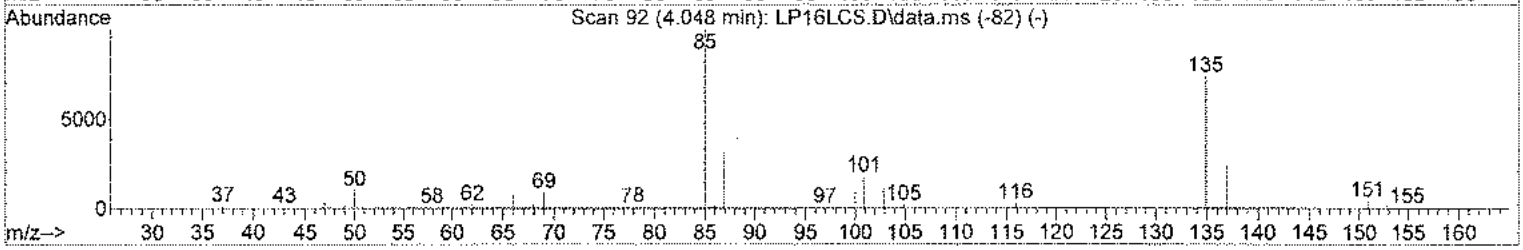
Quant Time: Apr 28 09:13:23 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Fri Apr 28 09:11:46 2017
Response via : Initial Calibration

MANUAL RE-INTEGRATION
☑ missed peak assignment
☐ assigned incorrect name to peak
☐ over-integrated peak's area
☐ under-integrated peak's area
☐ other _____

initials TB date 04/28/17







TIC: LP16LCS.D\data.ms

(4) Chloromethane

3.901min (-0.134) 8.29 ppb m

response 345216

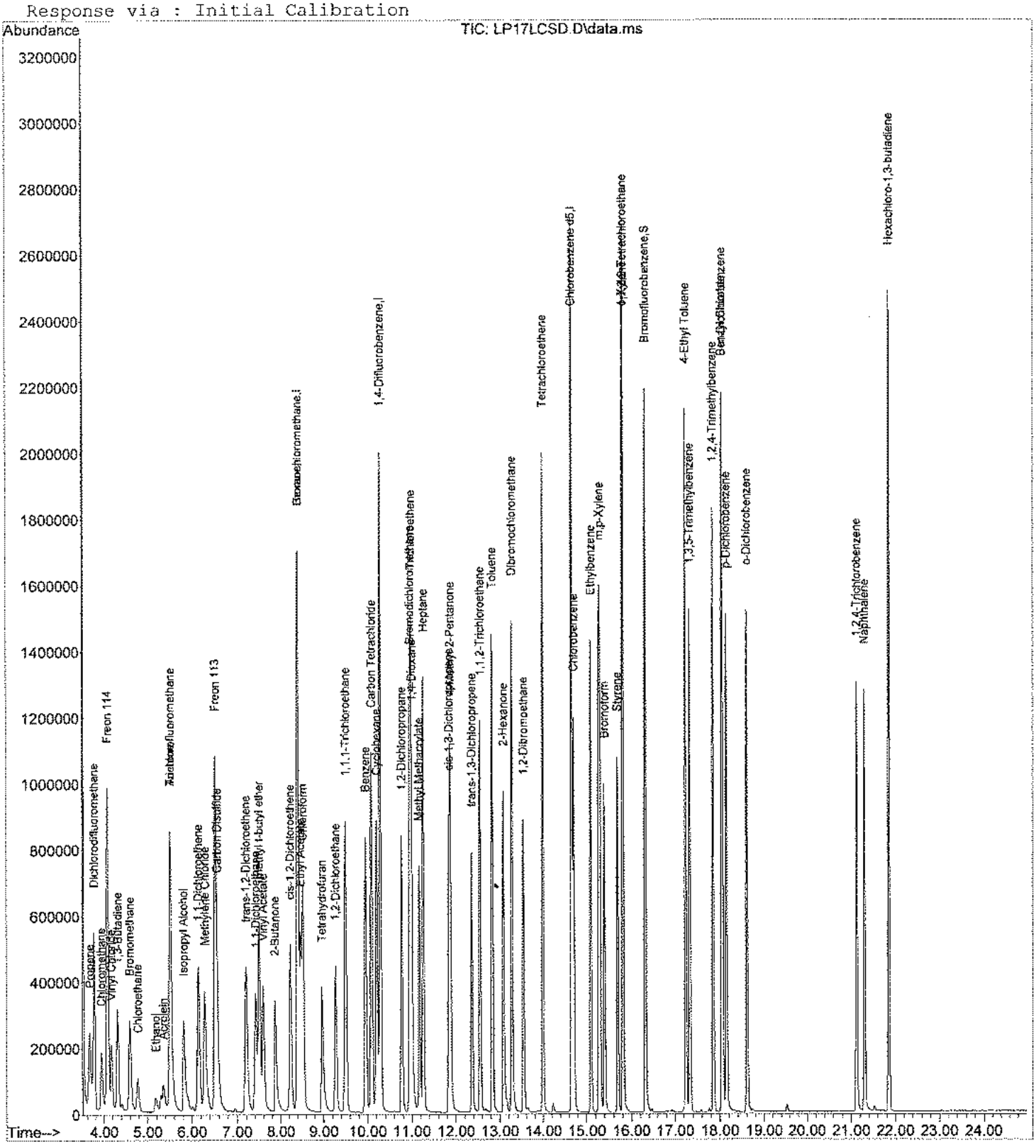
Ion	Exp%	Act%
50.00	100.00	100.00
52.00	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP17LCSD.D Vial: 2
Acq Time : 04/25/2017 11:38 Operator: LMR
Sample : QD Inst : 5975-L
Misc : 36322 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:14:32 2017 Results File: TO15LA17.RES

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP17LCSD.D Vial: 2
Acq Time : 04/25/2017 11:38 Operator: LMR
Sample : QD Inst : 5975-L
Misc : 36322 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:14:32 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.41	130	186944	20.0000	ppb		122.58
25) 1,4-Difluorobenzene	10.29	114	2139949	20.0000	ppb		108.53
50) Chlorobenzene d5	14.66	117	1821832	20.0000	ppb		105.60
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.32	95	899587	17.5369	ppb		87.68%
Target Compounds							Qvalue
2) Propene	3.66	41	260259	7.5556	ppb		97
3) Dichlorodifluoromethane	3.77	85	965578	8.4151	ppb	m	73
4) Chloromethane	3.94	50	340567	7.6111	ppb	m	41
5) Freon 114	4.09	135	689978	8.3275	ppb	#	64
6) Vinyl Chloride	4.18	62	345488	8.0421	ppb		94
7) 1,3-Butadiene	4.32	54	276246	7.7210	ppb		92
8) Bromomethane	4.60	94	340170	8.2498	ppb		96
9) Chloroethane	4.78	64	164662	7.5772	ppb	#	88
10) Acrolein	5.35	56	167813	8.7654	ppb	#	96
11) Acetone	5.52	43	529806	7.2279	ppb		95
12) Trichlorofluoromethane	5.51	101	1133335	8.0068	ppb		100
13) Ethanol	5.18	45	124379	9.1051	ppb	#	80
14) Isopropyl Alcohol	5.82	45	637745	7.6497	ppb		98
15) 1,1-Dichloroethene	6.14	61	563106	7.9344	ppb	#	71
16) Methylene Chloride	6.29	84	301234	8.0419	ppb	#	55
17) Freon 113	6.52	151	575823	8.4832	ppb	#	54
18) Carbon Disulfide	6.57	76	892590	8.0769	ppb	#	65
19) trans-1,2-Dichloroethene	7.19	96	365710	8.5702	ppb	#	72
20) 1,1-Dichloroethane	7.41	63	646505	8.1937	ppb		96
21) methyl t-butyl ether	7.49	73	859844	9.3807	ppb	#	79
22) Vinyl Acetate	7.59	86	91960	9.4492	ppb	#	1
23) 2-Butanone	7.86	43	736726	8.3568	ppb	#	72
24) cis-1,2-Dichloroethene	8.24	96	388296	8.6918	ppb	#	73
26) Ethyl Acetate	8.47	61	118386	9.3587	ppb	#	1
27) Hexane	8.41	57	618190	8.5764	ppb	#	85
28) Chloroform	8.53	83	792211	8.9018	ppb		98
29) Tetrahydrofuran	8.96	42	430600	8.4284	ppb	#	66
30) 1,2-Dichloroethane	9.27	62	558617	8.5408	ppb	#	93
31) 1,1,1-Trichloroethane	9.50	97	844656	8.8764	ppb	#	90
32) Benzene	9.96	78	996186	9.1981	ppb	#	91
33) Carbon Tetrachloride	10.10	117	984633	8.8012	ppb		99
34) Cyclohexane	10.21	84	467113	9.3314	ppb	#	41
35) 1,2-Dichloropropane	10.77	63	420095	8.4781	ppb		90
36) Bromodichloromethane	10.95	83	893571	8.6527	ppb		99
37) 1,4-Dioxane	11.01	88	258605	8.5648	ppb	#	78
38) Trichloroethene	10.99	130	592987	8.8783	ppb		94
39) Methyl Methacrylate	11.17	69	357232	9.5500	ppb		90
40) Heptane	11.27	71	354281	9.5345	ppb	#	44
41) cis-1,3-Dichloropropene	11.84	75	594936	9.2477	ppb		95
42) 4-Methyl-2-Pentanone	11.88	43	911358	8.2990	ppb	#	78
43) trans-1,3-Dichloropropene	12.37	75	537912	9.6091	ppb		95
44) 1,1,2-Trichloroethane	12.56	97	477867	8.8170	ppb	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP17LCSD.D Vial: 2
Acq Time : 04/25/2017 11:38 Operator: LMR
Sample : QD Inst : 5975-L
Misc : 36322 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:14:32 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

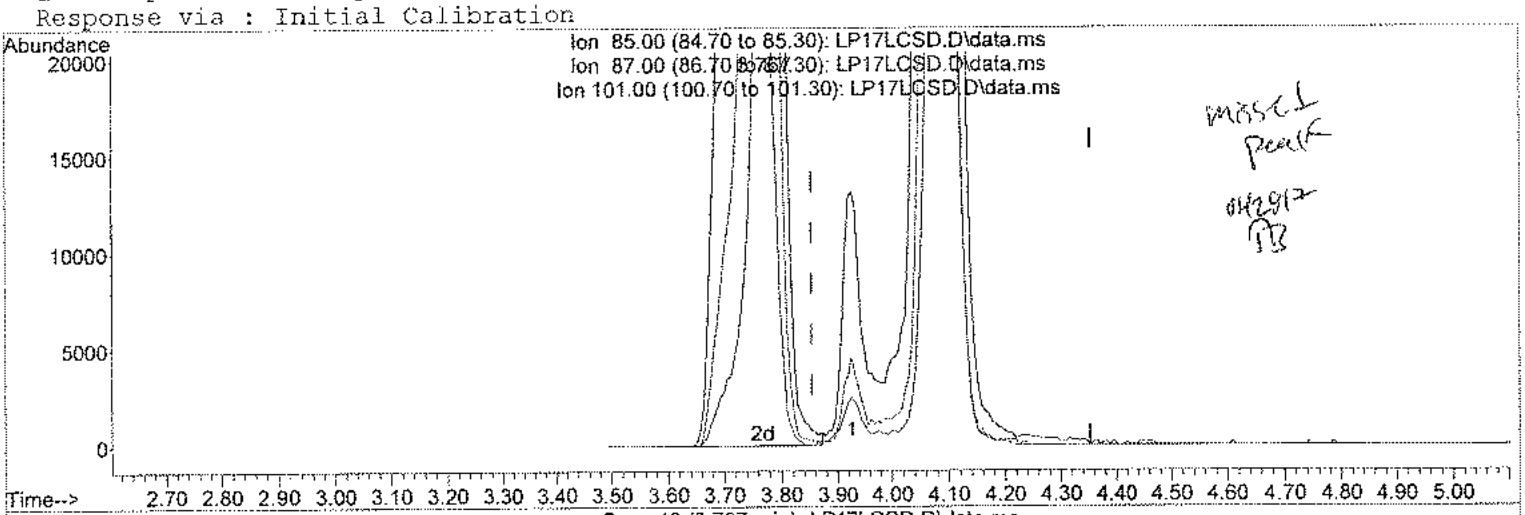
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45) Toluene	12.83	91	1262041	9.3929	ppb		99
46) 2-Hexanone	13.08	43	835840	9.3189	ppb	#	84
47) Dibromochloromethane	13.28	129	1020371	8.8272	ppb		99
48) 1,2-Dibromoethane	13.54	107	768579	9.2984	ppb		98
49) Tetrachloroethene	13.99	166	631346	8.7922	ppb	#	74
51) Chlorobenzene	14.71	112	811742	8.7345	ppb		97
52) Ethylbenzene	15.10	91	1223799	7.8835	ppb		96
53) m,p-Xylene	15.30	91	1716742	14.1506	ppb		99
54) Bromoform	15.40	173	467593	7.4385	ppb		99
55) Styrene	15.69	104	673754	7.2613	ppb		99
56) 1,1,2,2-Tetrachloroethane	15.81	83	795793	7.4416	ppb		98
57) o-Xylene	15.81	91	1013187	7.3235	ppb		98
59) 4-Ethyl Toluene	17.24	105	1601841	9.3265	ppb		98
60) 1,3,5-Trimethylbenzene	17.34	105	1046401	7.2624	ppb		98
61) 1,2,4-Trimethylbenzene	17.85	105	1217927	8.7851	ppb		98
62) Benzyl Chloride	18.04	91	932081	8.8031	ppb		95
63) m-Dichlorobenzene	18.06	146	791529	7.7834	ppb	#	95
64) p-Dichlorobenzene	18.15	146	771548	7.8960	ppb	#	96
65) o-Dichlorobenzene	18.61	146	767507	7.7189	ppb		95
66) 1,2,4-Trichlorobenzene	21.13	180	463893	10.7628	ppb	#	95
67) Naphthalene	21.30	128	1282733	10.2950	ppb		99
68) Hexachloro-1,3-butadiene	21.86	225	371413	9.0111	ppb		96

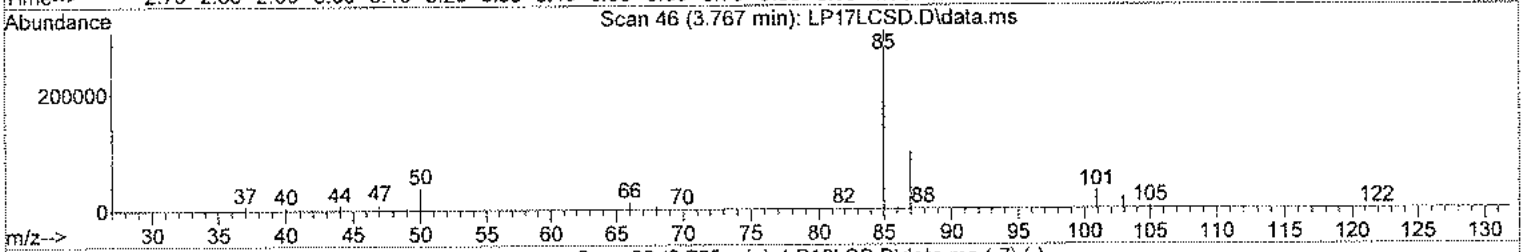
(#) = qualifier out of range (m) = manual integration

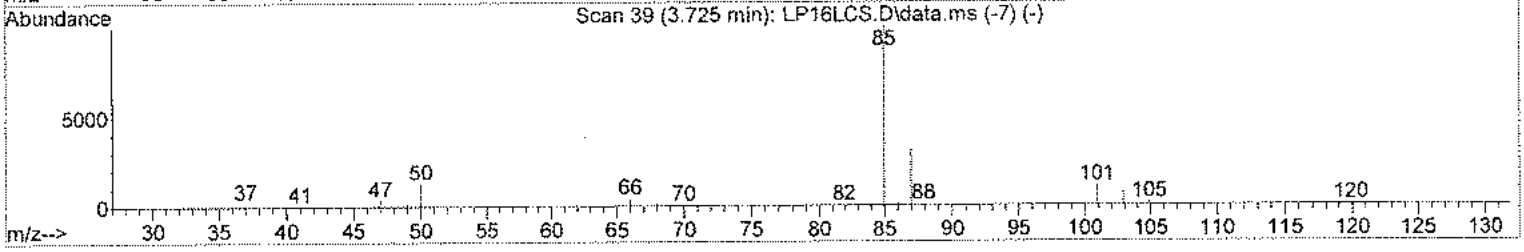
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP17LCSD.D
Acq On : 04/25/2017 11:38
Operator : LMR
Sample : QD
Inst : 5975-L
Misc : 36322 200 mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 09:14:18 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration







TIC: LP17LCSD.D\data.ms

(3) Dichlorodifluoromethane

3.767min (-0.086) 8.42 ppb m

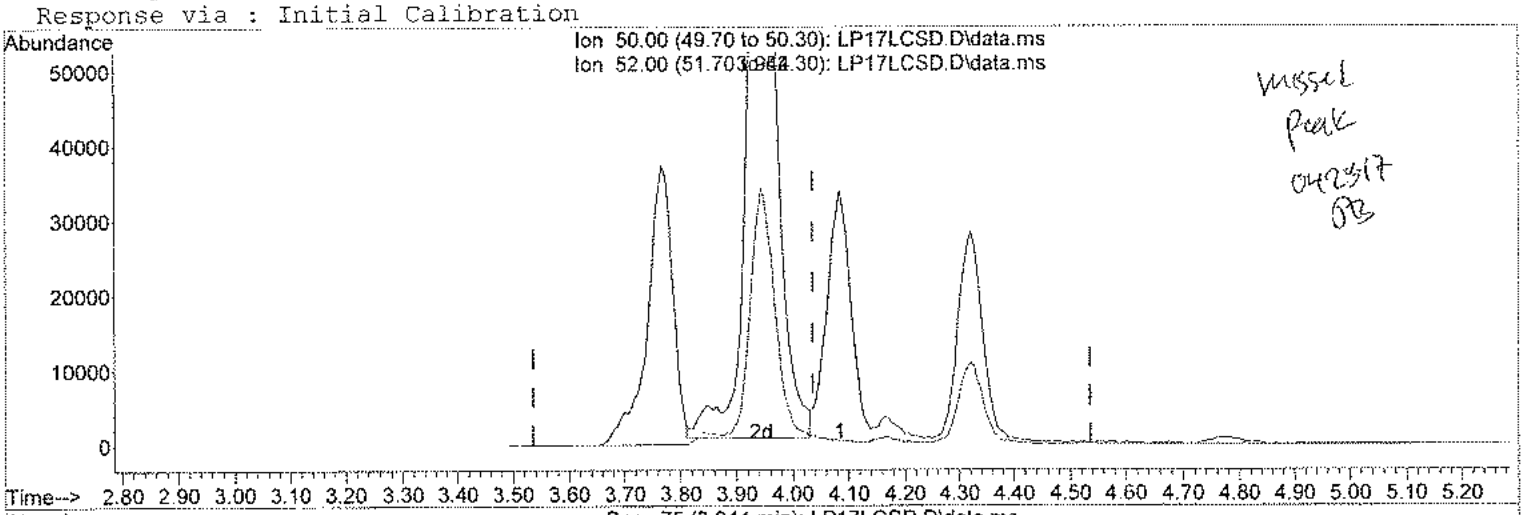
response 965578

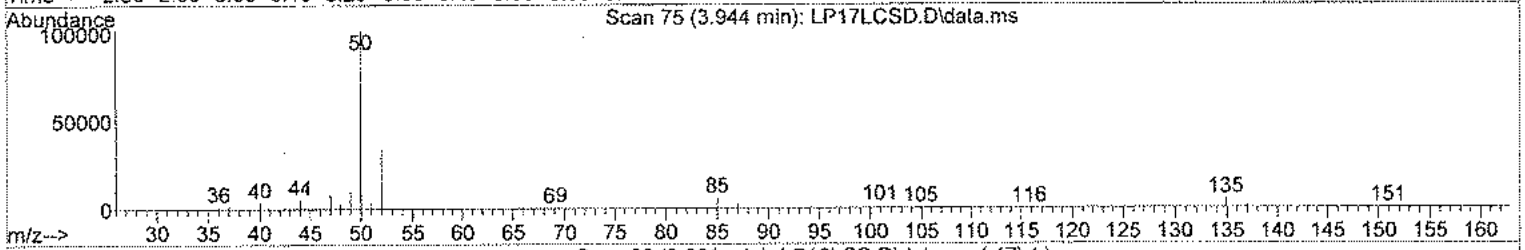
Ion	Exp%	Act%
85.00	100.00	100.00
87.00	32.60	1.14#
101.00	10.00	0.69#
0.00	0.00	0.00

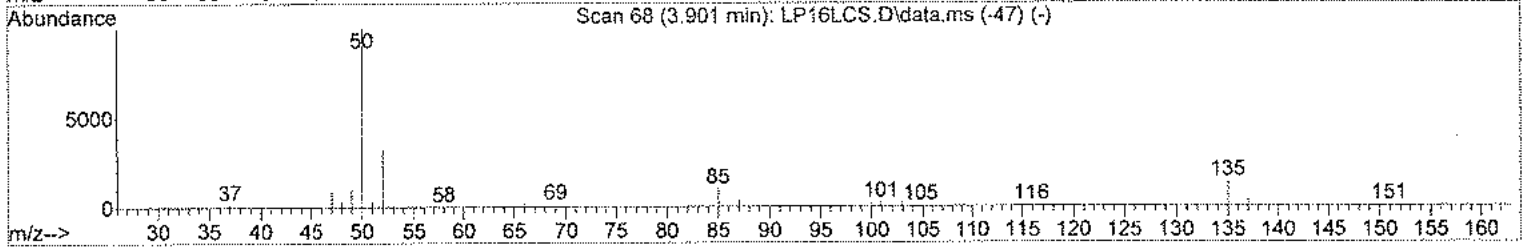
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP17LCSD.D
Acq On : 04/25/2017 11:38
Operator : LMR
Sample : QD
Inst : 5975-L
Misc : 36322 200 mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 09:14:18 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration







TIC: LP17LCSD.D\data.ms

(4) Chloromethane

3.944min (-0.092) 7.61 ppb m

response 340567

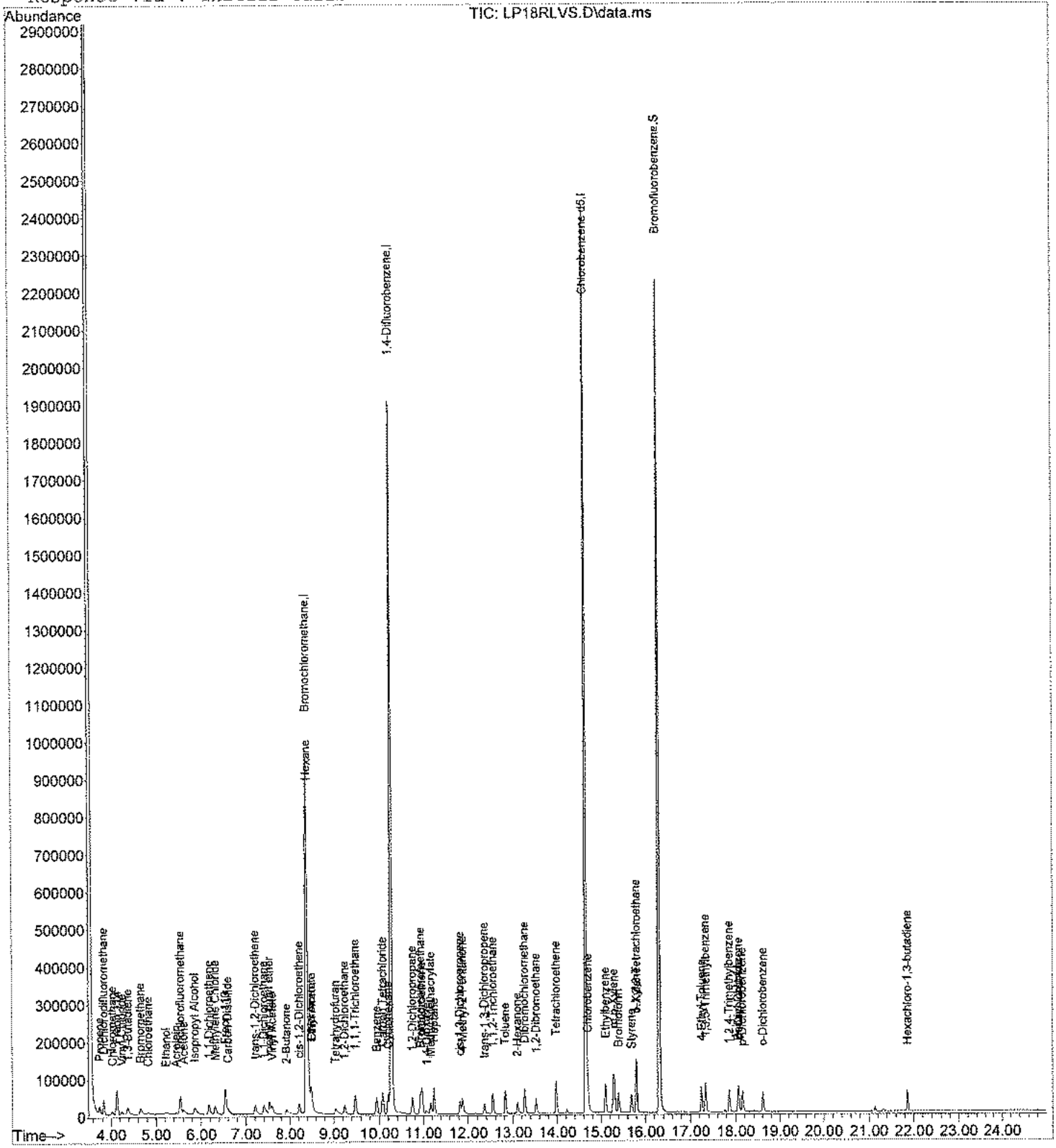
Ion	Exp%	Act%
50.00	100.00	100.00
52.00	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP18RLVS.D Vial: 2
Acq Time : 04/25/2017 12:26 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 36126 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 26 08:24:34 2017 Results File: TO15LA17.RES

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP18RLVS.D Vial: 2
Acq Time : 04/25/2017 12:26 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 36126 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 26 08:24:34 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.39	130	176256	20.0000	ppb		115.57
25) 1,4-Difluorobenzene	10.27	114	2146770	20.0000	ppb		108.88
50) Chlorobenzene d5	14.66	117	1691712	20.0000	ppb		98.05
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.31	95	901865	18.9336	ppb		94.67%
Target Compounds							Qvalue
2) Propene	3.74	41	15356	0.4728	ppb		98
3) Dichlorodifluoromethane	3.83	85	53511	0.4946	ppb		99
4) Chloromethane	4.03	50	18160	0.4305	ppb		94
5) Freon 114	4.14	135	38276	0.4900	ppb	#	61
6) Vinyl Chloride	4.24	62	19187	0.4737	ppb		93
7) 1,3-Butadiene	4.38	54	15234	0.4516	ppb	#	80
8) Bromomethane	4.66	94	20101	0.5170	ppb		97
9) Chloroethane	4.83	64	9814	0.4790	ppb	#	86
10) Acrolein	5.44	56	7112	0.3940	ppb	#	97
11) Acetone	5.61	43	30164	0.4365	ppb		94
12) Trichlorofluoromethane	5.54	101	64924	0.4865	ppb		99
13) Ethanol	5.22	45	10349	0.8035	ppb	#	77
14) Isopropyl Alcohol	5.86	45	48623	0.6186	ppb	#	91
15) 1,1-Dichloroethene	6.18	61	31085	0.4646	ppb	#	70
16) Methylene Chloride	6.31	84	18112	0.5129	ppb	#	53
17) Freon 113	6.55	151	31754	0.4962	ppb	#	50
18) Carbon Disulfide	6.60	76	51032	0.4898	ppb	#	51
19) trans-1,2-Dichloroethene	7.21	96	19380	0.4817	ppb	#	68
20) 1,1-Dichloroethane	7.40	63	35107	0.4719	ppb	#	94
21) methyl t-butyl ether	7.53	73	42011	0.4861	ppb	#	78
22) Vinyl Acetate	7.60	86	3918	0.4270	ppb	#	1
23) 2-Butanone	7.93	43	33353	0.4013	ppb	#	69
24) cis-1,2-Dichloroethene	8.21	96	19722	0.4682	ppb	#	73
26) Ethyl Acetate	8.51	61	5686	0.4481	ppb	#	1
27) Hexane	8.41	57	31921	0.4414	ppb	#	87
28) Chloroform	8.49	83	42515	0.4762	ppb		100
29) Tetrahydrofuran	9.04	42	17326	0.3381	ppb	#	48
30) 1,2-Dichloroethane	9.24	62	28987	0.4418	ppb	#	86
31) 1,1,1-Trichloroethane	9.47	97	43181	0.4523	ppb	#	88
32) Benzene	9.94	78	52367	0.4820	ppb	#	91
33) Carbon Tetrachloride	10.08	117	50593	0.4508	ppb		99
34) Cyclohexane	10.20	84	24643	0.4907	ppb	#	55
35) 1,2-Dichloropropane	10.75	63	21425	0.4310	ppb		90
36) Bromodichloromethane	10.93	83	44606	0.4306	ppb		98
37) 1,4-Dioxane	11.07	88	10047	0.3317	ppb	#	80
38) Trichloroethene	10.97	130	30353	0.4530	ppb		94
39) Methyl Methacrylate	11.17	69	15504	0.4132	ppb		93
40) Heptane	11.25	71	17862	0.4792	ppb	#	43
41) cis-1,3-Dichloropropene	11.83	75	24504	0.3797	ppb		97
42) 4-Methyl-2-Pentanone	11.88	43	42277	0.3838	ppb	#	75
43) trans-1,3-Dichloropropene	12.36	75	20244	0.3605	ppb	#	91
44) 1,1,2-Trichloroethane	12.54	97	23694	0.4358	ppb	#	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP18RLVS.D Vial: 2
Acq Time : 04/25/2017 12:26 Operator: LMR
Sample : RLVS Inst : 5975-L
Misc : 36126 200 mL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 26 08:24:34 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	Toluene	12.82	91	60591	0.4495 ppb		98
46)	2-Hexanone	13.09	43	32178	0.3576 ppb	#	78
47)	Dibromochloromethane	13.26	129	48447	0.4178 ppb		99
48)	1,2-Dibromoethane	13.52	107	35998	0.4341 ppb		97
49)	Tetrachloroethene	13.98	166	30488	0.4232 ppb	#	78
51)	Chlorobenzene	14.70	112	38823	0.4499 ppb		98
52)	Ethylbenzene	15.09	91	70413	0.4885 ppb		95
53)	m,p-Xylene	15.29	91	112485	0.9985 ppb		97
54)	Bromoform	15.39	173	29941	0.5129 ppb		98
55)	Styrene	15.69	104	34939	0.4055 ppb		98
56)	1,1,2,2-Tetrachloroethane	15.80	83	46406	0.4673 ppb	#	92
57)	o-Xylene	15.80	91	57027	0.4439 ppb		95
59)	4-Ethyl Toluene	17.25	105	57385	0.3598 ppb		96
60)	1,3,5-Trimethylbenzene	17.34	105	56408	0.4216 ppb		96
61)	1,2,4-Trimethylbenzene	17.86	105	44641	0.3468 ppb		98
62)	Benzyl Chloride	18.05	91	22623	0.2301 ppb		93
63)	m-Dichlorobenzene	18.06	146	34510	0.3655 ppb	#	93
64)	p-Dichlorobenzene	18.15	146	32018	0.3529 ppb	#	94
65)	o-Dichlorobenzene	18.61	146	33580	0.3637 ppb		93
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected		
67)	Naphthalene	0.00	128		Not Detected		
68)	Hexachloro-1,3-butadiene	21.86	225	9119	0.2383 ppb		97

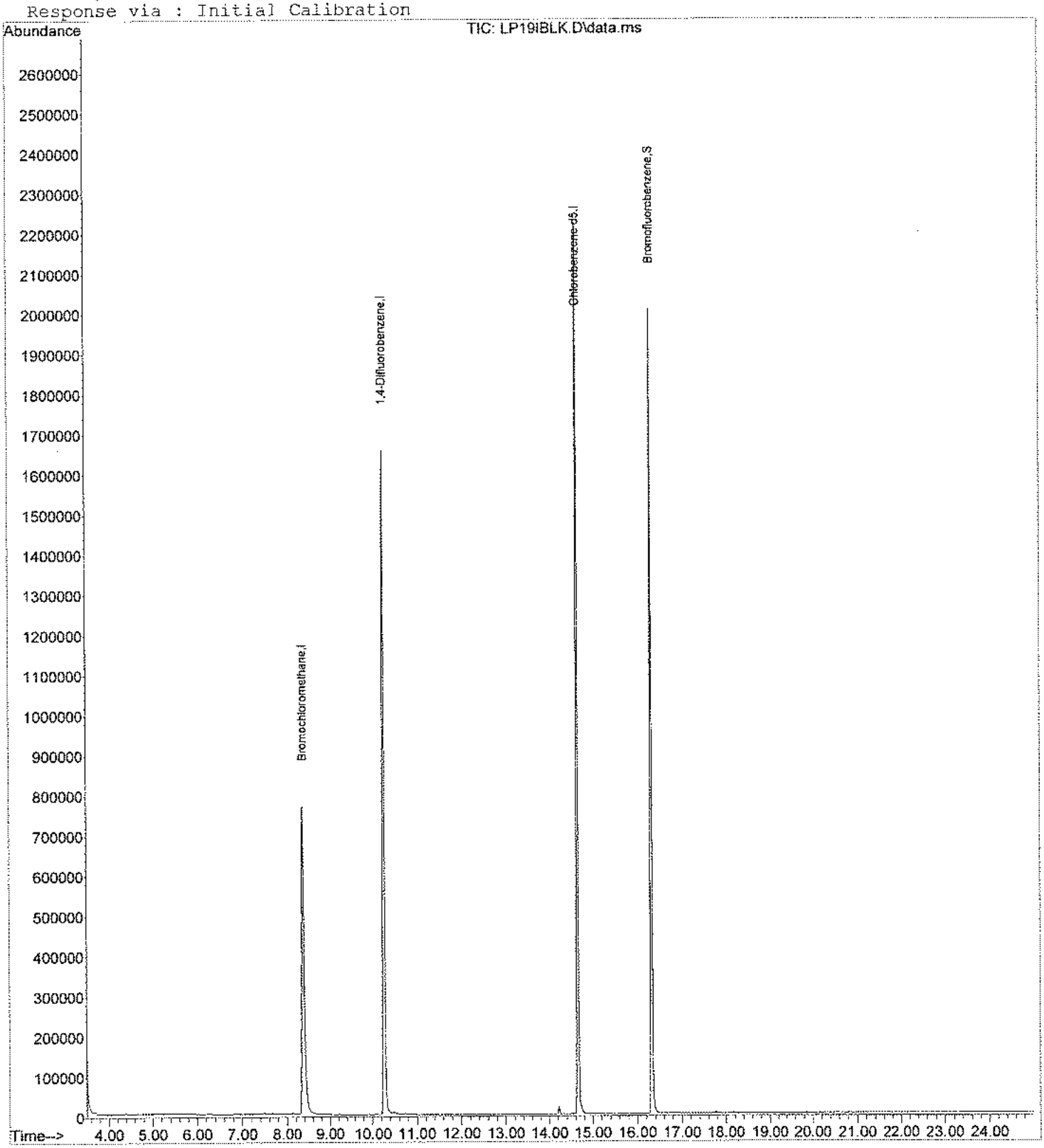
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP19IBLK.D Vial: 1
Acq Time : 04/25/2017 13:16 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 25 14:02:55 2017 Results File: TO15LA17.RES

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP19IBLK.D Vial: 1
Acq Time : 04/25/2017 13:16 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 25 14:02:55 2017 Results File: TO15LA17.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.37	130	143808	20.0000 ppb	94.29
25) 1,4-Difluorobenzene	10.27	114	1961025	20.0000 ppb	99.46
50) Chlorobenzene d5	14.66	117	1529438	20.0000 ppb	88.65
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.32	95	816714	18.9651 ppb	94.83%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	0.00	85		Not Detected	
4) Chloromethane	0.00	50		Not Detected	
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	0.00	43		Not Detected	
12) Trichlorofluoromethane	0.00	101		Not Detected	
13) Ethanol	0.00	45		Not Detected	
14) Isopropyl Alcohol	0.00	45		Not Detected	
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	0.00	84		Not Detected	
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	0.00	43		Not Detected	
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	0.00	61		Not Detected	
27) Hexane	0.00	57		Not Detected	
28) Chloroform	0.00	83		Not Detected	
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	0.00	78		Not Detected	
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	0.00	71		Not Detected	
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP19IBLK.D Vial: 1
Acq Time : 04/25/2017 13:16 Operator: LMR
Sample : BL- Inst : 5975-L
Misc : Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 25 14:02:55 2017 Results File: TO15LA17.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Toluene	0.00	91		Not Detected	
46)	2-Hexanone	0.00	43		Not Detected	
47)	Dibromochloromethane	0.00	129		Not Detected	
48)	1,2-Dibromoethane	0.00	107		Not Detected	
49)	Tetrachloroethene	0.00	166		Not Detected	
51)	Chlorobenzene	0.00	112		Not Detected	
52)	Ethylbenzene	0.00	91		Not Detected	
53)	m,p-Xylene	0.00	91		Not Detected	
54)	Bromoform	0.00	173		Not Detected	
55)	Styrene	0.00	104		Not Detected	
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57)	o-Xylene	0.00	91		Not Detected	
59)	4-Ethyl Toluene	0.00	105		Not Detected	
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61)	1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62)	Benzyl Chloride	0.00	91		Not Detected	
63)	m-Dichlorobenzene	0.00	146		Not Detected	
64)	p-Dichlorobenzene	0.00	146		Not Detected	
65)	o-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67)	Naphthalene	0.00	128		Not Detected	
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected	

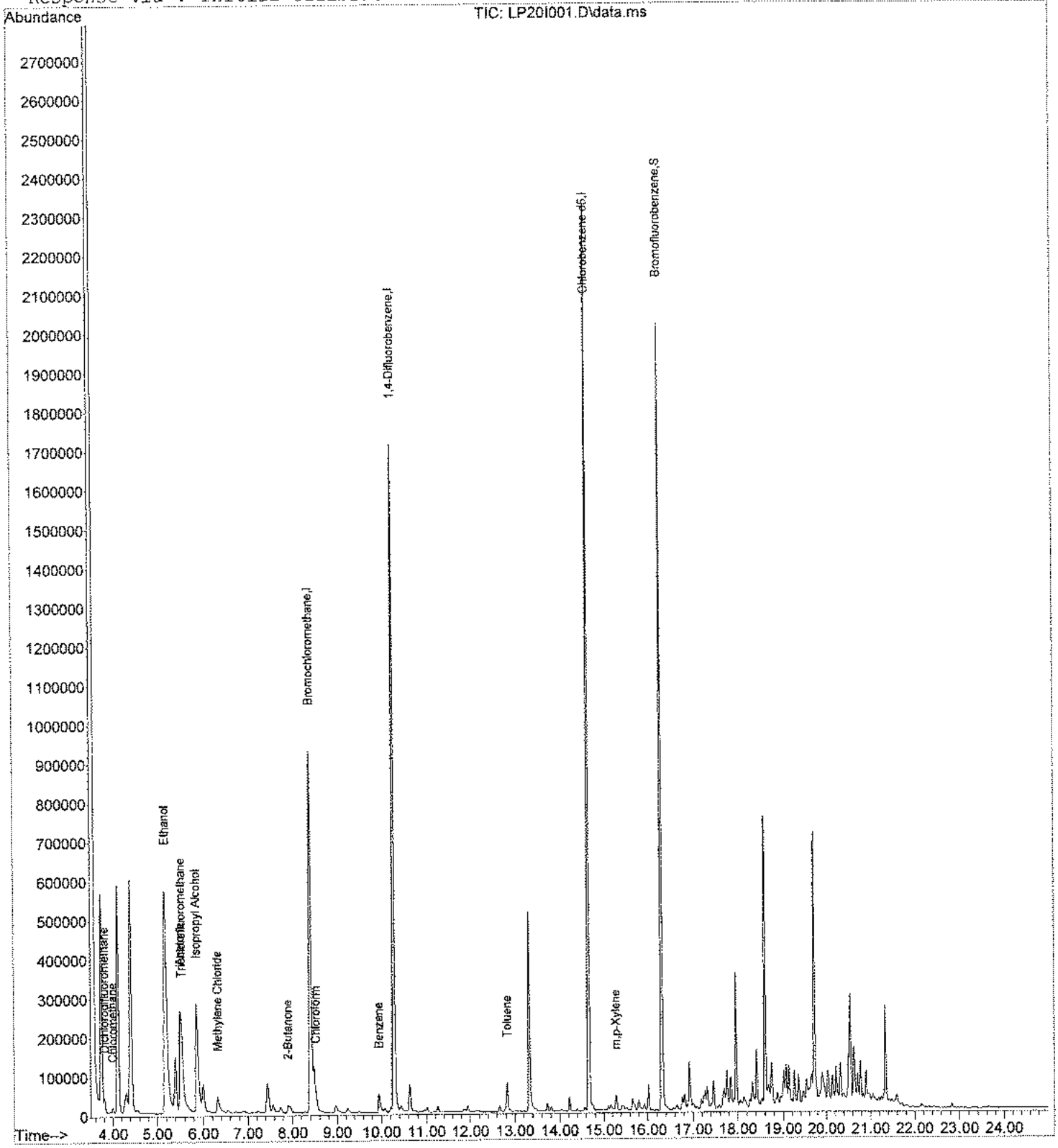
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:38:08 2017 Results File: TO15LA17.RES

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:38:08 2017 Results File: TO15LA17.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.40	130	169344	20.0000 ppb	111.04
25) 1,4-Difluorobenzene	10.28	114	1945071	20.0000 ppb	98.65
50) Chlorobenzene d5	14.66	117	1562213	20.0000 ppb	90.55
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.31	95	821002	18.6647 ppb	93.32%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	3.82	85	42323	0.4072 ppb	99
4) Chloromethane	3.99	50	20954	0.5170 ppb	94
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.51	43	769748	11.5927 ppb	99
12) Trichlorofluoromethane	5.54	101	29561	0.2305 ppb	98
13) Ethanol	5.19	45	1456099	117.6709 ppb #TIC	79
14) Isopropyl Alcohol	5.86	45	610982	8.0904 ppb #TIC	80
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.32	84	30609	0.9021 ppb #	53
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.91	43	51370	0.6433 ppb #	68
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	0.00	61		Not Detected	
27) Hexane	0.00	57		Not Detected	
28) Chloroform	8.52	83	23132	0.2860 ppb	100
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.95	78	15679	0.1593 ppb #	86
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	0.00	71		Not Detected	
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

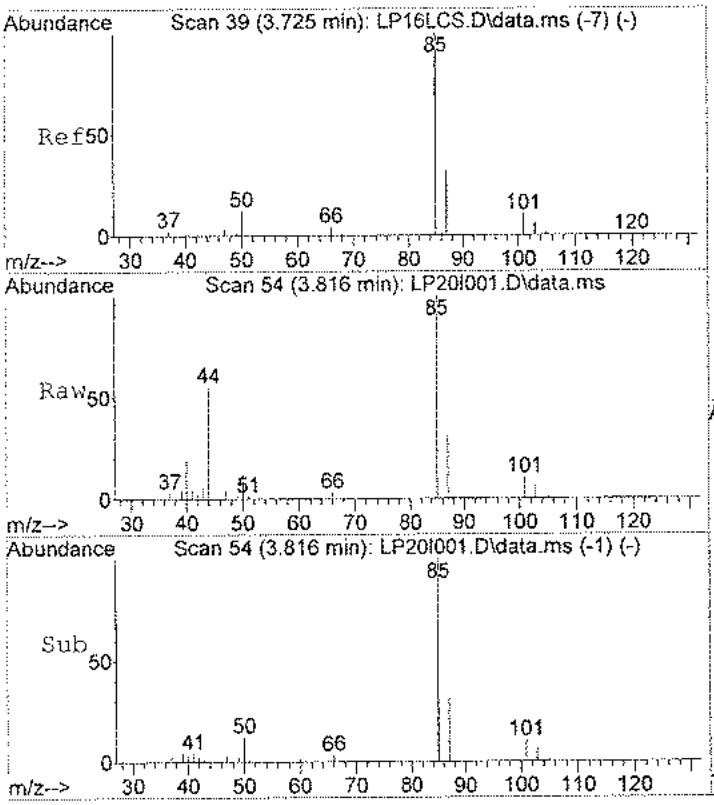
Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:38:08 2017 Results File: TO15LA17.RES

Quant Method : X:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45) Toluene	12.83	91	67698	0.5543 ppb	98
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	0.00	91		Not Detected	
53) m,p-Xylene	15.28	91	30736	0.2955 ppb	93
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	0.00	91		Not Detected	
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

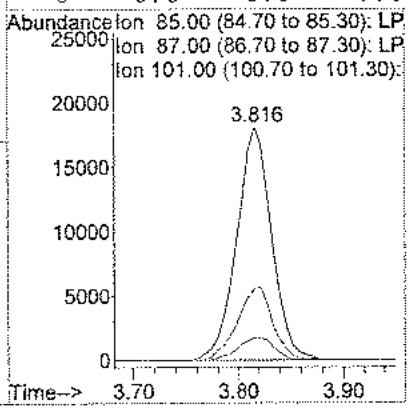
(#) = qualifier out of range (m) = manual integration

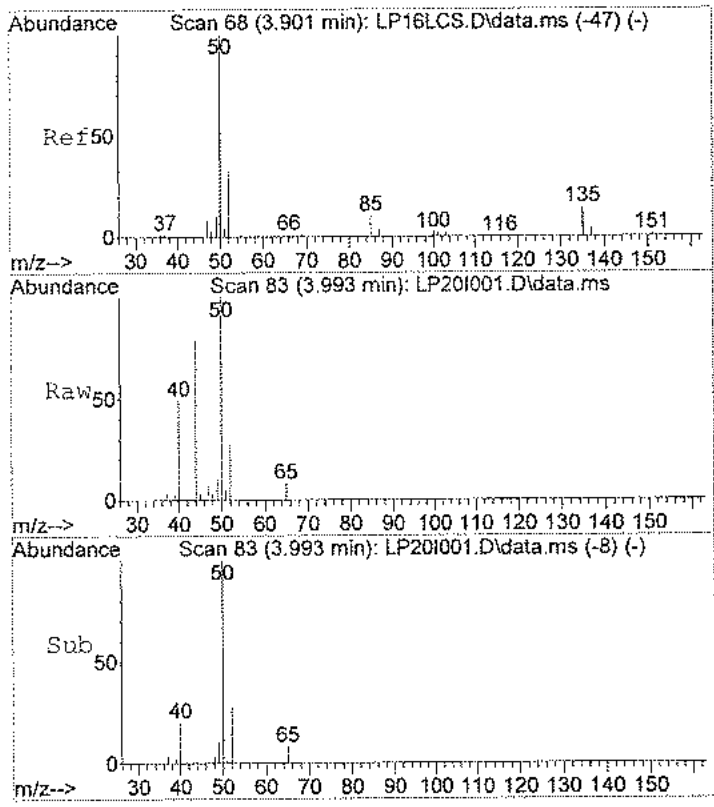


#3
Dichlorodifluoromethane
Concen: 0.41 ppb
RT: 3.82 min Scan# 54
Delta R.T. -0.04 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:85 Resp: 42323

Ion	Ratio	Lower	Upper
85	100		
87	31.9	26.1	39.1
101	9.8	8.0	12.0
0	0.0	0.0	0.0

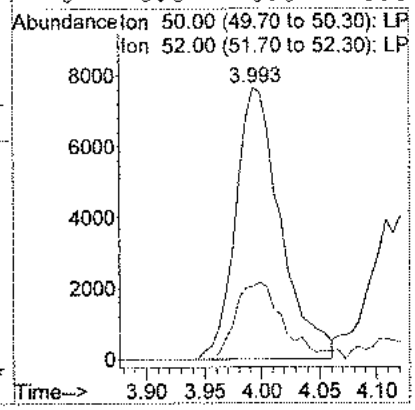


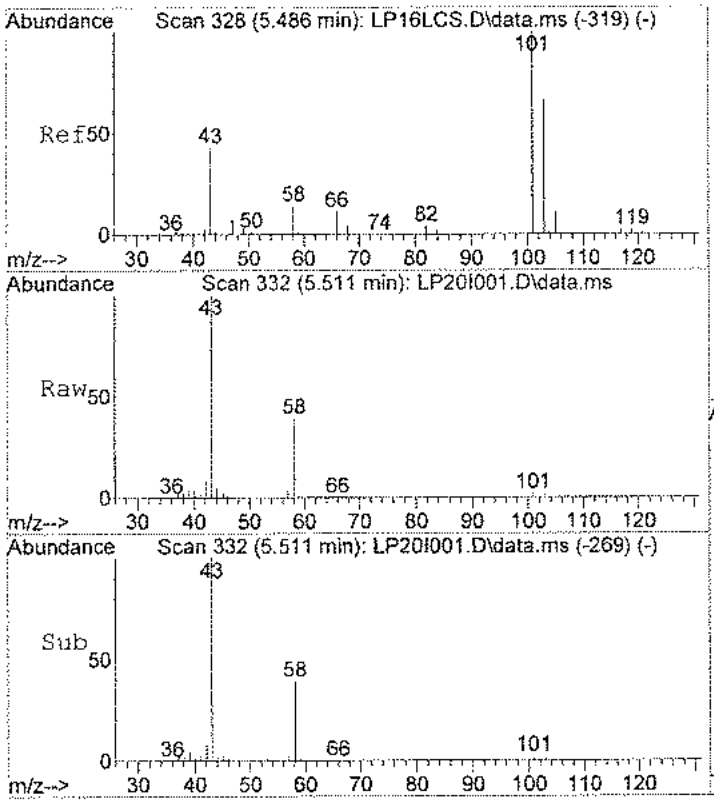


#4
Chloromethane
Concen: 0.52 ppb
RT: 3.99 min Scan# 83
Delta R.T. -0.04 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:50 Resp: 20954

Ion	Ratio	Lower	Upper
50	100		
52	30.0	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

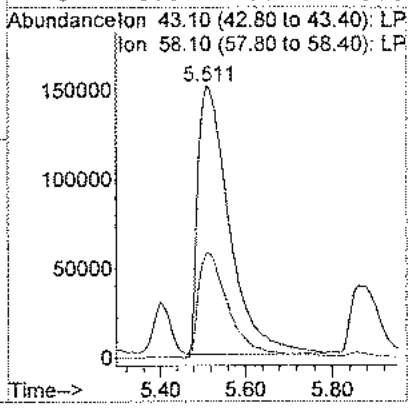


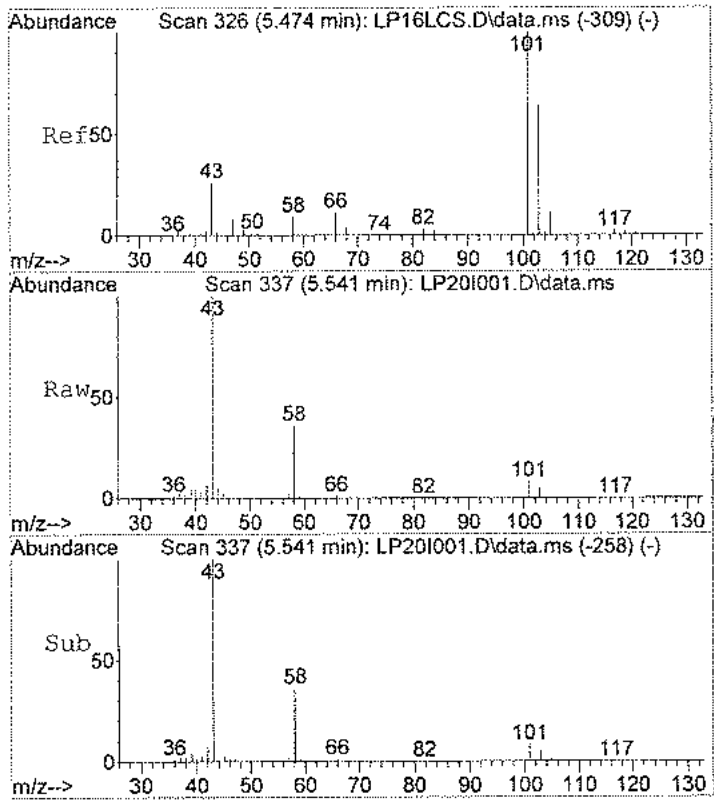


#11
Acetone
Concen: 11.59 ppb
RT: 5.51 min Scan# 332
Delta R.T. -0.12 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:43.1 Resp: 769748

Ion	Ratio	Lower	Upper
43	100		
58	37.6	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

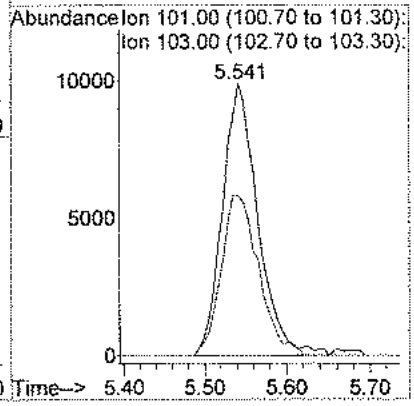


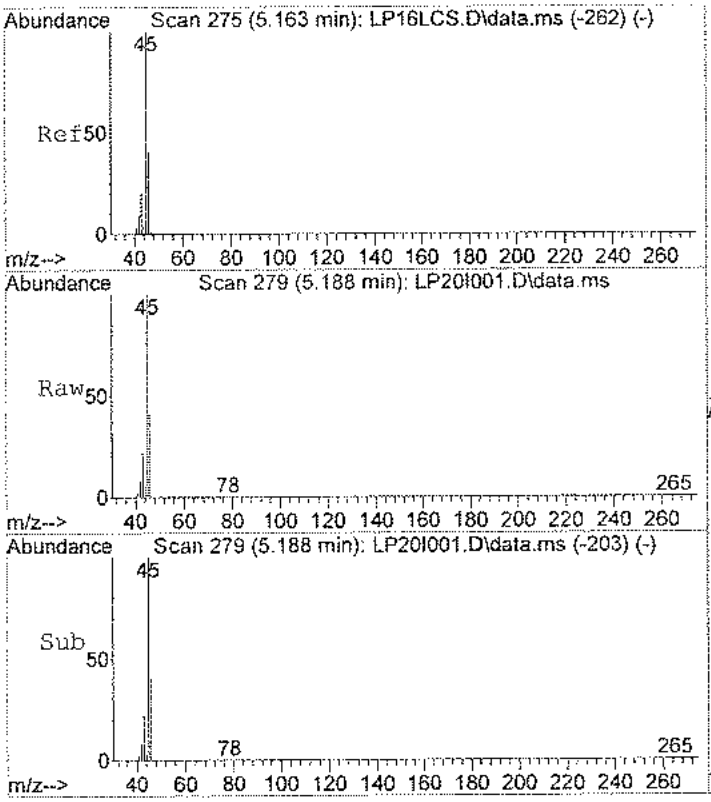


#12
Trichlorofluoromethane
Concen: 0.23 ppb
RT: 5.54 min Scan# 337
Delta R.T. -0.02 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:101 Resp: 29561

Ion	Ratio	Lower	Upper
101	100		
103	62.4	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

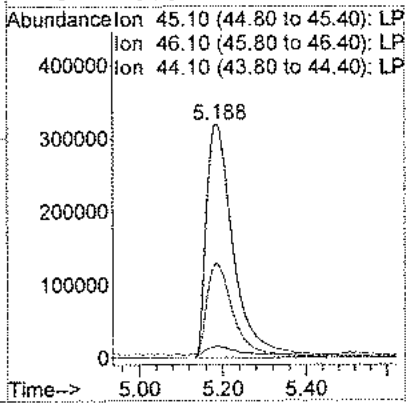


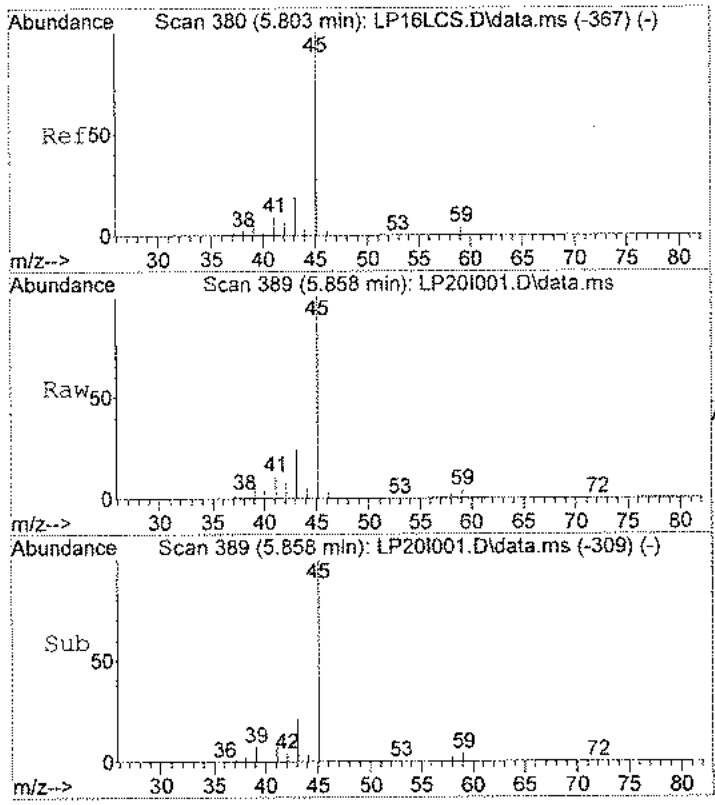


#13
Ethanol
Concen: 117.67 ppb
RT: 5.19 min Scan# 279
Delta R.T. -0.04 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:45.1 Resp: 1456099

Ion	Ratio	Lower	Upper
45	100		
46	39.9	32.4	48.6
44	3.3	23.4	35.2#
0	0.0	0.0	0.0

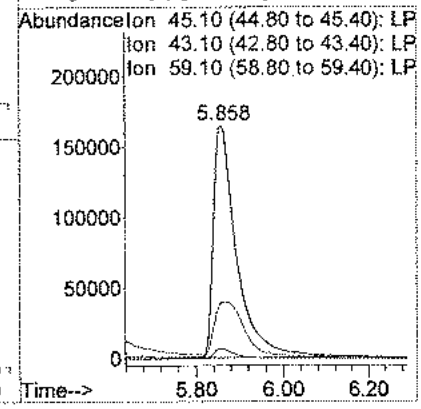


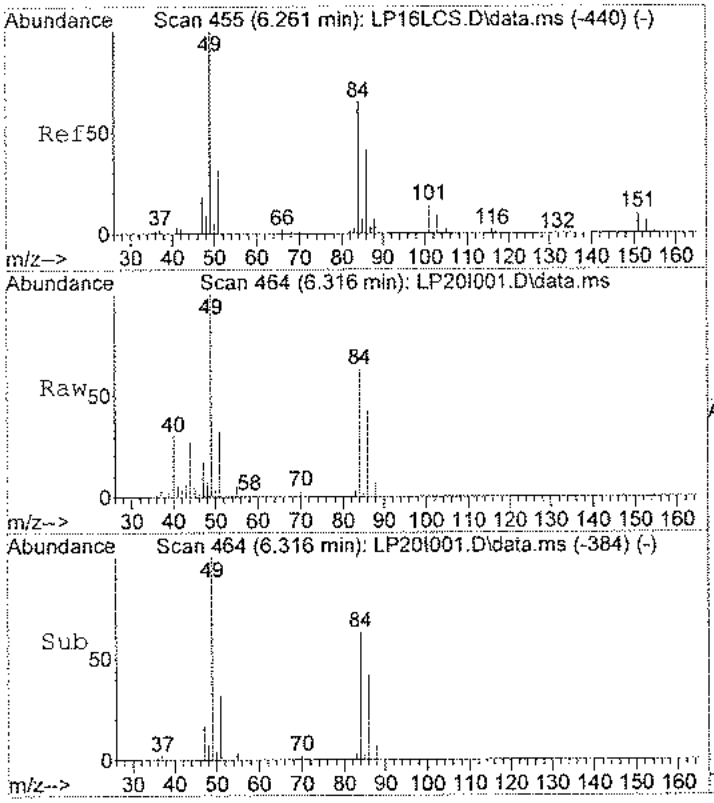


#14
Isopropyl Alcohol
Concen: 8.09 ppb
RT: 5.86 min Scan# 389
Delta R.T. -0.01 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:45.1 Resp: 610982

Ion	Ratio	Lower	Upper
45	100		
43	30.9	15.8	23.6#
59	4.0	3.2	4.8
0	0.0	0.0	0.0

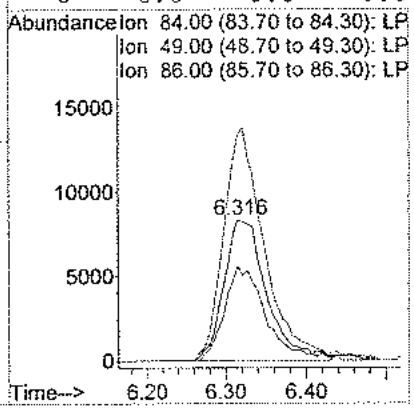


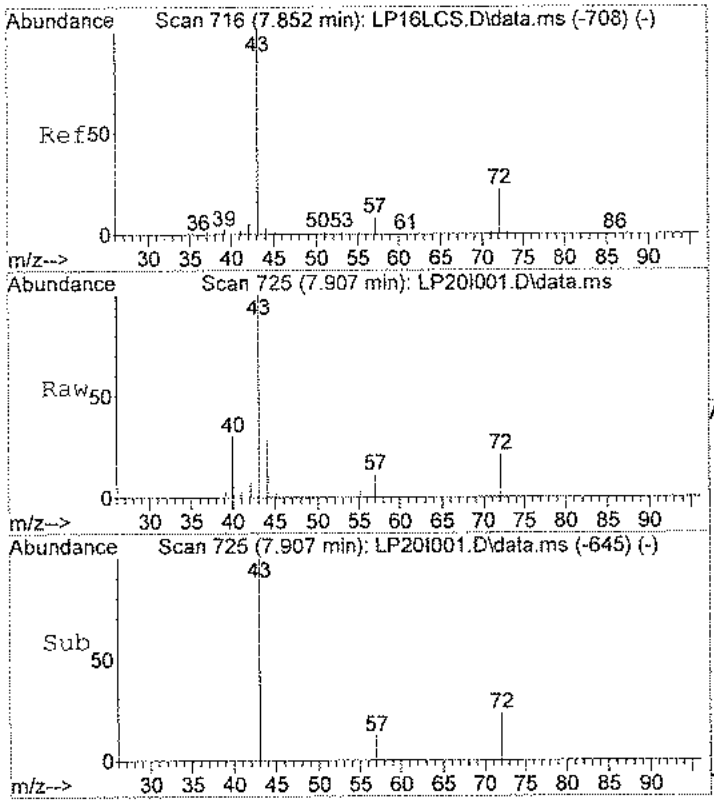


#16
Methylene Chloride
Concen: 0.90 ppb
RT: 6.32 min Scan# 464
Delta R.T. -0.01 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:84 Resp: 30609

Ion	Ratio	Lower	Upper
84	100		
49	157.1	66.6	100.0#
86	63.6	51.6	77.4
0	0.0	0.0	0.0

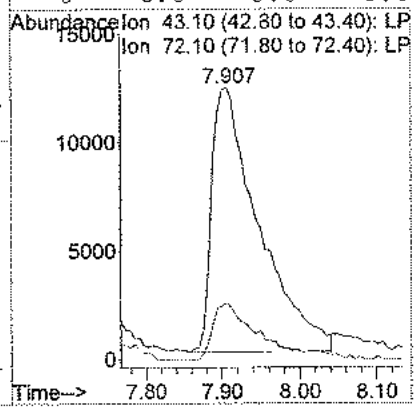


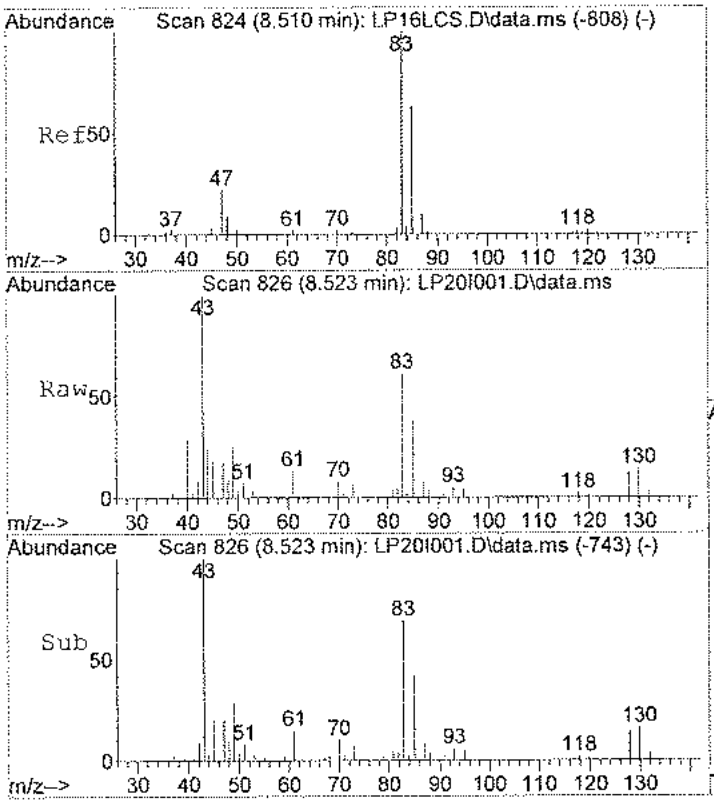


#23
2-Butanone
Concen: 0.64 ppb
RT: 7.91 min Scan# 725
Delta R.T. -0.01 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:43.1 Resp: 51370

Ion	Ratio	Lower	Upper
43	100		
72	19.3	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

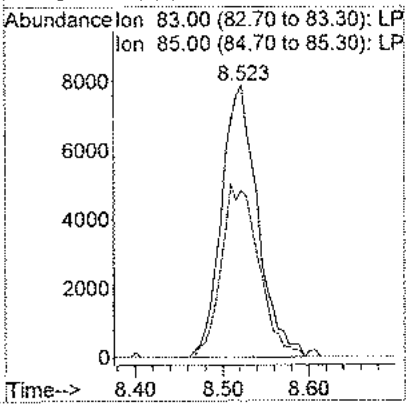


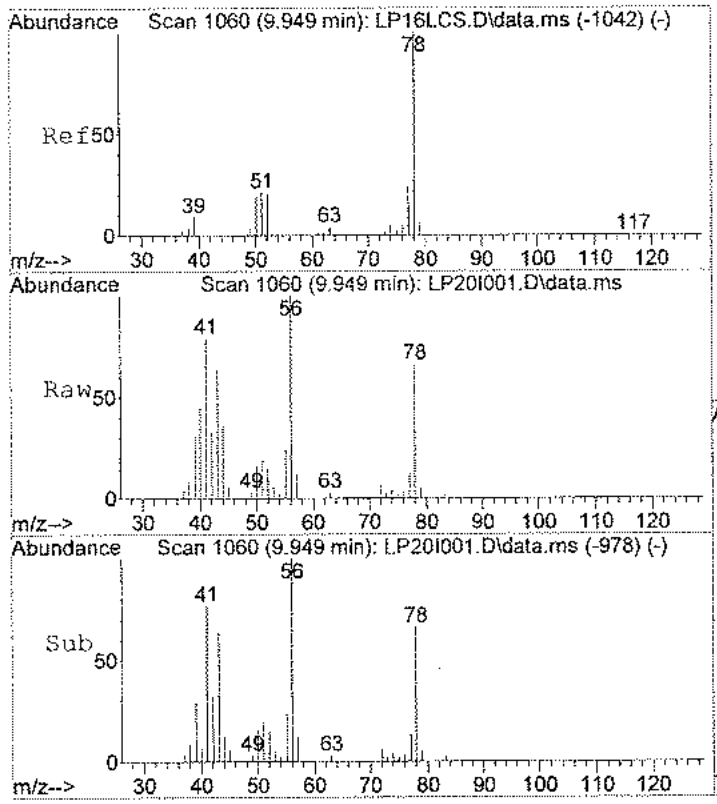


#28
Chloroform
Concen: 0.29 ppb
RT: 8.52 min Scan# 826
Delta R.T. 0.01 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:83 Resp: 23132

Ion	Ratio	Lower	Upper
83	100		
85	65.6	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

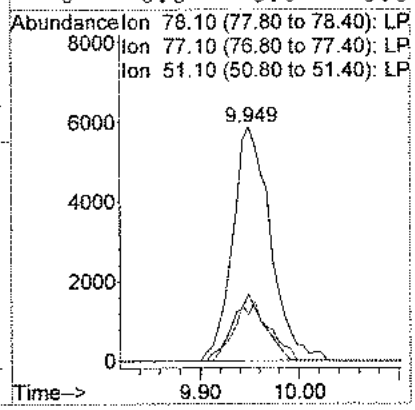


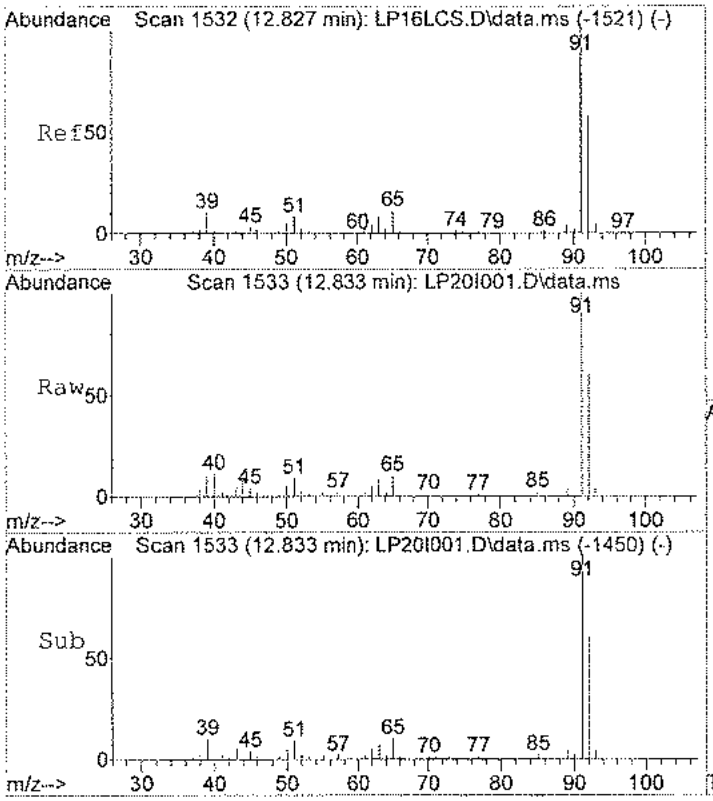


#32
Benzene
Concen: 0.16 ppb
RT: 9.95 min Scan# 1060
Delta R.T. -0.00 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:78.1 Resp: 15679

Ion	Ratio	Lower	Upper
78	100		
77	21.2	18.2	27.4
51	25.8	9.5	14.3#
0	0.0	0.0	0.0

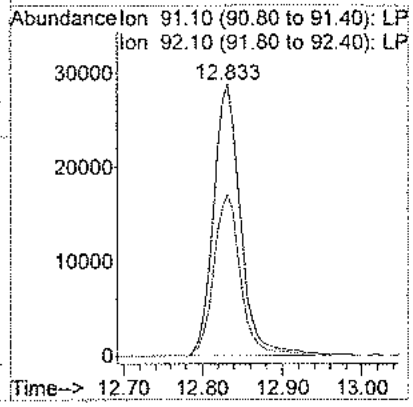


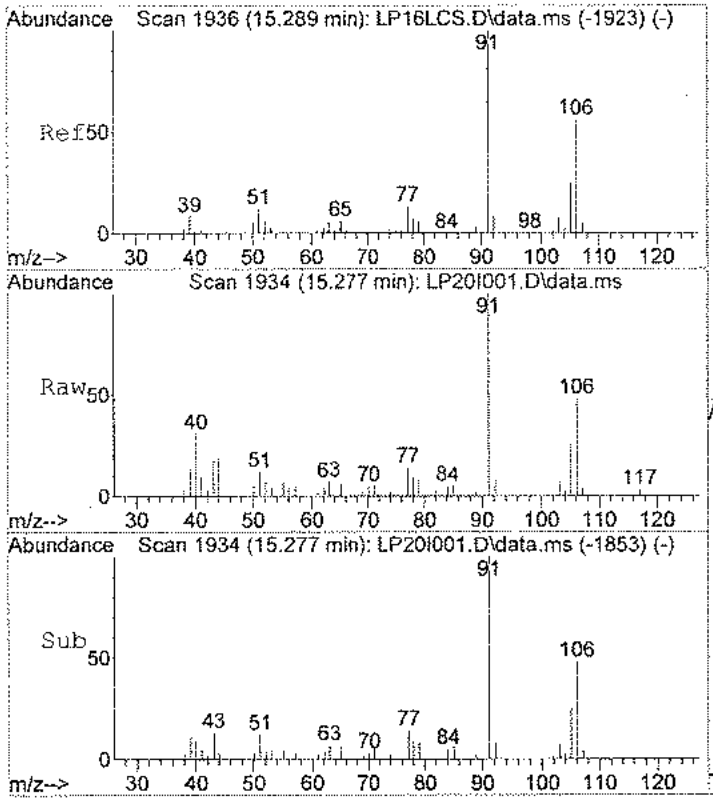


#45
Toluene
Concen: 0.55 ppb
RT: 12.83 min Scan# 1533
Delta R.T. 0.01 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:91.1 Resp: 67698

Ion	Ratio	Lower	Upper
91	100		
92	58.5	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

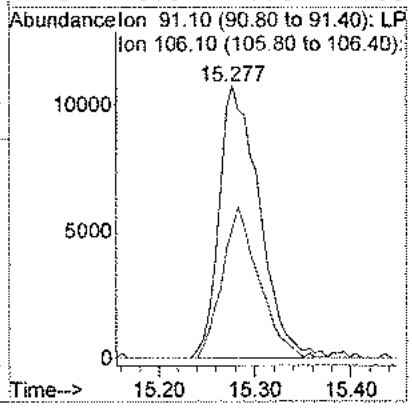




#53
m,p-Xylene
Concen: 0.30 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.01 min
Lab File: LP20I001.D
Acq: 04/25/2017 14:30

Tgt Ion:91.1 Resp: 30736

Ion	Ratio	Lower	Upper
91	100		
106	50.4	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0



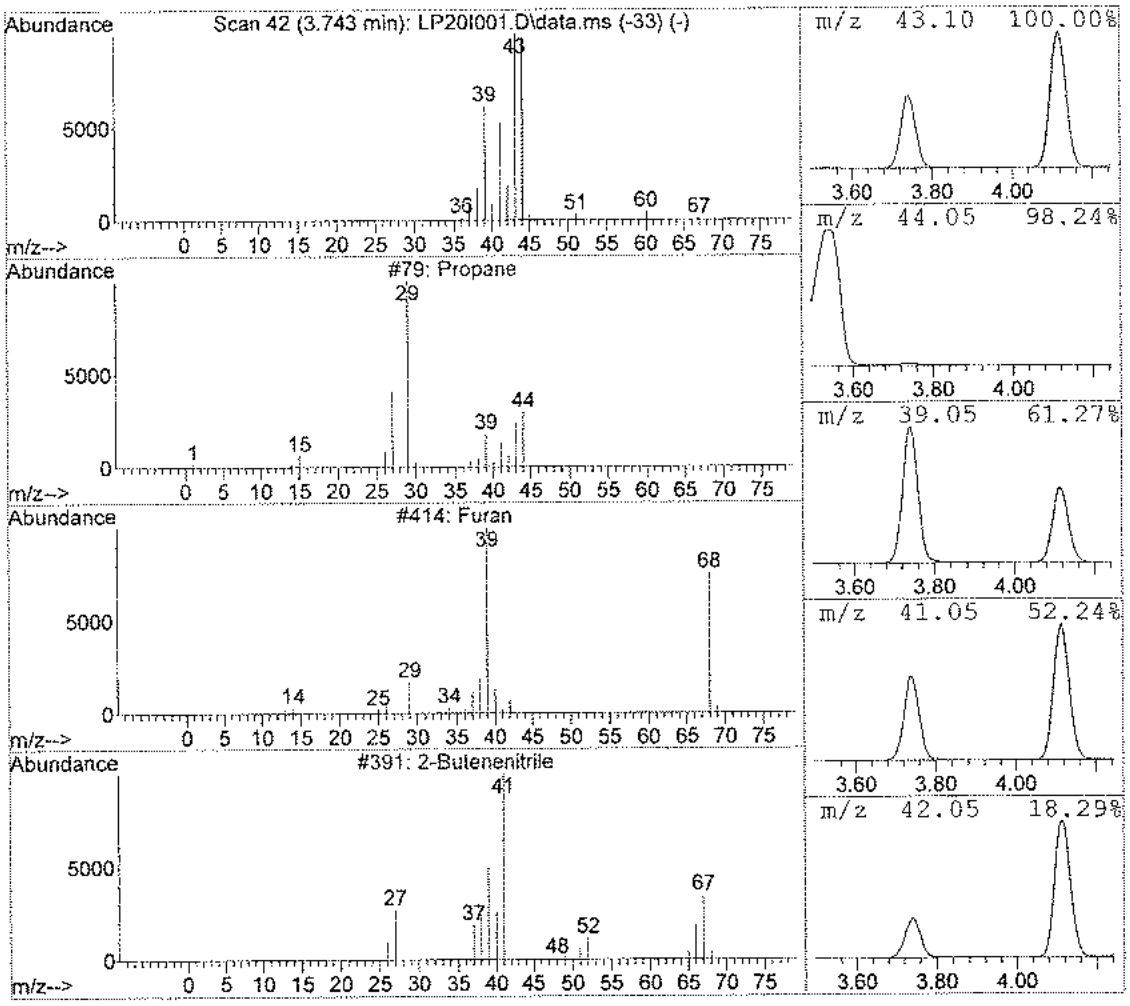
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
3.74	9.37 ppb	1346026	Bromochloromethane	2873026

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Propane	79	000074-98-6	83.00
2	Furan	414	000110-00-9	9.00
3	2-Butenenitrile	391	004786-20-3	9.00
4	Acetaldehyde	71	000075-07-0	5.00
5	Ethylene oxide	75	000075-21-8	5.00



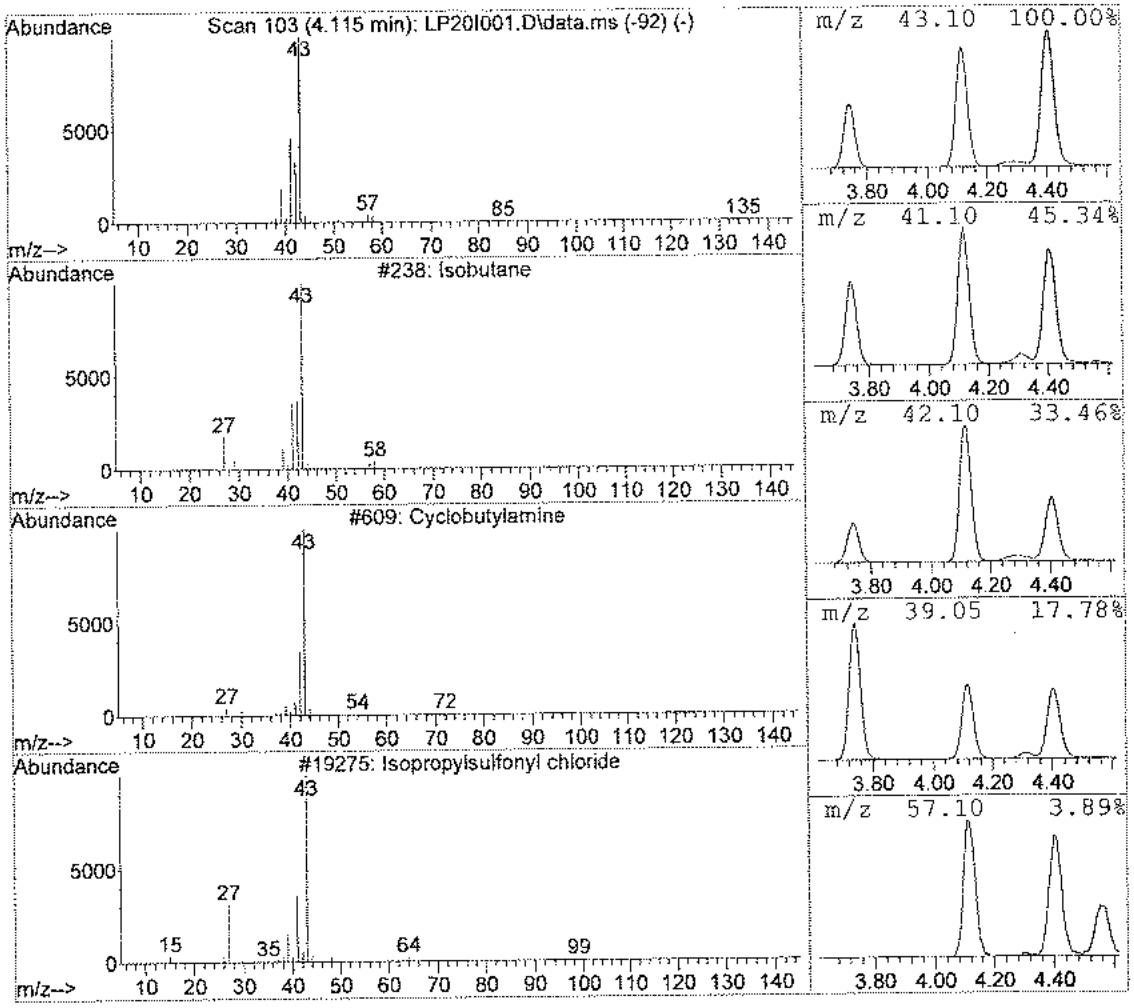
Library Search Compound Report

Data File : 1:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : 1:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.11	11.12 ppb	1596980	Bromochloromethane	2873026

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	238	000075-28-5	86.00
2	Cyclobutylamine	609	002516-34-9	40.00
3	Isopropylsulfonyl chloride	19275	010147-37-2	9.00
4	Butane	232	000106-97-8	4.00
5	Propane, 2-nitro-	2169	000079-46-9	4.00



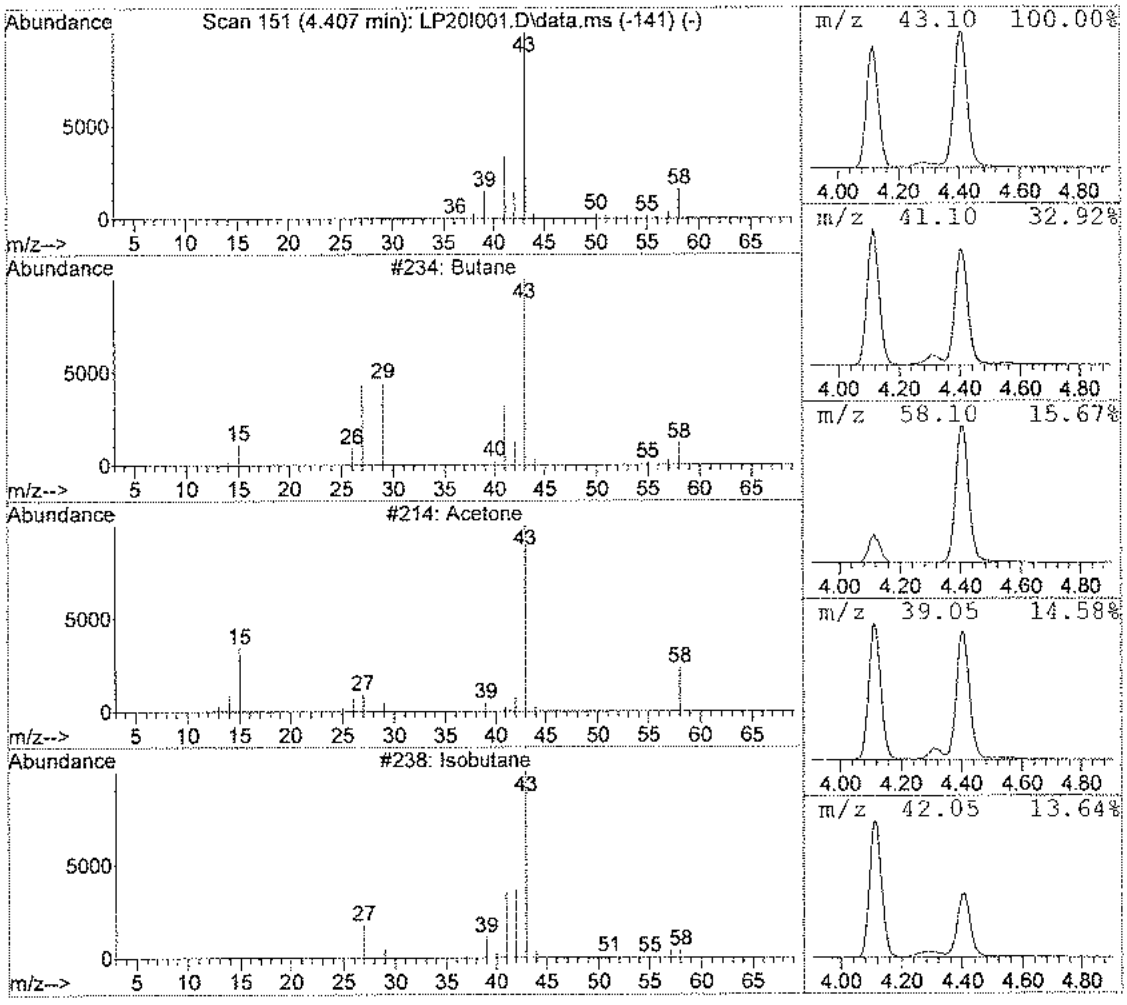
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.41	12.40 ppb	1780565	Bromochloromethane	2873026

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane	234	000106-97-8	64.00
2	Acetone	214	000067-64-1	7.00
3	Isobutane	238	000075-28-5	4.00
4	Propane, 1-nitro-	2164	000108-03-2	4.00
5	Propanal	221	000123-38-6	3.00

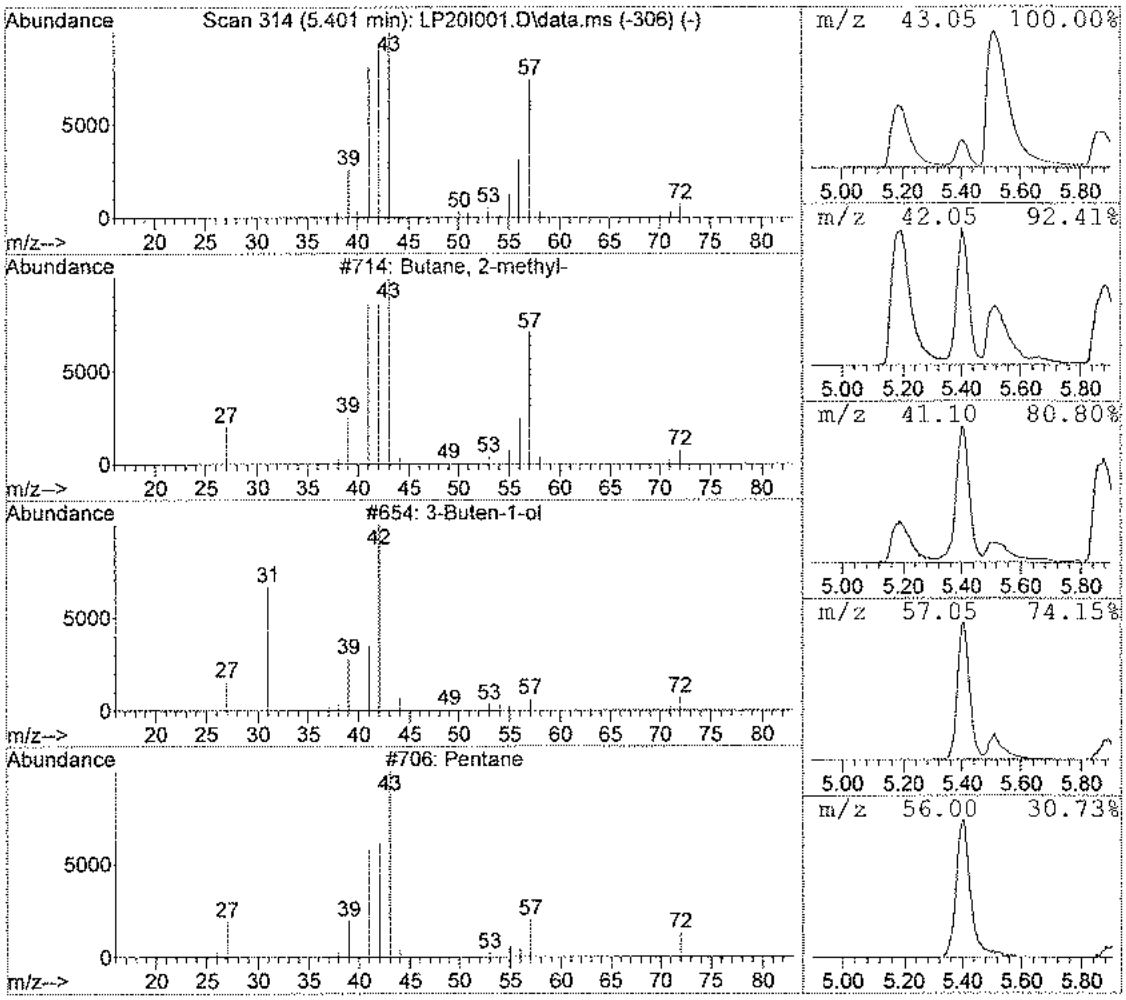


Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
5.40	2.77 ppb	397268	Bromochloromethane	2873026

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane, 2-methyl-	714	000078-78-4	91.00
2	3-Buten-1-ol	654	000627-27-0	37.00
3	Pentane	706	000109-66-0	36.00
4	1-Butene	173	000106-98-9	18.00
5	1-Propene, 2-methyl-	188	000115-11-7	10.00



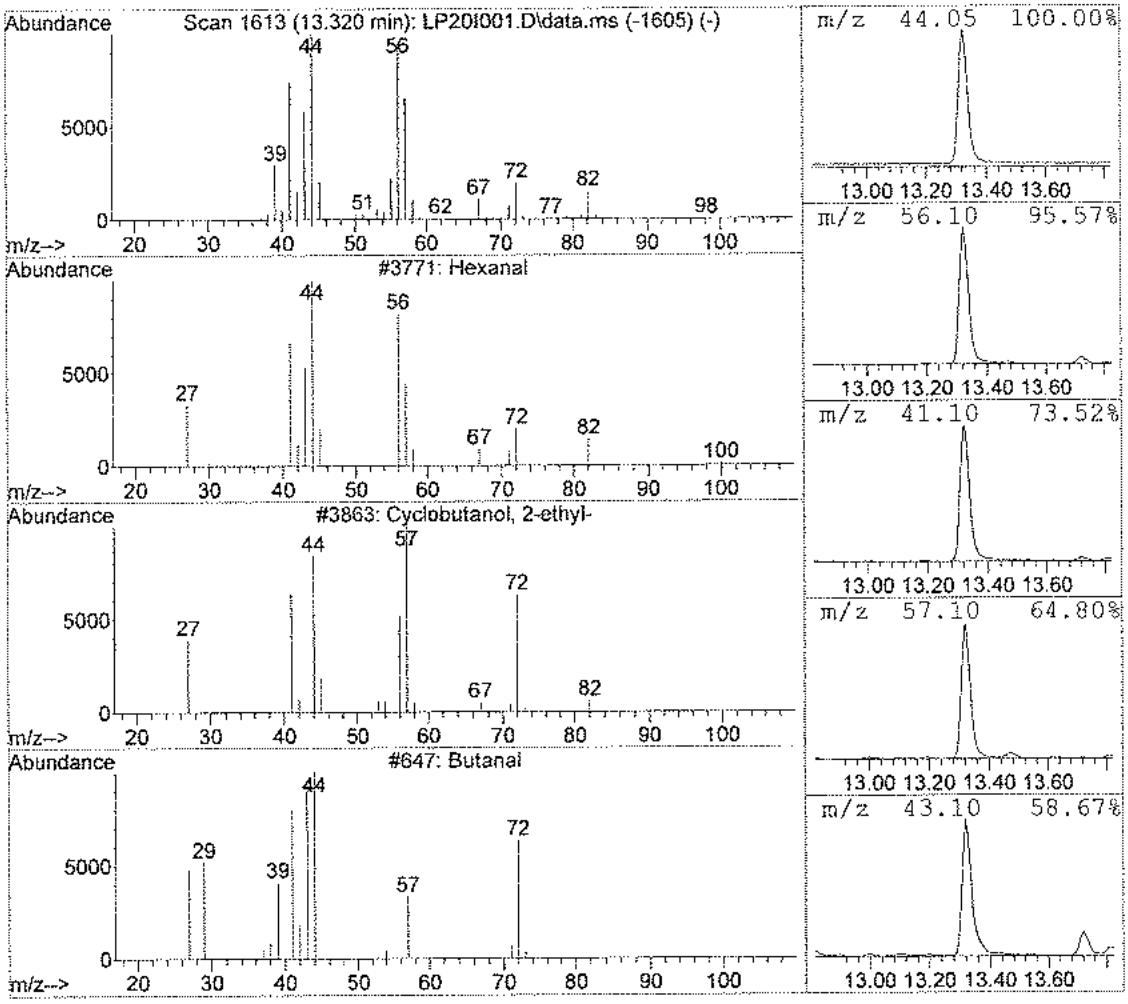
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
13.32	4.97 ppb	1152522	Chlorobenzene d5	4635340

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexanal	3771	000066-25-1	90.00
2	Cyclobutanol, 2-ethyl-	3863	035301-43-0	42.00
3	Butanal	647	000123-72-8	38.00
4	Butanal, 3-methyl-	1743	000590-86-3	32.00
5	1,5-Pentanediol	4745	000111-29-5	28.00



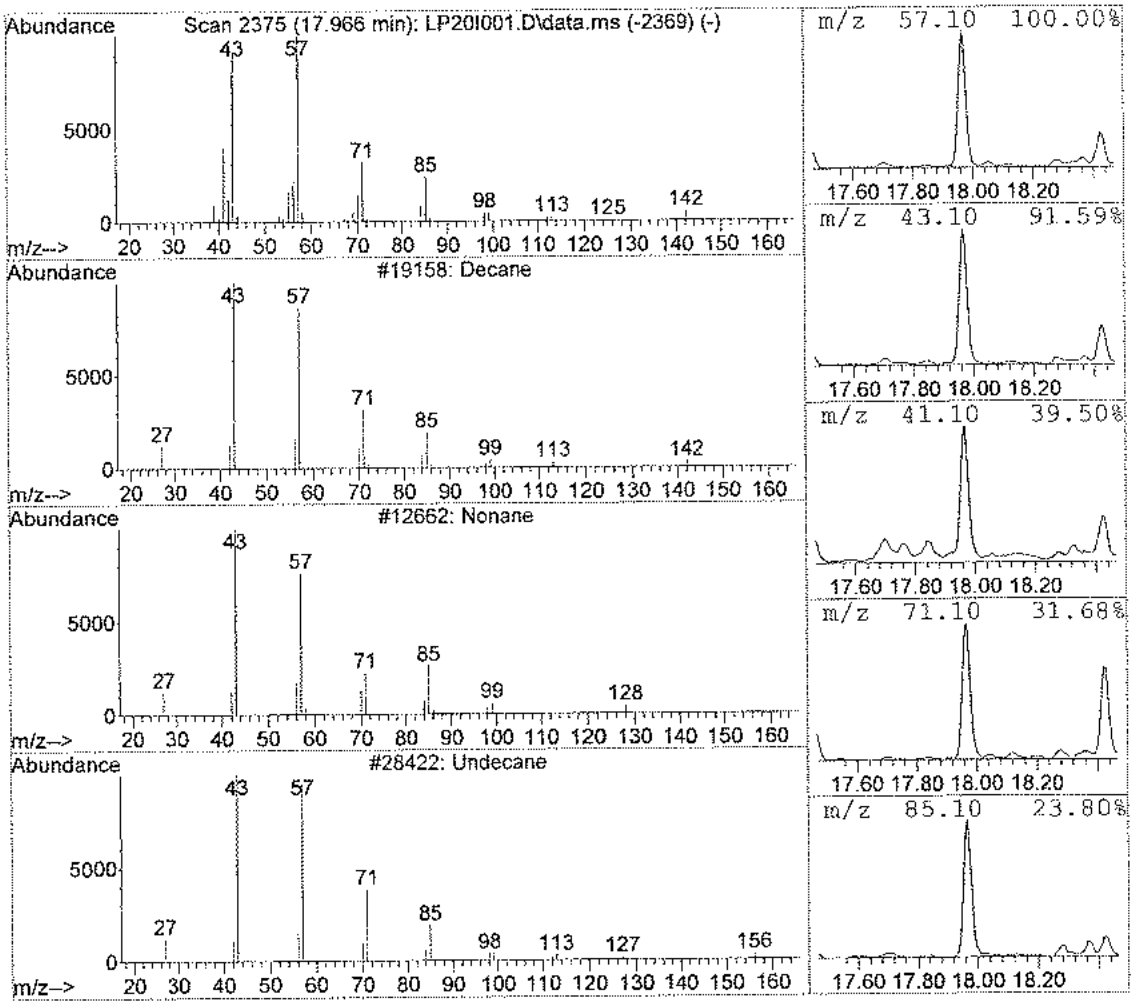
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038R-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
17.97	2.74 ppb	635341	Chlorobenzene d5	4635340

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Decane	19158	000124-18-5	87.00
2	Nonane	12662	000111-84-2	83.00
3	Undecane	28422	001120-21-4	64.00
4	Decane, 2,3,6-trimethyl-	48886	062238-12-4	59.00
5	Octane	7619	000111-65-9	59.00

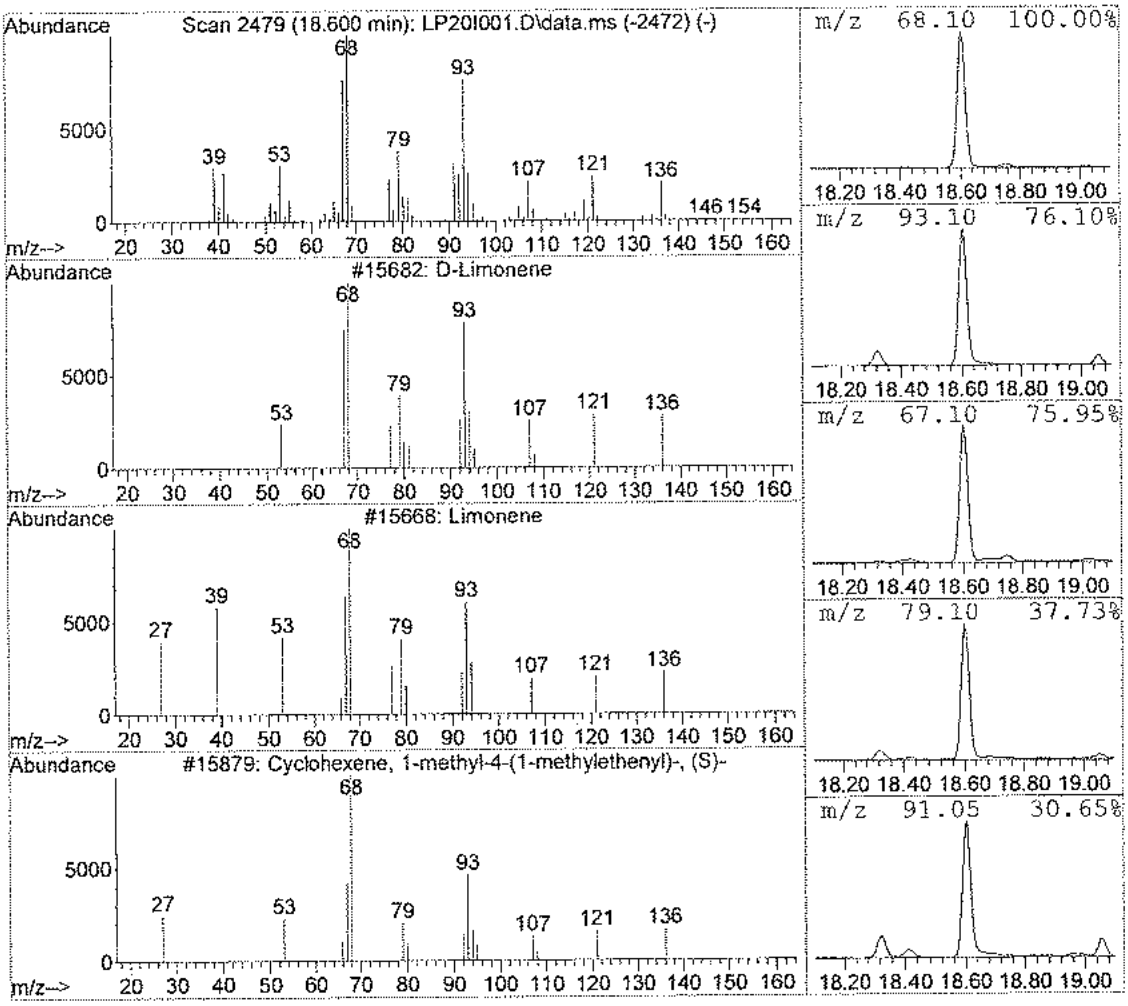


Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
18.60	6.35 ppb	1472173	Chlorobenzene d5	4635340

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	D-Limonene	15682	005989-27-5	98.00
2	Limonene	15668	000138-86-3	94.00
3	Cyclohexene, 1-methyl-4-(1-methylet	15879	005989-54-8	86.00
4	Cyclohexanol, 1-methyl-4-(1-methyle	58062	010198-23-9	72.00
5	Bicyclo[2.2.1]heptane, 7,7-dimethyl	15886	000471-84-1	62.00



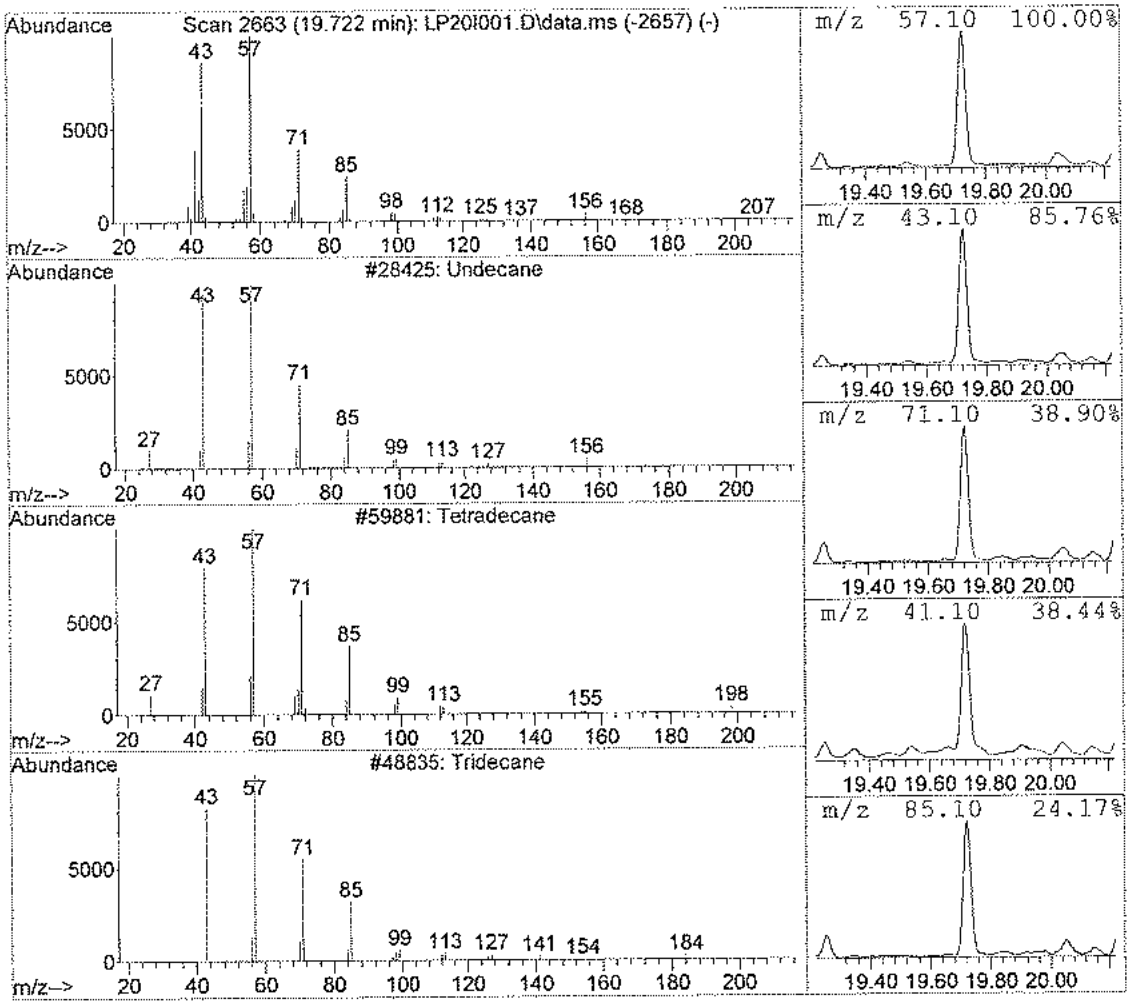
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
19.72	5.97 ppb	1383321	Chlorobenzene d5	4635340

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Undecane	28425	001120-21-4	91.00
2	Tetradecane	59881	000629-59-4	90.00
3	Tridecane	48835	000629-50-5	83.00
4	Decane, 6-ethyl-2-methyl-	48909	062108-21-8	83.00
5	Decane	19158	000124-18-5	83.00



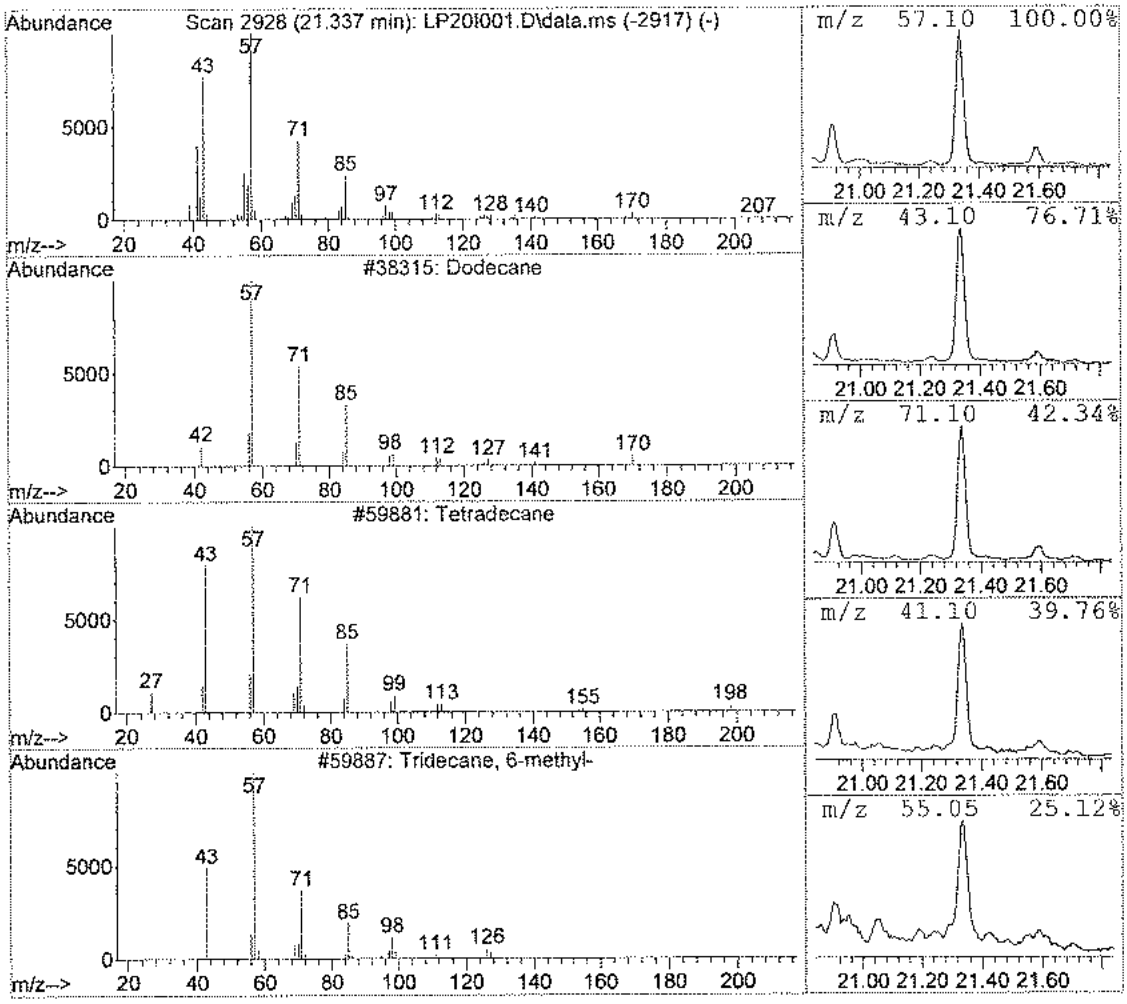
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I001.D Vial: 3
Acq Time : 04/25/2017 14:30 Operator: LMR
Sample : 1710499001 Inst : 5975-L
Misc : A-0038H-041117-TO-001-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
21.34	2.12 ppb	491004	Chlorobenzene d5	4635340

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Dodecane	38315	000112-40-3	93.00
2	Tetradecane	59881	000629-59-4	86.00
3	Tridecane, 6-methyl-	59887	013287-21-3	78.00
4	Hexadecane	83025	000544-76-3	78.00
5	Heptane, 3,4-dimethyl-	12682	000922-28-1	74.00

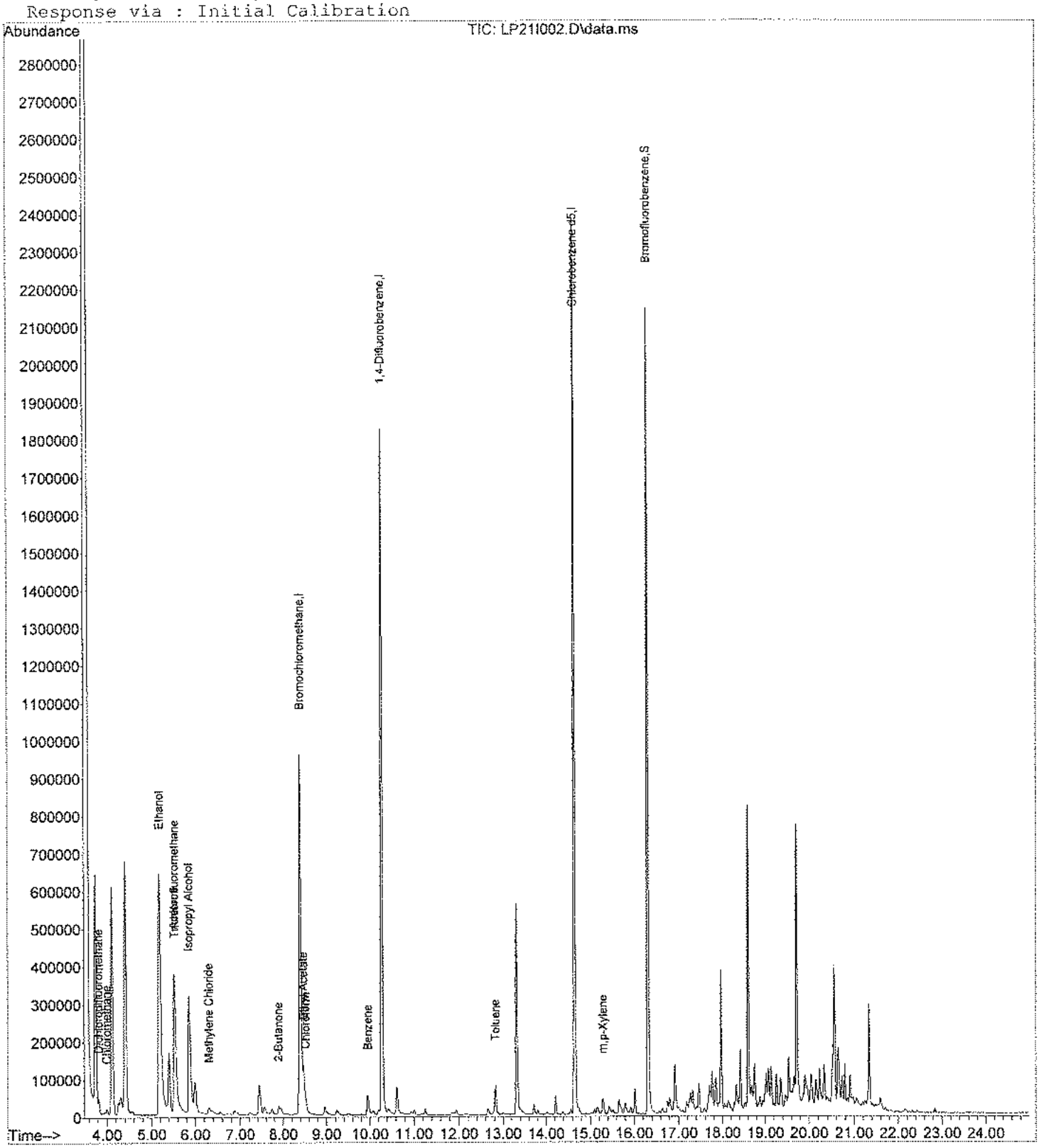


Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:46:11 2017 Results File: TO15LA17.RES

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:46:11 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.41	130	177344	20.0000 ppb	116.28
25) 1,4-Difluorobenzene	10.28	114	2034193	20.0000 ppb	103.17
50) Chlorobenzene d5	14.66	117	1626813	20.0000 ppb	94.29
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.31	95	862062	18.8200 ppb	94.10%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	3.82	85	45453	0.4176 ppb	98
4) Chloromethane	4.00	50	20786	0.4897 ppb	98
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	5.52	43	862214	12.3995 ppb	100
12) Trichlorofluoromethane	5.54	101	30148	0.2245 ppb	100
13) Ethanol	5.19	45	1613678	124.5227 ppb #TIC	80
14) Isopropyl Alcohol	5.86	45	677171	8.5623 ppb #TIC	81
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.31	84	12356	0.3477 ppb #	50
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.89	43	58608	0.7008 ppb #	67
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	8.47	61	24964	2.0761 ppb #	1
27) Hexane	0.00	57		Not Detected	
28) Chloroform	8.53	83	25278	0.2988 ppb	99
29) Tetrahydrofuran	0.00	42		Not Detected	
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.95	78	16815	0.1633 ppb #	85
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	0.00	84		Not Detected	
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	0.00	71		Not Detected	
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

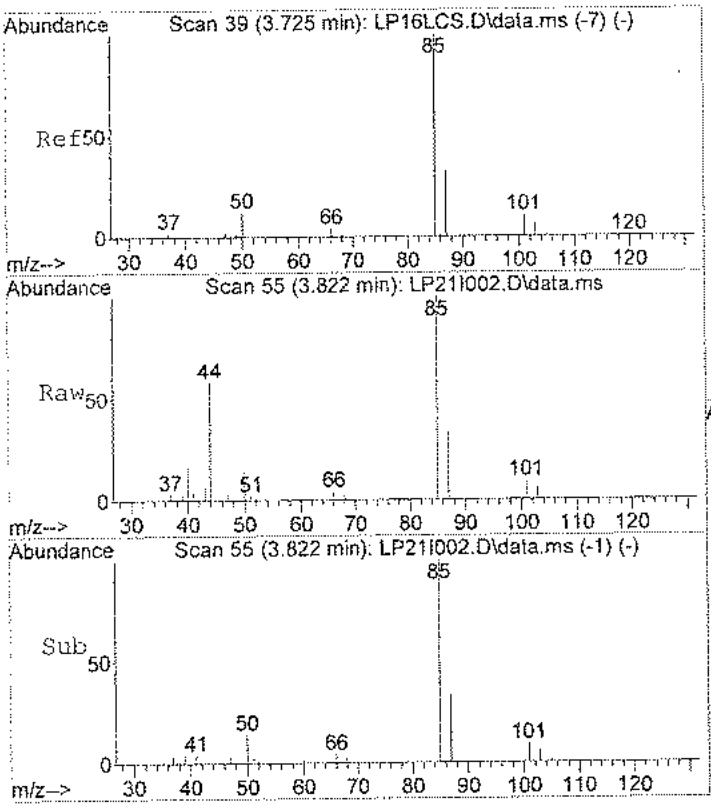
Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:46:11 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45) Toluene	12.83	91	67280	0.5268 ppb	97
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	0.00	166		Not Detected	
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	0.00	91		Not Detected	
53) m,p-Xylene	15.28	91	32889	0.3036 ppb	95
54) Bromoform	0.00	173		Not Detected	
55) Styrene	0.00	104		Not Detected	
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	0.00	91		Not Detected	
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

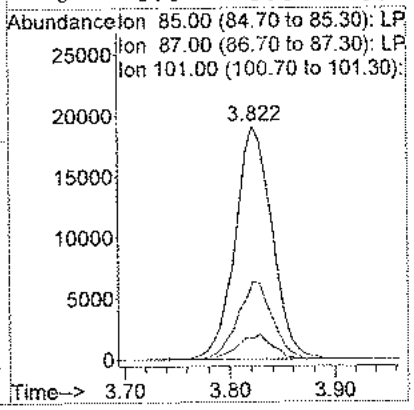
(#) = qualifier out of range (m) = manual integration

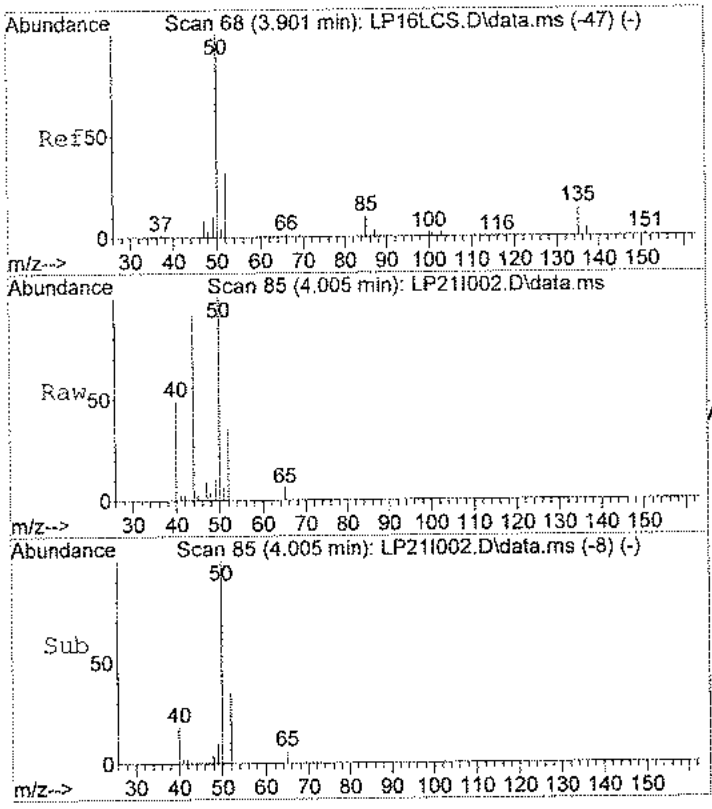


#3
Dichlorodifluoromethane
Concen: 0.42 ppb
RT: 3.82 min Scan# 55
Delta R.T. -0.03 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:85 Resp: 45453

Ion	Ratio	Lower	Upper
85	100		
87	31.2	26.1	39.1
101	9.9	8.0	12.0
0	0.0	0.0	0.0

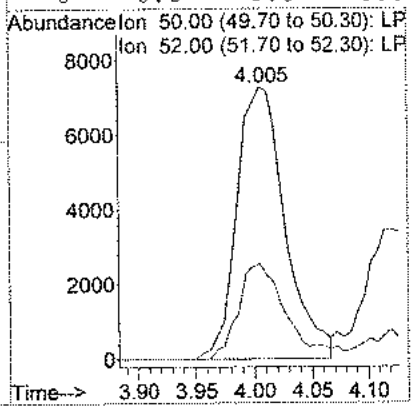


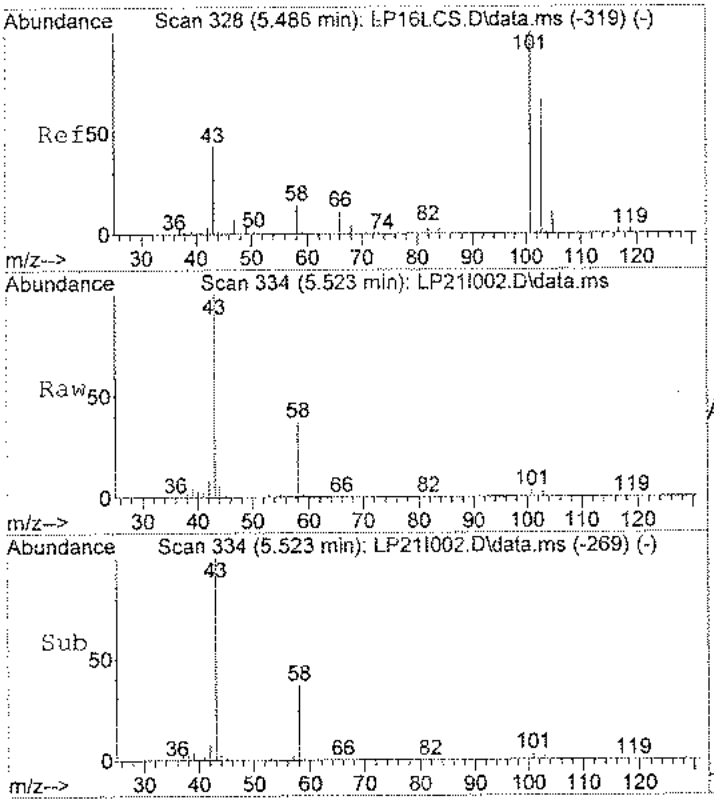


#4
Chloromethane
Concen: 0.49 ppb
RT: 4.00 min Scan# 85
Delta R.T. -0.03 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:50 Resp: 20786

Ion	Ratio	Lower	Upper
50	100		
52	34.6	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

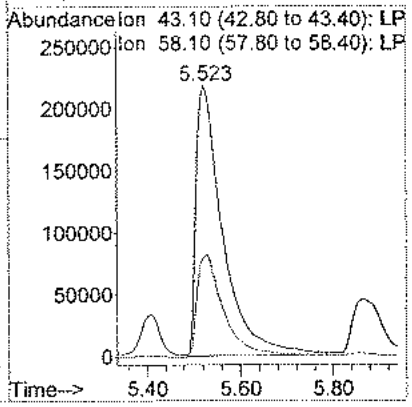


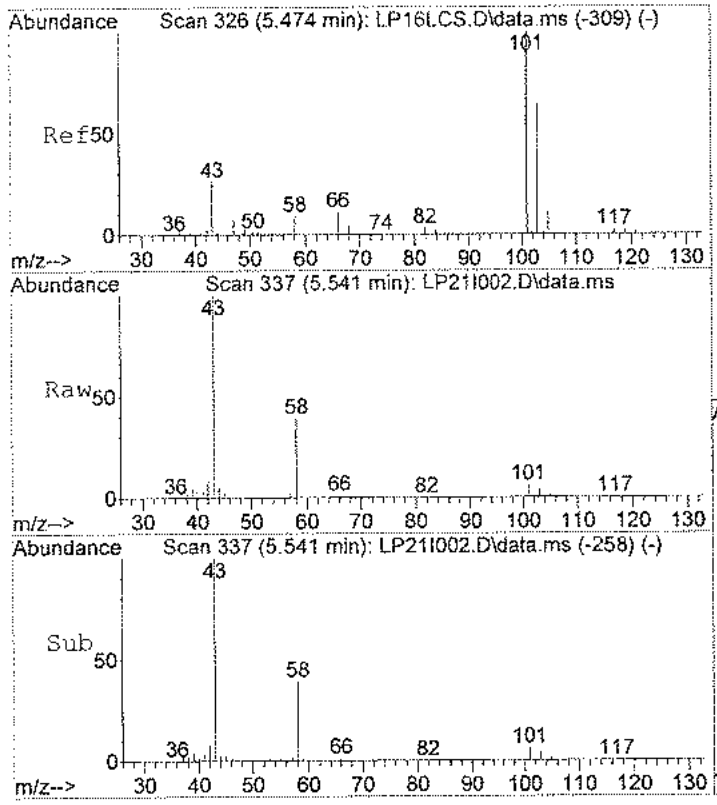


#11
Acetone
Concen: 12.40 ppb
RT: 5.52 min Scan# 334
Delta R.T. -0.10 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:43.1 Resp: 862214

Ion	Ratio	Lower	Upper
43	100		
58	38.4	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

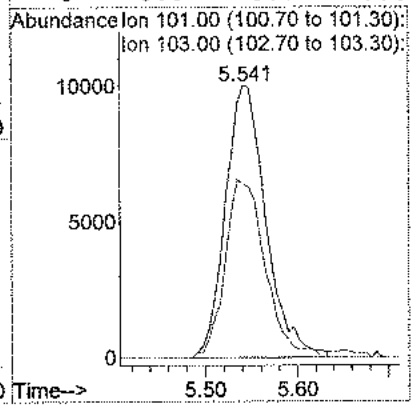


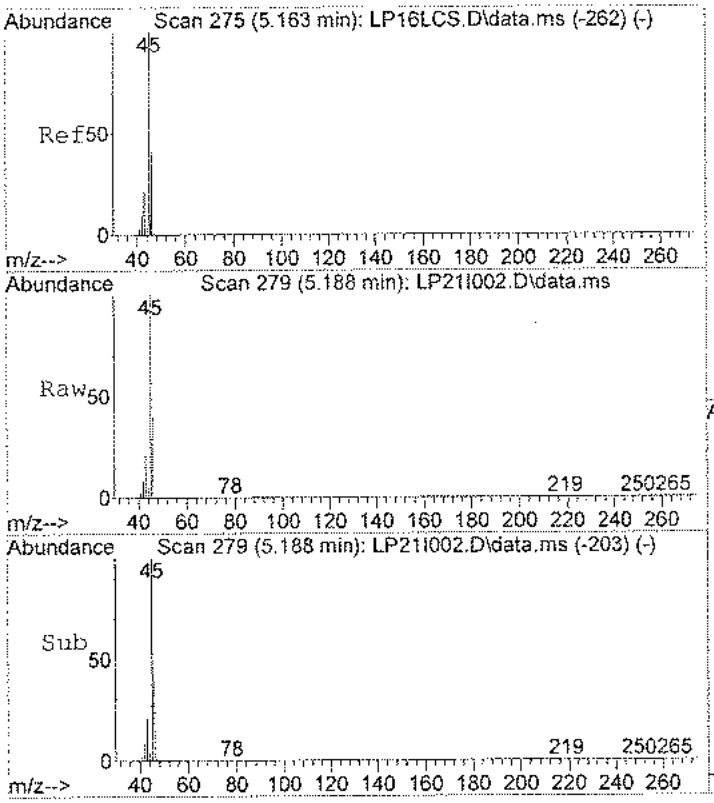


#12
Trichlorofluoromethane
Concen: 0.22 ppb
RT: 5.54 min Scan# 337
Delta R.T. -0.02 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:101 Resp: 30148

Ion	Ratio	Lower	Upper
101	100		
103	64.5	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

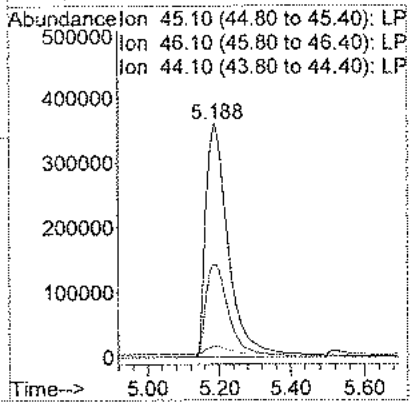


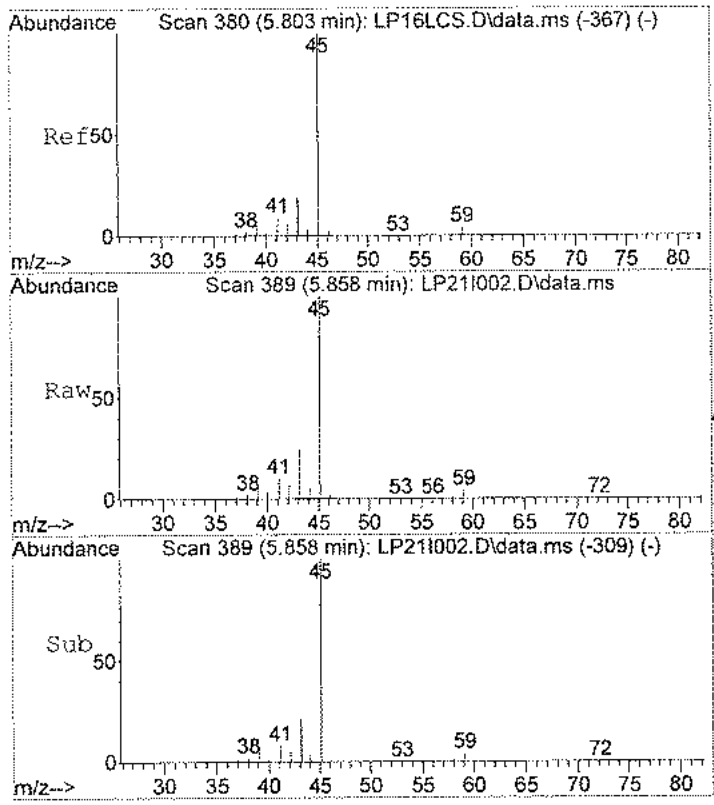


#13
Ethanol
Concen: 124.52 ppb
RT: 5.19 min Scan# 279
Delta R.T. -0.04 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:45.1 Resp: 1613678

Ion	Ratio	Lower	Upper
45	100		
46	40.5	32.4	48.6
44	3.8	23.4	35.2#
0	0.0	0.0	0.0

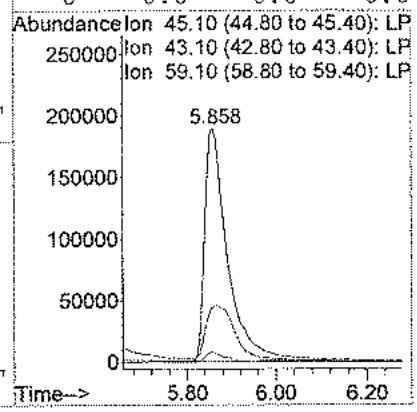


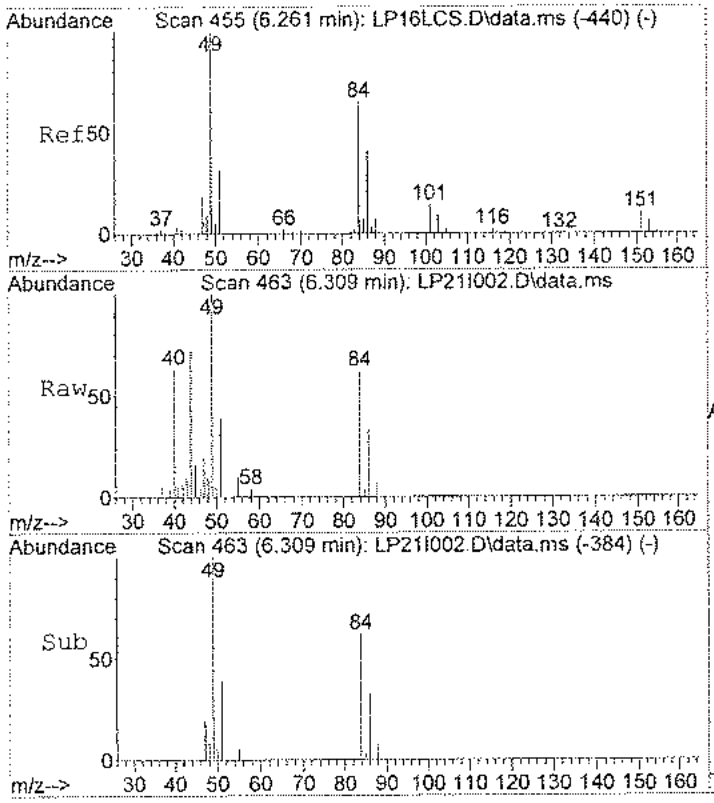


#14
Isopropyl Alcohol
Concen: 8.56 ppb
RT: 5.86 min Scan# 389
Delta R.T. -0.01 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:45.1 Resp: 677171

Ion	Ratio	Lower	Upper
45	100		
43	30.2	15.8	23.6#
59	4.0	3.2	4.8
0	0.0	0.0	0.0

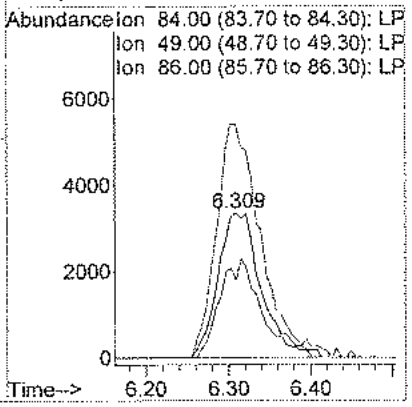


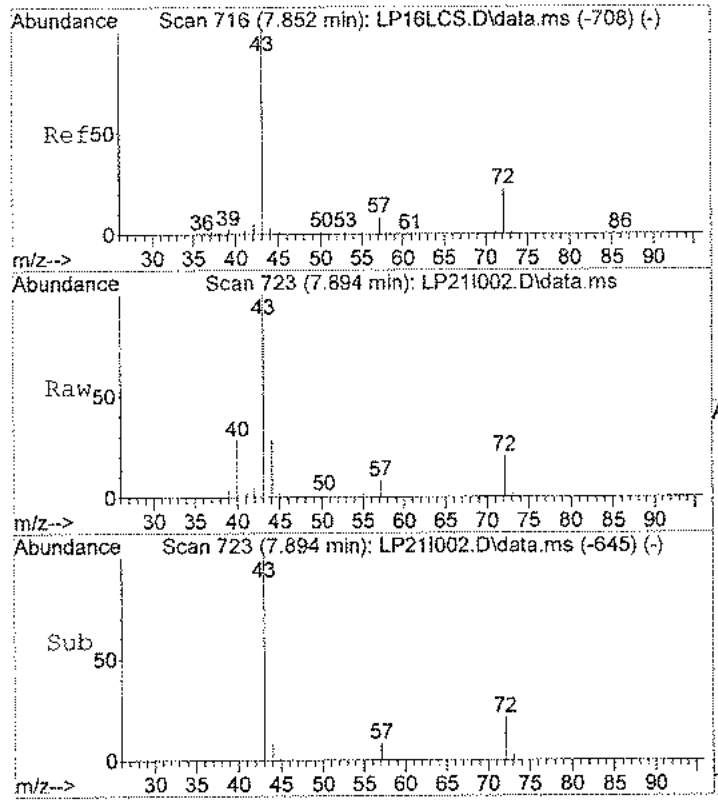


#16
Methylene Chloride
Concen: 0.35 ppb
RT: 6.31 min Scan# 463
Delta R.T. -0.02 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:84 Resp: 12356

Ion	Ratio	Lower	Upper
84	100		
49	163.7	66.6	100.0#
86	64.2	51.6	77.4
0	0.0	0.0	0.0

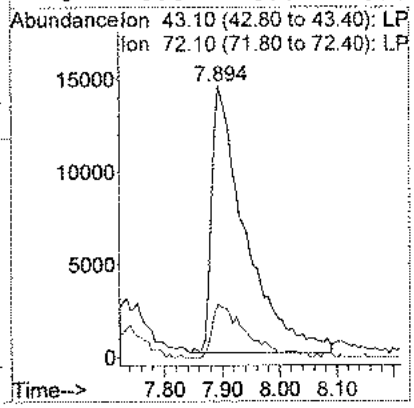


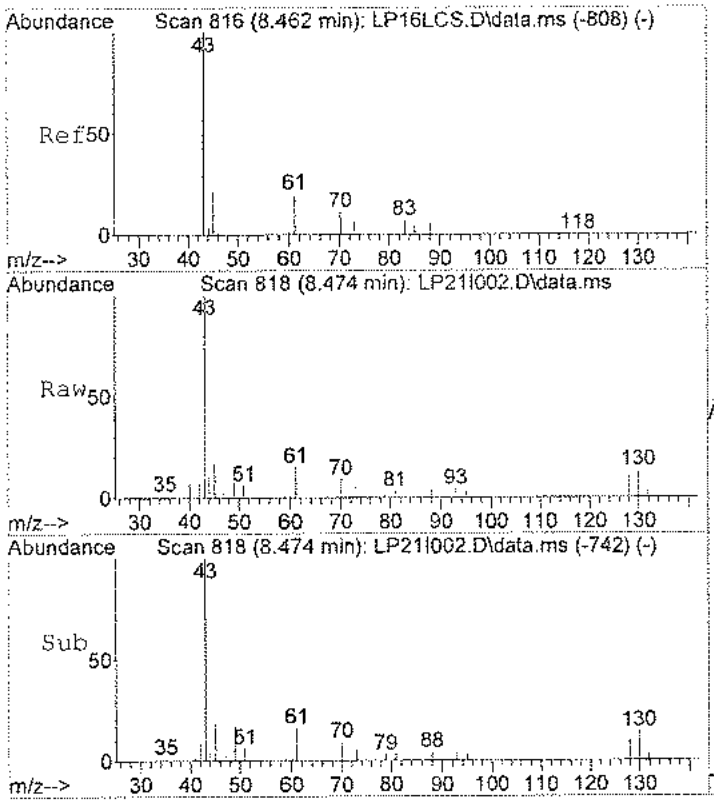


#23
2-Butanone
Concen: 0.70 ppb
RT: 7.89 min Scan# 723
Delta R.T. -0.02 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:43.1 Resp: 58608

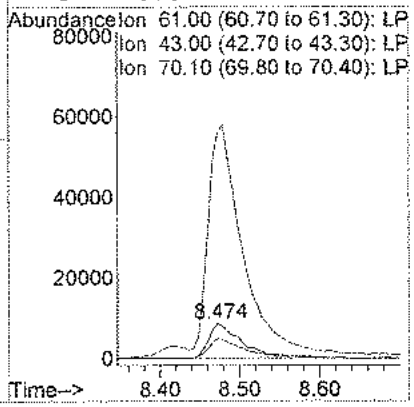
Ion	Ratio	Lower	Upper
43	100		
72	19.0	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

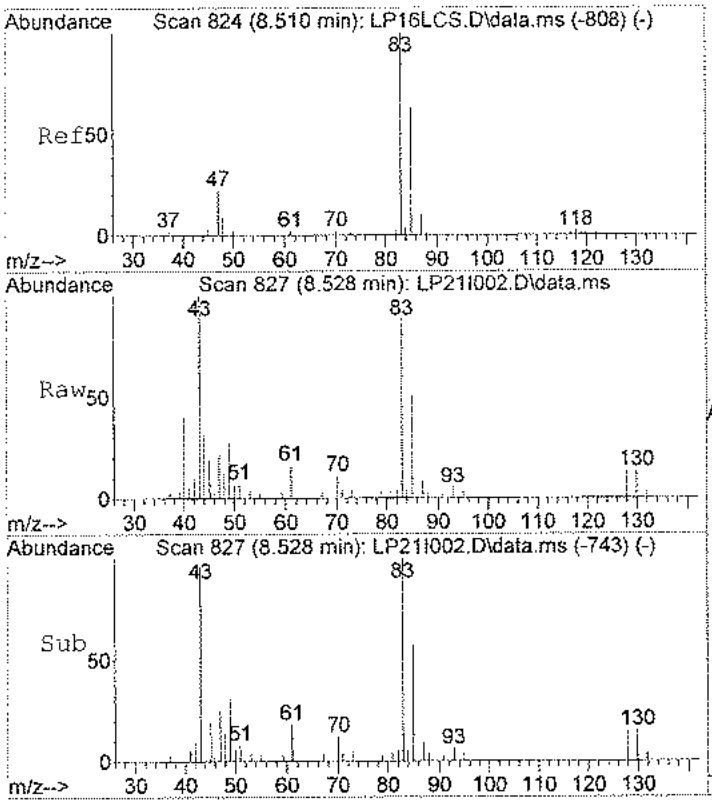




#26
Ethyl Acetate
Concen: 2.08 ppb
RT: 8.47 min Scan# 818
Delta R.T. -0.04 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

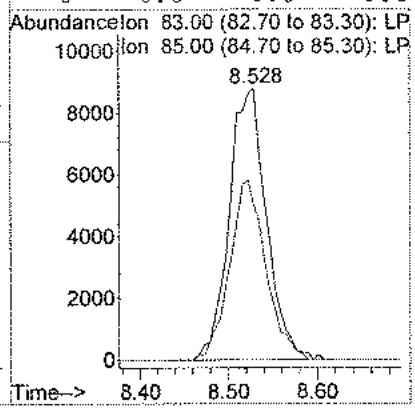
Tgt Ion:61	Resp:	24964	
Ion	Ratio	Lower	Upper
61	100		
43	676.0	144.0	216.0#
70	59.7	13.6	20.4#
0	0.0	0.0	0.0

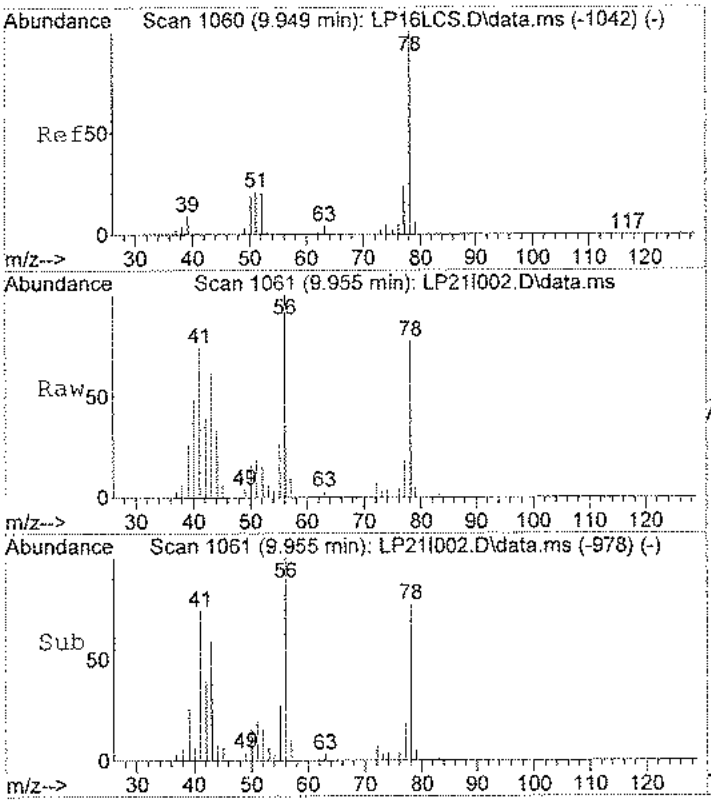




#28
Chloroform
Concen: 0.30 ppb
RT: 8.53 min Scan# 827
Delta R.T. 0.01 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:83	Resp:	25278	
Ion	Ratio	Lower	Upper
83	100		
85	64.2	52.3	78.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0

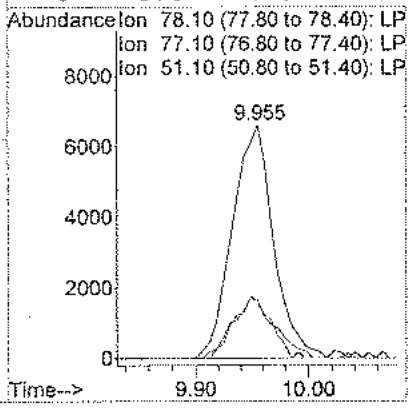


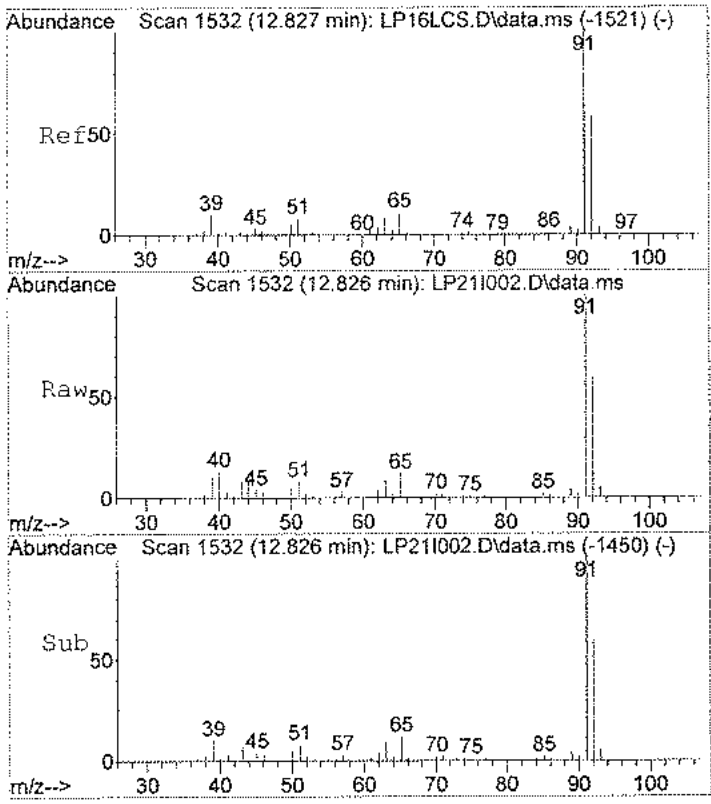


#32
Benzene
Concen: 0.16 ppb
RT: 9.95 min Scan# 1061
Delta R.T. 0.01 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:78.1 Resp: 16815

Ion	Ratio	Lower	Upper
78	100		
77	23.9	18.2	27.4
51	26.7	9.5	14.3#
0	0.0	0.0	0.0

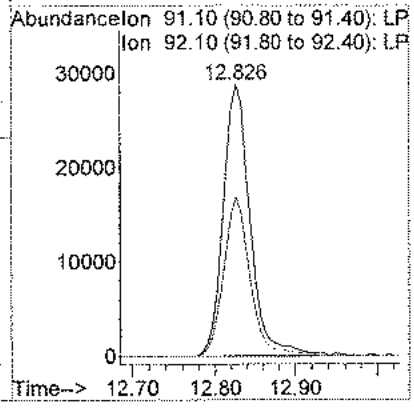


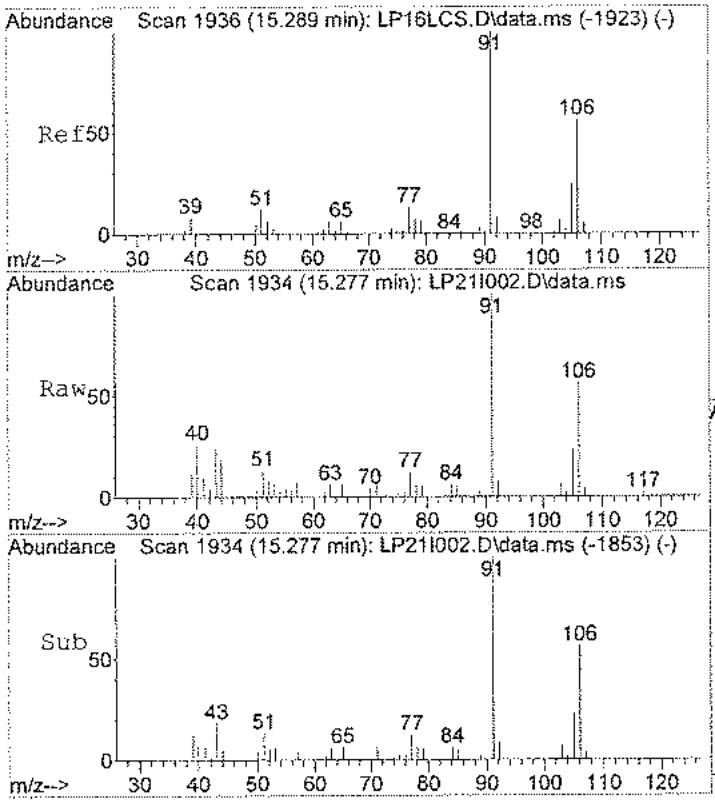


#45
Toluene
Concen: 0.53 ppb
RT: 12.83 min Scan# 1532
Delta R.T. -0.00 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:91.1 Resp: 67280

Ion	Ratio	Lower	Upper
91	100		
92	57.4	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

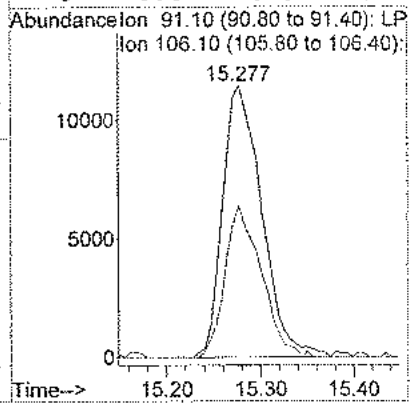




#53
m,p-Xylene
Concen: 0.30 ppb
RT: 15.28 min Scan# 1934
Delta R.T. -0.01 min
Lab File: LP21I002.D
Acq: 04/25/2017 15:21

Tgt Ion:91.1 Resp: 32889

Ion	Ratio	Lower	Upper
91	100		
106	51.7	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0



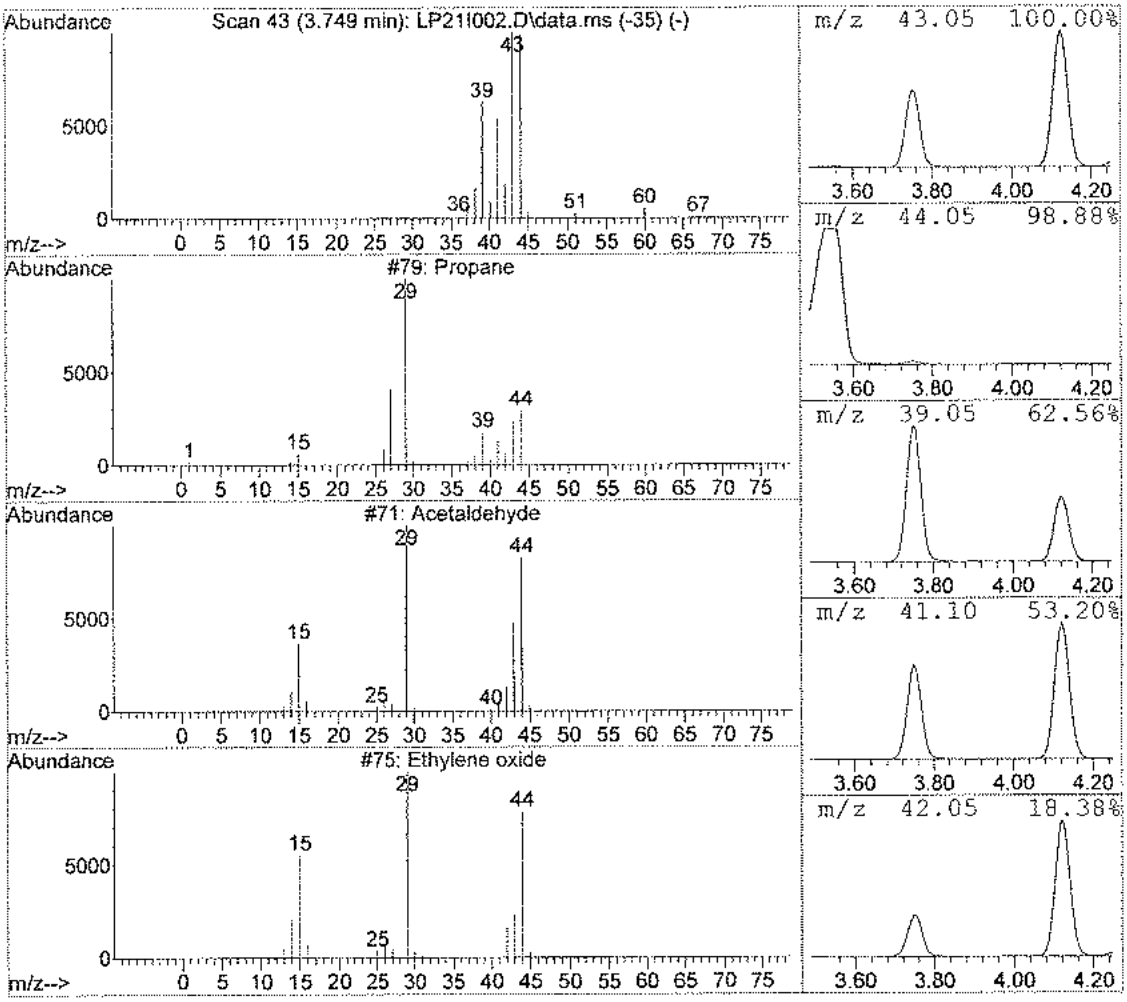
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
3.75	10.05 ppb	1505612	Bromochloromethane	2996465

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Propane	79	000074-98-6	83.00
2	Acetaldehyde	71	000075-07-0	5.00
3	Ethylene oxide	75	000075-21-8	5.00
4	Acetic acid, [(aminocarbonyl)amino]	14128	000585-05-7	4.00
5	Propene	57	000115-07-1	4.00

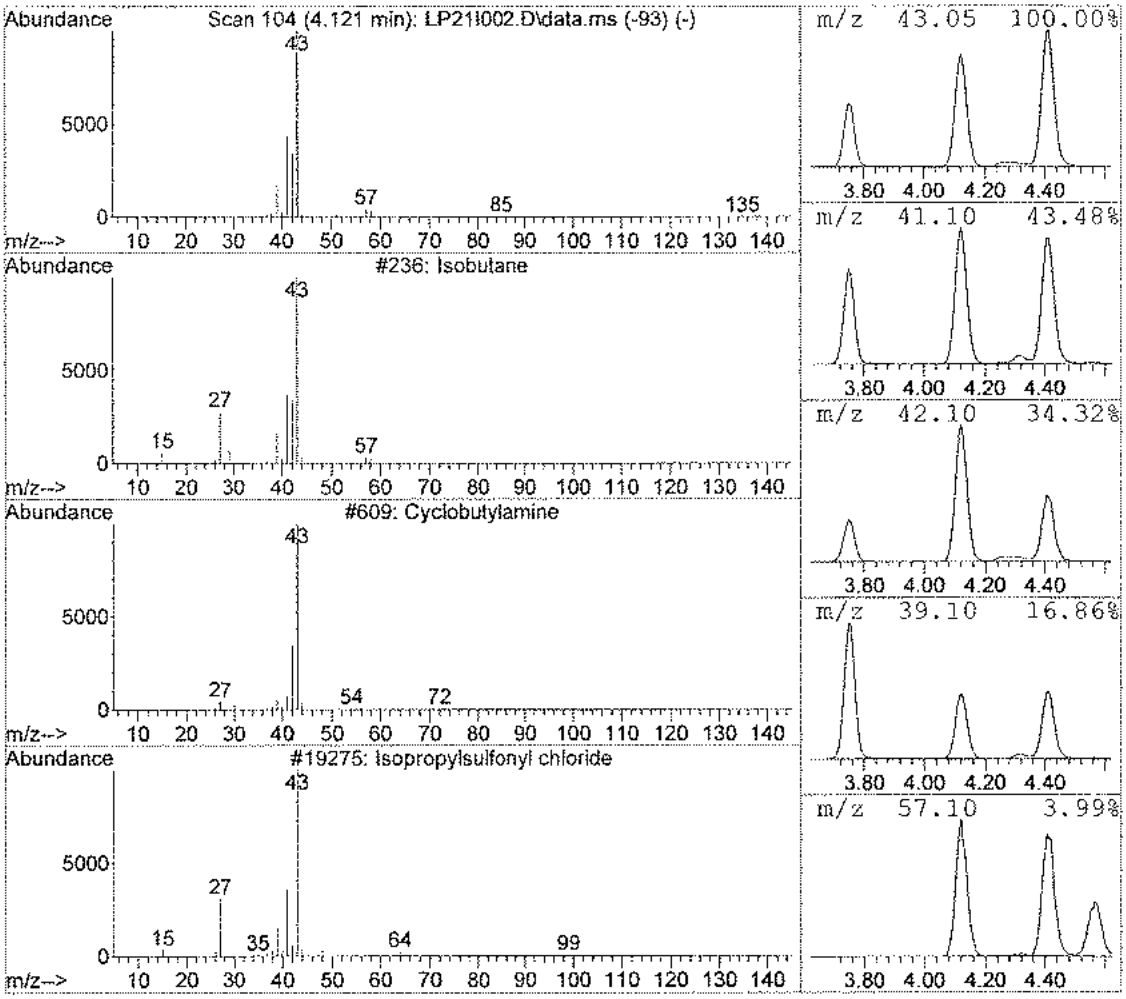


Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.12	10.80 ppb	1618377	Bromochloromethane	2996465

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	236	000075-28-5	86.00
2	Cyclobutylamine	609	002516-34-9	45.00
3	Isopropylsulfonyl chloride	19275	010147-37-2	9.00
4	Propane, 2-nitro-	2169	000079-46-9	4.00
5	5-Methyloxazolidine	1878	058328-22-6	4.00



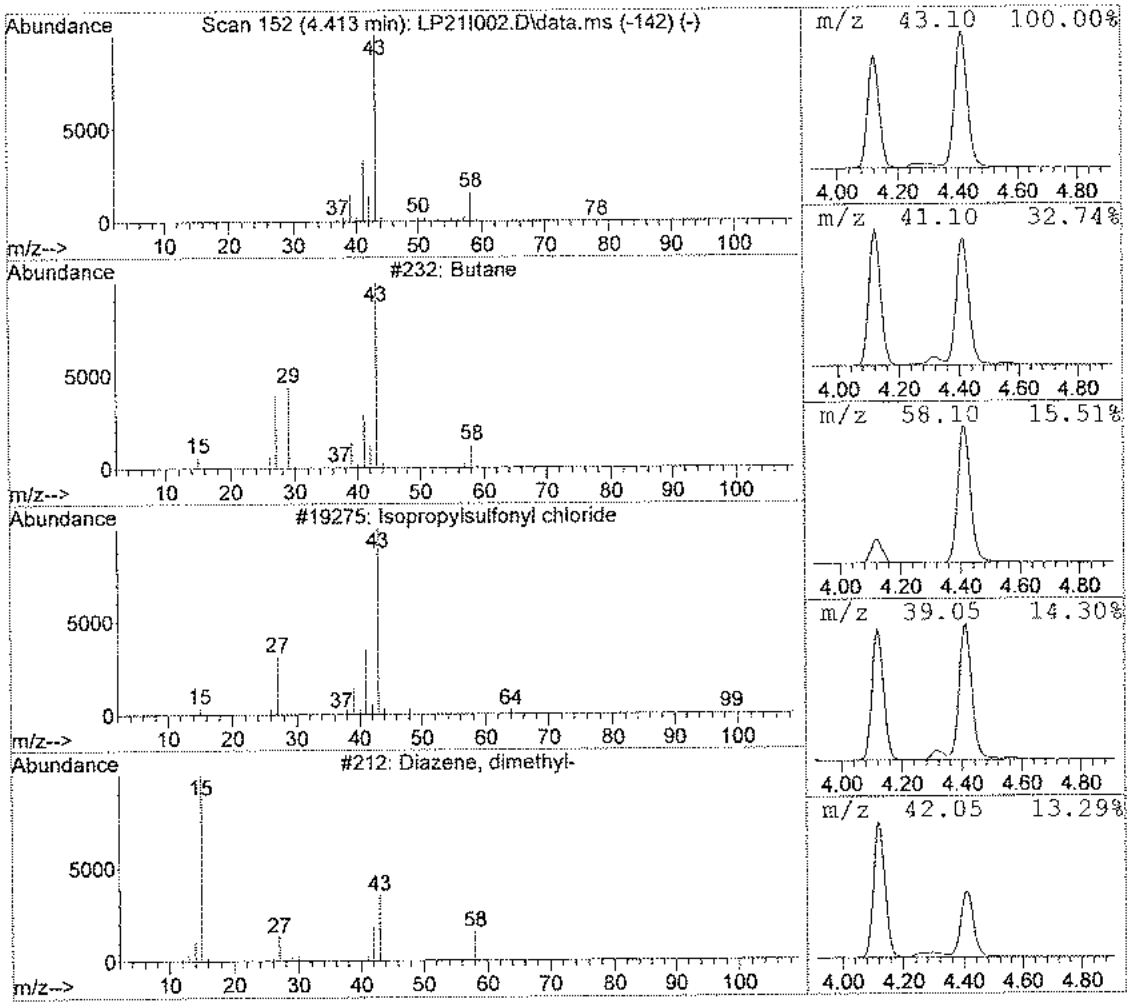
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.41	12.93 ppb	1936811	Bromochloromethane	2996465

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane	232	000106-97-8	59.00
2	Isopropylsulfonyl chloride	19275	010147-37-2	9.00
3	Diazene, dimethyl-	212	000503-28-6	4.00
4	Acetone	213	000067-64-1	4.00
5	Propane, 1-nitro-	2164	000108-03-2	4.00



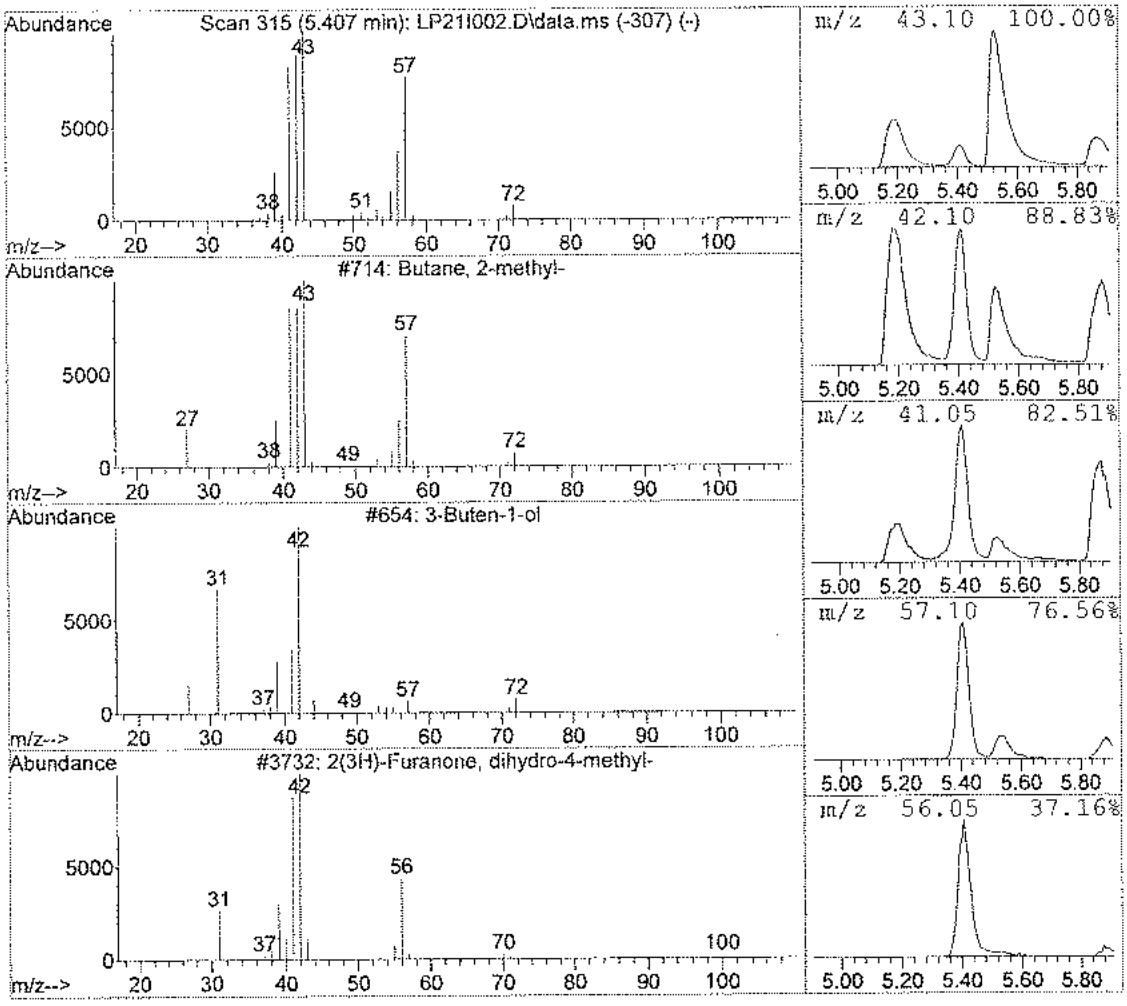
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038R-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
5.41	3.23 ppb	483300	Bromochloromethane	2996465

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane, 2-methyl-	714	000078-78-4	91.00
2	3-Buten-1-ol	654	000627-27-0	43.00
3	2(3H)-Furanone, dihydro-4-methyl-	3732	001679-49-8	42.00
4	Pentane	706	000109-66-0	33.00
5	1-Propene, 2-methyl-	188	000115-11-7	18.00



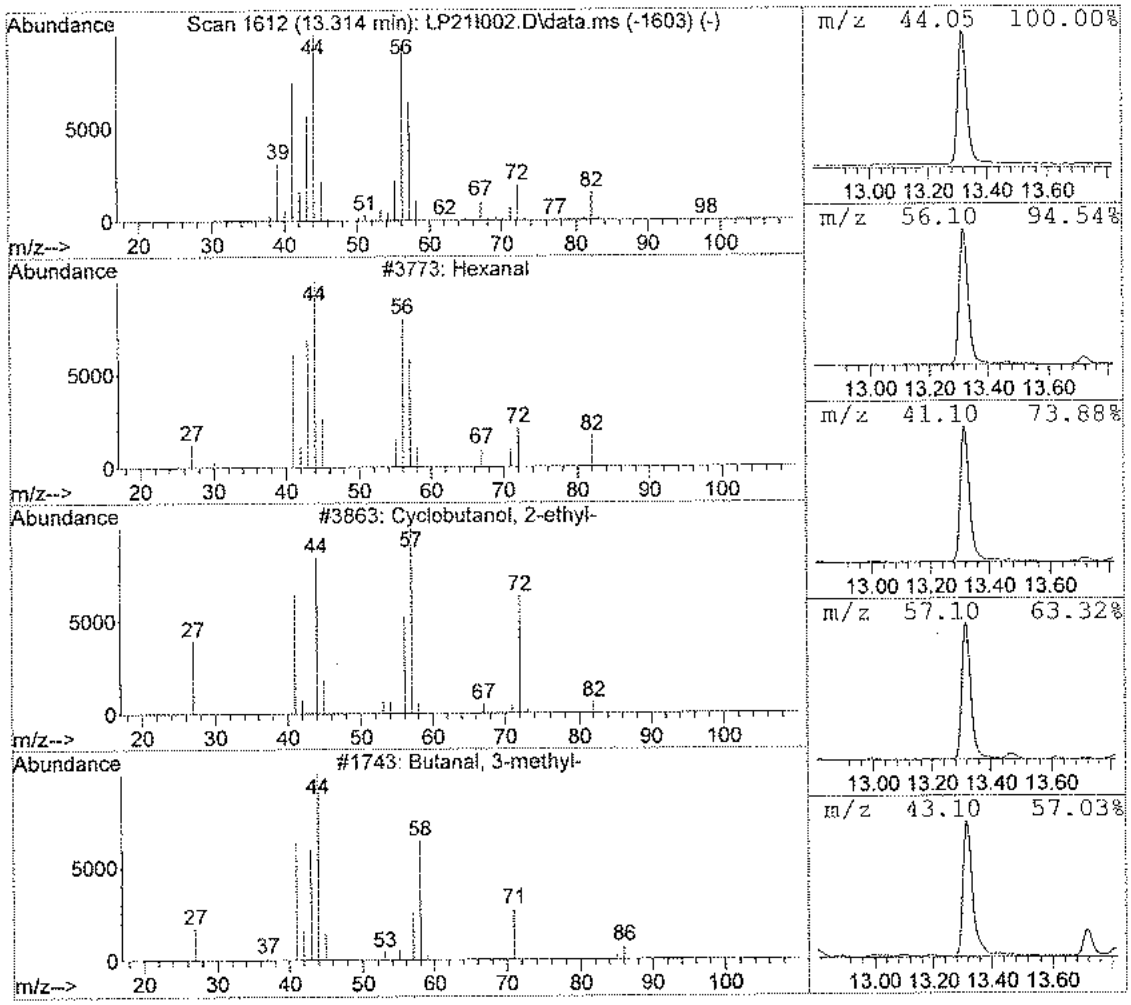
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
13.31	5.15 ppb	1243990	Chlorobenzene d5	4826604

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexanal	3773	000066-25-1	90.00
2	Cyclobutanol, 2-ethyl-	3863	035301-43-0	59.00
3	Butanal, 3-methyl-	1743	000590-86-3	32.00
4	Aziridine, 2-methyl-	205	000075-55-8	27.00
5	4-Penten-2-ol, 4-methyl-	3882	002004-67-3	25.00



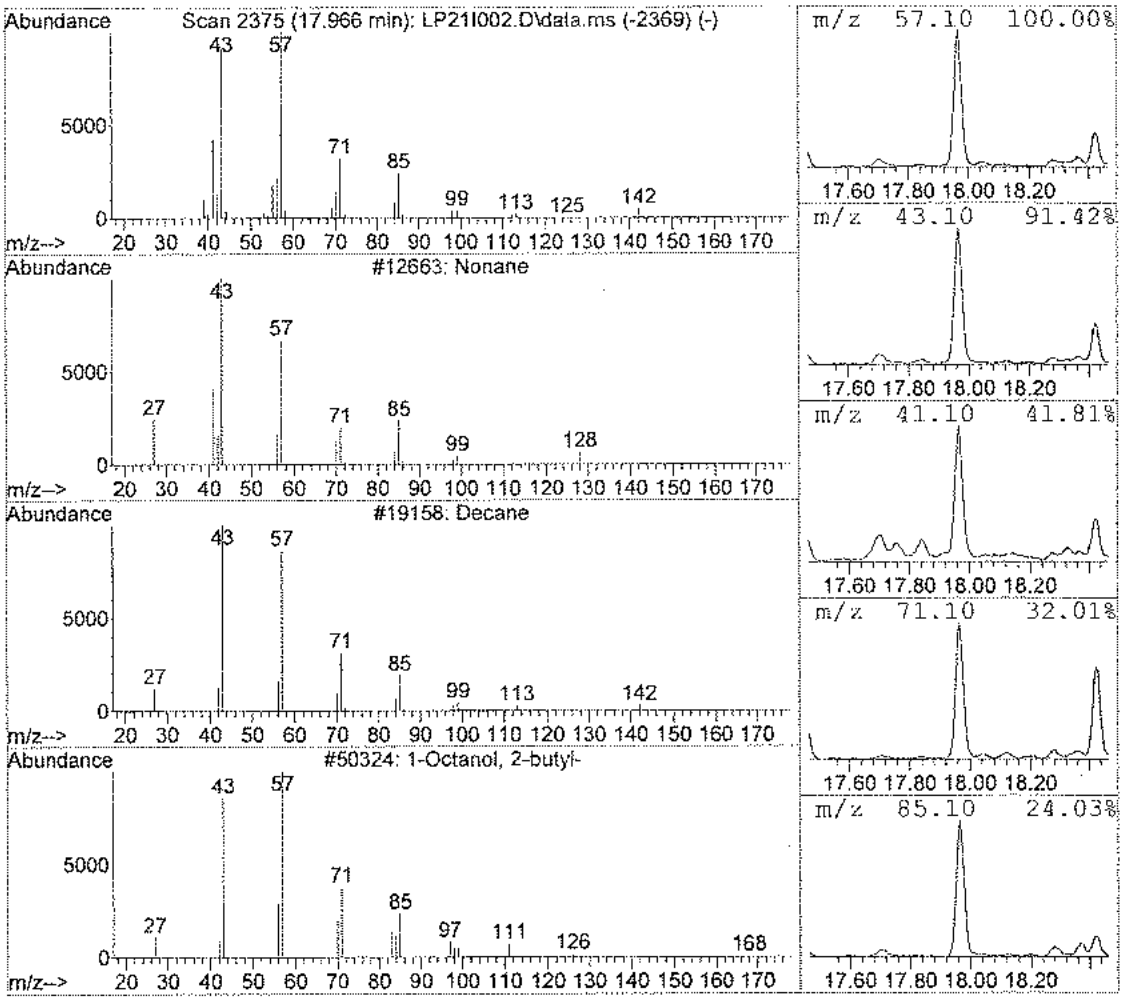
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : 1:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
17.97	2.89 ppb	697514	Chlorobenzene d5	4826604

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Nonane	12663	000111-84-2	90.00
2	Decane	19158	000124-18-5	87.00
3	1-Octanol, 2-butyl-	50324	003913-02-8	72.00
4	Octane	7619	000111-65-9	72.00
5	Undecane	28422	001120-21-4	64.00



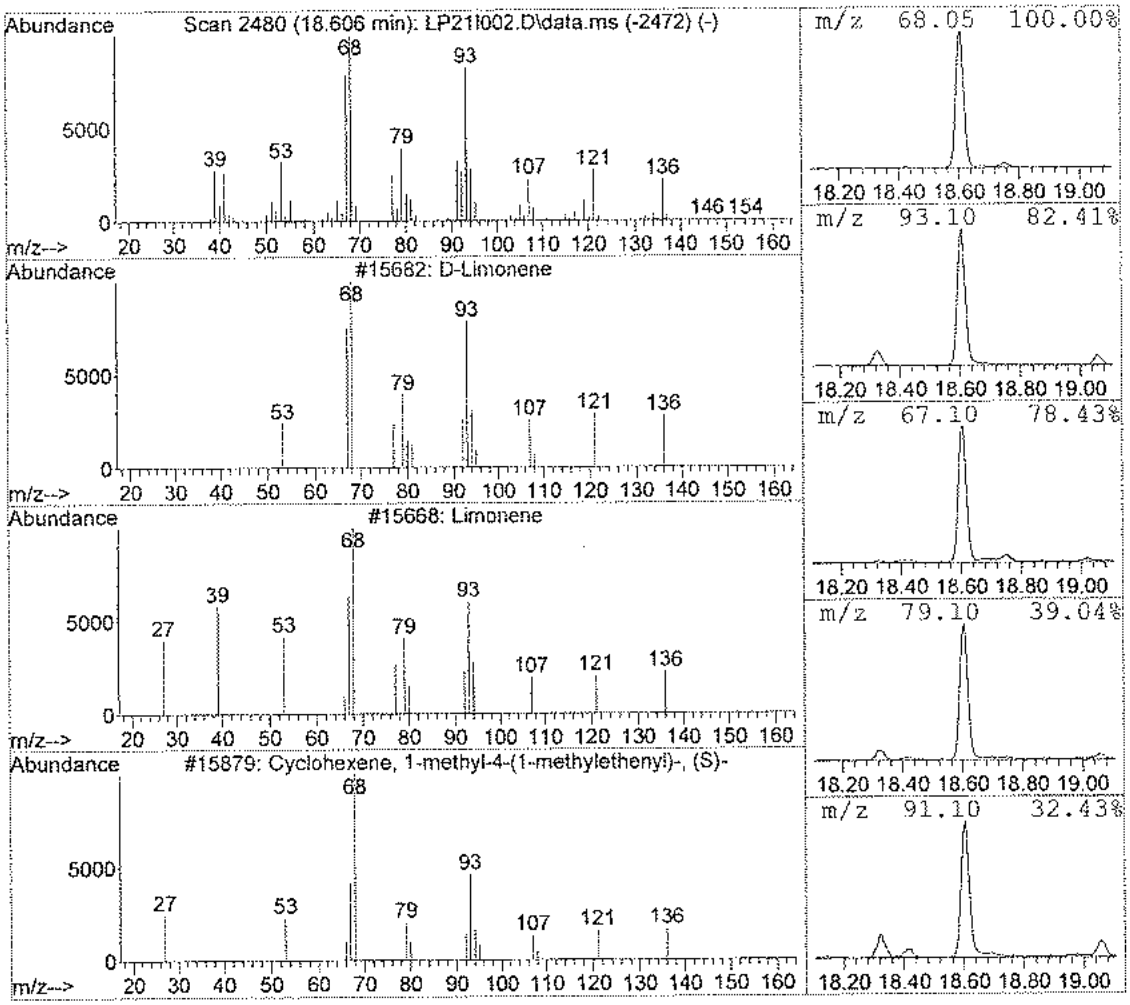
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
18.61	6.49 ppb	1566843	Chlorobenzene d5	4826604

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	D-Limonene	15682	005989-27-5	98.00
2	Limonene	15668	000138-86-3	94.00
3	Cyclohexene, 1-methyl-4-(1-methylet	15879	005989-54-8	86.00
4	Bicyclo[2.2.1]heptane, 7,7-dimethyl	15886	000471-84-1	64.00
5	Cyclohexene, 4-ethenyl-1,4-dimethyl	15803	001743-61-9	58.00



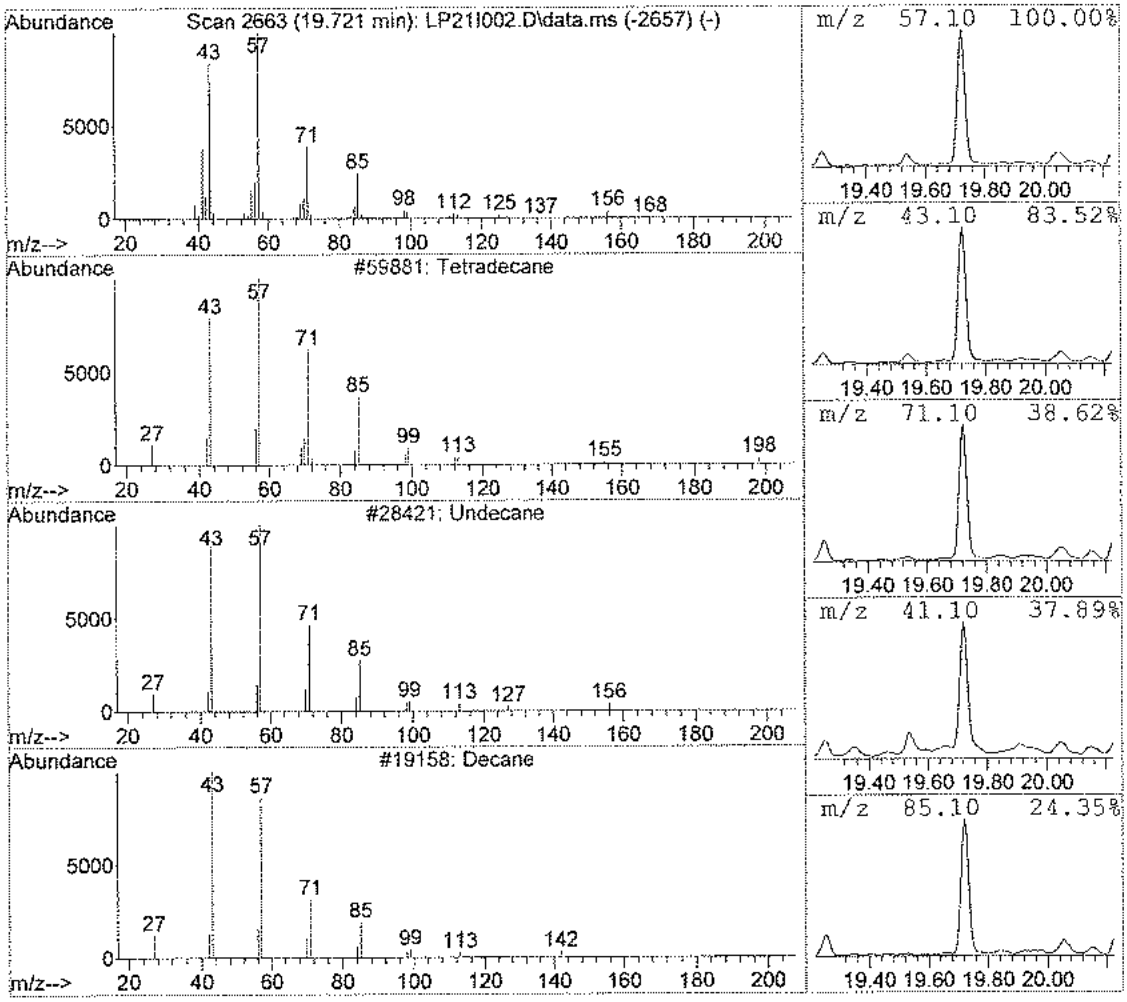
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP211002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
19.72	6.16 ppb	1486501	Chlorobenzene d5	4826604

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tetradecane	59881	000629-59-4	90.00
2	Undecane	28421	001120-21-4	87.00
3	Decane	19158	000124-18-5	83.00
4	Hexadecane	83025	000544-76-3	72.00
5	Tridecane	48835	000629-50-5	72.00



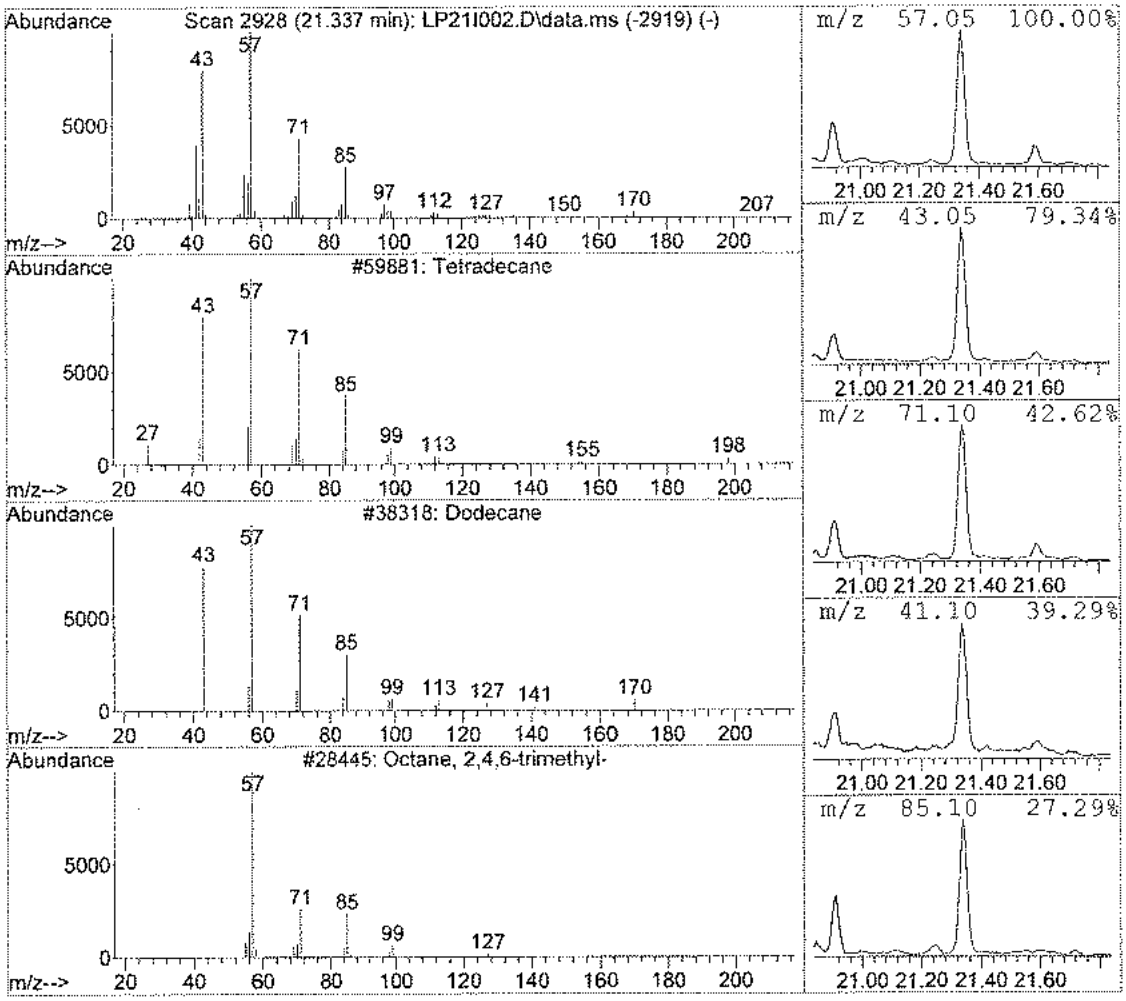
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I002.D Vial: 4
Acq Time : 04/25/2017 15:21 Operator: LMR
Sample : 1710499002 Inst : 5975-L
Misc : A-0038H-041117-TO-002-BAS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
21.34	2.22 ppb	535834	Chlorobenzene d5	4826604

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tetradecane	59881	000629-59-4	90.00
2	Dodecane	38318	000112-40-3	80.00
3	Octane, 2,4,6-trimethyl-	28445	062016-37-9	80.00
4	Sulfurous acid, butyl decyl ester	125656	1000309-17-7	72.00
5	Tridecane, 6-methyl-	59887	013287-21-3	72.00

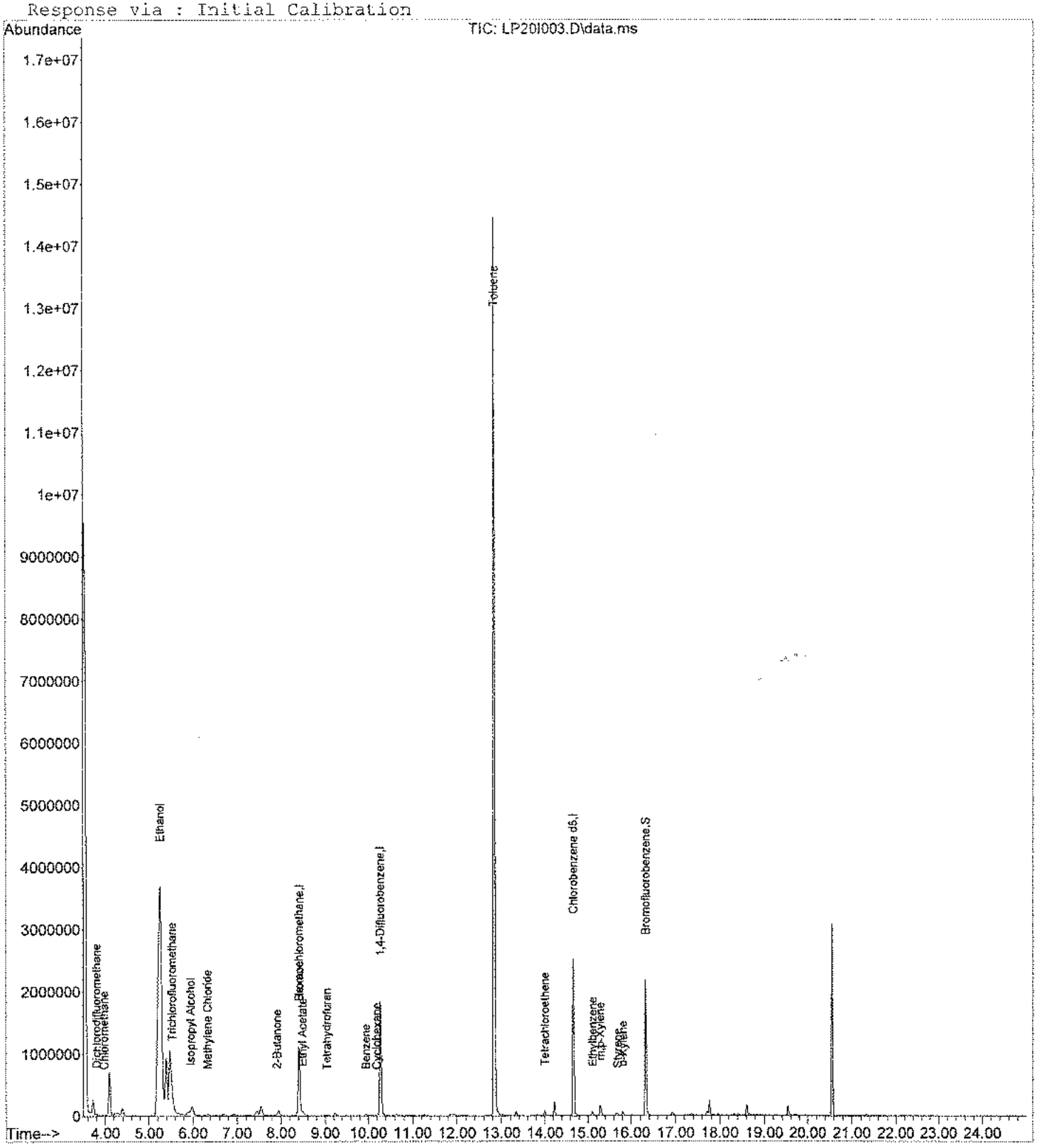


Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I003.D Vial: 5
Acq Time : 04/25/2017 16:12 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:41:38 2017 Results File: TO15LA17.RES

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I003.D Vial: 5
Acq Time : 04/25/2017 16:12 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:41:38 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) Bromochloromethane	8.41	130	203648	20.0000 ppb	133.53
25) 1,4-Difluorobenzene	10.28	114	2126327	20.0000 ppb	107.84
50) Chlorobenzene d5	14.67	117	1722544	20.0000 ppb	99.84
System Monitoring Compounds					%Recovery
58) Bromofluorobenzene	16.33	95	904374	18.6464 ppb	93.23%
Target Compounds					Qvalue
2) Propene	0.00	41		Not Detected	
3) Dichlorodifluoromethane	3.80	85	46584	0.3727 ppb	99
4) Chloromethane	3.98	50	25445	0.5220 ppb	97
5) Freon 114	0.00	135		Not Detected	
6) Vinyl Chloride	0.00	62		Not Detected	
7) 1,3-Butadiene	0.00	54		Not Detected	
8) Bromomethane	0.00	94		Not Detected	
9) Chloroethane	0.00	64		Not Detected	
10) Acrolein	0.00	56		Not Detected	
11) Acetone	~~0.00~~	43	5.47 Trapped	~~Not Detected~~	J+ or Decreased
12) Trichlorofluoromethane	5.53	101	26205	0.1699 ppb	98
13) Ethanol	5.26	45	12362219	830.7385 ppb #TIC	80
14) Isopropyl Alcohol	5.94	45	136514	1.5032 ppb #TIC/LCS	64
15) 1,1-Dichloroethene	0.00	61		Not Detected	
16) Methylene Chloride	6.33	84	12710	0.3115 ppb #	57
17) Freon 113	0.00	151		Not Detected	
18) Carbon Disulfide	0.00	76		Not Detected	
19) trans-1,2-Dichloroethene	0.00	96		Not Detected	
20) 1,1-Dichloroethane	0.00	63		Not Detected	
21) methyl t-butyl ether	0.00	73		Not Detected	
22) Vinyl Acetate	0.00	86		Not Detected	
23) 2-Butanone	7.90	43	67577	0.7037 ppb #	64
24) cis-1,2-Dichloroethene	0.00	96		Not Detected	
26) Ethyl Acetate	8.49	61	9995	0.7952 ppb #	1
27) Hexane	8.41	57	36919	0.5155 ppb #	83
28) Chloroform	0.00	83		Not Detected	
29) Tetrahydrofuran	9.03	42	9560	0.1883 ppb #	52
30) 1,2-Dichloroethane	0.00	62		Not Detected	
31) 1,1,1-Trichloroethane	0.00	97		Not Detected	
32) Benzene	9.95	78	20127	0.1870 ppb #	89
33) Carbon Tetrachloride	0.00	117		Not Detected	
34) Cyclohexane	10.20	84	8019	0.1612 ppb #	28
35) 1,2-Dichloropropane	0.00	63		Not Detected	
36) Bromodichloromethane	0.00	83		Not Detected	
37) 1,4-Dioxane	0.00	88		Not Detected	
38) Trichloroethene	0.00	130		Not Detected	
39) Methyl Methacrylate	0.00	69		Not Detected	
40) Heptane	0.00	71		Not Detected	
41) cis-1,3-Dichloropropene	0.00	75		Not Detected	
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected	
43) trans-1,3-Dichloropropene	0.00	75		Not Detected	
44) 1,1,2-Trichloroethane	0.00	97		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I003.D Vial: 5
Acq Time : 04/25/2017 16:12 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 09:41:38 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

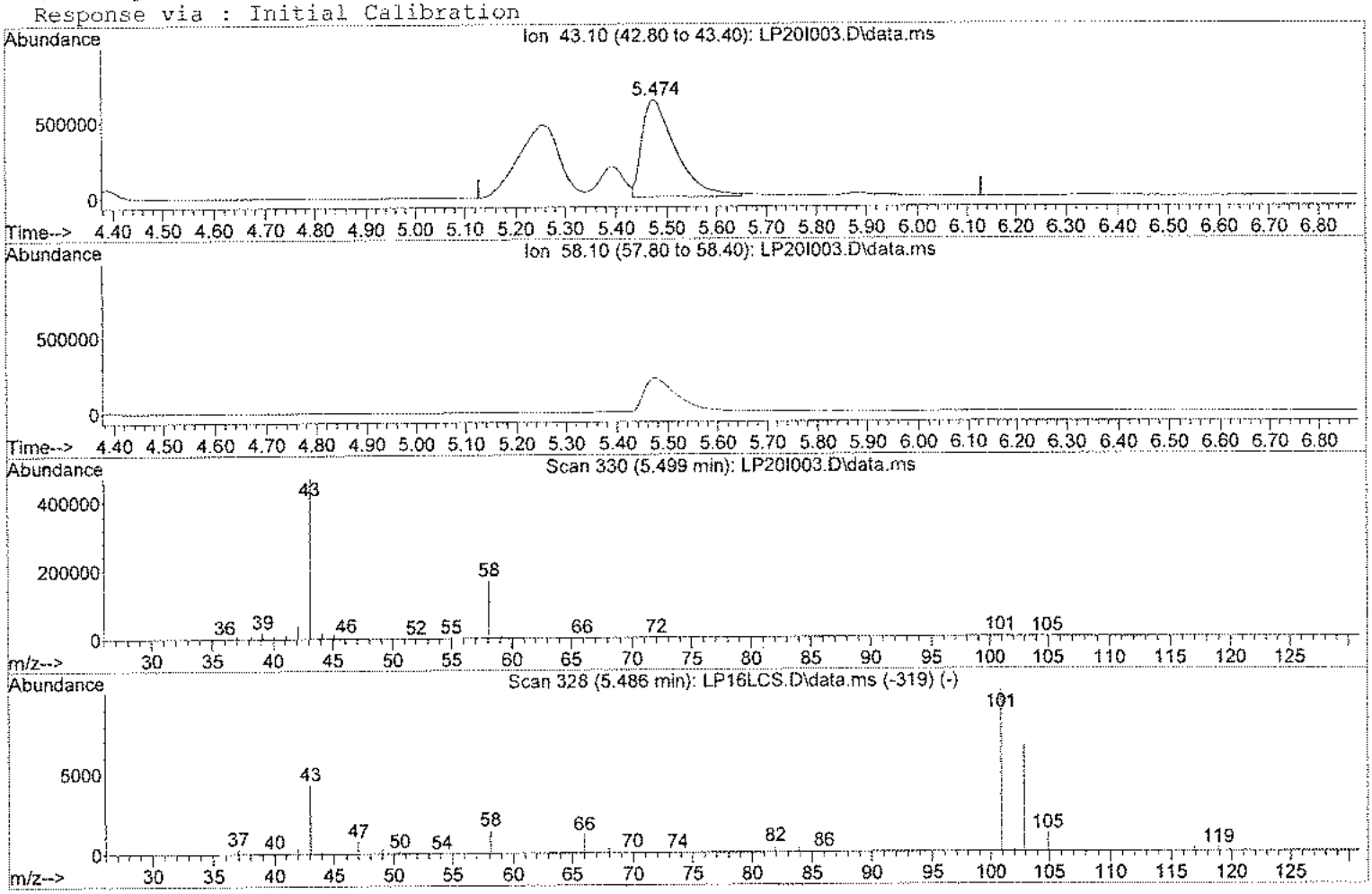
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45) Toluene	12.84	91	12434689	93.1398 ppb DL	99
46) 2-Hexanone	0.00	43		Not Detected	
47) Dibromochloromethane	0.00	129		Not Detected	
48) 1,2-Dibromoethane	0.00	107		Not Detected	
49) Tetrachloroethene	14.00	166	28237	0.3958 ppb #	80
51) Chlorobenzene	0.00	112		Not Detected	
52) Ethylbenzene	15.11	91	56068	0.3820 ppb	94
53) m,p-Xylene	15.28	91	147922	1.2896 ppb	96
54) Bromoform	0.00	173		Not Detected	
55) Styrene	15.70	104	17989	0.2051 ppb	96
56) 1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57) o-Xylene	15.81	91	45141	0.3451 ppb	96
59) 4-Ethyl Toluene	0.00	105		Not Detected	
60) 1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61) 1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62) Benzyl Chloride	0.00	91		Not Detected	
63) m-Dichlorobenzene	0.00	146		Not Detected	
64) p-Dichlorobenzene	0.00	146		Not Detected	
65) o-Dichlorobenzene	0.00	146		Not Detected	
66) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67) Naphthalene	0.00	128		Not Detected	
68) Hexachloro-1,3-butadiene	0.00	225		Not Detected	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP20I003.D
Acq On : 04/25/2017 16:12
Operator : LMR
Sample : 1710499003
Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 26 08:24:59 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration



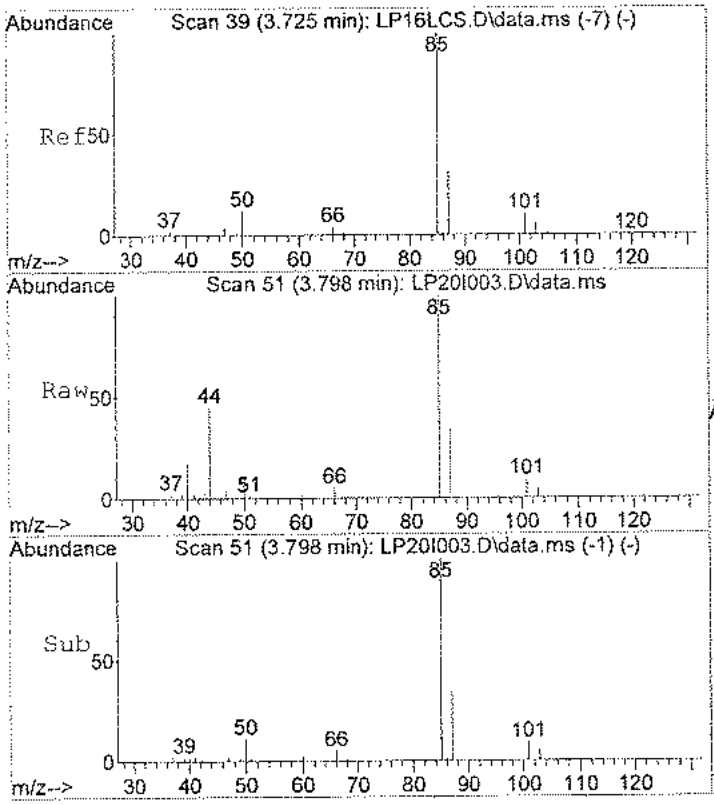
TIC: LP20I003.D\data.ms

(11) Acetone

5.474min (-0.153) 37.02 ppb m

response 2956077

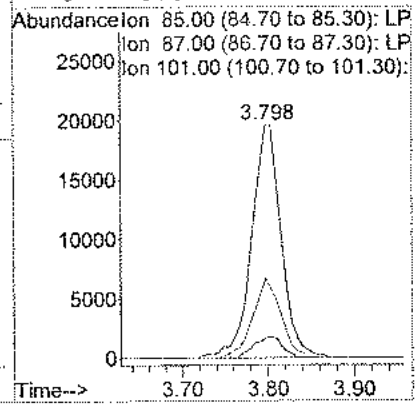
Ion	Exp%	Act%
43.10	100.00	100.00
58.10	38.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

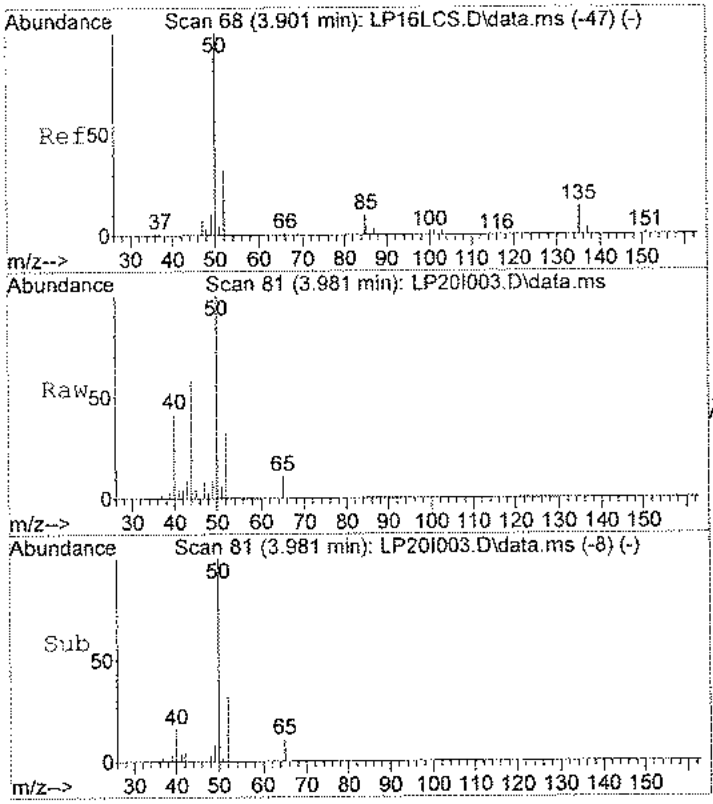


#3
Dichlorodifluoromethane
Concen: 0.37 ppb
RT: 3.80 min Scan# 51
Delta R.T. -0.06 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:85 Resp: 46584

Ion	Ratio	Lower	Upper
85	100		
87	32.4	26.1	39.1
101	8.8	8.0	12.0
0	0.0	0.0	0.0

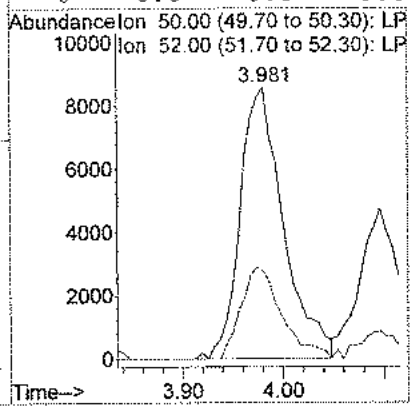


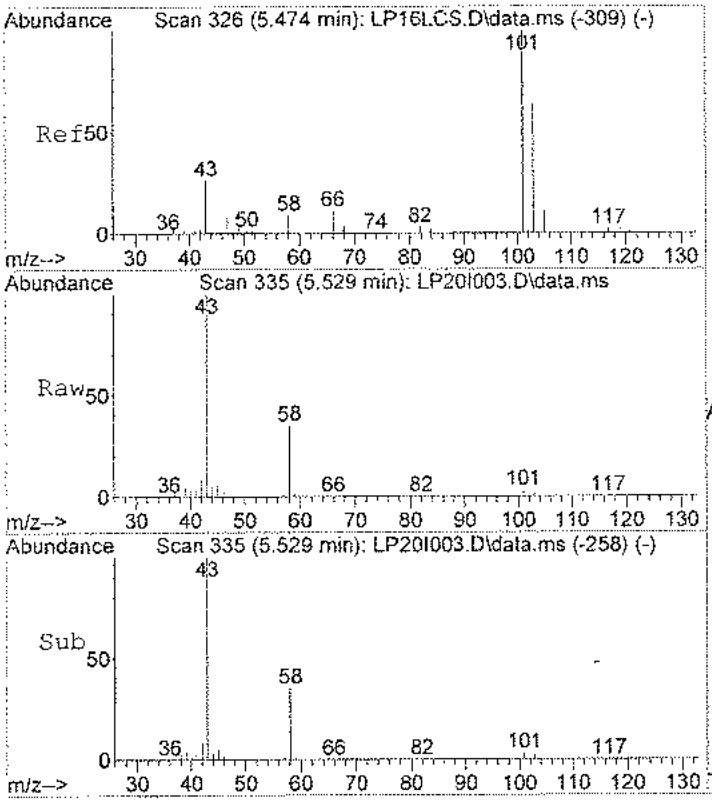


#4
Chloromethane
Concen: 0.52 ppb
RT: 3.98 min Scan# 81
Delta R.T. -0.06 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:50 Resp: 25445

Ion	Ratio	Lower	Upper
50	100		
52	31.6	26.6	40.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

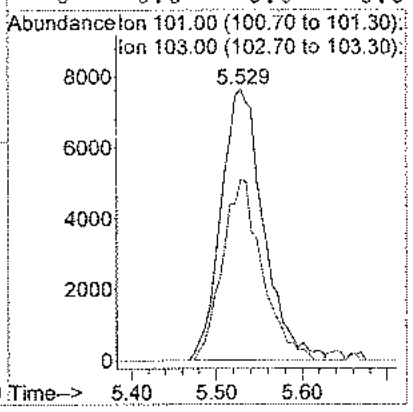


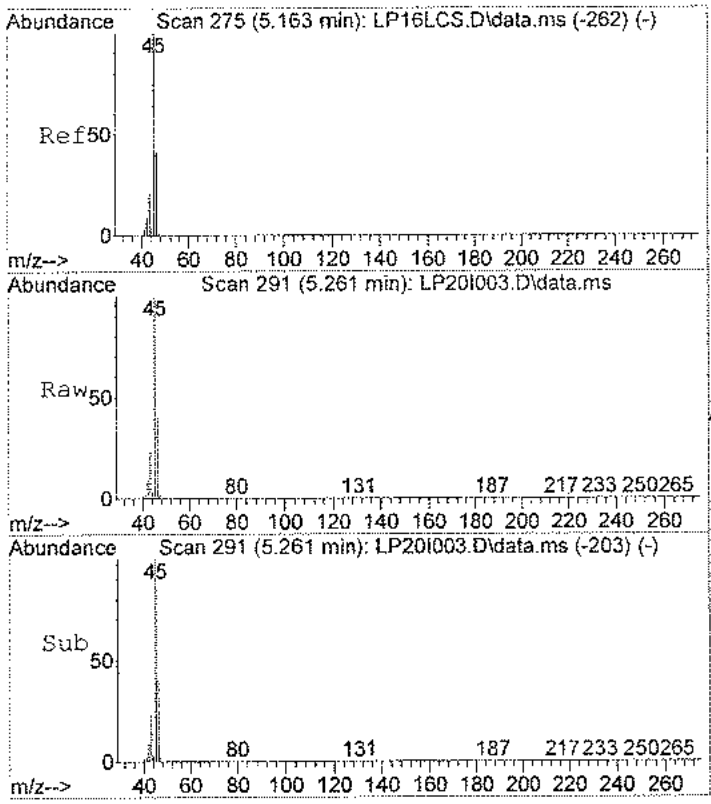


#12
Trichlorofluoromethane
Concen: 0.17 ppb
RT: 5.53 min Scan# 335
Delta R.T. -0.03 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:101 Resp: 26205

Ion	Ratio	Lower	Upper
101	100		
103	62.7	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

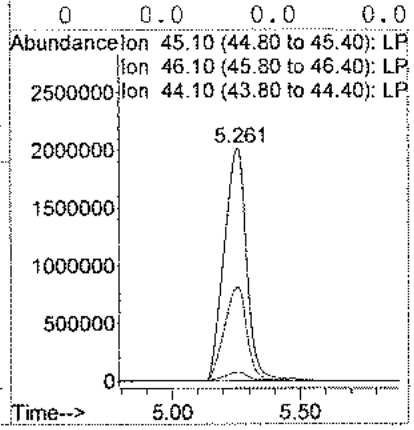


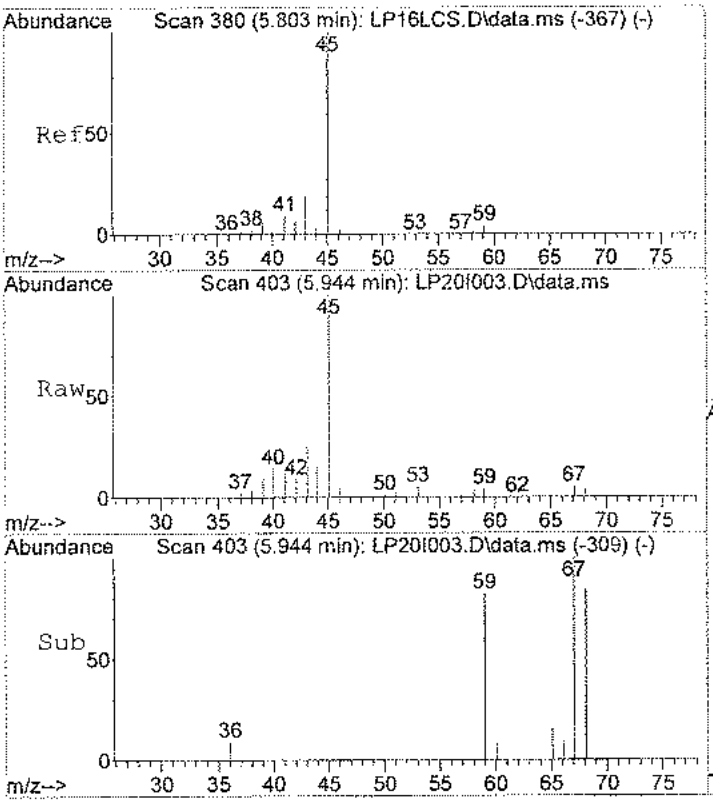


#13
Ethanol
Concen: 830.74 ppb
RT: 5.26 min Scan# 291
Delta R.T. 0.04 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:45.1 Resp:12362219

Ion	Ratio	Lower	Upper
45	100		
46	40.8	32.4	48.6
44	3.5	23.4	35.2#
0	0.0	0.0	0.0

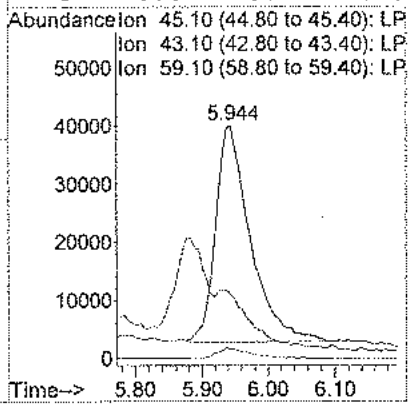


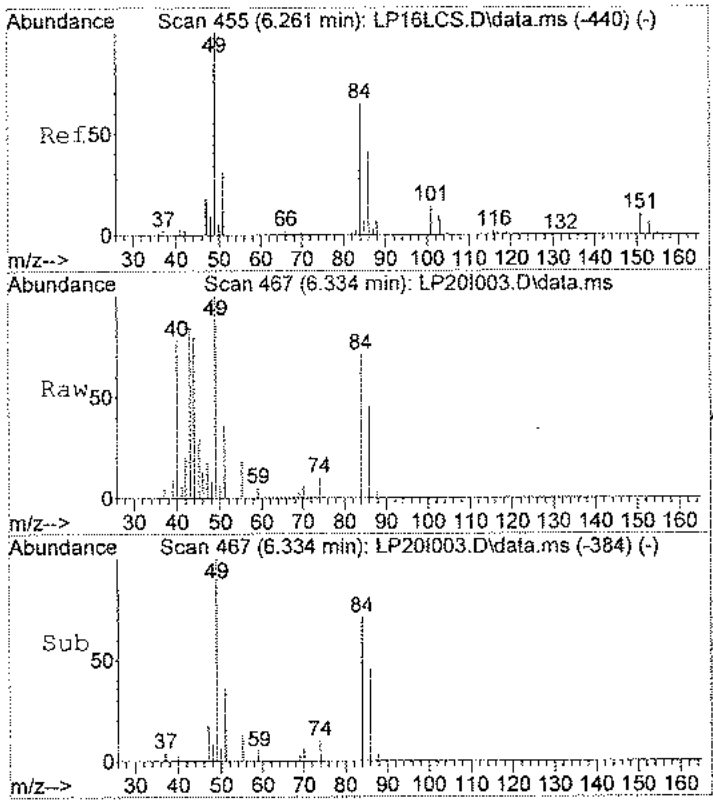


#14
Isopropyl Alcohol
Concen: 1.50 ppb
RT: 5.94 min Scan# 403
Delta R.T. 0.07 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:45.1 Resp: 136514

Ion	Ratio	Lower	Upper
45	100		
43	0.0	15.8	23.6#
59	4.4	3.2	4.8
0	0.0	0.0	0.0

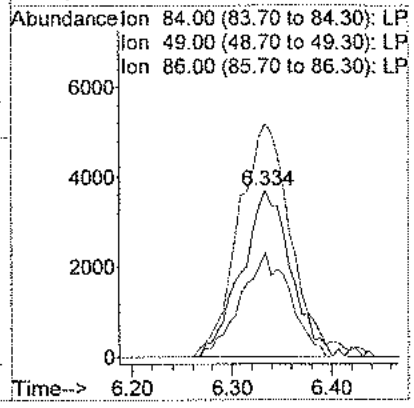


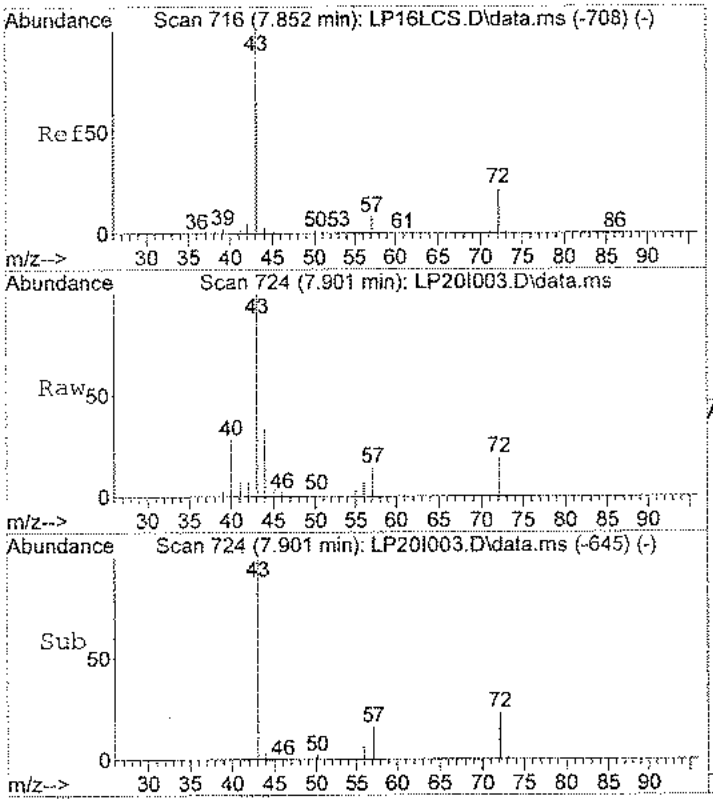


#16
Methylene Chloride
Concen: 0.31 ppb
RT: 6.33 min Scan# 467
Delta R.T. 0.01 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:84 Resp: 12710

Ion	Ratio	Lower	Upper
84	100		
49	150.9	66.6	100.0#
86	62.6	51.6	77.4
0	0.0	0.0	0.0

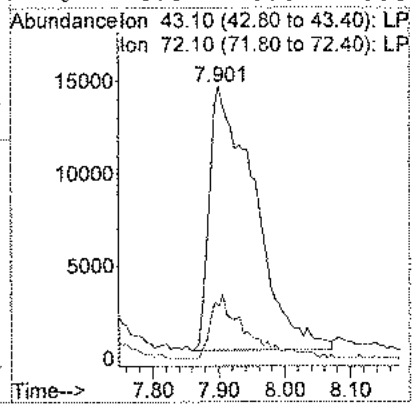


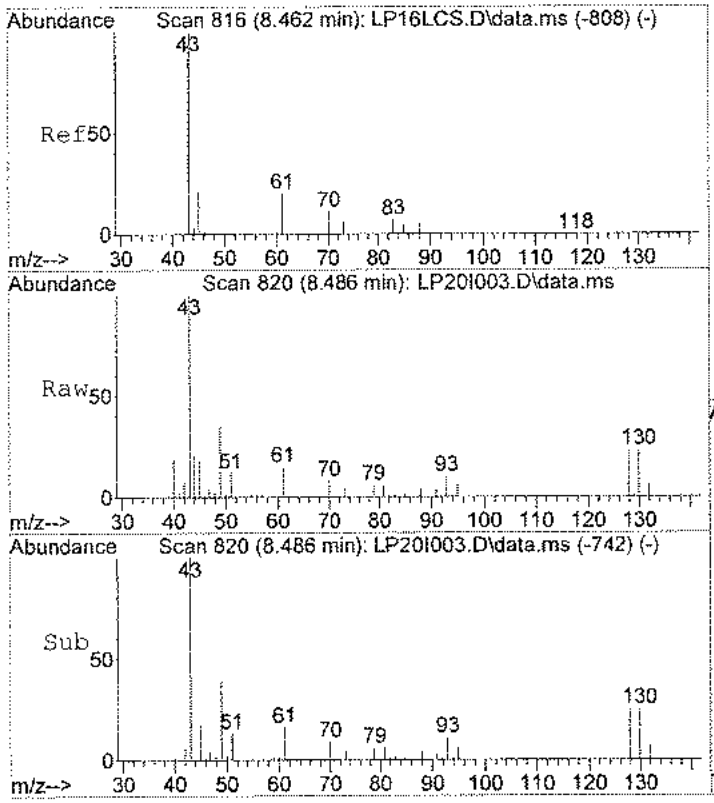


#23
2-Butanone
Concen: 0.70 ppb
RT: 7.90 min Scan# 724
Delta R.T. -0.02 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:43.1 Resp: 67577

Ion	Ratio	Lower	Upper
43	100		
72	16.8	31.1	46.7#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

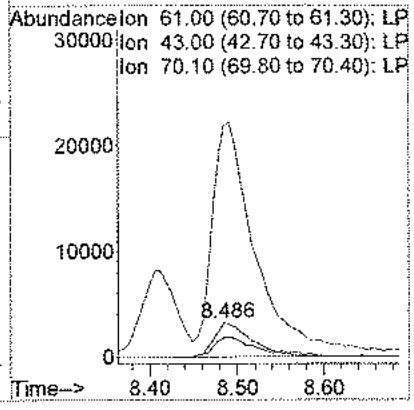


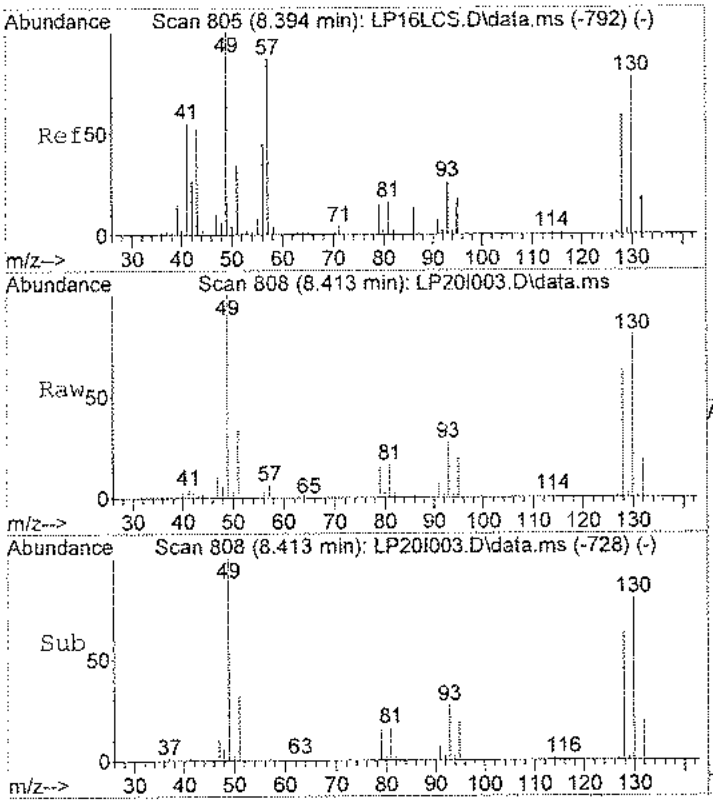


#26
Ethyl Acetate
Concen: 0.80 ppb
RT: 8.49 min Scan# 820
Delta R.T. -0.02 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:61 Resp: 9995

Ion	Ratio	Lower	Upper
61	100		
43	721.5	144.0	216.0#
70	60.3	13.6	20.4#
0	0.0	0.0	0.0

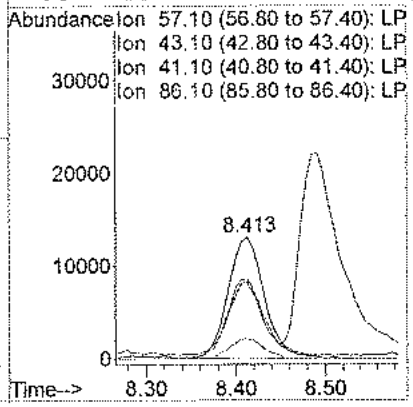


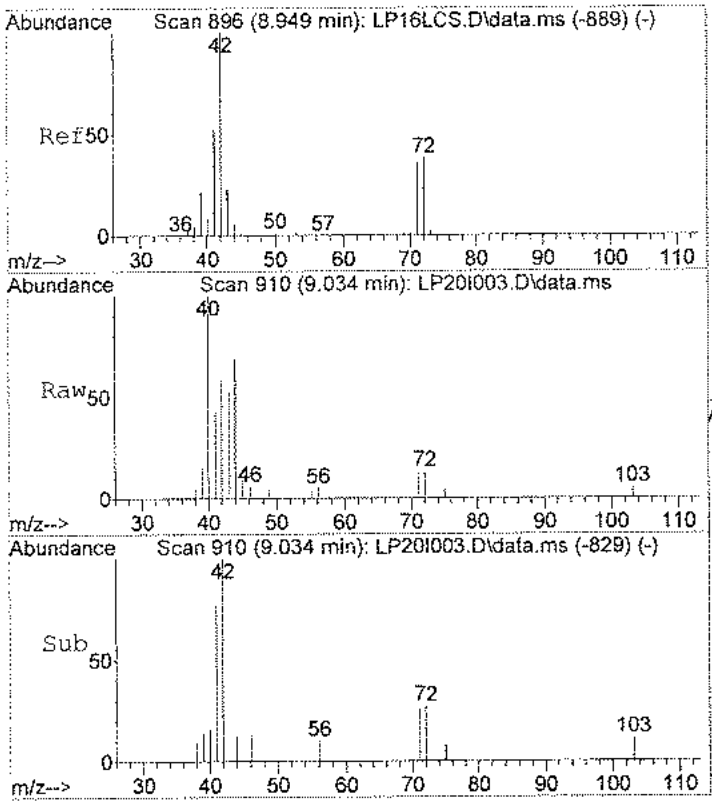


#27
Hexane
Concen: 0.52 ppb
RT: 8.41 min Scan# 808
Delta R.T. -0.01 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:57.1 Resp: 36919

Ion	Ratio	Lower	Upper
57	100		
43	56.7	57.3	85.9#
41	69.1	47.0	70.4
86	14.7	20.9	31.3#

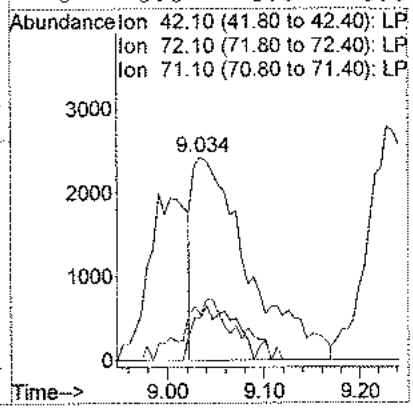


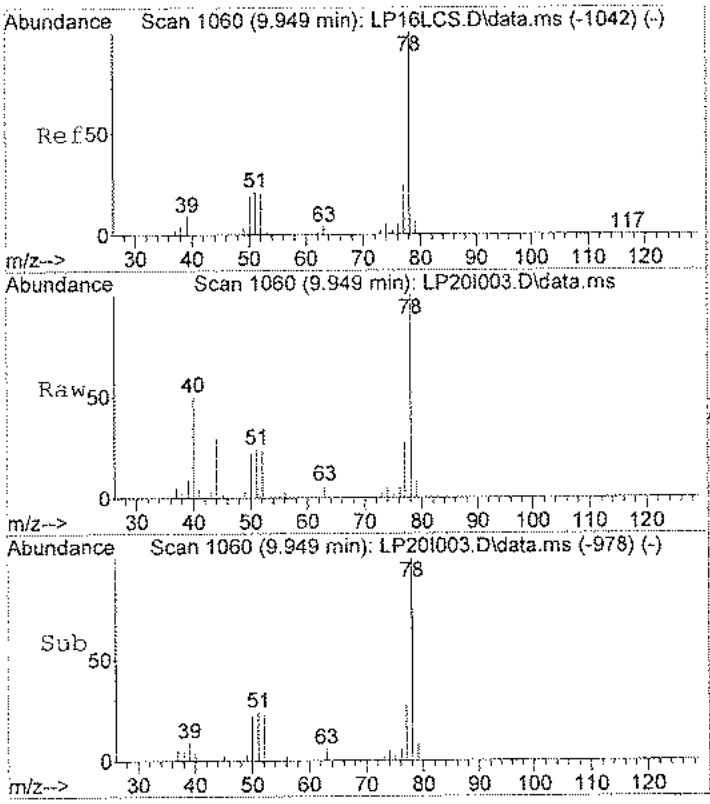


#29
Tetrahydrofuran
Concen: 0.19 ppb
RT: 9.03 min Scan# 910
Delta R.T. -0.01 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:42.1 Resp: 9560

Ion	Ratio	Lower	Upper
42	100		
72	29.7	51.5	77.3#
71	19.7	47.5	71.3#
0	0.0	0.0	0.0

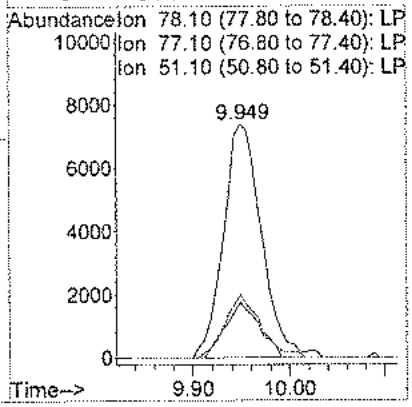


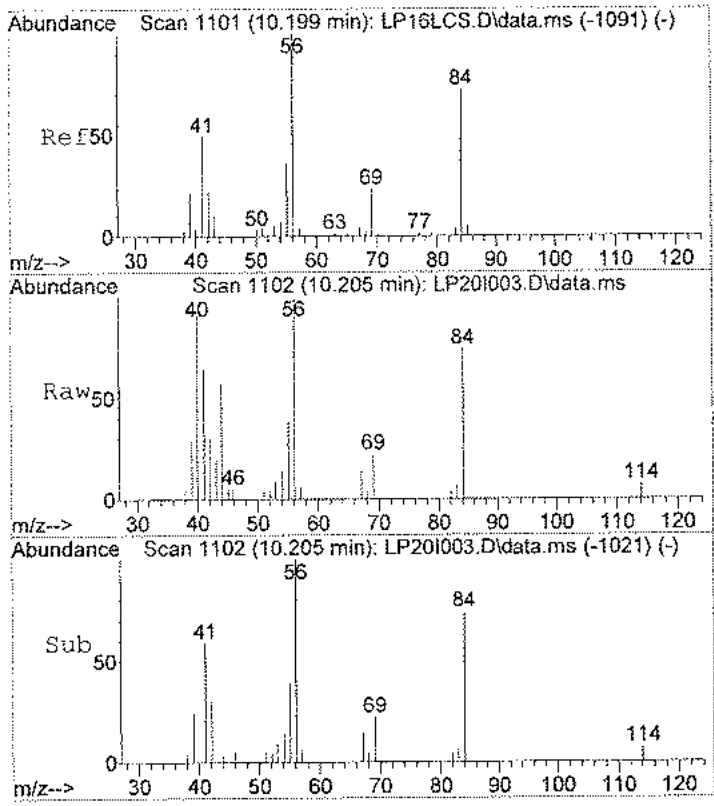


#32
Benzene
Concen: 0.19 ppb
RT: 9.95 min Scan# 1060
Delta R.T. -0.00 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:78.1 Resp: 20127

Ion	Ratio	Lower	Upper
78	100		
77	23.7	18.2	27.4
51	22.6	9.5	14.3#
0	0.0	0.0	0.0

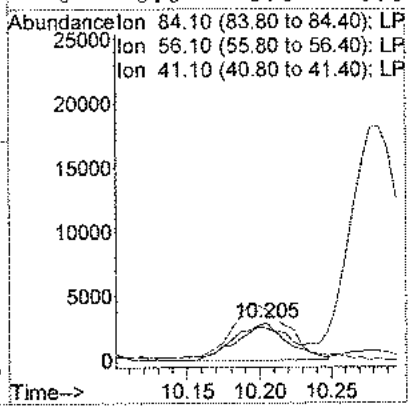


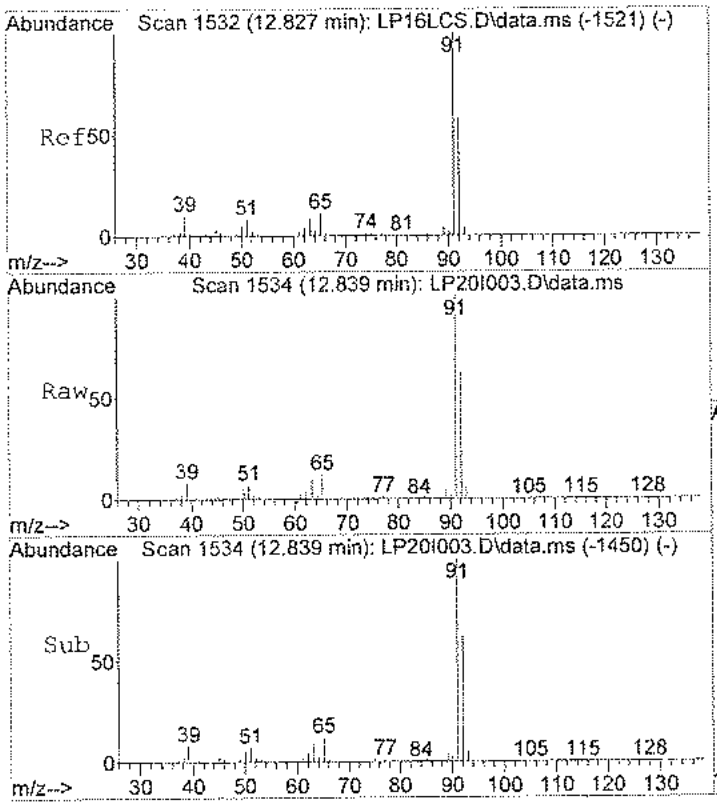


#34
Cyclohexane
Concen: 0.16 ppb
RT: 10.20 min Scan# 1102
Delta R.T. -0.01 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:84.1 Resp: 8019

Ion	Ratio	Lower	Upper
84	100		
56	142.9	67.3	100.9#
41	91.4	30.2	45.4#
0	0.0	0.0	0.0

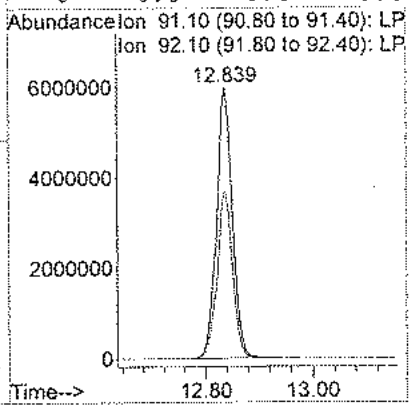


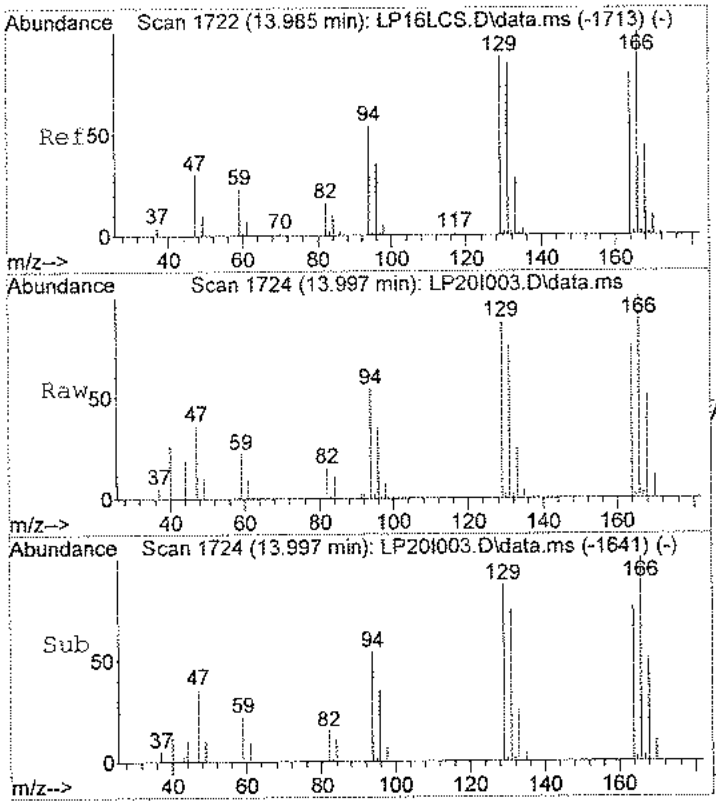


#45
Toluene
Concen: 93.14 ppb
RT: 12.84 min Scan# 1534
Delta R.T. 0.01 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:91.1 Resp:12434689

Ion	Ratio	Lower	Upper
91	100		
92	61.0	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

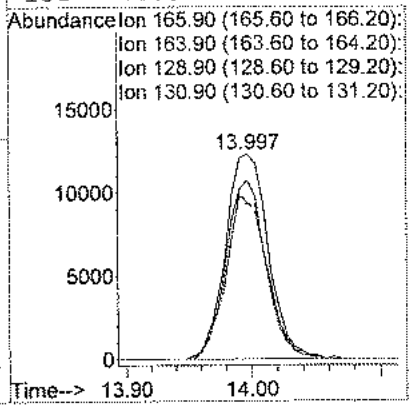


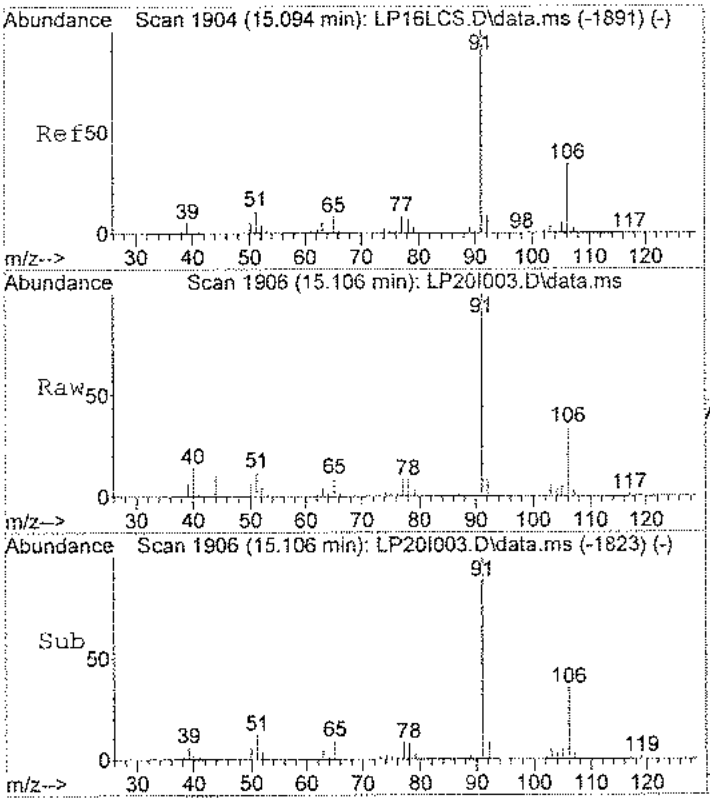


#49
Tetrachloroethene
Concen: 0.40 ppb
RT: 14.00 min Scan# 1724
Delta R.T. 0.01 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:165.9 Resp: 28237

Ion	Ratio	Lower	Upper
166	100		
164	75.9	61.0	91.4
129	84.6	45.9	68.9#
131	78.8	45.5	68.3#

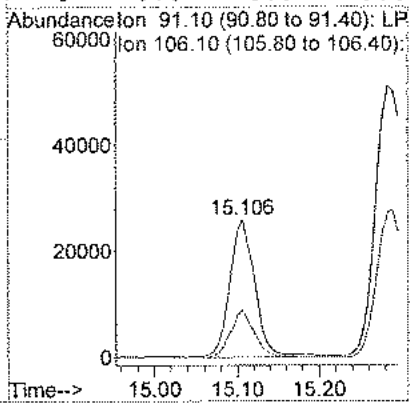


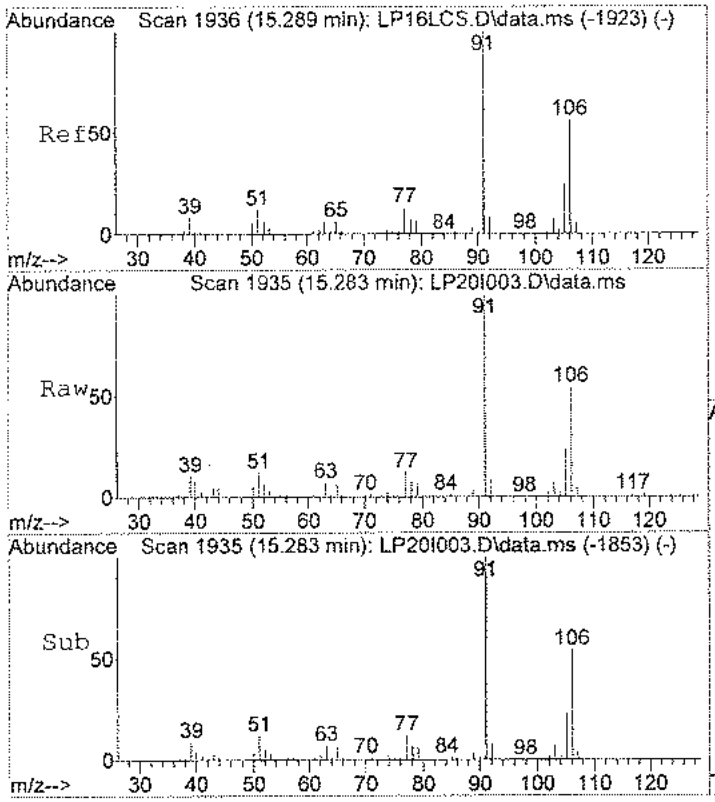


#52
Ethylbenzene
Concen: 0.38 ppb
RT: 15.11 min Scan# 1906
Delta R.T. 0.01 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:91.1 Resp: 56068

Ion	Ratio	Lower	Upper
91	100		
106	31.9	28.4	42.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

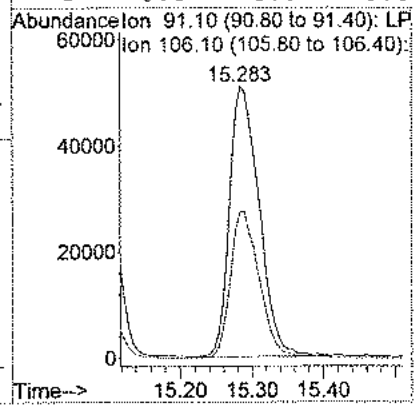


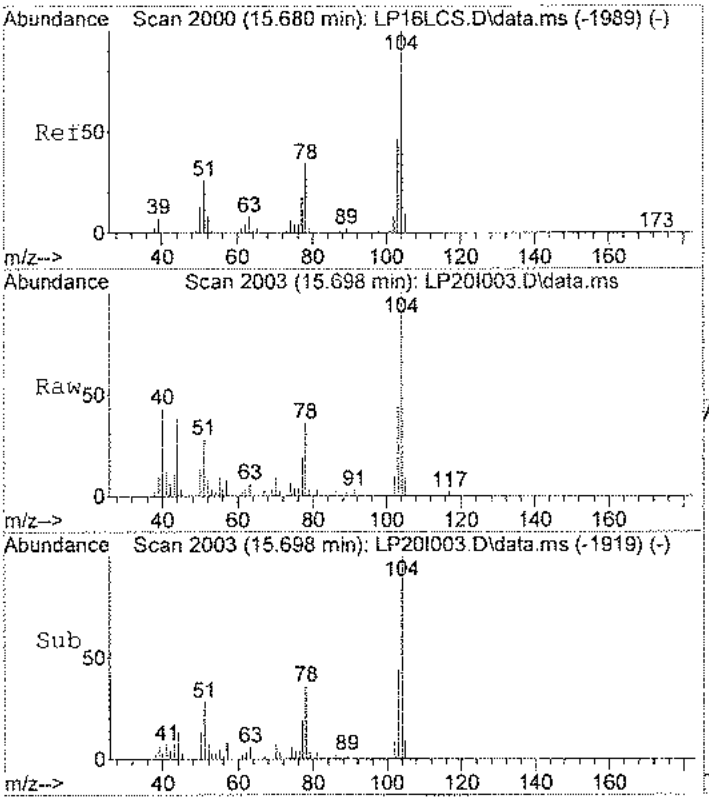


#53
m,p-Xylene
Concen: 1.29 ppb
RT: 15.28 min Scan# 1935
Delta R.T. -0.00 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:91.1 Resp: 147922

Ion	Ratio	Lower	Upper
91	100		
106	52.8	44.6	66.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

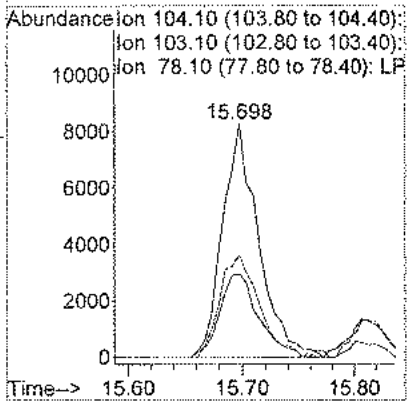


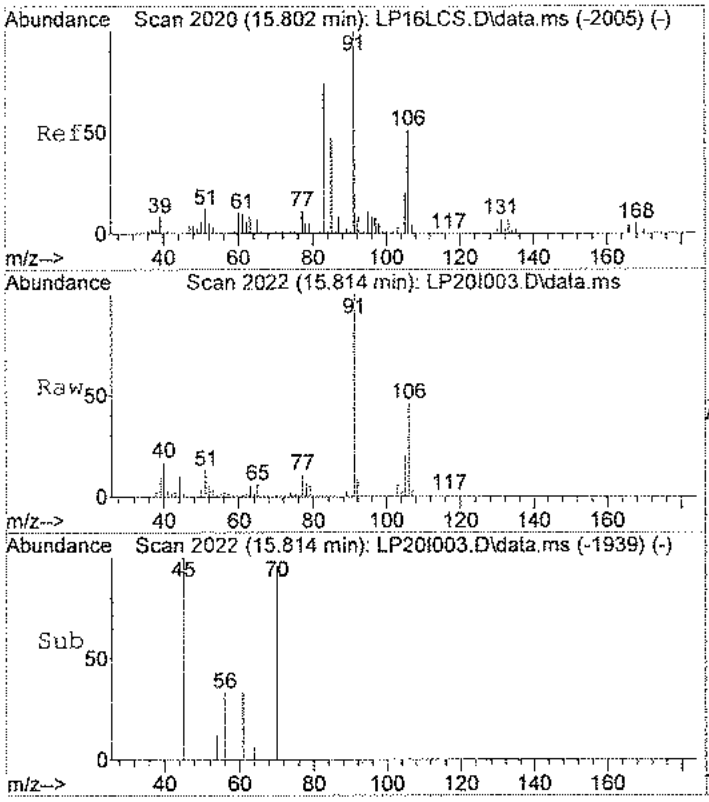


#55
Styrene
Concen: 0.21 ppb
RT: 15.70 min Scan# 2003
Delta R.T. 0.01 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:104.1 Resp: 17989

Ion	Ratio	Lower	Upper
104	100		
103	47.4	36.6	54.8
78	38.5	27.7	41.5
0	0.0	0.0	0.0

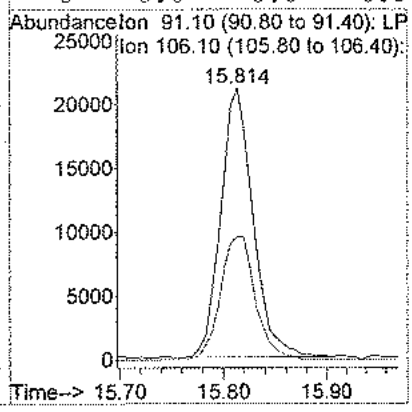




#57
o-Xylene
Concen: 0.35 ppb
RT: 15.81 min Scan# 2022
Delta R.T. 0.01 min
Lab File: LP20I003.D
Acq: 04/25/2017 16:12

Tgt Ion:91.1 Resp: 45141

Ion	Ratio	Lower	Upper
91	100		
106	49.4	41.9	62.9
0	0.0	0.0	0.0
0	0.0	0.0	0.0



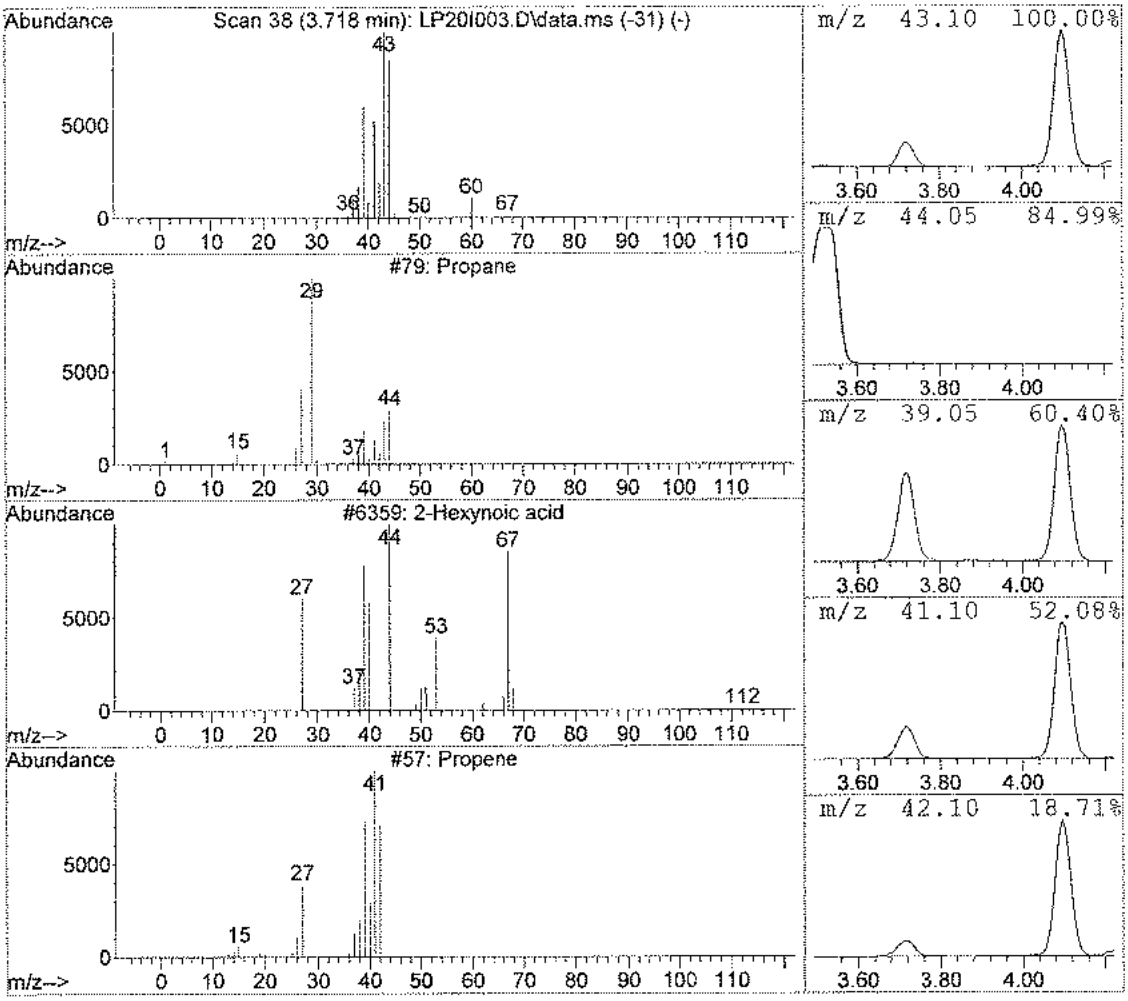
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I003.D Vial: 5
Acq Time : 04/25/2017 16:12 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
3.72	3.57 ppb	620652	Bromochloromethane	3477131

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Propane	79	000074-98-6	78.00
2	2-Hexynoic acid	6359	000764-33-0	38.00
3	Propene	57	000115-07-1	9.00
4	Furan	414	000110-00-9	9.00
5	Methylacrylonitrile	396	000126-98-7	9.00



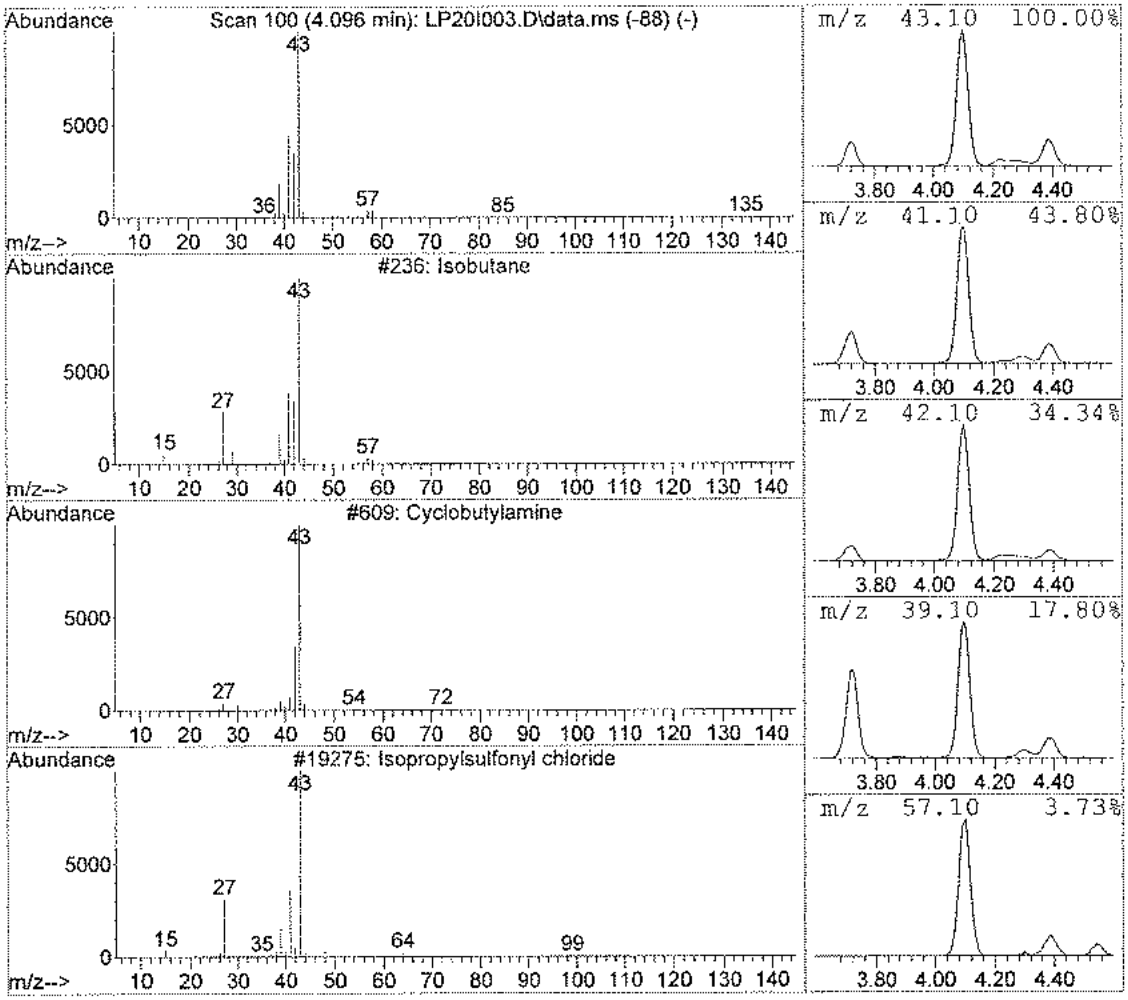
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I003.D Vial: 5
Acq Time : 04/25/2017 16:12 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.10	11.04 ppb	1919372	Bromochloromethane	3477131

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	236	000075-28-5	86.00
2	Cyclobutylamine	609	002516-34-9	9.00
3	Isopropylsulfonyl chloride	19275	010147-37-2	9.00
4	Propane, 2-nitro-	2169	000079-46-9	4.00
5	Butane	233	000106-97-8	4.00



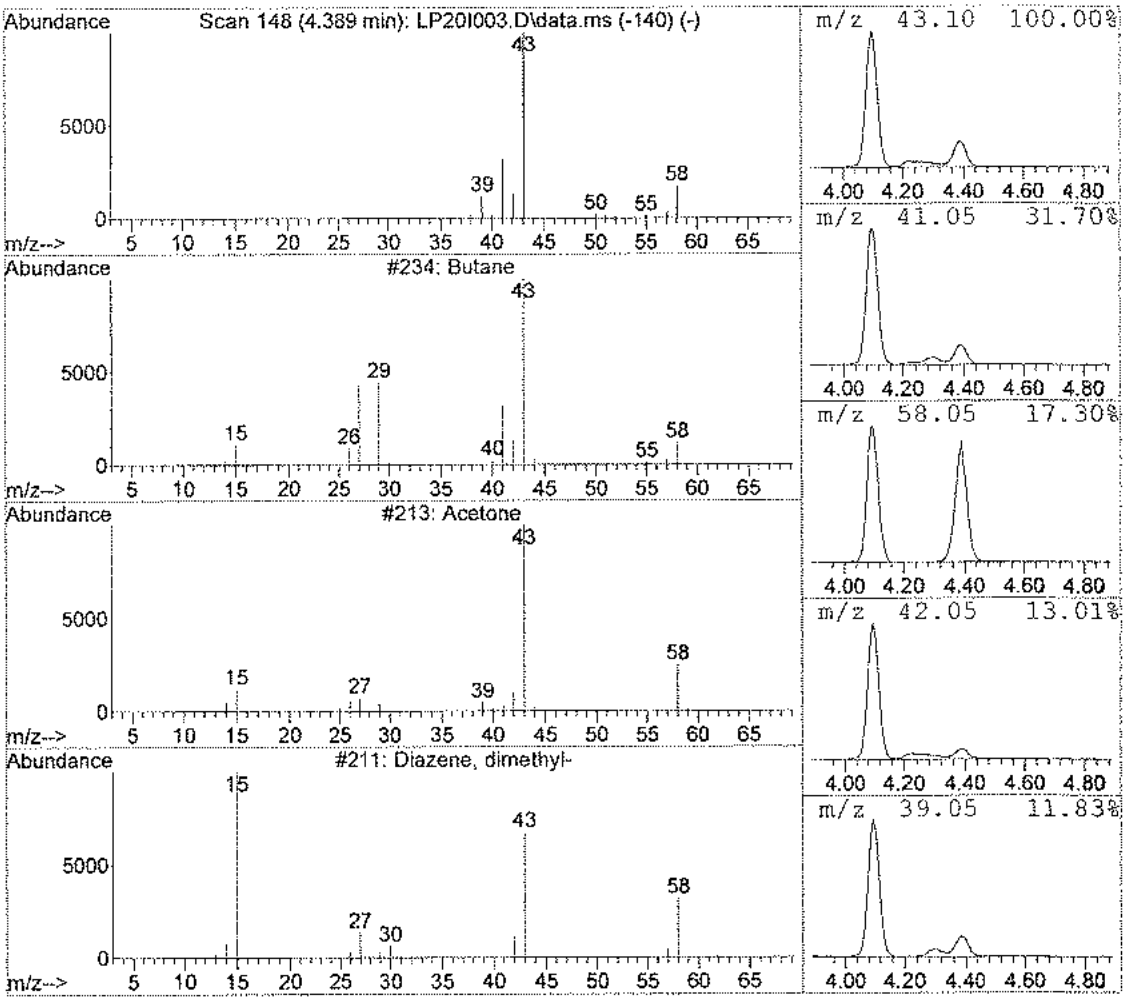
Library Search Compound Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I003.D Vial: 5
Acq Time : 04/25/2017 16:12 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.39	2.26 ppb	393016	Bromochloromethane	3477131

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane	234	000106-97-8	72.00
2	Acetone	213	000067-64-1	9.00
3	Diazene, dimethyl-	211	000503-28-6	4.00
4	Isobutane	236	000075-28-5	4.00
5	Isopropylsulfonyl chloride	19275	010147-37-2	4.00

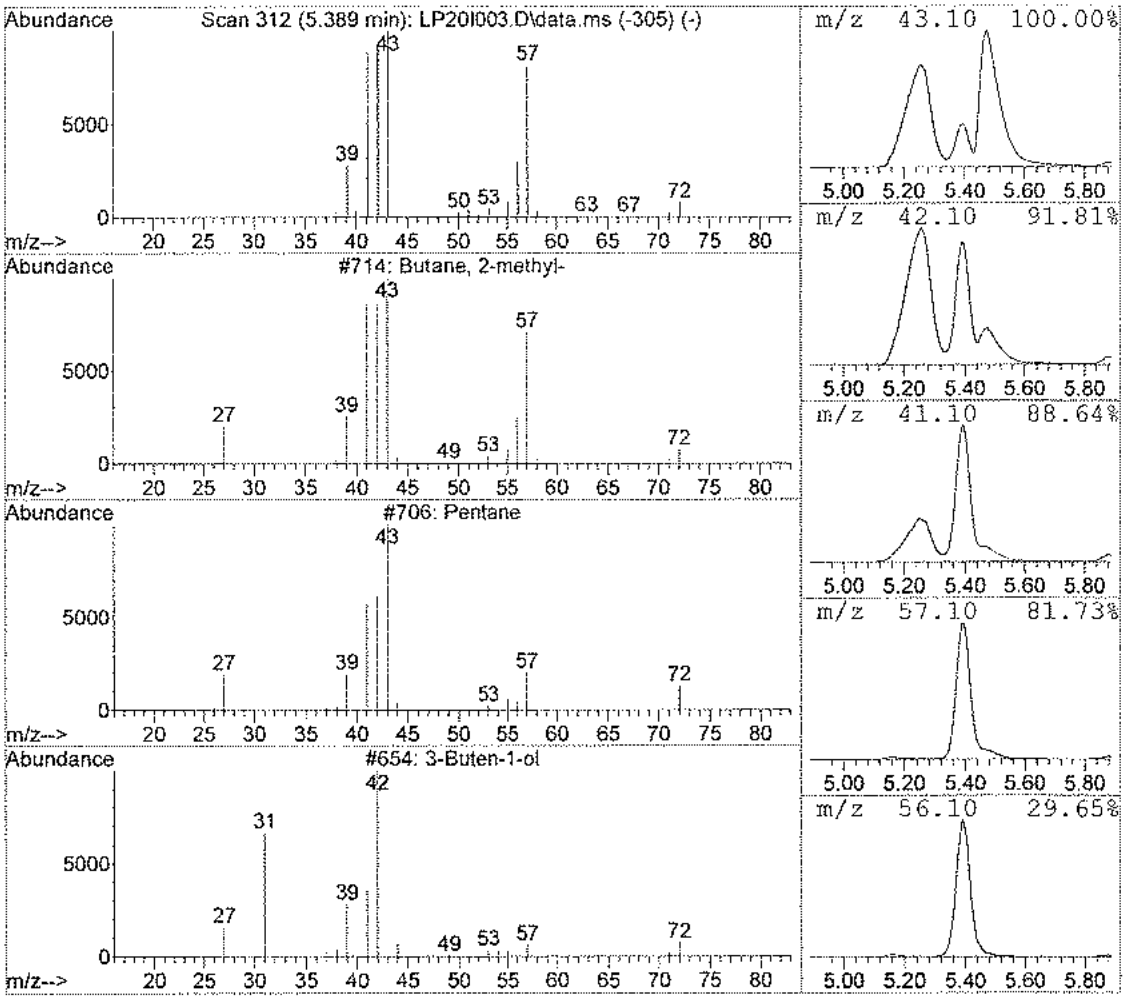


Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I003.D Vial: 5
Acq Time : 04/25/2017 16:12 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
5.39	17.58 ppb	3056916	Bromochloromethane	3477131

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Butane, 2-methyl-	714	000078-78-4	91.00
2	Pentane	706	000109-66-0	33.00
3	3-Buten-1-ol	654	000627-27-0	25.00
4	Butane, 1-chloro-2-methyl-	5027	000616-13-7	12.00
5	Pentane, 2,2,4,4-tetramethyl-	12741	001070-87-7	10.00

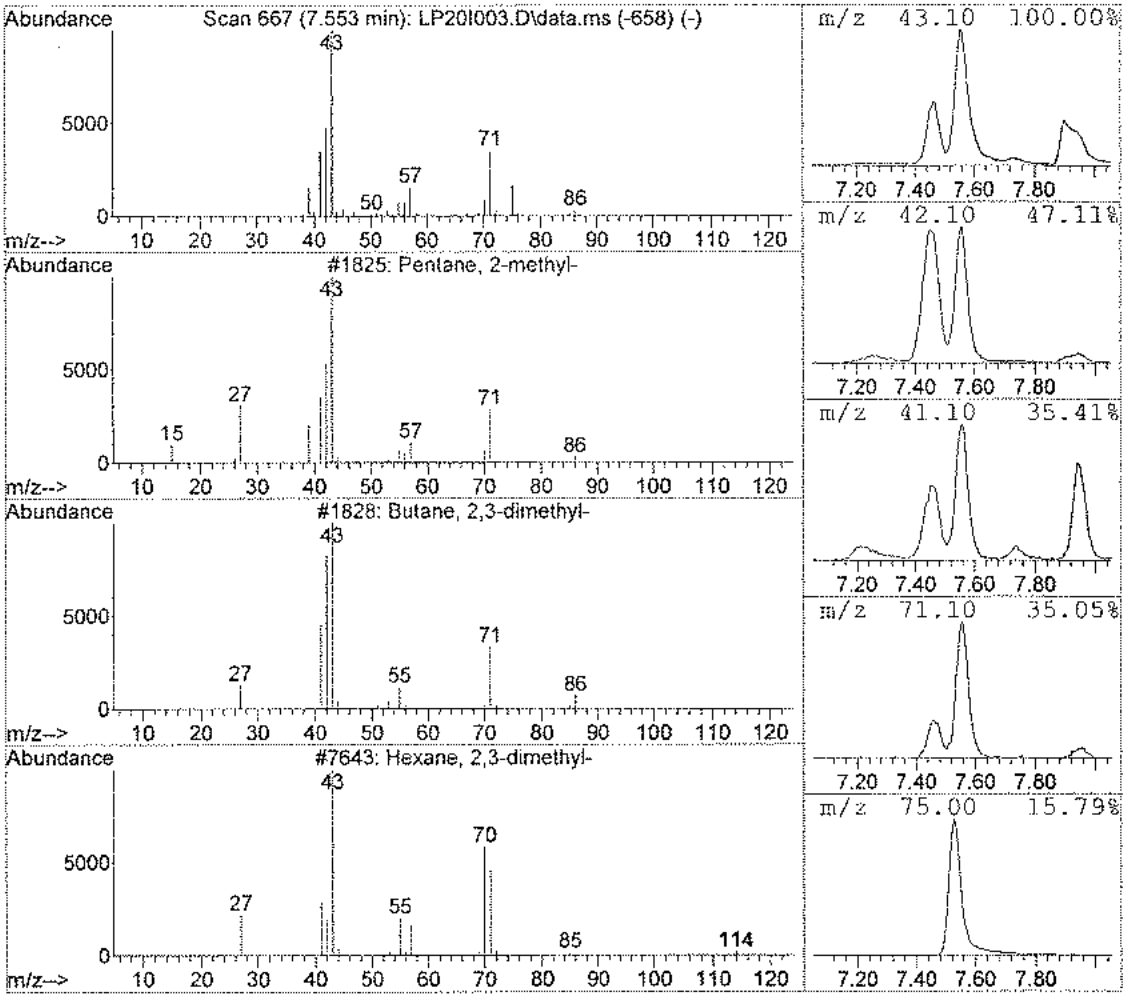


Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP20I003.D Vial: 5
Acq Time : 04/25/2017 16:12 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Library : C:\DATABASE\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
7.55	2.85 ppb	496266	Bromochloromethane	3477131

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Pentane, 2-methyl-	1825	000107-83-5	81.00
2	Butane, 2,3-dimethyl-	1828	000079-29-8	37.00
3	Hexane, 2,3-dimethyl-	7643	000584-94-1	37.00
4	2-Propanone, methylhydrazone	1626	005771-02-8	33.00
5	Pentane	708	000109-66-0	28.00

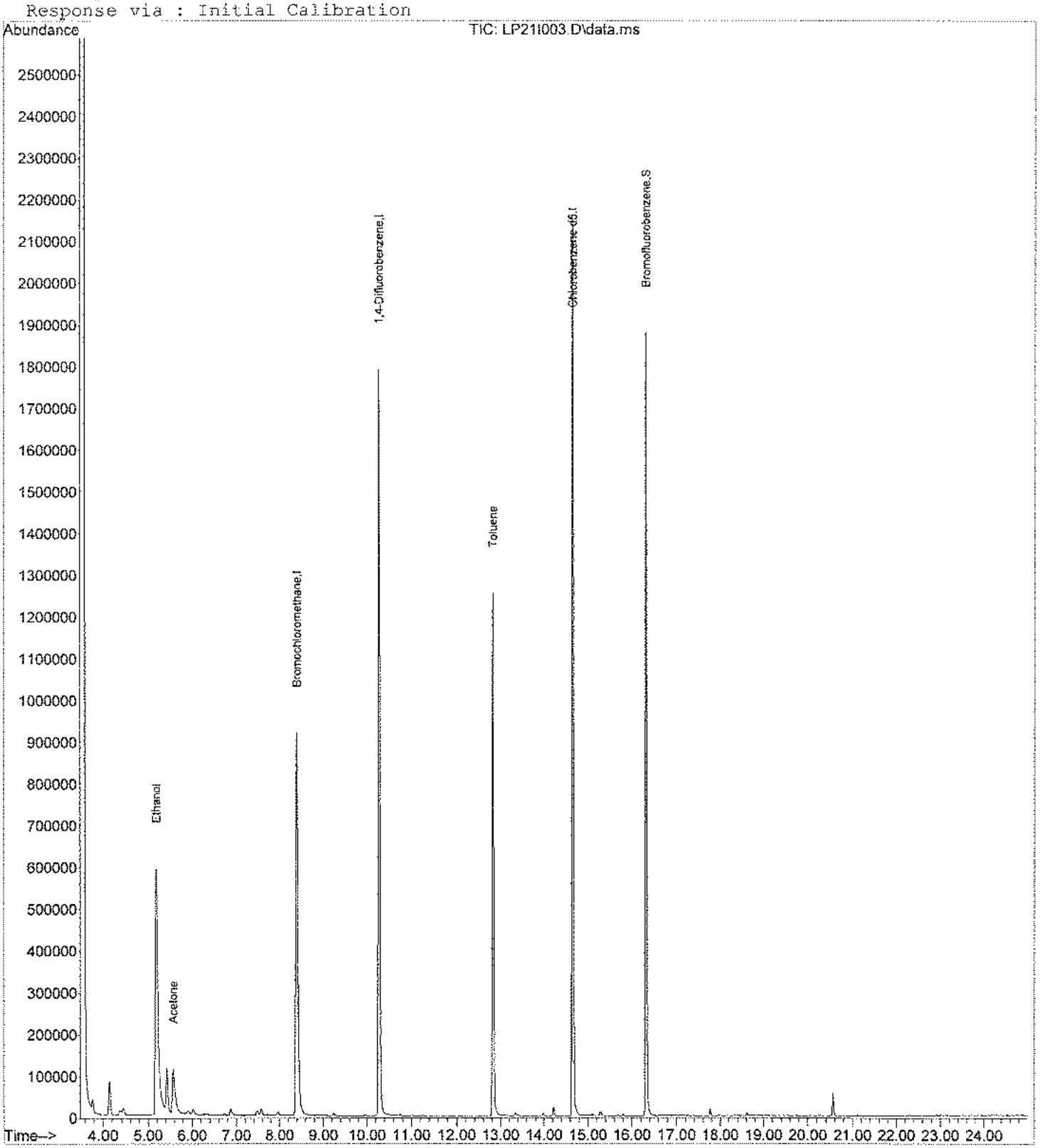


Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I003.D Vial: 5
Acq Time : 04/25/2017 16:59 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV 1:10 DIL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 10:14:22 2017 Results File: TO15LA17.RES

Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Fri Apr 28 09:14:03 2017
Response via : Initial Calibration



Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I003.D Vial: 5
Acq Time : 04/25/2017 16:59 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV 1:10 DIL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 10:14:22 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Area%
1) Bromochloromethane	8.40	130	171776	20.0000	ppb		112.63
25) 1,4-Difluorobenzene	10.28	114	1968476	20.0000	ppb		99.84
50) Chlorobenzene d5	14.66	117	1497334	20.0000	ppb		86.79
System Monitoring Compounds							%Recovery
58) Bromofluorobenzene	16.32	95	751229	17.8185	ppb		89.09%
Target Compounds							Qvalue
2) Propene	0.00	41		Not Detected			
3) Dichlorodifluoromethane	0.00	85		Not Detected			
4) Chloromethane	0.00	50		Not Detected			
5) Freon 114	0.00	135		Not Detected			
6) Vinyl Chloride	0.00	62		Not Detected			
7) 1,3-Butadiene	0.00	54		Not Detected			
8) Bromomethane	0.00	94		Not Detected			
9) Chloroethane	0.00	64		Not Detected			
10) Acrolein	0.00	56		Not Detected			
11) Acetone	5.57	43	287633	4.2705	ppb		95
12) Trichlorofluoromethane	0.00	101		Not Detected			
13) Ethanol	5.18	45	1511843	120.4460	ppb	#	80
14) Isopropyl Alcohol	0.00	45		Not Detected			
15) 1,1-Dichloroethene	0.00	61		Not Detected			
16) Methylene Chloride	0.00	84		Not Detected			
17) Freon 113	0.00	151		Not Detected			
18) Carbon Disulfide	0.00	76		Not Detected			
19) trans-1,2-Dichloroethene	0.00	96		Not Detected			
20) 1,1-Dichloroethane	0.00	63		Not Detected			
21) methyl t-butyl ether	0.00	73		Not Detected			
22) Vinyl Acetate	0.00	86		Not Detected			
23) 2-Butanone	0.00	43		Not Detected			
24) cis-1,2-Dichloroethene	0.00	96		Not Detected			
26) Ethyl Acetate	0.00	61		Not Detected			
27) Hexane	0.00	57		Not Detected			
28) Chloroform	0.00	83		Not Detected			
29) Tetrahydrofuran	0.00	42		Not Detected			
30) 1,2-Dichloroethane	0.00	62		Not Detected			
31) 1,1,1-Trichloroethane	0.00	97		Not Detected			
32) Benzene	0.00	78		Not Detected			
33) Carbon Tetrachloride	0.00	117		Not Detected			
34) Cyclohexane	0.00	84		Not Detected			
35) 1,2-Dichloropropane	0.00	63		Not Detected			
36) Bromodichloromethane	0.00	83		Not Detected			
37) 1,4-Dioxane	0.00	88		Not Detected			
38) Trichloroethene	0.00	130		Not Detected			
39) Methyl Methacrylate	0.00	69		Not Detected			
40) Heptane	0.00	71		Not Detected			
41) cis-1,3-Dichloropropene	0.00	75		Not Detected			
42) 4-Methyl-2-Pentanone	0.00	43		Not Detected			
43) trans-1,3-Dichloropropene	0.00	75		Not Detected			
44) 1,1,2-Trichloroethane	0.00	97		Not Detected			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : I:\L - 5975-L\2017\A...L\25APR17L\LP21I003.D Vial: 5
Acq Time : 04/25/2017 16:59 Operator: LMR
Sample : 1710499003 Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV 1:10 DIL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Apr 28 10:14:22 2017 Results File: TO15LA17.RES

Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m (RTE Integrator)
Title : TO-15
Last Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration
DataAcq Meth : TO15A.M

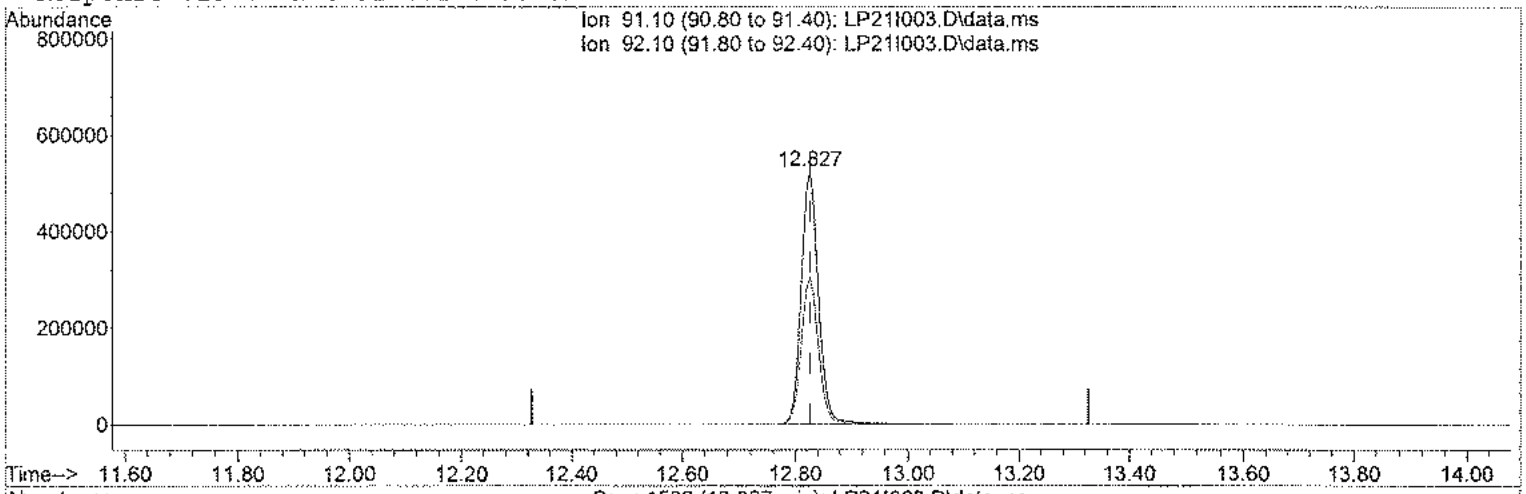
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Toluene	12.83	91	1136140	9.1925 ppb	98
46)	2-Hexanone	0.00	43		Not Detected	
47)	Dibromochloromethane	0.00	129		Not Detected	
48)	1,2-Dibromoethane	0.00	107		Not Detected	
49)	Tetrachloroethene	0.00	166		Not Detected	
51)	Chlorobenzene	0.00	112		Not Detected	
52)	Ethylbenzene	0.00	91		Not Detected	
53)	m,p-Xylene	0.00	91		Not Detected	
54)	Bromoform	0.00	173		Not Detected	
55)	Styrene	0.00	104		Not Detected	
56)	1,1,2,2-Tetrachloroethane	0.00	83		Not Detected	
57)	o-Xylene	0.00	91		Not Detected	
59)	4-Ethyl Toluene	0.00	105		Not Detected	
60)	1,3,5-Trimethylbenzene	0.00	105		Not Detected	
61)	1,2,4-Trimethylbenzene	0.00	105		Not Detected	
62)	Benzyl Chloride	0.00	91		Not Detected	
63)	m-Dichlorobenzene	0.00	146		Not Detected	
64)	p-Dichlorobenzene	0.00	146		Not Detected	
65)	o-Dichlorobenzene	0.00	146		Not Detected	
66)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
67)	Naphthalene	0.00	128		Not Detected	
68)	Hexachloro-1,3-butadiene	0.00	225		Not Detected	

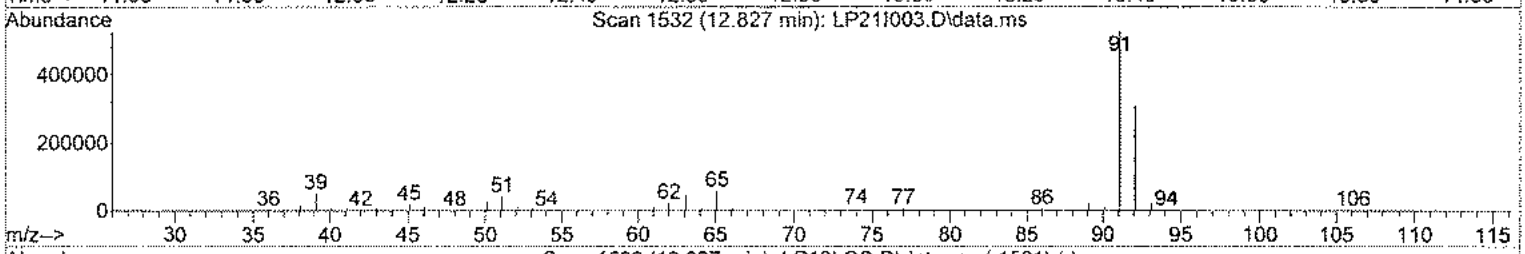
(#) = qualifier out of range (m) = manual integration

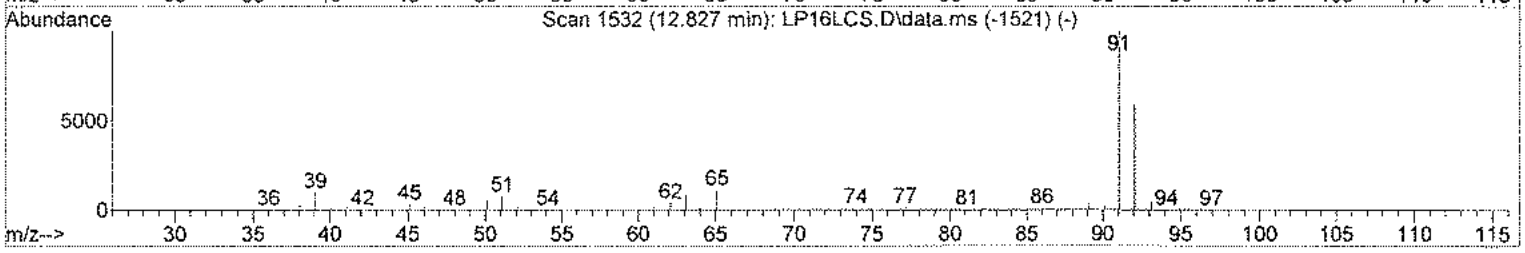
Quantitation Report (Qedit)

Data Path : I:\L - 5975-L\2017\APR17L\25APR17L\
Data File : LP21I003.D
Acq On : 04/25/2017 16:59
Operator : LMR
Sample : 1710499003
Inst : 5975-L
Misc : A-0064H-041417-TO-001-LIV 1:10 DIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 26 08:25:25 2017
Quant Method : I:\L - 5975-L\METHODS\TO15LA17.m
Quant Title : TO-15
QLast Update : Tue Apr 25 12:07:25 2017
Response via : Initial Calibration







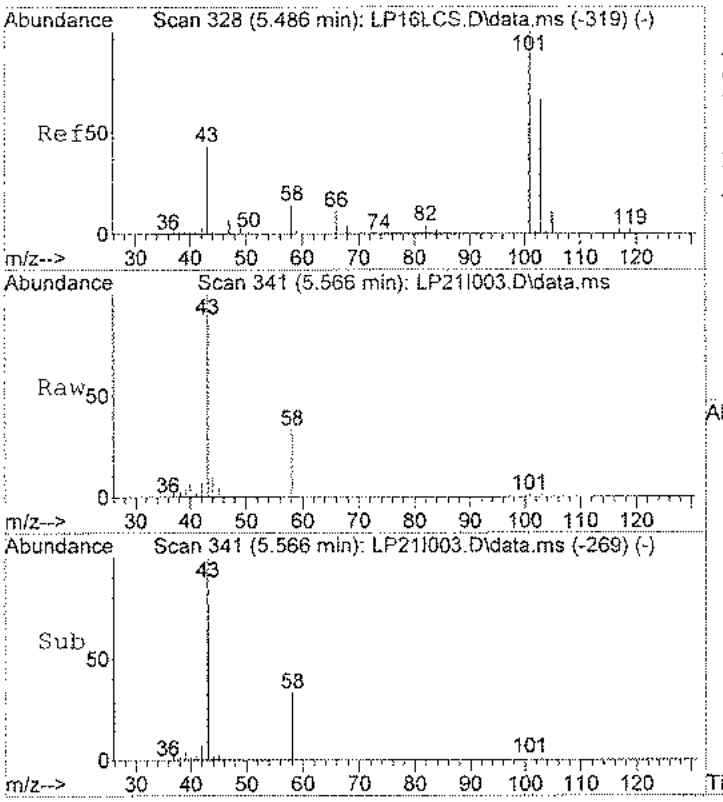
TIC: LP21I003.D\data.ms

(45) Toluene

12.827min (-0.000) 9.19 ppb

response 1136140

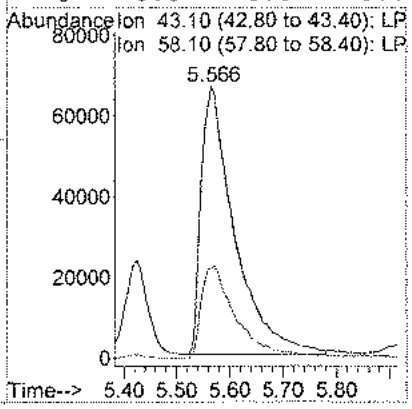
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	60.00	58.62
0.00	0.00	0.00
0.00	0.00	0.00

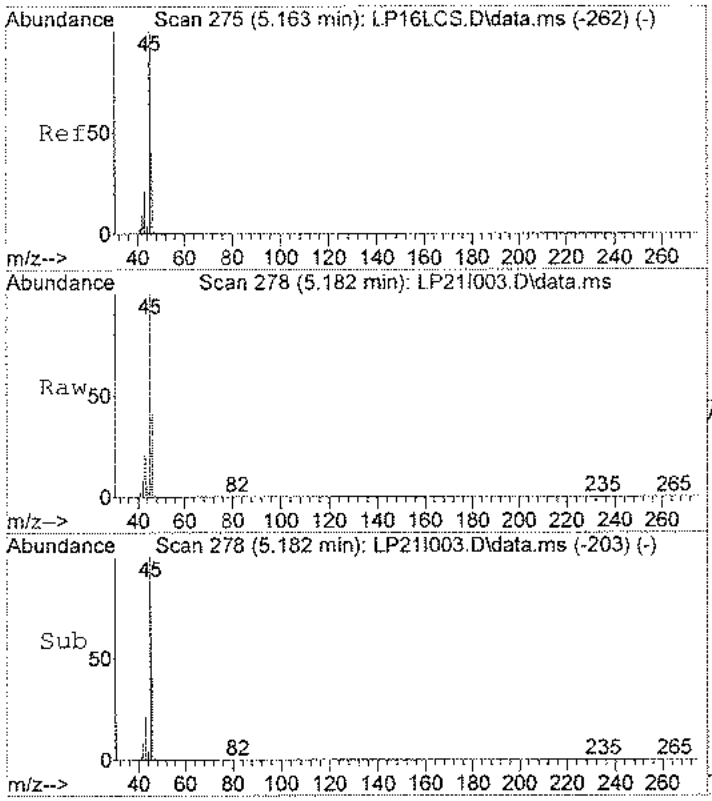


#11
Acetone
Concen: 4.27 ppb
RT: 5.57 min Scan# 341
Delta R.T. -0.06 min
Lab File: LP21I003.D
Acq: 04/25/2017 16:59

Tgt Ion:43.1 Resp: 287633

Ion	Ratio	Lower	Upper
43	100		
58	35.2	30.7	46.1
0	0.0	0.0	0.0
0	0.0	0.0	0.0

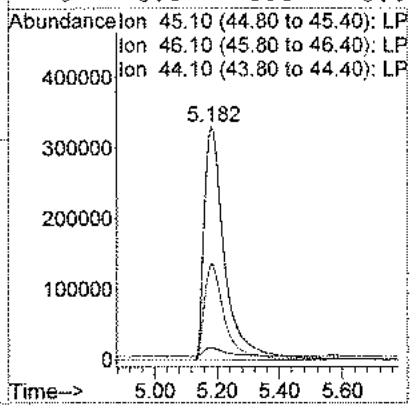


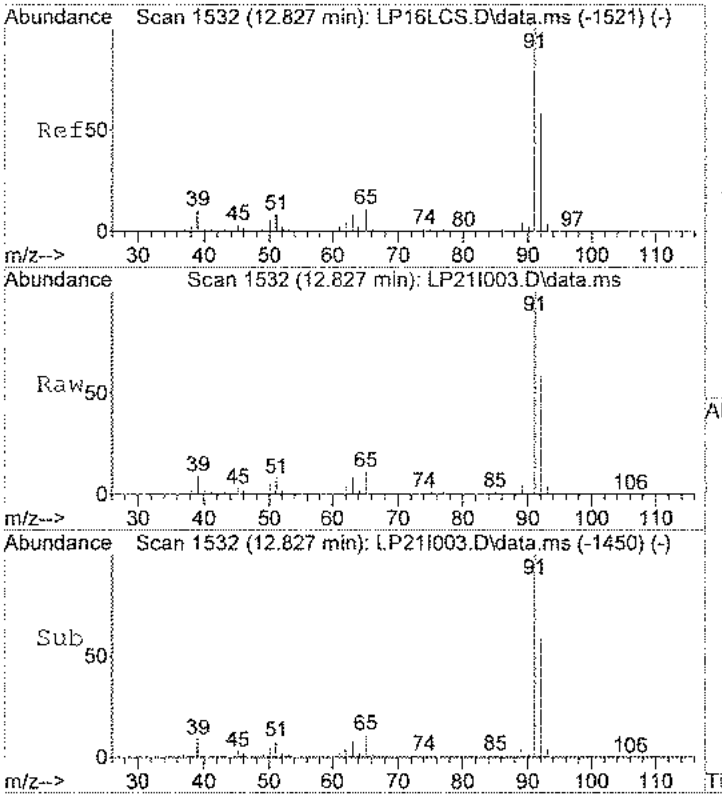


#13
Ethanol
Concen: 120.45 ppb
RT: 5.18 min Scan# 278
Delta R.T. -0.04 min
Lab File: LP21I003.D
Acq: 04/25/2017 16:59

Tgt Ion:45.1 Resp: 1511843

Ion	Ratio	Lower	Upper
45	100		
46	40.5	32.4	48.6
44	4.1	23.4	35.2#
0	0.0	0.0	0.0

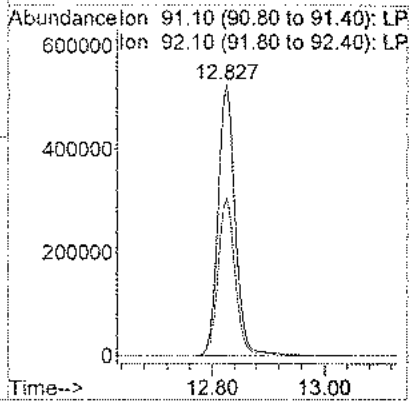




#45
Toluene
Concen: 9.19 ppb
RT: 12.83 min Scan# 1532
Delta R.T. -0.00 min
Lab File: LP21I003.D
Acq: 04/25/2017 16:59

Tgt Ion:91.1 Resp: 1136140

Ion	Ratio	Lower	Upper
91	100		
92	58.6	48.0	72.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Analyst Notebook

TO15 HBN:189606

Workorder#'s: 1710499
1711145
1711146

Sample#'s: 13

Instrument : 5975-L
Column: DB-1
Inst. Program: Initial 40 °C for 4 min; 10 °C/min to 220 °C hold for 3 mins.
Run time: 26 min for 5975-K, 25 min for 5975-L
Carrier Gas: Helium
Cold Trap Dehydration
Initial Calibration Curve is : TO15LA17.M (HBN 189714)

The following compounds in the CCS were outside of +/_30%: N/A

Dilutions: 1710499003 was analyzed at a 1:1.11:10 DIL due to a high concentration of Toluene.

Notes: N/A

Analyst Signature:

Appendix B
Data Validation Reports

VA SLC CERCLA-AOU-1 2017

Data Quality Evaluation

SDG	**1707721**	**Reviewer:**	**SF048970 - Tier 2B validation**
Method	**EPA TO-15**	**Date:**	**5/2/2017**
Matrix	**AIR**	**Reviewed:**	**5/11/2017**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
AIR					
A-0027H-031017-TO-001-BAS	N	1			
A-0027H-031017-TO-002-BAS	FD	1			
A-0013H-031017-TO-001-BAS	N	1			
A-0025H-031417-TO-001-BAS	N	1			
A-0004H-031417-TO-001-BAS	N	1			
A-0012H-031417-TO-001-BAS	N	1			
A-0026H-031617-TO-001-LIV	N	1			

1. Case Narrative Items of Interest

There were no items of concern.

2. Blank Summary

Field Blanks No Field Blanks were found.

Method Blanks No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicates No FD Associated.

Laboratory Duplicates None in this SDG

Matrix Spike No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

All acceptance criteria were met.

6. Tuning and Mass Calibration

All acceptance criteria were met.

7. Internal Standard

All acceptance criteria were met.

8. Calibration Information

Initial Calibration

Samples A-0004H-031417-TO-001-BAS, A-0012H-031417-TO-001-BAS, A-0013H-031017-TO-001-BAS, A-0025H-031417-TO-001-BAS, A-0026H-031617-TO-001-LIV, A-0027H-031017-TO-001-BAS, A-0027H-031017-TO-002-BAS, 1,2,4-Trichlorobenzene %RSD 34.22 vs. 30, Bromoform %RSD 30.06 vs. 30, exceeded criteria. Instrument: 5975-L Cal Date: 11/17/2016. Since only two target compounds exceeded 30% RSD (method allows 2 compounds above 30%), initial calibration met method criteria and associated non-detects were not qualified

Continuing Calibration

All acceptance criteria were met.

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

All acceptance criteria were met.

Data Package Completeness

Package was complete for Tier 2B validation.

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted. Final canister pressures were recorded upon receipt

Validated Form I

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Field ID **A-0027H-031017-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.82	U	U	0.82	2.7	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	U	U	0.42	1	ppb	
	3.1	U	U	3.1	7.4	ug/m3	
1,2,4-Trimethylbenzene	1.5	U	U	1.5	4.9	ug/m3	
	0.3	U	U	0.3	1	ppb	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	**0.77**			0.15	0.5	ppb	
	3.1			0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.15	U	U	0.15	0.5	ppb	
	0.33	U	U	0.33	1.1	ug/m3	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,4-Dichlorobenzene	**0.57**	J	J	0.3	1	ppb	
	3.4	J	J	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	1.5	U	U	1.5	4.9	ug/m3	
	0.3	U	U	0.3	1	ppb	
Acetone	**12**			0.3	1	ppb	
	28			0.71	2.4	ug/m3	
Benzene	**0.23**	J	J	0.15	0.5	ppb	
	0.73	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	U	U	0.37	1	ppb	
	1.9	U	U	1.9	5.2	ug/m3	

Validated Form I

Field ID **A-0027H-031017-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	
	3.1	U	U	3.1	10	ug/m3	
Bromomethane	0.58	U	U	0.58	1.9	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Carbon disulfide	0.47	U	U	0.47	1.6	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	
	0.94	U	U	0.94	3.1	ug/m3	
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	0.15	U	U	0.15	0.5	ppb	
	0.52	U	U	0.52	1.7	ug/m3	
Dibromochloromethane	1.3	U	U	1.3	4.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Dichlorodifluoromethane	**0.59**			0.15	0.5	ppb	
	2.9			0.74	2.5	ug/m3	
Ethyl acetate	**0.3**	J	J	0.3	1	ppb	
	1.1	J	J	1.1	3.6	ug/m3	
Ethyl benzene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**0.32**	J	J	0.15	0.5	ppb	
	1.8	J	J	0.84	2.8	ug/m3	
Freon 113	0.15	U	U	0.15	0.5	ppb	
	1.1	U	U	1.1	3.8	ug/m3	
Freon 114	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.5	ug/m3	
Heptane	**0.22**	J	J	0.15	0.5	ppb	
	0.89	J	J	0.61	2	ug/m3	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**1.3**	J	J	0.65	2.2	ug/m3	
	0.31	J	J	0.15	0.5	ppb	
Methyl chloride	**0.74**			0.15	0.5	ppb	
	1.5			0.31	1	ug/m3	
Methyl ethyl ketone	**0.64**			0.15	0.5	ppb	
	1.9			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**0.36**	J	J	0.15	0.5	ppb	
	1.2	J	J	0.52	1.7	ug/m3	

Validated Form I

Field ID A-0027H-031017-TO-001-BAS

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
n-Hexane	**1.1**	J	J	0.53	1.8	ug/m3	
	0.3	J	J	0.15	0.5	ppb	
o-Xylene	0.65	U	U	0.65	2.2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	0.15	U	U	0.15	0.5	ppb	
	0.44	U	U	0.44	1.5	ug/m3	
Toluene	**0.69**			0.15	0.5	ppb	
	2.6			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.7	U	U	0.7	1.8	ug/m3	
	0.2	U	U	0.2	0.5	ppb	

Field ID A-0027H-031017-TO-002-BAS

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	U	U	0.42	1	ppb	
	3.1	U	U	3.1	7.4	ug/m3	
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	**3.3**			0.61	2	ug/m3	
	0.81			0.15	0.5	ppb	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.15	U	U	0.15	0.5	ppb	
	0.33	U	U	0.33	1.1	ug/m3	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,4-Dichlorobenzene	**0.67**	J	J	0.3	1	ppb	

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	4	J	J	1.8	6	ug/m3	
2-Hexanone	1.3	U	U	1.3	4.1	ug/m3	
	0.32	U	U	0.32	1	ppb	
4-Ethyl toluene	1.5	U	U	1.5	4.9	ug/m3	
	0.3	U	U	0.3	1	ppb	
Acetone	**11**			0.3	1	ppb	
	26			0.71	2.4	ug/m3	
Benzene	**0.17**	J	J	0.15	0.5	ppb	
	0.55	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	U	U	0.37	1	ppb	
	1.9	U	U	1.9	5.2	ug/m3	
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	
	3.1	U	U	3.1	10	ug/m3	
Bromomethane	0.58	U	U	0.58	1.9	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	
	0.94	U	U	0.94	3.1	ug/m3	
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	0.15	U	U	0.15	0.5	ppb	
	0.52	U	U	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Dichlorodifluoromethane	**0.55**			0.15	0.5	ppb	
	2.7			0.74	2.5	ug/m3	
Ethyl acetate	0.3	U	U	0.3	1	ppb	
	1.1	U	U	1.1	3.6	ug/m3	
Ethyl benzene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**1.7**	J	J	0.84	2.8	ug/m3	
	0.3	J	J	0.15	0.5	ppb	
Freon 113	0.15	U	U	0.15	0.5	ppb	
	1.1	U	U	1.1	3.8	ug/m3	
Freon 114	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.5	ug/m3	
Heptane	**0.21**	J	J	0.15	0.5	ppb	
	0.87	J	J	0.61	2	ug/m3	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**0.3**	J	J	0.15	0.5	ppb	

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	1.3	J	J	0.65	2.2	ug/m3	
Methyl chloride	**0.69**			0.15	0.5	ppb	
	1.4			0.31	1	ug/m3	
Methyl ethyl ketone	**0.62**			0.15	0.5	ppb	
	1.8			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**1.2**	J	J	0.52	1.7	ug/m3	
	0.34	J	J	0.15	0.5	ppb	
n-Hexane	**0.28**	J	J	0.15	0.5	ppb	
	0.98	J	J	0.53	1.8	ug/m3	
o-Xylene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	0.15	U	U	0.15	0.5	ppb	
	0.44	U	U	0.44	1.5	ug/m3	
Toluene	**0.74**			0.15	0.5	ppb	
	2.8			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.59	U	U	0.59	2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
trans-1,3-Dichloropropene	0.68	U	U	0.68	2.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Vinyl acetate	0.2	U	U	0.2	0.5	ppb	
	0.7	U	U	0.7	1.8	ug/m3	

Field ID A-0013H-031017-TO-001-BAS

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.59	U	U	0.59	2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,2,4-Trichlorobenzene	0.42	U	U	0.42	1	ppb	
	3.1	U	U	3.1	7.4	ug/m3	
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	

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Field ID **A-0013H-031017-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,2-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.15	U	U	0.15	0.5	ppb	
	0.33	U	U	0.33	1.1	ug/m3	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,4-Dichlorobenzene	1.8	U	U	1.8	6	ug/m3	
	0.3	U	U	0.3	1	ppb	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**9**			0.3	1	ppb	
	21			0.71	2.4	ug/m3	
Benzene	**0.19**	J	J	0.15	0.5	ppb	
	0.62	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	U	U	0.37	1	ppb	
	1.9	U	U	1.9	5.2	ug/m3	
Bromodichloromethane	1	U	U	1	3.4	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Bromoform	3.1	U	U	3.1	10	ug/m3	
	0.3	U	U	0.3	1	ppb	
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	
	0.94	U	U	0.94	3.1	ug/m3	
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	0.73	U	U	0.73	2.4	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	**0.21**	J	J	0.15	0.5	ppb	
	0.72	J	J	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Dichlorodifluoromethane	**0.65**			0.15	0.5	ppb	
	3.2			0.74	2.5	ug/m3	
Ethyl acetate	0.3	U	U	0.3	1	ppb	
	1.1	U	U	1.1	3.6	ug/m3	
Ethyl benzene	0.65	U	U	0.65	2.2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Ethyl chloride	0.4	U	U	0.4	1.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	

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Field ID **A-0013H-031017-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
Freon 11	**0.29**	J	J	0.15	0.5	ppb	
	1.6	J	J	0.84	2.8	ug/m3	
Freon 113	0.15	U	U	0.15	0.5	ppb	
	1.1	U	U	1.1	3.8	ug/m3	
Freon 114	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.5	ug/m3	
Heptane	**0.19**	J	J	0.15	0.5	ppb	
	0.78	J	J	0.61	2	ug/m3	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**1.5**	J	J	0.65	2.2	ug/m3	
	0.35	J	J	0.15	0.5	ppb	
Methyl chloride	**0.73**			0.15	0.5	ppb	
	1.5			0.31	1	ug/m3	
Methyl ethyl ketone	**1.1**			0.15	0.5	ppb	
	3.3			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**0.62**			0.15	0.5	ppb	
	2.1			0.52	1.7	ug/m3	
n-Hexane	**0.39**	J	J	0.15	0.5	ppb	
	1.4	J	J	0.53	1.8	ug/m3	
o-Xylene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	**0.52**			0.15	0.5	ppb	
	1.5			0.44	1.5	ug/m3	
Toluene	**2**			0.57	1.9	ug/m3	
	0.53			0.15	0.5	ppb	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	**0.85**			0.2	0.5	ppb	
	3			0.7	1.8	ug/m3	

Field ID **A-0025H-031417-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.82	U	U	0.82	2.7	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1-Dichloroethane	0.61	U	U	0.61	2	ug/m3	

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	0.15	U	U	0.15	0.5	ppb	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	U	U	0.42	1	ppb	
	3.1	U	U	3.1	7.4	ug/m3	
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	0.61	U	U	0.61	2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.15	U	U	0.15	0.5	ppb	
	0.33	U	U	0.33	1.1	ug/m3	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,4-Dichlorobenzene	**0.34**	J	J	0.3	1	ppb	
	2.1	J	J	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**9.2**			0.3	1	ppb	
	22			0.71	2.4	ug/m3	
Benzene	**0.18**	J	J	0.15	0.5	ppb	
	0.57	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	U	U	0.37	1	ppb	
	1.9	U	U	1.9	5.2	ug/m3	
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	3.1	U	U	3.1	10	ug/m3	
	0.3	U	U	0.3	1	ppb	
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	
	0.94	U	U	0.94	3.1	ug/m3	
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	**1.6**	J	J	0.73	2.4	ug/m3	
	0.33	J	J	0.15	0.5	ppb	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	0.15	U	U	0.15	0.5	ppb	

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Field ID **A-0025H-031417-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	0.52	U	U	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Dichlorodifluoromethane	**0.55**			0.15	0.5	ppb	
	2.7			0.74	2.5	ug/m3	
Ethyl acetate	1.1	U	U	1.1	3.6	ug/m3	
	0.3	U	U	0.3	1	ppb	
Ethyl benzene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**0.3**	J	J	0.15	0.5	ppb	
	1.7	J	J	0.84	2.8	ug/m3	
Freon 113	0.15	U	U	0.15	0.5	ppb	
	1.1	U	U	1.1	3.8	ug/m3	
Freon 114	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.5	ug/m3	
Heptane	0.61	U	U	0.61	2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Hexachloro-1,3-butadiene	3.2	U	U	3.2	11	ug/m3	
	0.3	U	U	0.3	1	ppb	
m,p-Xylene	**0.3**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.65	2.2	ug/m3	
Methyl chloride	**0.92**			0.15	0.5	ppb	
	1.9			0.31	1	ug/m3	
Methyl ethyl ketone	**1.9**			0.15	0.5	ppb	
	5.7			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**3.3**			0.52	1.7	ug/m3	
	0.96			0.15	0.5	ppb	
n-Hexane	**0.2**	J	J	0.15	0.5	ppb	
	0.69	J	J	0.53	1.8	ug/m3	
o-Xylene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	**2.6**			0.15	0.5	ppb	
	7.6			0.44	1.5	ug/m3	
Toluene	**0.58**			0.15	0.5	ppb	
	2.2			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.2	U	U	0.2	0.5	ppb	
	0.7	U	U	0.7	1.8	ug/m3	

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Field ID **A-0004H-031417-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	1	U	U	1	3.4	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	U	U	0.42	1	ppb	
	3.1	U	U	3.1	7.4	ug/m3	
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	1.2	U	U	1.2	3.8	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,2-Dichlorobenzene	1.8	U	U	1.8	6	ug/m3	
	0.3	U	U	0.3	1	ppb	
1,2-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.15	U	U	0.15	0.5	ppb	
	0.33	U	U	0.33	1.1	ug/m3	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,4-Dichlorobenzene	1.8	U	U	1.8	6	ug/m3	
	0.3	U	U	0.3	1	ppb	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**9.2**			0.3	1	ppb	
	22			0.71	2.4	ug/m3	
Benzene	**0.21**	J	J	0.15	0.5	ppb	
	0.66	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	U	U	0.37	1	ppb	
	1.9	U	U	1.9	5.2	ug/m3	
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	
	3.1	U	U	3.1	10	ug/m3	
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.94	U	U	0.94	3.1	ug/m3	
	0.15	U	U	0.15	0.5	ppb	

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Field ID **A-0004H-031417-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	**0.17**	J	J	0.15	0.5	ppb	
	0.85	J	J	0.73	2.4	ug/m3	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	0.15	U	U	0.15	0.5	ppb	
	0.52	U	U	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Dichlorodifluoromethane	**2.8**			0.74	2.5	ug/m3	
	0.58			0.15	0.5	ppb	
Ethyl acetate	**1.6**	J	J	1.1	3.6	ug/m3	
	0.44	J	J	0.3	1	ppb	
Ethyl benzene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**0.28**	J	J	0.15	0.5	ppb	
	1.6	J	J	0.84	2.8	ug/m3	
Freon 113	0.15	U	U	0.15	0.5	ppb	
	1.1	U	U	1.1	3.8	ug/m3	
Freon 114	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.5	ug/m3	
Heptane	**0.73**	J	J	0.61	2	ug/m3	
	0.18	J	J	0.15	0.5	ppb	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**0.23**	J	J	0.15	0.5	ppb	
	0.98	J	J	0.65	2.2	ug/m3	
Methyl chloride	**0.76**			0.15	0.5	ppb	
	1.6			0.31	1	ug/m3	
Methyl ethyl ketone	**0.53**			0.15	0.5	ppb	
	1.6			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**0.6**			0.15	0.5	ppb	
	2.1			0.52	1.7	ug/m3	
n-Hexane	**0.44**	J	J	0.15	0.5	ppb	
	1.6	J	J	0.53	1.8	ug/m3	
o-Xylene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Styrene	1.3	U	U	1.3	4.3	ug/m3	
	0.3	U	U	0.3	1	ppb	
Tetrahydrofuran	0.15	U	U	0.15	0.5	ppb	
	0.44	U	U	0.44	1.5	ug/m3	
Toluene	**0.97**			0.15	0.5	ppb	
	3.7			0.57	1.9	ug/m3	

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.2	U	U	0.2	0.5	ppb	
	0.7	U	U	0.7	1.8	ug/m3	

Field ID A-0012H-031417-TO-001-BAS

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.82	U	U	0.82	2.7	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1,2,2-Tetrachloroethane	1	U	U	1	3.4	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	U	U	0.42	1	ppb	
	3.1	U	U	3.1	7.4	ug/m3	
1,2,4-Trimethylbenzene	1.5	U	U	1.5	4.9	ug/m3	
	0.3	U	U	0.3	1	ppb	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.33	U	U	0.33	1.1	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,3-Dichlorobenzene	1.8	U	U	1.8	6	ug/m3	
	0.3	U	U	0.3	1	ppb	
1,4-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**28**			0.3	1	ppb	
	67			0.71	2.4	ug/m3	
Benzene	**0.2**	J	J	0.15	0.5	ppb	
	0.63	J	J	0.48	1.6	ug/m3	
Benzyl chloride	1.9	U	U	1.9	5.2	ug/m3	

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Field ID **A-0012H-031417-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	0.37	U	U	0.37	1	ppb	
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	
	3.1	U	U	3.1	10	ug/m3	
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	
	0.94	U	U	0.94	3.1	ug/m3	
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	**0.31**	J	J	0.15	0.5	ppb	
	1.5	J	J	0.73	2.4	ug/m3	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	0.15	U	U	0.15	0.5	ppb	
	0.52	U	U	0.52	1.7	ug/m3	
Dibromochloromethane	1.3	U	U	1.3	4.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Dichlorodifluoromethane	**0.51**			0.15	0.5	ppb	
	2.5			0.74	2.5	ug/m3	
Ethyl acetate	**1.8**			0.3	1	ppb	
	6.4			1.1	3.6	ug/m3	
Ethyl benzene	**0.26**	J	J	0.15	0.5	ppb	
	1.1	J	J	0.65	2.2	ug/m3	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**0.24**	J	J	0.15	0.5	ppb	
	1.4	J	J	0.84	2.8	ug/m3	
Freon 113	1.1	U	U	1.1	3.8	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Freon 114	1	U	U	1	3.5	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Heptane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**0.86**			0.15	0.5	ppb	
	3.7			0.65	2.2	ug/m3	
Methyl chloride	**1.3**			0.15	0.5	ppb	
	2.7			0.31	1	ug/m3	
Methyl ethyl ketone	**0.92**			0.15	0.5	ppb	
	2.7			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.61	U	U	0.61	2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**0.32**	J	J	0.15	0.5	ppb	

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	1.1	J	J	0.52	1.7	ug/m3	
n-Hexane	**0.25**	J	J	0.15	0.5	ppb	
	0.89	J	J	0.53	1.8	ug/m3	
o-Xylene	**0.23**	J	J	0.15	0.5	ppb	
	0.98	J	J	0.65	2.2	ug/m3	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	0.15	U	U	0.15	0.5	ppb	
	0.44	U	U	0.44	1.5	ug/m3	
Toluene	**2.3**			0.15	0.5	ppb	
	8.5			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.2	U	U	0.2	0.5	ppb	
	0.7	U	U	0.7	1.8	ug/m3	

Field ID A-0026H-031617-TO-001-LIV

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	1	U	U	1	3.4	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1,2-Trichloroethane	**0.16**	J	J	0.15	0.5	ppb	
	0.88	J	J	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	U	U	0.42	1	ppb	
	3.1	U	U	3.1	7.4	ug/m3	
1,2,4-Trimethylbenzene	**0.32**	J	J	0.3	1	ppb	
	1.6	J	J	1.5	4.9	ug/m3	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	**0.62**			0.15	0.5	ppb	
	2.5			0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	1.5	U	U	1.5	4.9	ug/m3	
	0.3	U	U	0.3	1	ppb	
1,3-Butadiene	0.15	U	U	0.15	0.5	ppb	
	0.33	U	U	0.33	1.1	ug/m3	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	

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Field ID **A-0026H-031617-TO-001-LIV**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**67**			0.71	2.4	ug/m3	
	28			0.3	1	ppb	
Benzene	**0.75**	J	J	0.48	1.6	ug/m3	
	0.23	J	J	0.15	0.5	ppb	
Benzyl chloride	0.37	U	U	0.37	1	ppb	
	1.9	U	U	1.9	5.2	ug/m3	
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	
	3.1	U	U	3.1	10	ug/m3	
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.94	U	U	0.94	3.1	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	**0.25**	J	J	0.15	0.5	ppb	
	1.2	J	J	0.73	2.4	ug/m3	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	**0.31**	J	J	0.15	0.5	ppb	
	1.1	J	J	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Dichlorodifluoromethane	**0.68**			0.15	0.5	ppb	
	3.4			0.74	2.5	ug/m3	
Ethyl acetate	**0.34**	J	J	0.3	1	ppb	
	1.2	J	J	1.1	3.6	ug/m3	
Ethyl benzene	**0.53**			0.15	0.5	ppb	
	2.3			0.65	2.2	ug/m3	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**1.5**	J	J	0.84	2.8	ug/m3	
	0.27	J	J	0.15	0.5	ppb	
Freon 113	0.15	U	U	0.15	0.5	ppb	
	1.1	U	U	1.1	3.8	ug/m3	
Freon 114	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.5	ug/m3	
Heptane	**3.3**			0.15	0.5	ppb	
	13			0.61	2	ug/m3	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	

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Field ID **A-0026H-031617-TO-001-LIV**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
m,p-Xylene	**2.1**			0.15	0.5	ppb	
	8.9			0.65	2.2	ug/m3	
Methyl chloride	**1.6**			0.31	1	ug/m3	
	0.76			0.15	0.5	ppb	
Methyl ethyl ketone	**6.2**			0.44	1.5	ug/m3	
	2.1			0.15	0.5	ppb	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**0.33**	J	J	0.15	0.5	ppb	
	1.1	J	J	0.52	1.7	ug/m3	
n-Hexane	**0.69**			0.15	0.5	ppb	
	2.4			0.53	1.8	ug/m3	
o-Xylene	**2.1**	J	J	0.65	2.2	ug/m3	
	0.48	J	J	0.15	0.5	ppb	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	**0.54**			0.15	0.5	ppb	
	1.6			0.44	1.5	ug/m3	
Toluene	**1.4**			0.15	0.5	ppb	
	5.3			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.7	U	U	0.7	1.8	ug/m3	
	0.2	U	U	0.2	0.5	ppb	

Validated Form I

VA SLC CERCLA-AOU-1 2017

Data Quality Evaluation

SDG	**1707721**	**Reviewer:**	**SF048970 - Tier 2B validation**
Method	**EPA TO-15 SIM**	**Date:**	**5/2/2017**
Matrix	**AIR**	**Reviewed:**	**5/11/2017**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
AIR					
A-0027H-031017-TO-001-BAS	N	1			
A-0027H-031017-TO-002-BAS	FD	1			
A-0013H-031017-TO-001-BAS	N	1			
A-0025H-031417-TO-001-BAS	N	1			
A-0004H-031417-TO-001-BAS	N	1			
A-0012H-031417-TO-001-BAS	N	1			
A-0026H-031617-TO-001-LIV	N	1			

1. Case Narrative Items of Interest

There were no items of concern.

2. Blank Summary

Field Blanks No Field Blanks were found.

Method Blanks No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicates No FD Associated.

Laboratory Duplicates None in this SDG

Matrix Spike No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

All acceptance criteria were met.

6. Tuning and Mass Calibration All acceptance criteria were met.

7. Internal Standard All acceptance criteria were met.

8. Calibration Information

Initial Calibration All acceptance criteria were met.

Continuing Calibration All acceptance criteria were met.

9. Holding Time All acceptance criteria were met.

10. Confirmation None for this SDG.

11. Summary

General Comments All acceptance criteria were met.

Data Package Completeness Package was complete for Tier 2B validation.

Forms Review/ Items of Interest No samples were excluded for dilutions or re-extractions.

COC Review No discrepancies.

Validated Form I

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Field ID **A-0027H-031017-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.18	U	U		0.18	ug/m3	
	0.05	U	U		0.05	ppb	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	0.05	U	U		0.05	ppb	
	0.34	U	U		0.34	ug/m3	
Trichloroethene	0.27	U	U		0.27	ug/m3	
	0.05	U	U		0.05	ppb	
Vinyl chloride	0.05	U	U		0.05	ppb	
	0.13	U	U		0.13	ug/m3	

Field ID **A-0027H-031017-TO-002-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.05	U	U		0.05	ppb	
	0.18	U	U		0.18	ug/m3	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	0.05	U	U		0.05	ppb	
	0.34	U	U		0.34	ug/m3	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	0.05	U	U		0.05	ppb	
	0.13	U	U		0.13	ug/m3	

Field ID **A-0013H-031017-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.05	U	U		0.05	ppb	
	0.18	U	U		0.18	ug/m3	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	0.34	U	U		0.34	ug/m3	
	0.05	U	U		0.05	ppb	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	0.05	U	U		0.05	ppb	
	0.13	U	U		0.13	ug/m3	

Validated Form I

Field ID **A-0025H-031417-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	**0.65**				0.05	ppb	
	2.3				0.18	ug/m3	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	**0.37**				0.34	ug/m3	
	0.055				0.05	ppb	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	0.05	U	U		0.05	ppb	
	0.13	U	U		0.13	ug/m3	

Field ID **A-0004H-031417-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.05	U	U		0.05	ppb	
	0.18	U	U		0.18	ug/m3	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	0.34	U	U		0.34	ug/m3	
	0.05	U	U		0.05	ppb	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	0.05	U	U		0.05	ppb	
	0.13	U	U		0.13	ug/m3	

Field ID **A-0012H-031417-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.18	U	U		0.18	ug/m3	
	0.05	U	U		0.05	ppb	
cis-1,2-Dichloroethene	0.2	U	U		0.2	ug/m3	
	0.05	U	U		0.05	ppb	
Tetrachloroethene	**0.34**				0.05	ppb	
	2.3				0.34	ug/m3	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	0.05	U	U		0.05	ppb	
	0.13	U	U		0.13	ug/m3	

Field ID **A-0026H-031617-TO-001-LIV**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.05	U	U		0.05	ppb	
	0.18	U	U		0.18	ug/m3	
cis-1,2-Dichloroethene	0.2	U	U		0.2	ug/m3	
	0.05	U	U		0.05	ppb	
Tetrachloroethene	**0.29**				0.05	ppb	

Validated Form I

Field ID	A-0026H-031617-TO-001-LIV						
Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	2				0.34	ug/m3	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	0.13	U	U		0.13	ug/m3	
	0.05	U	U		0.05	ppb	

Validated Form I

VA SLC CERCLA-AOU-1 2017

Data Quality Evaluation

SDG	**1709321**	**Reviewer:**	**mfesler - Tier 4 validation**
Method	**EPA TO-15**	**Date:**	**5/5/2017**
Matrix	**AIR**	**Reviewed:**	**5/11/2017**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
AIR					
A-0001H-032317-TO-001-BAS	N	1			
A-0001H-032317-TO-002-BAS	FD	1			
A-0002H-032317-TO-001-BAS	N	1			
A-0029H-033117-TO-001-BAS	N	1			

1. Case Narrative Items of Interest

Results for Acetone in Samples A-0001H-032317-TO-001-BAS and A-0001H-032317-TO-002-BAS exceeded the upper calibration range. Lab qualifed results ("E" flag)

2. Blank Summary

Field Blanks No Field Blanks were found.

Method Blanks No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicates No FD Associated.

Laboratory Duplicates None in this SDG

Matrix Spike No MS's for this SDG. No SD's for this SDG.

4. Laboratory Control Sample

These LCS analytes were out of control: Carbon tetrachloride (BD), Carbon tetrachloride (BS), Dibromochloromethane (BS), Freon 113 (BD), Freon 113 (BS), Freon 114 (BS). Since recoveries exceeded the UCL for the compounds listed, detected concentrations were qualified as estimated and flagged "J" and non-detects were not qualified ("None" flag). All RPD acceptance criteria were met. During Tier 4 validation, the LCS (LN48LCS) concentrations for Trichlorofluoromethane (Freon 11), methylene chloride, and 1,1,1-TCA were re-calculated from the raw data values using average response factor and the following formula: (%rec = conc LCS/TV x 100%). All within criteria of 70 - 130% of true value.

Matrix	QAQC Type	Field ID	Analyte	Recovery	Lower Limit	Upper Limit

AIR	BS	544177	Carbon tetrachloride	137.92	70	130
AIR	BS	544177	Dibromochloromethane	134	70	130
AIR	BS	544177	Freon 113	132.62	70	130
AIR	BS	544177	Freon 114	130.75	70	130
AIR	BD	544178	Carbon tetrachloride	133.14	70	130
AIR	BD	544178	Freon 113	130.68	70	130

5. Surrogates

All acceptance criteria were met.

6. Tuning and Mass Calibration

All acceptance criteria were met.

7. Internal Standard

All acceptance criteria were met.

8. Calibration Information

Initial Calibration

Samples A-0001H-032317-TO-001-BAS, A-0001H-032317-TO-002-BAS, A-0002H-032317-TO-001-BAS, A-0029H-033117-TO-001-BAS, 1,2,4-Trichlorobenzene RSD 34.2% vs. 30, Bromoform RSD 30.1% vs. 30, exceeded criteria. Instrument: 5975-L Cal Date: 11/17/2016. Since only two target compounds exceeded 30% RSD (method allows 2 compounds above 30%), initial calibration met method criteria and associated non-detects were not qualified ("None" flag). Results for Acetone in Samples A-0001H-032317-TO-001-BAS and A-0001H-032317-TO-002-BAS exceeded the upper calibration range. Samples were not re-analyzed on a diluted basis. Therefore, associated detects were qualifed as estimated and flagged "J". During Tier 4 validation, the initial calibration was re-calculated from the raw data values using response factors and the following formula: (RespFactor = StdResponse/ISResponse x ISConc/StdConc). Reported response factors were confirmed, as well as mean RRF and %RSD (StdDev/mean RRF x 100%). No discrepancies were noted.

Continuing Calibration

Samples A-0001H-032317-TO-001-BAS, A-0001H-032317-TO-002-BAS, A-0002H-032317-TO-001-BAS, A-0029H-033117-TO-001-BAS, Carbon tetrachloride %D 37.9% vs. 30, exceeded criteria. Instrument: 5975-L Cal Date: 4/10/2017. Since UCL was exceeded, associated detects were qualifed as estimated and flagged "J". During Tier 4 validation, CCV LN48LCS was re-calculated for Trichlorofluoromethane (Freon 11), methylene chloride, and 1,1,1-TCA using response factors and the following formula: (RespFactor = StdResponse/ISResponse x ISConc/StdConc). Reported CCV response factors were confirmed.

Flagging Category

Continuing calibration recovery greater than the upper control limit

Instrument	*Date*	*Field ID*	*Analyte*	*Validation Flag*
5975-L	4/10/2017	A-0001H-032317-TO-002-BAS	Carbon tetrachloride	J
5975-L	4/10/2017	A-0001H-032317-TO-001-BAS	Carbon tetrachloride	J

Flagging Category

Initial calibration RSD exceeded

Instrument	*Date*	*Field ID*	*Analyte*	*Validation Flag*
5975-L	11/17/2016	A-0029H-033117-TO-001-BAS	1,2,4-Trichlorobenzene	None
5975-L	11/17/2016	A-0002H-032317-TO-001-BAS	1,2,4-Trichlorobenzene	None
5975-L	11/17/2016	A-0001H-032317-TO-002-BAS	1,2,4-Trichlorobenzene	None
5975-L	11/17/2016	A-0001H-032317-TO-001-BAS	1,2,4-Trichlorobenzene	None

5975-L	11/17/2016	A-0029H-033117-TO-001-BAS	Bromoform	None
5975-L	11/17/2016	A-0002H-032317-TO-001-BAS	Bromoform	None
5975-L	11/17/2016	A-0001H-032317-TO-002-BAS	Bromoform	None
5975-L	11/17/2016	A-0001H-032317-TO-001-BAS	Bromoform	None

Flagging Category

Result greater than linear calibration range

Instrument	*Date*	*Field ID*	*Analyte*	*Validation Flag*
		A-0001H-032317-TO-002-BAS	Acetone	J
		A-0001H-032317-TO-001-BAS	Acetone	J

9. Holding Time

All acceptance criteria were met.

10. Confirmation

N/A

11. Summary

General Comments

1. Initial Calibration: Samples A-0001H-032317-TO-001-BAS, A-0001H-032317-TO-002-BAS, A-0002H-032317-TO-001-BAS, A-0029H-033117-TO-001-BAS, 1,2,4-Trichlorobenzene RSD 34.2% vs. 30, Bromoform RSD 30.1% vs. 30, exceeded criteria. Instrument: 5975-L Cal Date: 11/17/2016. Since only two target compounds exceeded 30% RSD (met;hod allows 2 compounds above 30%), initial calibration met method criteria and associated non-detects were not qualified ("None" flag). Results for Acetone in Samples A-0001H-032317-TO-001-BAS and A-0001H-032317-TO-002-BAS exceeded the upper calibration range. Samples were not re-analyzed on a diluted basis. Therefore, associated detects were qualifed as estimated and flagged "J".
2. Continuing Calibration: Samples A-0001H-032317-TO-001-BAS, A-0001H-032317-TO-002-BAS, A-0002H-032317-TO-001-BAS, A-0029H-033117-TO-001-BAS, Carbon tetrachloride %D 37.9% vs. 30, exceeded criteria. Instrument: 5975-L Cal Date: 4/10/2017. Since UCL was exceeded, associated detects were qualifed as estimated and flagged "J".
3. These LCS analytes were out of control: Carbon tetrachloride (BD), Carbon tetrachloride (BS), Dibromochloromethane (BS), Freon 113 (BD), Freon 113 (BS), Freon 114 (BS). Since recoveries exceeded the UCL for the compounds listed, detected concentrations were qualified as estimated and flagged "J" and non-detects were not qualified ("None" flag).

Data Package Completeness

Package was complete for Tier 4 validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions. During Tier 4 validation, the sample results for Trichlorofluoromethane (Freon 11), methylene chloride, and 1,1,1-TCA in sample A-0002H-032317-TO-001-BAS were re-calculated from the raw data values using average response factor and the following formula: (Conc = SampleResponse/ISResponse x ISConc/AveRspFactor). Sample results were confirmed.

COC Review

No discrepancies were noted. Final canister pressures were recorded upon receipt

Validated Form I

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Field ID **A-0001H-032317-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.82	U	U	0.82	2.7	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	U	U	0.42	1	ppb	IC%RSD (None)
	3.1	U	U	3.1	7.4	ug/m3	IC%RSD (None)
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	1.2	U	U	1.2	3.8	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	**0.32**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.15	U	U	0.15	0.5	ppb	
	0.33	U	U	0.33	1.1	ug/m3	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,4-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**63**	J	E	0.3	1	ppb	>ICLinearRange (J)
	150	J	E	0.71	2.4	ug/m3	>ICLinearRange (J)
Benzene	**0.2**	J	J	0.15	0.5	ppb	
	0.65	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	U	U	0.37	1	ppb	
	1.9	U	U	1.9	5.2	ug/m3	

Validated Form I

Field ID **A-0001H-032317-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	3.1	U	U	3.1	10	ug/m3	IC%RSD (None)
	0.3	U	U	0.3	1	ppb	IC%RSD (None)
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	**0.17**	J	J	0.15	0.5	ppb	CCV>UCL (J)
	0.17	J	J	0.15	0.5	ppb	LCS>UCL (J)
	0.17	J	J	0.15	0.5	ppb	LCSD>UCL (J)
	1.1	J	J	0.94	3.1	ug/m3	CCV>UCL (J)
	1.1	J	J	0.94	3.1	ug/m3	LCS>UCL (J)
	1.1	J	J	0.94	3.1	ug/m3	LCSD>UCL (J)
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	**0.26**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.73	2.4	ug/m3	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	0.15	U	U	0.15	0.5	ppb	
	0.52	U	U	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	1.3	U	U	1.3	4.3	ug/m3	LCS>UCL (none)
Dichlorodifluoromethane	**0.56**			0.15	0.5	ppb	
	2.7			0.74	2.5	ug/m3	
Ethyl acetate	**5.8**			0.3	1	ppb	
	21			1.1	3.6	ug/m3	
Ethyl benzene	**0.58**			0.15	0.5	ppb	
	2.5			0.65	2.2	ug/m3	
Ethyl chloride	0.4	U	U	0.4	1.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Freon 11	**0.25**	J	J	0.15	0.5	ppb	
	1.4	J	J	0.84	2.8	ug/m3	
Freon 113	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	0.15	U	U	0.15	0.5	ppb	LCSD>UCL (none)
	1.1	U	U	1.1	3.8	ug/m3	LCS>UCL (none)
	1.1	U	U	1.1	3.8	ug/m3	LCSD>UCL (none)
Freon 114	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	1	U	U	1	3.5	ug/m3	LCS>UCL (none)
Heptane	**0.56**			0.15	0.5	ppb	
	2.3			0.61	2	ug/m3	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**2.2**			0.15	0.5	ppb	
	9.4			0.65	2.2	ug/m3	
Methyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.31	U	U	0.31	1	ug/m3	
Methyl ethyl ketone	**28**			0.15	0.5	ppb	
	82			0.44	1.5	ug/m3	

Validated Form I

Field ID **A-0001H-032317-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
Methyl isobutyl ketone	**0.7**			0.15	0.5	ppb	
	2.9			0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**0.56**			0.15	0.5	ppb	
	1.9			0.52	1.7	ug/m3	
n-Hexane	**0.22**	J	J	0.15	0.5	ppb	
	0.78	J	J	0.53	1.8	ug/m3	
o-Xylene	**2.4**			0.65	2.2	ug/m3	
	0.56			0.15	0.5	ppb	
Styrene	**0.4**	J	J	0.3	1	ppb	
	1.7	J	J	1.3	4.3	ug/m3	
Tetrahydrofuran	0.15	U	U	0.15	0.5	ppb	
	0.44	U	U	0.44	1.5	ug/m3	
Toluene	**1.1**			0.15	0.5	ppb	
	4.3			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.2	U	U	0.2	0.5	ppb	
	0.7	U	U	0.7	1.8	ug/m3	

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	3.1	U	U	3.1	7.4	ug/m3	IC%RSD (None)
	0.42	U	U	0.42	1	ppb	IC%RSD (None)
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	**0.33**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.33	U	U	0.33	1.1	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,3-Dichlorobenzene	1.8	U	U	1.8	6	ug/m3	
	0.3	U	U	0.3	1	ppb	
1,4-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**62**	J	E	0.3	1	ppb	>ICLinearRange (J)
	150	J	E	0.71	2.4	ug/m3	>ICLinearRange (J)
Benzene	**0.2**	J	J	0.15	0.5	ppb	
	0.65	J	J	0.48	1.6	ug/m3	
Benzyl chloride	1.9	U	U	1.9	5.2	ug/m3	
	0.37	U	U	0.37	1	ppb	
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	IC%RSD (None)
	3.1	U	U	3.1	10	ug/m3	IC%RSD (None)
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	**0.15**	J	J	0.15	0.5	ppb	
	0.47	J	J	0.47	1.6	ug/m3	
Carbon tetrachloride	**1.1**	J	J	0.94	3.1	ug/m3	LCSD>UCL (J)
	0.17	J	J	0.15	0.5	ppb	CCV>UCL (J)
	0.17	J	J	0.15	0.5	ppb	LCS>UCL (J)
	0.17	J	J	0.15	0.5	ppb	LCSD>UCL (J)
	1.1	J	J	0.94	3.1	ug/m3	CCV>UCL (J)
	1.1	J	J	0.94	3.1	ug/m3	LCS>UCL (J)
Chlorobenzene	0.69	U	U	0.69	2.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Chloroform	**0.27**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.73	2.4	ug/m3	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	0.15	U	U	0.15	0.5	ppb	
	0.52	U	U	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	1.3	U	U	1.3	4.3	ug/m3	LCS>UCL (none)
Dichlorodifluoromethane	**0.56**			0.15	0.5	ppb	
	2.8			0.74	2.5	ug/m3	
Ethyl acetate	**22**			1.1	3.6	ug/m3	
	6			0.3	1	ppb	
Ethyl benzene	**0.6**			0.15	0.5	ppb	
	2.6			0.65	2.2	ug/m3	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**0.26**	J	J	0.15	0.5	ppb	

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	1.4	J	J	0.84	2.8	ug/m3	
Freon 113	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	0.15	U	U	0.15	0.5	ppb	LCSD>UCL (none)
	1.1	U	U	1.1	3.8	ug/m3	LCS>UCL (none)
	1.1	U	U	1.1	3.8	ug/m3	LCSD>UCL (none)
Freon 114	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	1	U	U	1	3.5	ug/m3	LCS>UCL (none)
Heptane	**2.3**			0.61	2	ug/m3	
	0.56			0.15	0.5	ppb	
Hexachloro-1,3-butadiene	3.2	U	U	3.2	11	ug/m3	
	0.3	U	U	0.3	1	ppb	
m,p-Xylene	**2.3**			0.15	0.5	ppb	
	9.9			0.65	2.2	ug/m3	
Methyl chloride	**0.67**			0.15	0.5	ppb	
	1.4			0.31	1	ug/m3	
Methyl ethyl ketone	**28**			0.15	0.5	ppb	
	82			0.44	1.5	ug/m3	
Methyl isobutyl ketone	**0.77**			0.15	0.5	ppb	
	3.1			0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**2.6**			0.52	1.7	ug/m3	
	0.75			0.15	0.5	ppb	
n-Hexane	**0.23**	J	J	0.15	0.5	ppb	
	0.8	J	J	0.53	1.8	ug/m3	
o-Xylene	**0.56**			0.15	0.5	ppb	
	2.4			0.65	2.2	ug/m3	
Styrene	**0.51**	J	J	0.3	1	ppb	
	2.2	J	J	1.3	4.3	ug/m3	
Tetrahydrofuran	0.15	U	U	0.15	0.5	ppb	
	0.44	U	U	0.44	1.5	ug/m3	
Toluene	**1.1**			0.15	0.5	ppb	
	4.2			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.7	U	U	0.7	1.8	ug/m3	
	0.2	U	U	0.2	0.5	ppb	

Field ID **A-0002H-032317-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	**0.53**			0.15	0.5	ppb	
	2.9			0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	

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Field ID **A-0002H-032317-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	U	U	0.42	1	ppb	IC%RSD (None)
	3.1	U	U	3.1	7.4	ug/m3	IC%RSD (None)
1,2,4-Trimethylbenzene	1.5	U	U	1.5	4.9	ug/m3	
	0.3	U	U	0.3	1	ppb	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.15	U	U	0.15	0.5	ppb	
	0.33	U	U	0.33	1.1	ug/m3	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,4-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**26**			0.3	1	ppb	
	63			0.71	2.4	ug/m3	
Benzene	**0.17**	J	J	0.15	0.5	ppb	
	0.55	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	U	U	0.37	1	ppb	
	1.9	U	U	1.9	5.2	ug/m3	
Bromodichloromethane	1	U	U	1	3.4	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Bromoform	0.3	U	U	0.3	1	ppb	IC%RSD (None)
	3.1	U	U	3.1	10	ug/m3	IC%RSD (None)
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	0.15	U	U	0.15	0.5	ppb	LCSD>UCL (none)
	0.94	U	U	0.94	3.1	ug/m3	LCS>UCL (none)
	0.94	U	U	0.94	3.1	ug/m3	LCSD>UCL (none)
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	**0.27**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.73	2.4	ug/m3	

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Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	**0.28**	J	J	0.15	0.5	ppb	
	0.96	J	J	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	1.3	U	U	1.3	4.3	ug/m3	LCS>UCL (none)
Dichlorodifluoromethane	**0.57**			0.15	0.5	ppb	
	2.8			0.74	2.5	ug/m3	
Ethyl acetate	**5.1**			0.3	1	ppb	
	18			1.1	3.6	ug/m3	
Ethyl benzene	**0.17**	J	J	0.15	0.5	ppb	
	0.72	J	J	0.65	2.2	ug/m3	
Ethyl chloride	0.4	U	U	0.4	1.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Freon 11	**0.34**	J	J	0.15	0.5	ppb	
	1.9	J	J	0.84	2.8	ug/m3	
Freon 113	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	0.15	U	U	0.15	0.5	ppb	LCSD>UCL (none)
	1.1	U	U	1.1	3.8	ug/m3	LCS>UCL (none)
	1.1	U	U	1.1	3.8	ug/m3	LCSD>UCL (none)
Freon 114	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	1	U	U	1	3.5	ug/m3	LCS>UCL (none)
Heptane	**0.18**	J	J	0.15	0.5	ppb	
	0.72	J	J	0.61	2	ug/m3	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**1.2**			0.15	0.5	ppb	
	5.4			0.65	2.2	ug/m3	
Methyl chloride	**0.89**			0.15	0.5	ppb	
	1.8			0.31	1	ug/m3	
Methyl ethyl ketone	**1**			0.15	0.5	ppb	
	3			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**2.5**			0.15	0.5	ppb	
	8.6			0.52	1.7	ug/m3	
n-Hexane	**0.26**	J	J	0.15	0.5	ppb	
	0.92	J	J	0.53	1.8	ug/m3	
o-Xylene	**0.97**	J	J	0.65	2.2	ug/m3	
	0.22	J	J	0.15	0.5	ppb	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	**1.2**			0.15	0.5	ppb	
	3.4			0.44	1.5	ug/m3	
Toluene	**1.7**			0.15	0.5	ppb	
	6.3			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	

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Field ID **A-0002H-032317-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.2	U	U	0.2	0.5	ppb	
	0.7	U	U	0.7	1.8	ug/m3	

Field ID **A-0029H-033117-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	3.1	U	U	3.1	7.4	ug/m3	IC%RSD (None)
	0.42	U	U	0.42	1	ppb	IC%RSD (None)
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.33	U	U	0.33	1.1	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,3-Dichlorobenzene	1.8	U	U	1.8	6	ug/m3	
	0.3	U	U	0.3	1	ppb	
1,4-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**12**			0.3	1	ppb	
	29			0.71	2.4	ug/m3	
Benzene	**0.41**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.48	1.6	ug/m3	
Benzyl chloride	1.9	U	U	1.9	5.2	ug/m3	
	0.37	U	U	0.37	1	ppb	
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	

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Field ID **A-0029H-033117-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	IC%RSD (None)
	3.1	U	U	3.1	10	ug/m3	IC%RSD (None)
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	0.15	U	U	0.15	0.5	ppb	LCSD>UCL (none)
	0.94	U	U	0.94	3.1	ug/m3	LCS>UCL (none)
	0.94	U	U	0.94	3.1	ug/m3	LCSD>UCL (none)
Chlorobenzene	0.69	U	U	0.69	2.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Chloroform	**0.88**	J	J	0.73	2.4	ug/m3	
	0.18	J	J	0.15	0.5	ppb	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	**0.19**	J	J	0.15	0.5	ppb	
	0.64	J	J	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	1.3	U	U	1.3	4.3	ug/m3	LCS>UCL (none)
Dichlorodifluoromethane	**0.6**			0.15	0.5	ppb	
	3			0.74	2.5	ug/m3	
Ethyl acetate	0.3	U	U	0.3	1	ppb	
	1.1	U	U	1.1	3.6	ug/m3	
Ethyl benzene	0.65	U	U	0.65	2.2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**0.38**	J	J	0.15	0.5	ppb	
	2.1	J	J	0.84	2.8	ug/m3	
Freon 113	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	0.15	U	U	0.15	0.5	ppb	LCSD>UCL (none)
	1.1	U	U	1.1	3.8	ug/m3	LCS>UCL (none)
	1.1	U	U	1.1	3.8	ug/m3	LCSD>UCL (none)
Freon 114	0.15	U	U	0.15	0.5	ppb	LCS>UCL (none)
	1	U	U	1	3.5	ug/m3	LCS>UCL (none)
Heptane	**1.6**			0.15	0.5	ppb	
	6.4			0.61	2	ug/m3	
Hexachloro-1,3-butadiene	3.2	U	U	3.2	11	ug/m3	
	0.3	U	U	0.3	1	ppb	
m,p-Xylene	**2.2**			0.65	2.2	ug/m3	
	0.51			0.15	0.5	ppb	
Methyl chloride	**0.62**			0.15	0.5	ppb	
	1.3			0.31	1	ug/m3	
Methyl ethyl ketone	**7.1**			0.15	0.5	ppb	
	21			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	

Validated Form I

Field ID	A-0029H-033117-TO-001-BAS						
Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**5.5**			0.15	0.5	ppb	
	19			0.52	1.7	ug/m3	
n-Hexane	**2.4**			0.53	1.8	ug/m3	
	0.68			0.15	0.5	ppb	
o-Xylene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	**0.63**			0.15	0.5	ppb	
	1.8			0.44	1.5	ug/m3	
Toluene	**14**			0.15	0.5	ppb	
	52			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.7	U	U	0.7	1.8	ug/m3	
	0.2	U	U	0.2	0.5	ppb	

Validated Form I

Validation Flag Abbreviations

Abbreviation	Validation Reason	Category
>ICLinearRange	Result greater than linear calibration range	Calibration
CCV>UCL	Continuing calibration recovery greater than the upper control limit	Calibration
IC%RSD	Initial calibration RSD exceeded	Calibration
LCS>UCL	LCS recovery greater than the upper control limit	LaboratoryControlSample
LCSD>UCL	LCSD recovery greater than the upper control limit	LaboratoryControlSample

VA SLC CERCLA-AOU-1 2017

Data Quality Evaluation

SDG	**1709321**	**Reviewer:**	**mfesler - Tier 4 validation**
Method	**EPA TO-15 SIM**	**Date:**	**5/5/2017**
Matrix	**AIR**	**Reviewed:**	**5/11/2017**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
AIR					
A-0001H-032317-TO-001-BAS	N	1			
A-0001H-032317-TO-002-BAS	FD	1			
A-0002H-032317-TO-001-BAS	N	1			
A-0029H-033117-TO-001-BAS	N	1			

1. Case Narrative Items of Interest

No comments were made

2. Blank Summary

Field Blanks No Field Blanks were found.

Method Blanks No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicates No FD Associated.

Laboratory Duplicates None in this SDG

Matrix Spike No MS's for this SDG. No SD's for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met. During Tier 4 validation, the LCS (LN63S05) concentration for Trichloroethene was re-calculated from the raw data values using average response factor and the following formula: (%rec = conc LCS/TV x 100%). Within criteria of 70 - 130% of true value.

5. Surrogates

All acceptance criteria were met.

6. Tuning and Mass Calibration

All acceptance criteria were met.

7. Internal Standard

All acceptance criteria were met.

8. Calibration Information

Initial Calibration

All acceptance criteria were met. During Tier 4 validation, the initial calibration was re-calculated from the raw data values using response factors and the following formula: (RespFactor = StdResponse/ISResponse x ISConc/StdConc). Reported response factors were confirmed, as well as mean RRF and %RSD (StdDev/mean RRF x 100%). No discrepancies were noted..

Continuing Calibration

All acceptance criteria were met. During Tier 4 validation, CCV LN63S05 was re-calculated for Trichloroethene using response factors and the following formula: (RespFactor = StdResponse/ISResponse x ISConc/StdConc). Reported CCV response factor was confirmed.

9. Holding Time

All acceptance criteria were met.

10. Confirmation

N/A

11. Summary

General Comments

All acceptance criteria were met.

Data Package Completeness

Data package complete for Tier 4 validation

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions. During Tier 4 validation, the sample results for Trichloroethene in sample A-0002H-032317-TO-001-BAS was re-calculated from the raw data values using average response factor and the following formula: (Conc = SampleResponse/ISResponse x ISConc/AveRspFactor). Sample result was confirmed.

COC Review

No discrepancies were noted

Validated Form I

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Field ID **A-0001H-032317-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.18	U	U		0.18	ug/m3	
	0.05	U	U		0.05	ppb	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	**0.16**				0.05	ppb	
	1.1				0.34	ug/m3	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	**0.17**				0.13	ug/m3	
	0.068				0.05	ppb	

Field ID **A-0001H-032317-TO-002-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.05	U	U		0.05	ppb	
	0.18	U	U		0.18	ug/m3	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	**0.16**				0.05	ppb	
	1.1				0.34	ug/m3	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	**0.074**				0.05	ppb	
	0.19				0.13	ug/m3	

Field ID **A-0002H-032317-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.18	U	U		0.18	ug/m3	
	0.05	U	U		0.05	ppb	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	**0.21**				0.05	ppb	
	1.4				0.34	ug/m3	
Trichloroethene	**0.053**				0.05	ppb	
	0.29				0.27	ug/m3	
Vinyl chloride	0.13	U	U		0.13	ug/m3	
	0.05	U	U		0.05	ppb	

Validated Form I

Field ID	A-0029H-033117-TO-001-BAS						
Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.05	U	U		0.05	ppb	
	0.18	U	U		0.18	ug/m3	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	**0.29**				0.05	ppb	
	2				0.34	ug/m3	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	0.13	U	U		0.13	ug/m3	
	0.05	U	U		0.05	ppb	

Validated Form I

VA SLC CERCLA-AOU-1 2017

Data Quality Evaluation

SDG	**1710499**	**Reviewer:**	**SF048970 - Tier 2B validation**
Method	**EPA TO-15**	**Date:**	**5/3/2017**
Matrix	**AIR**	**Reviewed:**	**5/11/2017**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
AIR					
A-0038H-041117-TO-001-BAS	N	1			
A-0038H-041117-TO-002-BAS	FD	1			
A-0064H-041417-TO-001-LIV	N	10			
A-0064H-041417-TO-001-LIV	N	1			

1. Case Narrative Items of Interest

There were no items of concern.

2. Blank Summary

Field Blanks No Field Blanks were found.

Method Blanks No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicates All acceptance criteria were met.

Laboratory Duplicates None in this SDG

Matrix Spike No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

All acceptance criteria were met.

6. Tuning and Mass Calibration

All acceptance criteria were met.

7. Internal Standard

All acceptance criteria were met.

8. Calibration Information

Initial Calibration

Samples A-0038H-041117-TO-001-BAS, A-0038H-041117-TO-002-BAS, A-0064H-041417-TO-001-LIV, 1,2,4-Trichlorobenzene %RSD 48.29 vs. 30, Benzyl chloride %RSD 43.23 vs. 30, exceeded criteria. Instrument: 5975-L Cal Date: 03/21/2017. The associated non-detects were qualified as estimated and flagged "UJ".

Continuing Calibration

All acceptance criteria were met.

Flagging Category

Initial calibration RSD exceeded

Instrument	*Date*	*Field ID*	*Analyte*	*Validation Flag*
		A-0064H-041417-TO-001-LIV	1,2,4-Trichlorobenzene	UJ
		A-0038H-041117-TO-002-BAS	1,2,4-Trichlorobenzene	UJ
		A-0038H-041117-TO-001-BAS	1,2,4-Trichlorobenzene	UJ
		A-0064H-041417-TO-001-LIV	Benzyl chloride	UJ
		A-0038H-041117-TO-002-BAS	Benzyl chloride	UJ
		A-0038H-041117-TO-001-BAS	Benzyl chloride	UJ

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments

1.) Samples A-0038H-041117-TO-001-BAS, A-0038H-041117-TO-002-BAS, A-0064H-041417-TO-001-LIV, 1,2,4-Trichlorobenzene %RSD 48.29 vs. 30, Benzyl chloride %RSD 43.23 vs. 30, exceeded criteria. The ICAL %RSD exceedances were greater than 40% acceptance criteria; the assocaited sample non-detect results were flagged "UJ".

Data Package Completeness

Package was complete for Tier 2B validation.

Forms Review/ Items of Interest

No samples were excluded for dilutions or re-extractions.

COC Review

No discrepancies were noted. Final canister pressures were recorded upon receipt

Validated Form I

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Field ID **A-0038H-041117-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.82	U	U	0.82	2.7	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	3.1	UJ	U	3.1	7.4	ug/m3	IC%RSD (UJ)
	0.42	UJ	U	0.42	1	ppb	IC%RSD (UJ)
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.15	U	U	0.15	0.5	ppb	
	0.33	U	U	0.33	1.1	ug/m3	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,4-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
2-Hexanone	1.3	U	U	1.3	4.1	ug/m3	
	0.32	U	U	0.32	1	ppb	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**12**			0.3	1	ppb	
	28			0.71	2.4	ug/m3	
Benzene	**0.16**	J	J	0.15	0.5	ppb	
	0.51	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	UJ	U	0.37	1	ppb	IC%RSD (UJ)
	1.9	UJ	U	1.9	5.2	ug/m3	IC%RSD (UJ)

Validated Form I

Field ID **A-0038H-041117-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	
	3.1	U	U	3.1	10	ug/m3	
Bromomethane	0.15	U	U	0.15	0.5	ppb	
	0.58	U	U	0.58	1.9	ug/m3	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	
	0.94	U	U	0.94	3.1	ug/m3	
Chlorobenzene	0.69	U	U	0.69	2.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Chloroform	**0.29**	J	J	0.15	0.5	ppb	
	1.4	J	J	0.73	2.4	ug/m3	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	0.15	U	U	0.15	0.5	ppb	
	0.52	U	U	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Dichlorodifluoromethane	**0.41**	J	J	0.15	0.5	ppb	
	2	J	J	0.74	2.5	ug/m3	
Ethyl acetate	0.3	U	U	0.3	1	ppb	
	1.1	U	U	1.1	3.6	ug/m3	
Ethyl benzene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**0.23**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.84	2.8	ug/m3	
Freon 113	1.1	U	U	1.1	3.8	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Freon 114	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.5	ug/m3	
Heptane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**0.3**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.65	2.2	ug/m3	
Methyl chloride	**0.52**			0.15	0.5	ppb	
	1.1			0.31	1	ug/m3	
Methyl ethyl ketone	**0.64**			0.15	0.5	ppb	
	1.9			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**0.9**			0.15	0.5	ppb	
	3.1			0.52	1.7	ug/m3	

Validated Form I

Field ID A-0038H-041117-TO-001-BAS

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
n-Hexane	0.53	U	U	0.53	1.8	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
o-Xylene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	0.15	U	U	0.15	0.5	ppb	
	0.44	U	U	0.44	1.5	ug/m3	
Toluene	**0.55**			0.15	0.5	ppb	
	2.1			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.2	U	U	0.2	0.5	ppb	
	0.7	U	U	0.7	1.8	ug/m3	

Field ID A-0038H-041117-TO-002-BAS

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.82	U	U	0.82	2.7	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	UJ	U	0.42	1	ppb	IC%RSD (UJ)
	3.1	UJ	U	3.1	7.4	ug/m3	IC%RSD (UJ)
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	0.15	U	U	0.15	0.5	ppb	
	1.2	U	U	1.2	3.8	ug/m3	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,2-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.33	U	U	0.33	1.1	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,3-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
1,4-Dichlorobenzene	0.3	U	U	0.3	1	ppb	

Validated Form I

Field ID **A-0038H-041117-TO-002-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	1.8	U	U	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**12**			0.3	1	ppb	
	29			0.71	2.4	ug/m3	
Benzene	**0.16**	J	J	0.15	0.5	ppb	
	0.52	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	UJ	U	0.37	1	ppb	IC%RSD (UJ)
	1.9	UJ	U	1.9	5.2	ug/m3	IC%RSD (UJ)
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	
	3.1	U	U	3.1	10	ug/m3	
Bromomethane	0.58	U	U	0.58	1.9	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Carbon disulfide	0.15	U	U	0.15	0.5	ppb	
	0.47	U	U	0.47	1.6	ug/m3	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	
	0.94	U	U	0.94	3.1	ug/m3	
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	**1.5**	J	J	0.73	2.4	ug/m3	
	0.3	J	J	0.15	0.5	ppb	
cis-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Cyclohexane	0.15	U	U	0.15	0.5	ppb	
	0.52	U	U	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Dichlorodifluoromethane	**2.1**	J	J	0.74	2.5	ug/m3	
	0.42	J	J	0.15	0.5	ppb	
Ethyl acetate	**2.1**			0.3	1	ppb	
	7.5			1.1	3.6	ug/m3	
Ethyl benzene	0.15	U	U	0.15	0.5	ppb	
	0.65	U	U	0.65	2.2	ug/m3	
Ethyl chloride	0.15	U	U	0.15	0.5	ppb	
	0.4	U	U	0.4	1.3	ug/m3	
Freon 11	**0.22**	J	J	0.15	0.5	ppb	
	1.3	J	J	0.84	2.8	ug/m3	
Freon 113	1.1	U	U	1.1	3.8	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Freon 114	1	U	U	1	3.5	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Heptane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**0.3**	J	J	0.15	0.5	ppb	

Validated Form I

Field ID **A-0038H-041117-TO-002-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
	1.3	J	J	0.65	2.2	ug/m3	
Methyl chloride	**1**	J	J	0.31	1	ug/m3	
	0.49	J	J	0.15	0.5	ppb	
Methyl ethyl ketone	**0.7**			0.15	0.5	ppb	
	2.1			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
Methyl t-butyl ether	0.15	U	U	0.15	0.5	ppb	
	0.54	U	U	0.54	1.8	ug/m3	
Methylene chloride	**0.35**	J	J	0.15	0.5	ppb	
	1.2	J	J	0.52	1.7	ug/m3	
n-Hexane	0.53	U	U	0.53	1.8	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
o-Xylene	0.65	U	U	0.65	2.2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Styrene	0.3	U	U	0.3	1	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Tetrahydrofuran	0.15	U	U	0.15	0.5	ppb	
	0.44	U	U	0.44	1.5	ug/m3	
Toluene	**0.53**			0.15	0.5	ppb	
	2			0.57	1.9	ug/m3	
trans-1,2-Dichloroethene	0.59	U	U	0.59	2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.2	U	U	0.2	0.5	ppb	
	0.7	U	U	0.7	1.8	ug/m3	

Field ID **A-0064H-041417-TO-001-LIV**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,1,1-Trichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.82	U	U	0.82	2.7	ug/m3	
1,1,2,2-Tetrachloroethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
1,1,2-Trichloroethane	0.82	U	U	0.82	2.7	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1-Dichloroethane	0.61	U	U	0.61	2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,1-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
1,2,4-Trichlorobenzene	0.42	UJ	U	0.42	1	ppb	IC%RSD (UJ)
	3.1	UJ	U	3.1	7.4	ug/m3	IC%RSD (UJ)
1,2,4-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,2-Dibromoethane	1.2	U	U	1.2	3.8	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,2-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	

Validated Form I

Field ID A-0064H-041417-TO-001-LIV

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,2-Dichloroethane	0.15	U	U	0.15	0.5	ppb	
	0.61	U	U	0.61	2	ug/m3	
1,2-Dichloropropane	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
1,3,5-Trimethylbenzene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
1,3-Butadiene	0.33	U	U	0.33	1.1	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
1,3-Dichlorobenzene	1.8	U	U	1.8	6	ug/m3	
	0.3	U	U	0.3	1	ppb	
1,4-Dichlorobenzene	0.3	U	U	0.3	1	ppb	
	1.8	U	U	1.8	6	ug/m3	
2-Hexanone	0.32	U	U	0.32	1	ppb	
	1.3	U	U	1.3	4.1	ug/m3	
4-Ethyl toluene	0.3	U	U	0.3	1	ppb	
	1.5	U	U	1.5	4.9	ug/m3	
Acetone	**88**			0.71	2.4	ug/m3	
	37			0.3	1	ppb	
Benzene	**0.19**	J	J	0.15	0.5	ppb	
	0.6	J	J	0.48	1.6	ug/m3	
Benzyl chloride	0.37	UJ	U	0.37	1	ppb	IC%RSD (UJ)
	1.9	UJ	U	1.9	5.2	ug/m3	IC%RSD (UJ)
Bromodichloromethane	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.4	ug/m3	
Bromoform	0.3	U	U	0.3	1	ppb	
	3.1	U	U	3.1	10	ug/m3	
Bromomethane	0.58	U	U	0.58	1.9	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Carbon disulfide	0.47	U	U	0.47	1.6	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Carbon tetrachloride	0.15	U	U	0.15	0.5	ppb	
	0.94	U	U	0.94	3.1	ug/m3	
Chlorobenzene	0.15	U	U	0.15	0.5	ppb	
	0.69	U	U	0.69	2.3	ug/m3	
Chloroform	0.15	U	U	0.15	0.5	ppb	
	0.73	U	U	0.73	2.4	ug/m3	
cis-1,3-Dichloropropene	0.68	U	U	0.68	2.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Cyclohexane	**0.16**	J	J	0.15	0.5	ppb	
	0.55	J	J	0.52	1.7	ug/m3	
Dibromochloromethane	0.15	U	U	0.15	0.5	ppb	
	1.3	U	U	1.3	4.3	ug/m3	
Dichlorodifluoromethane	**0.37**	J	J	0.15	0.5	ppb	
	1.8	J	J	0.74	2.5	ug/m3	
Ethyl acetate	**0.8**	J	J	0.3	1	ppb	
	2.9	J	J	1.1	3.6	ug/m3	
Ethyl benzene	**1.7**	J	J	0.65	2.2	ug/m3	
	0.38	J	J	0.15	0.5	ppb	
Ethyl chloride	0.4	U	U	0.4	1.3	ug/m3	
	0.15	U	U	0.15	0.5	ppb	

Validated Form I

Field ID	A-0064H-041417-TO-001-LIV						
Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
Freon 11	**0.17**	J	J	0.15	0.5	ppb	
	0.95	J	J	0.84	2.8	ug/m3	
Freon 113	0.15	U	U	0.15	0.5	ppb	
	1.1	U	U	1.1	3.8	ug/m3	
Freon 114	0.15	U	U	0.15	0.5	ppb	
	1	U	U	1	3.5	ug/m3	
Heptane	0.61	U	U	0.61	2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Hexachloro-1,3-butadiene	0.3	U	U	0.3	1	ppb	
	3.2	U	U	3.2	11	ug/m3	
m,p-Xylene	**1.3**			0.15	0.5	ppb	
	5.6			0.65	2.2	ug/m3	
Methyl chloride	**0.52**			0.15	0.5	ppb	
	1.1			0.31	1	ug/m3	
Methyl ethyl ketone	**0.7**			0.15	0.5	ppb	
	2.1			0.44	1.5	ug/m3	
Methyl isobutyl ketone	0.61	U	U	0.61	2	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Methyl t-butyl ether	0.54	U	U	0.54	1.8	ug/m3	
	0.15	U	U	0.15	0.5	ppb	
Methylene chloride	**0.31**	J	J	0.15	0.5	ppb	
	1.1	J	J	0.52	1.7	ug/m3	
n-Hexane	**0.52**			0.15	0.5	ppb	
	1.8			0.53	1.8	ug/m3	
o-Xylene	**0.35**	J	J	0.15	0.5	ppb	
	1.5	J	J	0.65	2.2	ug/m3	
Styrene	1.3	U	U	1.3	4.3	ug/m3	
	0.3	U	U	0.3	1	ppb	
Tetrahydrofuran	**0.19**	J	J	0.15	0.5	ppb	
	0.56	J	J	0.44	1.5	ug/m3	
Toluene	**92**			1.5	5	ppb	
	350			5.7	19	ug/m3	
trans-1,2-Dichloroethene	0.15	U	U	0.15	0.5	ppb	
	0.59	U	U	0.59	2	ug/m3	
trans-1,3-Dichloropropene	0.15	U	U	0.15	0.5	ppb	
	0.68	U	U	0.68	2.3	ug/m3	
Vinyl acetate	0.7	U	U	0.7	1.8	ug/m3	
	0.2	U	U	0.2	0.5	ppb	

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
IC%RSD	Initial calibration RSD exceeded	Calibration

VA SLC CERCLA-AOU-1 2017

Data Quality Evaluation

SDG	**1710499**	**Reviewer:**	**SF048970 - Tier 2B validation**
Method	**EPA TO-15 SIM**	**Date:**	**5/3/2017**
Matrix	**AIR**	**Reviewed:**	**5/11/2017**

Field Samples

Field blank association lot values: LotNumber / FieldID / SDG

NativeID	QAQC Type	Dilution	ABLotValue	EBLotValue	TBLotValue
AIR					
A-0038H-041117-TO-001-BAS	N	1			
A-0038H-041117-TO-002-BAS	FD	1			
A-0064H-041417-TO-001-LIV	N	1			

1. Case Narrative Items of Interest

1.) The internal standard response for sample 1710499003 failed to meet criteria. This sample was analyzed twice with the same results.

2. Blank Summary

Field Blanks No Field Blanks were found.

Method Blanks No Method Blank detects were found.

3. Spikes and Duplicates

Field Duplicates All acceptance criteria were met.

Laboratory Duplicates None in this SDG

Matrix Spike No MS's for this SDG. No SD's for this SDG. MS RPD: None for this SDG.

4. Laboratory Control Sample

All acceptance criteria were met.

5. Surrogates

All acceptance criteria were met.

6. Tuning and Mass Calibration

All acceptance criteria were met.

7. Internal Standard

For sample A-0064H-041417-TO-001-LIV, the Internal Standard recovery was high indicating a potential low bias in the sample resullts. Sample was re-analyzed with similar results. Associated detects and non-detects were qualified as estimated and flagged "J" and "UJ" respectively.

Field ID	*Analyte*	*Validation Flag*	*Validation Reason*
A-0064H-04141	1,4-Dioxane	UJ	IS>UCL
A-0064H-04141	4-Bromofluorobenzene	J	IS>UCL
A-0064H-04141	cis-1,2-Dichloroethene	UJ	IS>UCL
A-0064H-04141	Tetrachloroethene	J	IS>UCL
A-0064H-04141	Trichloroethene	UJ	IS>UCL
A-0064H-04141	Vinyl chloride	UJ	IS>UCL

8. Calibration Information

Initial Calibration All acceptance criteria were met.

Continuing Calibration All acceptance criteria were met.

9. Holding Time

All acceptance criteria were met.

10. Confirmation

None for this SDG.

11. Summary

General Comments 1.) For sample A-0064H-041417-TO-001-LIV, the Internal Standard recovery was high indicating a potential low bias in the sample resullts. Sample was re-analyzed with similar results. Associated detects and non-detects were qualified as estimated and flagged "J" and "UJ" respectively.

Data Package Completeness Package was complete for Tier 2B validation.

Forms Review/ Items of Interest No samples were excluded for dilutions or re-extractions.

COC Review No discrepancies.

Validated Form I

Final Data Flags*

***When the data evaluation process results in multiple flags, the most severe flag becomes the final data flag. All flags are from the site-specific QAPP, except the "exclude" flag that is used to designate results that are not for risk assessment (for example, a result from a dilution where the original undiluted result is appropriate).**

Field ID **A-0038H-041117-TO-001-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.18	U	U		0.18	ug/m3	
	0.05	U	U		0.05	ppb	
cis-1,2-Dichloroethene	0.05	U	U		0.05	ppb	
	0.2	U	U		0.2	ug/m3	
Tetrachloroethene	0.05	U	U		0.05	ppb	
	0.34	U	U		0.34	ug/m3	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	0.05	U	U		0.05	ppb	
	0.13	U	U		0.13	ug/m3	

Field ID **A-0038H-041117-TO-002-BAS**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.05	U	U		0.05	ppb	
	0.18	U	U		0.18	ug/m3	
cis-1,2-Dichloroethene	0.2	U	U		0.2	ug/m3	
	0.05	U	U		0.05	ppb	
Tetrachloroethene	0.34	U	U		0.34	ug/m3	
	0.05	U	U		0.05	ppb	
Trichloroethene	0.05	U	U		0.05	ppb	
	0.27	U	U		0.27	ug/m3	
Vinyl chloride	0.05	U	U		0.05	ppb	
	0.13	U	U		0.13	ug/m3	

Field ID **A-0064H-041417-TO-001-LIV**

Analyte	Result	Final Flag	Lab Flag	MDL	RL	Units	ValidationReason (Flag)
1,4-Dioxane	0.05	UJ	U		0.05	ppb	IS>UCL (UJ)
	0.18	UJ	U		0.18	ug/m3	IS>UCL (UJ)
cis-1,2-Dichloroethene	0.05	UJ	U		0.05	ppb	IS>UCL (UJ)
	0.2	UJ	U		0.2	ug/m3	IS>UCL (UJ)
Tetrachloroethene	**0.28**	J			0.05	ppb	IS>UCL (J)
	1.9	J			0.34	ug/m3	IS>UCL (J)
Trichloroethene	0.05	UJ	U		0.05	ppb	IS>UCL (UJ)
	0.27	UJ	U		0.27	ug/m3	IS>UCL (UJ)
Vinyl chloride	0.13	UJ	U		0.13	ug/m3	IS>UCL (UJ)
	0.05	UJ	U		0.05	ppb	IS>UCL (UJ)

Validated Form I

Validation Flag Abbreviations

Abbreviation	*Validation Reason*	*Category*
IS>UCL	Internal standard response greater than the upper control limit	InternalStandard

Appendix C
Laboratory Sample Receipt Notifications

Sample Receipt Notification

Workorder Information

Workorder: 34-1707721
Client: CH2M

Reporting Level 4
Manager: Kevin Griffiths
Kevin.Griffiths@ALSGlobal.com x302

Due: 03/31/17
Received: 03/17/17
TAT: 10 work days from receipt

Contract/PO: 10006-7-107234
COC No.: 001 <188553>
Collector: Not Provided
Airbill: Not Provided

Project: VA AOU-1 (SLC,UT)
Profile: VA
Format: Report < LOQ
Program: NA

Notes: Level IV Deliverable and CH2MHill/Labspec7 EDD. Indicate sample condition upon receipt. Measure and record the final residual vacuum prior to analysis. NO TICs. Hold Cans for 10 days after reporting. PM must review the report before reporting

Sample Condition at Receipt

Temperature(s)	Expired at Receipt	Notes
NA	NO	Sample(s) received in good condition unless otherwise noted.

Report Delivery Information

-- Analytical Report Address --

Mark Cichy
CH2MHILL
2525 Airpark Dr.
Redding, CA 96001

Email Delivery: mark.cichy@ch2m.com
edata@ch2m.com

EDD Requested: EDD019<[LabSpec 7][CH2MSLC]>

Invoice Delivery Information

-- Invoice Address --

Mike Petock
CH2M Hill
9191 South Jamaica Street
Englewood, CO 80112

Email Delivery: None Specified

Hardcopy Delivery: Mike Petock

Laboratory Contact Information

-- Laboratory Address --

ALS Environmental
960 W. LeVoy Drive
Salt Lake City, UT 84123

Phone: (801) 266-7700

Email: alslt.lab@alsglobal.com

Web: www.alsslc.com

Sample Receipt Notification

Workorder: 34-1707721

Sample Information

Sample(s)

Client Sample ID	Lab Samp. ID	QC	Matrix	Sampling Site	Collected	Received	Tests	Containers #	Containers Parameter
A-0027H-031017-TO-001-BAS	1707721001	N	Air	VA AOU-1 (SLC,UT)	03/10/17	03/17/17	2	1	NA
A-0027H-031017-TO-002-BAS	1707721002	N	Air	VA AOU-1 (SLC,UT)	03/10/17	03/17/17	2	1	NA
A-0013H-031017-TO-001-BAS	1707721003	N	Air	VA AOU-1 (SLC,UT)	03/10/17	03/17/17	2	1	NA
A-0025H-031417-TO-001-BAS	1707721004	N	Air	VA AOU-1 (SLC,UT)	03/14/17	03/17/17	2	1	NA
A-0004H-031417-TO-001-BAS	1707721005	N	Air	VA AOU-1 (SLC,UT)	03/14/17	03/17/17	2	1	NA
A-0012H-031417-TO-001-BAS	1707721006	N	Air	VA AOU-1 (SLC,UT)	03/14/17	03/17/17	2	1	NA
A-0026H-031617-TO-001-LIV	1707721007	N	Air	VA AOU-1 (SLC,UT)	03/16/17	03/17/17	2	1	NA

Sample Preservation

Container	Preservative	Temperature	pH	Tests
Summa	COOL	NA	NA	EPA TO-15, EPA TO-15 SIM

Sample Receipt Notification

Workorder: 34-1707721

Analysis Information

Client Sample ID	Lab Samp. ID	QC	Matrix	Requested Analysis: EPA TO-15	EPA TO-15 SIM
A-0027H-031017-TO-001-BAS	1707721001		Air	X	X
A-0027H-031017-TO-002-BAS	1707721002		Air	X	X
A-0013H-031017-TO-001-BAS	1707721003		Air	X	X
A-0025H-031417-TO-001-BAS	1707721004		Air	X	X
A-0004H-031417-TO-001-BAS	1707721005		Air	X	X
A-0012H-031417-TO-001-BAS	1707721006		Air	X	X
A-0026H-031617-TO-001-LIV	1707721007		Air	X	X

Test(s)

Method	Samples	Matrix	Container	Units: Primary	Det. Lim.	Additional	Additional
EPA TO-15	7	Air	Summa	ppb	ppb	ug/m³	

Analyte(s): Dichlorodifluoromethane, Methyl chloride, Freon 114, 1,3-Butadiene, Bromomethane, Ethyl chloride, Freon 11, Freon 113, 1,1-Dichloroethene, Acetone, Carbon disulfide, Methylene chloride, trans-1,2-Dichloroethene, Methyl t-butyl ether, Vinyl acetate, Methyl ethyl ketone, 1,1-Dichloroethane, Ethyl acetate, n-Hexane, Chloroform, Tetrahydrofuran, 1,2-Dichloroethane, 1,1,1-Trichloroethane, Carbon tetrachloride, Benzene, Cyclohexane, 1,2-Dichloropropane, Bromodichloromethane, Heptane, cis-1,3-Dichloropropene, Methyl isobutyl ketone, trans-1,3-Dichloropropene, 1,1,2-Trichloroethane, Toluene, 2-Hexanone, Dibromochloromethane, 1,2-Dibromoethane, Chlorobenzene, Ethyl benzene, m,p-Xylene, o-Xylene, Styrene, Bromoform, 1,1,2,2-Tetrachloroethane, 4-Ethyl toluene, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Benzyl chloride, 1,2-Dichlorobenzene, 1,2,4-Trichlorobenzene, Hexachloro-1,3-butadiene

EPA TO-15 SIM	7	Air	Summa	ppb	ppb	ug/m³	

Analyte(s): Vinyl chloride, cis-1,2-Dichloroethene, Trichloroethene, Tetrachloroethene, 1,4-Dioxane

Sample Receipt Notification

Workorder: 34-1707721

Invoice Information (informational only, this is not an invoice)

-- Invoice Address --

Mike Petock
CH2M Hill
9191 South Jamaica Street
Englewood, CO 80112

Invoice Number: Pre-Invoice
Workorder: 34-1707721
Project Manager: Kevin Griffiths
Client: CH2M
Client PO: 10006-7-107234
Client Project ID: VA AOU-1 (SLC,UT)

Charge Summary

Description	Qty	Unit Price	Extended Price
Indoor Air- VOCs TO15 Full Scan	7	$119.00	$833.00
Indoor Air- VOCs TO15 SIM	7	$125.00	$875.00
Summa Can Rental and Cleaning	7	$80.00	$560.00
		Total (USD):	**$2,268.00**

Charge Details

Lab Sample ID	Client Sample ID	Collected	Received	TAT	Matrix	Chain	Charge
1707721001	**A-0027H-031017-TO-001-BA**	3/10/2017	3/17/2017	W010	Air	001	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1707721002	**A-0027H-031017-TO-002-BA**	3/10/2017	3/17/2017	W010	Air	001	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1707721003	**A-0013H-031017-TO-001-BA**	3/10/2017	3/17/2017	W010	Air	001	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1707721004	**A-0025H-031417-TO-001-BA**	3/14/2017	3/17/2017	W010	Air	001	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1707721005	**A-0004H-031417-TO-001-BA**	3/14/2017	3/17/2017	W010	Air	001	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1707721006	**A-0012H-031417-TO-001-BA**	3/14/2017	3/17/2017	W010	Air	001	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1707721007	**A-0026H-031617-TO-001-LIV**	3/16/2017	3/17/2017	W010	Air	001	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00

Sample Receipt Notification

Workorder Information

Workorder: 34-1709321
Client: CH2M

Reporting Manager: Level 4 — Kevin Griffiths
Kevin.Griffiths@ALSGlobal.com x302

Due: 04/14/17
Received: 03/31/17
TAT: 10 work days from receipt

Contract/PO: 10006-7-107234
COC No.: 002 <189702>
Collector: Not Provided
Airbill: Not Provided

Project: VA AOU1 (SLC, UT) 032317
Profile: VA
Format: Report < LOQ
Program: NA

Notes: Level IV Deliverable and CH2MHill/Labspec7 EDD. Indicate sample condition upon receipt. Measure and record the final residual vacuum prior to analysis. NO TICs. Hold Cans for 10 days after reporting. PM must review the report before reporting

Sample Condition at Receipt

Temperature(s)	Expired at Receipt	Notes
NA	NO	Sample(s) received in good condition unless otherwise noted.

Report Delivery Information

-- Analytical Report Address --

Mark Cichy
CH2MHILL
2525 Airpark Dr.
Redding, CA 96001

Email Delivery: mark.cichy@ch2m.com
edata@ch2m.com

EDD Requested: EDD019<[LabSpec7][CH2MSLC]>

Invoice Delivery Information

-- Invoice Address --

Mike Petock
CH2M Hill
9191 South Jamaica Street
Englewood, CO 80112

Email Delivery: mike.petock@ch2m.com

Laboratory Contact Information

-- Laboratory Address --

ALS Environmental
960 W. LeVoy Drive
Salt Lake City, UT 84123

Phone: (801) 266-7700
Email: alslt.lab@alsglobal.com
Web: www.alsslc.com

Sample Receipt Notification

Workorder: 34-1709321

Sample Information

Sample(s)

Client Sample ID	Lab Samp. ID	QC	Matrix	Sampling Site	Collected	Received	Tests	Containers #	Containers Parameter
A-0001H-032317-TO-001-BAS	1709321001	N	Air	AOU1 (SLC, UT)	03/23/17	03/31/17	2	1	NA
A-0001H-032317-TO-002-BAS	1709321002	N	Air	AOU1 (SLC, UT)	03/23/17	03/31/17	2	1	NA
A-0002H-032317-TO-001-BAS	1709321003	N	Air	AOU1 (SLC, UT)	03/23/17	03/31/17	2	1	NA
A-0029H-033117-TO-001-BAS	1709321004	N	Air	AOU1 (SLC, UT)	03/31/17	03/31/17	2	1	NA

Sample Preservation

Container	Preservative	Temperature	pH	Tests
Summa	COOL	NA	NA	EPA TO-15, EPA TO-15 SIM

Sample Receipt Notification

Workorder: 34-1709321

Analysis Information

Client Sample ID	Lab Samp. ID	QC	Matrix	Requested Analysis: EPA TO-15	EPA TO-15 SIM											
A-0001H-032317-TO-001-BAS	1709321001		Air	X	X											
A-0001H-032317-TO-002-BAS	1709321002		Air	X	X											
A-0002H-032317-TO-001-BAS	1709321003		Air	X	X											
A-0029H-033117-TO-001-BAS	1709321004		Air	X	X											

Test(s)

Method	Samples	Matrix	Container	Units: Primary	Det. Lim.	Additional	Additional
EPA TO-15	4	Air	Summa	ppb	ppb	ug/m³	
Analyte(s): Dichlorodifluoromethane, Methyl chloride, Freon 114, 1,3-Butadiene, Bromomethane, Ethyl chloride, Freon 11, Freon 113, 1,1-Dichloroethene, Acetone, Carbon disulfide, Methylene chloride, trans-1,2-Dichloroethene, Methyl t-butyl ether, Vinyl acetate, Methyl ethyl ketone, 1,1-Dichloroethane, Ethyl acetate, n-Hexane, Chloroform, Tetrahydrofuran, 1,2-Dichloroethane, 1,1,1-Trichloroethane, Carbon tetrachloride, Benzene, Cyclohexane, 1,2-Dichloropropane, Bromodichloromethane, Heptane, cis-1,3-Dichloropropene, Methyl isobutyl ketone, trans-1,3-Dichloropropene, 1,1,2-Trichloroethane, Toluene, 2-Hexanone, Dibromochloromethane, 1,2-Dibromoethane, Chlorobenzene, Ethyl benzene, m,p-Xylene, o-Xylene, Styrene, Bromoform, 1,1,2,2-Tetrachloroethane, 4-Ethyl toluene, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Benzyl chloride, 1,2-Dichlorobenzene, 1,2,4-Trichlorobenzene, Hexachloro-1,3-butadiene							
EPA TO-15 SIM	4	Air	Summa	ppb	ppb	ug/m³	
Analyte(s): Vinyl chloride, cis-1,2-Dichloroethene, Trichloroethene, Tetrachloroethene, 1,4-Dioxane							

Sample Receipt Notification

Workorder: 34-1709321

Invoice Information (informational only, this is not an invoice)

-- Invoice Address --

Mike Petock
CH2M Hill
9191 South Jamaica Street
Englewood, CO 80112

Invoice Number: **Pre-Invoice**
Workorder: 34-1709321
Project Manager: Kevin Griffiths
Client: CH2M
Client PO: 10006-7-107234
Client Project ID: VA AOU1 (SLC, UT) 032317

Charge Summary

Description	Qty	Unit Price	Extended Price
Indoor Air- VOCs TO15 Full Scan	4	$119.00	$476.00
Indoor Air- VOCs TO15 SIM	4	$125.00	$500.00

Total (USD): $976.00

Charge Details

Lab Sample ID	Client Sample ID	Collected	Received	TAT	Matrix	Chain	Charge
1709321001	**A-0001H-032317-TO-001-BA**	3/23/2017	3/31/2017	W010	Air	002	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1709321002	**A-0001H-032317-TO-002-BA**	3/23/2017	3/31/2017	W010	Air	002	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1709321003	**A-0002H-032317-TO-001-BA**	3/23/2017	3/31/2017	W010	Air	002	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1709321004	**A-0029H-033117-TO-001-BA**	3/31/2017	3/31/2017	W010	Air	002	
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00

Sample Receipt Notification

Workorder Information

Workorder: 34-1710499
Client: CH2M

Reporting Manager: Level 4 — Kevin Griffiths
Kevin.Griffiths@ALSGlobal.com x302

Due: 04/28/17
Received: 04/14/17
TAT: 10 work days from receipt

Contract/PO: VA AOU1 700 S. 1600
COC No.: Not Provided
Collector: Not Provided
Airbill: Not Provided

Project: VA AOU1 700 S. 1600 E. 041117
Profile: VA
Format: Report < LOQ
Program: NA

Notes: Level IV Deliverable and CH2MHill/Labspec7 EDD. Indicate sample condition upon receipt. Measure and record the final residual vacuum prior to analysis. NO TICs. Hold Cans for 10 days after reporting. PM must review the report before reporting

Sample Condition at Receipt

Temperature(s)	Expired at Receipt	Notes
NA	NO	Sample(s) received in good condition unless otherwise noted.

Report Delivery Information

-- Analytical Report Address --

Mark Cichy
CH2MHILL
2525 Airpark Dr.
Redding, CA 96001

Email Delivery: mark.cichy@ch2m.com
edata@ch2m.com

EDD Requested: EDD019<[LabSpec7][CH2MSLC]>

Invoice Delivery Information

-- Invoice Address --

CH2M Hill Accounts Receivable
US-AP
P.O. Box 241329
Denver, CO 80224

Email Delivery: apinvoices@ch2m.com

Laboratory Contact Information

-- Laboratory Address --

ALS Environmental
960 W. LeVoy Drive
Salt Lake City, UT 84123

Phone: (801) 266-7700
Email: alslt.lab@alsglobal.com
Web: www.alsslc.com

Sample Receipt Notification

Workorder: 34-1710499

Sample Information

Sample(s)

Client Sample ID	Lab Samp. ID	QC	Matrix	Sampling Site	Collected	Received	Tests	Containers #	Containers Parameter
A0038H-041117-TO-001-BAS	1710499001	N	Air	VA AOU1 700 S. 1600	04/11/17	04/14/17	2	1	NA
A0038H-041117-TO-002-BAS	1710499002	N	Air	VA AOU1 700 S. 1600	04/11/17	04/14/17	2	1	NA
A0064H-041417-TO-001-LIV	1710499003	N	Air	VA AOU1 700 S. 1600	04/14/17	04/14/17	2	1	NA

Sample Preservation

Container	Preservative	Temperature	pH	Tests
Summa	COOL	NA	NA	EPA TO-15, EPA TO-15 SIM

Sample Receipt Notification

Workorder: 34-1710499

Analysis Information

Client Sample ID	Lab Samp. ID	QC	Matrix	Requested Analysis: EPA TO-15	EPA TO-15 SIM											
A0038H-041117-TO-001-BAS	1710499001		Air	X	X											
A0038H-041117-TO-002-BAS	1710499002		Air	X	X											
A0064H-041417-TO-001-LIV	1710499003		Air	X	X											

Test(s)				Units			
Method	**Samples**	**Matrix**	**Container**	**Primary**	**Det. Lim.**	**Additional**	**Additional**
EPA TO-15	3	Air	Summa	ppb	ppb	ug/m³	
Analyte(s): Dichlorodifluoromethane, Methyl chloride, Freon 114, 1,3-Butadiene, Bromomethane, Ethyl chloride, Freon 11, Freon 113, 1,1-Dichloroethene, Acetone, Carbon disulfide, Methylene chloride, trans-1,2-Dichloroethene, Methyl t-butyl ether, Vinyl acetate, Methyl ethyl ketone, 1,1-Dichloroethane, Ethyl acetate, n-Hexane, Chloroform, Tetrahydrofuran, 1,2-Dichloroethane, 1,1,1-Trichloroethane, Carbon tetrachloride, Benzene, Cyclohexane, 1,2-Dichloropropane, Bromodichloromethane, Heptane, cis-1,3-Dichloropropene, Methyl isobutyl ketone, trans-1,3-Dichloropropene, 1,1,2-Trichloroethane, Toluene, 2-Hexanone, Dibromochloromethane, 1,2-Dibromoethane, Chlorobenzene, Ethyl benzene, m,p-Xylene, o-Xylene, Styrene, Bromoform, 1,1,2,2-Tetrachloroethane, 4-Ethyl toluene, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Benzyl chloride, 1,2-Dichlorobenzene, 1,2,4-Trichlorobenzene, Hexachloro-1,3-butadiene							
EPA TO-15 SIM	3	Air	Summa	ppb	ppb	ug/m³	
Analyte(s): Vinyl chloride, cis-1,2-Dichloroethene, Trichloroethene, Tetrachloroethene, 1,4-Dioxane							

Sample Receipt Notification

Workorder: 34-1710499

Invoice Information (informational only, this is not an invoice)

-- Invoice Address --

CH2M Hill Accounts Receivable
US-AP
P.O. Box 241329
Denver, CO 80224

Invoice Number: **Pre-Invoice**
Workorder: 34-1710499
Project Manager: Kevin Griffiths
Client: CH2M
Client PO: VA AOU1 700 S. 1600
Client Project ID: VA AOU1 700 S. 1600 E. 041117

Charge Summary

Description	Qty	Unit Price	Extended Price
Indoor Air- VOCs TO15 Full Scan	3	$119.00	$357.00
Indoor Air- VOCs TO15 SIM	3	$125.00	$375.00
Summa Can Rental and Cleaning	6	$80.00	$480.00
		Total (USD):	**$1,212.00**

Charge Details

Lab Sample ID	Client Sample ID	Collected	Received	TAT	Matrix	Chain	Charge
1710499001	**A0038H-041117-TO-001-BAS**	4/11/2017	4/14/2017	W010	Air		
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1710499002	**A0038H-041117-TO-002-BAS**	4/11/2017	4/14/2017	W010	Air		
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00
1710499003	**A0064H-041417-TO-001-LIV**	4/14/2017	4/14/2017	W010	Air		
	Indoor Air- VOCs TO15 Full Scan			10 work days from receipt			$119.00
	Indoor Air- VOCs TO15 SIM			10 work days from receipt			$125.00

Appendix D
HAPSITE Calibration Reports

5-Mar-17

FULL SCAN Calibration Response Table

HAPSITE method: /Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth

Method Description:

SIM cVOC Method in order of elution cis-DCE; TCE; PCE

General Quantification Range from 0.1 ppbv to 10 ppbv

Tune File: default.tun

Target Library: QB 05MAR2017

Last Modified: 5/23/2017 4:21:03 PM

W = RT +- (0:08.00 / 2 + RT * 0.050)

Min Fit = 0.200; Min Pur = 0.200; Min Area = 5000

Width = 7 - 70 scans; Res = 5 scans; NLM = 2.000

Average Response Factor

Internal Standards

Analytes

Analyte. #1 -- cis-1,2 DCE

5 Calibration Points

Linear, forced through origin calibration curve

Concentration = (0.0000e+000)(AREA**2)+(3.8941e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170305_20170305_001	0.1	1.00E-01	479354	4.79E+05	4.79E+06
2	SIM_100PPB_VA_20170305_20170305_002	0.5	5.00E-01	1974742	1.98E+06	3.95E+06
3	SIM_100PPB_VA_20170305_20170305_006	2.5	2.50E+00	6227608	6.23E+06	2.49E+06
4	SIM_100PPB_VA_20170305_20170305_007	5	5.00E+00	12159134	1.22E+07	2.43E+06
5	SIM_100PPB_VA_20170305_20170305_008	10	1.00E+01	25988272	2.60E+07	2.60E+06
Average RF =	3.25E+06	**RSD of Average RF =**	32.76%			
RSD of Curve Fit =	5.66%					

Analyte. #2 -- TCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(2.5915e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170305_20170305_001	0.1	1.00E-01	382942	3.83E+05	3.83E+06
2	SIM_100PPB_VA_20170305_20170305_002	0.5	5.00E-01	1939180	1.94E+06	3.88E+06
3	SIM_100PPB_VA_20170305_20170305_006	2.5	2.50E+00	9190908	9.19E+06	3.68E+06
4	SIM_100PPB_VA_20170305_20170305_007	5	5.00E+00	19497794	1.95E+07	3.90E+06
5	SIM_100PPB_VA_20170305_20170305_008	10	1.00E+01	40098936	4.01E+07	4.01E+06
Average RF =	3.86E+06	**RSD of Average RF =**	3.15%			
RSD of Curve Fit =	5.60%					

Analyte. #3 -- PCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(2.0034e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170305_20170305_001	0.1	1.00E-01	493693	4.94E+05	4.94E+06
2	SIM_100PPB_VA_20170305_20170305_002	0.5	5.00E-01	2655002	2.66E+06	5.31E+06
3	SIM_100PPB_VA_20170305_20170305_006	2.5	2.50E+00	11878894	1.19E+07	4.75E+06
4	SIM_100PPB_VA_20170305_20170305_007	5	5.00E+00	24355350	2.44E+07	4.87E+06
5	SIM_100PPB_VA_20170305_20170305_008	10	1.00E+01	50885172	5.09E+07	5.09E+06
Average RF =	4.99E+06	**RSD of Average RF =**	4.32%			
RSD of Curve Fit =	3.60%					

7-Mar-17

FULL SCAN Calibration Response Table

HAPSITE method: /Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth

Method Description:

SIM cVOC Method in order of elution cis-DCE; TCE; PCE

General Quantification Range from 0.1 ppbv to 10 ppbv

Tune File: default.tun

Target Library: QB 07MAR2017

Last Modified: 5/23/2017 4:25:28 PM

W = RT +- (0:08.00 / 2 + RT * 0.050)

Min Fit = 0.200; Min Pur = 0.200; Min Area = 5000

Width = 7 - 70 scans; Res = 5 scans; NLM = 2.000

Average Response Factor

Internal Standards

Analytes

Analyte. #1 -- cis-1,2 DCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(4.9002e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170306_20170307_001	0.1	1.00E-01	189486	1.90E+05	1.89E+06
2	SIM_100PPB_VA_20170306_20170307_002	0.5	5.00E-01	1063204	1.06E+06	2.13E+06
3	SIM_100PPB_VA_20170307_20170307_001	1	1.00E+00	2173205	2.17E+06	2.17E+06
4	SIM_100PPB_VA_20170307_20170307_002	5	5.00E+00	9944322	9.94E+06	1.99E+06
5	SIM_100PPB_VA_20170307_20170307_003	10	1.00E+01	20203464	2.02E+07	2.02E+06
Average RF =	2.04E+06	**RSD of Average RF =**	5.44%			
RSD of Curve Fit =	2.67%					

Analyte. #2 -- TCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(2.9485e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170306_20170307_001	0.1	1.00E-01	304231	3.04E+05	3.04E+06
2	SIM_100PPB_VA_20170306_20170307_002	0.5	5.00E-01	1565478	1.57E+06	3.13E+06
3	SIM_100PPB_VA_20170307_20170307_001	1	1.00E+00	3344979	3.35E+06	3.34E+06
4	SIM_100PPB_VA_20170307_20170307_002	5	5.00E+00	18662568	1.87E+07	3.73E+06
5	SIM_100PPB_VA_20170307_20170307_003	10	1.00E+01	37072536	3.71E+07	3.71E+06
Average RF =	3.39E+06	**RSD of Average RF =**	9.42%			
RSD of Curve Fit =	14.73%					

Analyte. #3 -- PCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(2.2629e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170306_20170307_001	0.1	1.00E-01	432829	4.33E+05	4.33E+06
2	SIM_100PPB_VA_20170306_20170307_002	0.5	5.00E-01	2214391	2.21E+06	4.43E+06
3	SIM_100PPB_VA_20170307_20170307_001	1	1.00E+00	4374996	4.38E+06	4.38E+06
4	SIM_100PPB_VA_20170307_20170307_002	5	5.00E+00	22326232	2.23E+07	4.47E+06
5	SIM_100PPB_VA_20170307_20170307_003	10	1.00E+01	44983248	4.50E+07	4.50E+06
Average RF =	4.42E+06	**RSD of Average RF =**	1.55%			
RSD of Curve Fit =	2.78%					

17-Mar-17

FULL SCAN Calibration Response Table

HAPSITE method: /Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth

Method Description:

SIM cVOC Method in order of elution cis-DCE; TCE; PCE

General Quantification Range from 0.1 ppbv to 10 ppbv

Tune File: default.tun

Target Library: QB 17MAR2017

Last Modified: 5/23/2017 4:29:59 PM

W = RT +- (0:08.00 / 2 + RT * 0.050)

Min Fit = 0.200; Min Pur = 0.200; Min Area = 5000

Width = 7 - 70 scans; Res = 5 scans; NLM = 2.000

Average Response Factor

Internal Standards

Analytes

Analyte. #1 -- cis-1,2 DCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(3.9335e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170317_20170317_008	2.5	2.50E+00	7003659	7.00E+06	2.80E+06
2	SIM_100PPB_VA_20170317_20170317_009	5	5.00E+00	13026779	1.30E+07	2.61E+06
3	SIM_100PPB_VA_20170317_20170317_010	10	1.00E+01	25175302	2.52E+07	2.52E+06
4	SIM_100PPB_VA_20170317_20170317_011	0.5	5.00E-01	1238512	1.24E+06	2.48E+06
5	SIM_100PPB_VA_20170317_20170317_013	0.1	1.00E-01	230996	2.31E+05	2.31E+06
Average RF =	2.54E+06	**RSD of Average RF =**	7.09%			
RSD of Curve Fit =	4.09%					

Analyte. #2 -- TCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(3.4751e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170317_20170317_008	2.5	2.50E+00	7637776	7.64E+06	3.06E+06
2	SIM_100PPB_VA_20170317_20170317_009	5	5.00E+00	14841397	1.48E+07	2.97E+06
3	SIM_100PPB_VA_20170317_20170317_010	10	1.00E+01	30480408	3.05E+07	3.05E+06
4	SIM_100PPB_VA_20170317_20170317_011	0.5	5.00E-01	1392874	1.39E+06	2.79E+06
5	SIM_100PPB_VA_20170317_20170317_013	0.1	1.00E-01	253084	2.53E+05	2.53E+06
Average RF =	2.88E+06	RSD of Average RF =	7.72%			
RSD of Curve Fit =	8.33%					

Analyte. #3 -- PCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(2.8831e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170317_20170317_008	2.5	2.50E+00	8989835	8.99E+06	3.60E+06
2	SIM_100PPB_VA_20170317_20170317_009	5	5.00E+00	17607756	1.76E+07	3.52E+06
3	SIM_100PPB_VA_20170317_20170317_010	10	1.00E+01	34407140	3.44E+07	3.44E+06
4	SIM_100PPB_VA_20170317_20170317_011	0.5	5.00E-01	1704495	1.70E+06	3.41E+06
5	SIM_100PPB_VA_20170317_20170317_013	0.1	1.00E-01	337549	3.38E+05	3.38E+06
Average RF =	3.47E+06	**RSD of Average RF =**	2.58%			
RSD of Curve Fit =	1.98%					

21-Mar-17

FULL SCAN Calibration Response Table

HAPSITE method: /Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth

Method Description:

SIM cVOC Method in order of elution cis-DCE; TCE; PCE

General Quantification Range from 0.1 ppbv to 10 ppbv

Tune File: default.tun

Target Library: QB 21MAR2017

Last Modified: 5/23/2017 4:33:26 PM

W = RT +- (0:08.00 / 2 + RT * 0.050)

Min Fit = 0.200; Min Pur = 0.200; Min Area = 5000

Width = 7 - 70 scans; Res = 5 scans; NLM = 2.000

Average Response Factor

Internal Standards

Analytes

Analyte. #1 -- cis-1,2 DCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(4.9439e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170321_20170321_001	0.1	1.00E-01	248000	2.48E+05	2.48E+06
2	SIM_100PPB_VA_20170321_20170321_002	0.5	5.00E-01	888938	8.89E+05	1.78E+06
3	SIM_100PPB_VA_20170321_20170321_003	1	1.00E+00	1960622	1.96E+06	1.96E+06
4	SIM_100PPB_VA_20170321_20170321_004	5	5.00E+00	8619392	8.62E+06	1.72E+06
5	SIM_100PPB_VA_20170321_20170321_007	10	1.00E+01	21710330	2.17E+07	2.17E+06
Average RF =	2.02E+06	**RSD of Average RF =**	15.32%			
RSD of Curve Fit =	15.78%					

Analyte. #2 -- TCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(3.0362e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170321_20170321_001	0.1	1.00E-01	307949	3.08E+05	3.08E+06
2	SIM_100PPB_VA_20170321_20170321_002	0.5	5.00E-01	1543215	1.54E+06	3.09E+06
3	SIM_100PPB_VA_20170321_20170321_003	1	1.00E+00	3218046	3.22E+06	3.22E+06
4	SIM_100PPB_VA_20170321_20170321_004	5	5.00E+00	16637497	1.66E+07	3.33E+06
5	SIM_100PPB_VA_20170321_20170321_007	10	1.00E+01	37563352	3.76E+07	3.76E+06
Average RF =	3.29E+06	**RSD of Average RF =**	8.45%			
RSD of Curve Fit =	19.54%					

Analyte. #3 -- PCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(2.6582e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170321_20170321_001	0.1	1.00E-01	373113	3.73E+05	3.73E+06
2	SIM_100PPB_VA_20170321_20170321_002	0.5	5.00E-01	1813259	1.81E+06	3.63E+06
3	SIM_100PPB_VA_20170321_20170321_003	1	1.00E+00	3674409	3.67E+06	3.67E+06
4	SIM_100PPB_VA_20170321_20170321_004	5	5.00E+00	18400920	1.84E+07	3.68E+06
5	SIM_100PPB_VA_20170321_20170321_007	10	1.00E+01	40976968	4.10E+07	4.10E+06
Average RF =	3.76E+06	**RSD of Average RF =**	5.08%			
RSD of Curve Fit =	12.97%					

22-Mar-17

FULL SCAN Calibration Response Table

HAPSITE method: /Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth

Method Description:

SIM cVOC Method in order of elution cis-DCE; TCE; PCE

General Quantification Range from 0.1 ppbv to 10 ppbv

Tune File: default.tun

Target Library: QB 22MAR2017

Last Modified: 5/23/2017 4:36:21 PM

W = RT +- (0:08.00 / 2 + RT * 0.050)

Min Fit = 0.200; Min Pur = 0.200; Min Area = 5000

Width = 7 - 70 scans; Res = 5 scans; NLM = 2.000

Average Response Factor

Internal Standards

Analytes

Analyte. #1 -- cis-1,2 DCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(6.7327e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170322_20170322_001	0.1	1.00E-01	110698	1.11E+05	1.11E+06
2	SIM_100PPB_VA_20170322_20170322_004	5	5.00E+00	7870395	7.87E+06	1.57E+06
3	SIM_100PPB_VA_20170322_20170322_005	10	1.00E+01	15938348	1.59E+07	1.59E+06
4	SIM_100PPB_VA_20170322_20170322_006	2.5	2.50E+00	4008085	4.01E+06	1.60E+06
5	SIM_100PPB_VA_20170322_20170322_007	7.5	7.50E+00	11612687	1.16E+07	1.55E+06
Average RF =	1.49E+06	**RSD of Average RF =**	14.31%			
RSD of Curve Fit =	8.21%					

Analyte. #2 -- TCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(3.6068e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170322_20170322_001	0.1	1.00E-01	204925	2.05E+05	2.05E+06
2	SIM_100PPB_VA_20170322_20170322_004	5	5.00E+00	14414802	1.44E+07	2.88E+06
3	SIM_100PPB_VA_20170322_20170322_005	10	1.00E+01	30206832	3.02E+07	3.02E+06
4	SIM_100PPB_VA_20170322_20170322_006	2.5	2.50E+00	7490293	7.49E+06	3.00E+06
5	SIM_100PPB_VA_20170322_20170322_007	7.5	7.50E+00	21852014	2.19E+07	2.91E+06
Average RF =	2.77E+06	**RSD of Average RF =**	14.73%			
RSD of Curve Fit =	9.47%					

Analyte. #3 -- PCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(3.2186e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170322_20170322_001	0.1	1.00E-01	237833	2.38E+05	2.38E+06
2	SIM_100PPB_VA_20170322_20170322_004	5	5.00E+00	15952382	1.60E+07	3.19E+06
3	SIM_100PPB_VA_20170322_20170322_005	10	1.00E+01	31967180	3.20E+07	3.20E+06
4	SIM_100PPB_VA_20170322_20170322_006	2.5	2.50E+00	8662434	8.66E+06	3.46E+06
5	SIM_100PPB_VA_20170322_20170322_007	7.5	7.50E+00	24782240	2.48E+07	3.30E+06
Average RF =	3.11E+06	**RSD of Average RF =**	13.59%			
RSD of Curve Fit =	6.11%					

5-Apr-17

FULL SCAN Calibration Response Table

HAPSITE method: /Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth

Method Description:

SIM cVOC Method in order of elution cis-DCE; TCE; PCE

General Quantification Range from 0.1 ppbv to 10 ppbv

Tune File: default.tun

Target Library: QB 05APR2017

Last Modified: 5/23/2017 4:39:38 PM

W = RT +- (0:08.00 / 2 + RT * 0.050)

Min Fit = 0.200; Min Pur = 0.200; Min Area = 5000

Width = 7 - 70 scans; Res = 5 scans; NLM = 2.000

Average Response Factor

Internal Standards

Analytes

Analyte. #1 -- cis-1,2 DCE

5 Calibration Points

Average Response Factor

Concentration = (0.0000e+000)(AREA**2)+(3.2540e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170322_20170405_001	0.1	1.00E-01	425838	4.26E+05	4.26E+06
2	SIM_100PPB_VA_20170322_20170405_002	0.5	5.00E-01	1493141	1.49E+06	2.99E+06
3	SIM_100PPB_VA_20170322_20170405_003	2.5	2.50E+00	7074888	7.08E+06	2.83E+06
4	SIM_100PPB_VA_20170322_20170405_004	5	5.00E+00	13935610	1.39E+07	2.79E+06
5	SIM_100PPB_VA_20170322_20170405_005	10	1.00E+01	25038732	2.50E+07	2.50E+06
Average RF =	3.07E+06	**RSD of Average RF =**	22.29%			
RSD of Curve Fit =	30.76%					

Analyte. #2 -- TCE
5 Calibration Points
Average Response Factor
Concentration = (0.0000e+000)(AREA**2)+(2.0120e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170322_20170405_001	0.1	1.00E-01	518378	5.18E+05	5.18E+06
2	SIM_100PPB_VA_20170322_20170405_002	0.5	5.00E-01	2460376	2.46E+06	4.92E+06
3	SIM_100PPB_VA_20170322_20170405_003	2.5	2.50E+00	11779550	1.18E+07	4.71E+06
4	SIM_100PPB_VA_20170322_20170405_004	5	5.00E+00	24542450	2.45E+07	4.91E+06
5	SIM_100PPB_VA_20170322_20170405_005	10	1.00E+01	51262864	5.13E+07	5.13E+06
Average RF =	4.97E+06	**RSD of Average RF =**	3.80%			
RSD of Curve Fit =	4.74%					

Analyte. #3 -- PCE
5 Calibration Points
Average Response Factor
Concentration = (0.0000e+000)(AREA**2)+(1.7787e-007)(AREA)+0.0000e+000

pt.	File	Conc.	Cratio	Area	Aratio	Resp. Factor
1	SIM_100PPB_VA_20170322_20170405_001	0.1	1.00E-01	594867	5.95E+05	5.95E+06
2	SIM_100PPB_VA_20170322_20170405_002	0.5	5.00E-01	2825295	2.83E+06	5.65E+06
3	SIM_100PPB_VA_20170322_20170405_003	2.5	2.50E+00	13750492	1.38E+07	5.50E+06
4	SIM_100PPB_VA_20170322_20170405_004	5	5.00E+00	27608960	2.76E+07	5.52E+06
5	SIM_100PPB_VA_20170322_20170405_005	10	1.00E+01	54894248	5.49E+07	5.49E+06
Average RF =	5.62E+06	**RSD of Average RF =**	3.44%			
RSD of Curve Fit =	3.64%					

Notes:
% = percent
AOU-1 = Accelerated Operable Unit 1 East Side Springs
Aratio = area ratio
cVOC = chlorinated volatile organic compound
DCE = dichloroethene
Conc. = concentration
Cratio = concentration ratio
Min = minimum
NLM = noise level multipler
PCE = tetrachloroethene
ppbv = part(s) per billion per volume
pt. = point
Pur = purity
QB = HAPSITE operator initials
Res = resolution
Resp. = response
RF = response factor
RSD = relative standard deviation
SIM = select ion monitoring
TCE = trichloroethene
VA = Department of Veterans Affairs

Appendix E
Field Notes

2017 Vapor Intrusion Field Work Documentation: AOU-1 East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah

PREPARED FOR:	Josephine Newton-Lund, PMP, Senior Manager Environmental Branch, U.S. Army Corps of Engineers
COPY TO:	Lynne Welsh, CERCLA Program Manager, Department of Veterans Affairs, Veterans Health Administration
PREPARED BY:	David Waite, CH2M Project Manager Quinten Bingham, CH2M Environmental Engineer
DATE:	May 10, 2017

Introduction

This technical memorandum summarizes the requisite field documentation and additional quality assurance (QA) protocols implemented for the vapor intrusion (VI) sampling conducted between March 6, 2017 and April 14, 2017, at Accelerated Operable Unit 1 (AOU-1) East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah. Copies of the completed requisite field documentation are provided in Attachments A through G.

2017 Field Quality Assurance Protocols and Documentation Summary

During the 2017 VI investigation of AOU-1, additional QA protocols were implemented from what was required during the 2015 and 2016 AOU-1 VI investigations. The additional QA protocols were implemented to confirm that new sampling data collected in 2017 achieved project data quality objectives. QA protocols included additional field documentation, regulatory and client oversight of field activities, and field documentation. During the first week of the 2017 VI sampling, the U.S. Army Corps of Engineers provided oversight in the field. An in-person meeting was also conducted with the contractor, regulators, and the Veterans Health Administration (VHA) to review 2017 field documentation for accuracy and completeness. In addition, CH2M HILL, Inc. internally reviewed and submitted field documentation to the VHA for routine spot-checking throughout the 2017 sampling event.

A pre-field kick-off meeting occurred with field staff to discuss all field documentation and to discuss the requirements of the quality assurance project plan (QAPP) (FE, 2015) and sampling action plan (SAP) (FE, 2015) as amended by Minor Field Modification (MFM) #18 (EA, 2017). Once field work commenced, the field staff and project manager routinely verified field documentation was performed in accordance with the QAPP, SAP, and MFM #18.

The specific field documentation for Limited VI Protocol (no pressure cycling) sampled locations consisted of:

- **Field Logbook:** The field logbook (Attachment A) contains all field notes specific to each residential sampling event for both the limited protocol, and full protocol sample events. These field notes include HAPSITE® calibration information, time of arrival/departure, brief floor plan sketch with

sampled locations, whether an interior source(s) was identified with the HAPSITE, product manufacturer name and product location, SUMMA deployment time, location, initial/final vacuum, canister/flow controller identification [ID], and sample ID.). The field logbook was a Rite in the Rain® notebook with numbered pages, properly dated and signed by the field representative after each sample event.

- **HAPSITE Field Form:** HAPSITE field forms (Attachment B) were used to log each HAPSITE sample (run number, time, date, location, location description, sample ID, and detected 1,2-dichloroethene, trichloroethene, and tetrachloroethene). One form was dedicated to each sampling event. HAPSITE field forms were spiral bound in booklet form.
- **SUMMA Field Form:** SUMMA field forms (Attachment C) were used to log each SUMMA canister deployment. These forms include sample location, sample ID, canister/flow controller ID, start/end time, start/end date, initial/final vacuums, flow controller flow rate, and a sketch of sample locations. One form was used per sample location. SUMMA field forms were spiral bound in booklet form.
- **VI Investigation QA Assurance Checklist Forms:** VI investigation QA assurance checklist forms (Attachment D) were completed for each sampled location (Full and Limited VI Protocol) to verify that VI sampling was performed in accordance with the QAPP and SAP as amended by MFM #18. These checklists included HAPSITE calibration criteria, field documentation, chain-of-custody (COC) forms, and sampling procedures. Each completed VI investigation QA assurance checklist was reviewed for completeness by an independent reviewer, and signed by that reviewer once it was confirmed the documentation was complete.
- **Daily Report Form:** Daily report forms (Attachment E) were used to log a summary of work performed, health and safety topics, personnel onsite, equipment on hand, and testing/sampling performed. A daily report was completed for each day of sampling. Daily report forms were spiral bound in booklet form.

The field documentation for Full VI Protocol sampled locations consisted of the same documentation for the Limited VI Protocol with the addition of a pressure cycling field form (spiral bound booklet) (Attachment F) where blower flowrates and differential pressures were logged. The SUMMA field form was not necessary for Full VI Protocol sampling because no breathing-zone screening level(s) were exceeded during Full VI Protocol sampling. Therefore, no SUMMA samples were required to be collected from these houses. Soil gas sample results were logged on the HAPSITE field form. Finally, the remaining completed forms (COC forms, analytical request forms, SUMMA canister certifications, and HAPSITE calibration gas documentation) for Limited and/or Full VI Protocol sampling are presented in Attachment G.

Conclusion

The 2017 field quality assurance and documentation for AOU-1 was performed in accordance with the approved QAPP and SAP as amended by MFM #18 (EA, 2017).

References

EA Engineering, Science, and Technology, Inc., PBC (EA). 2017. *Minor Field Modification #18: Remedial Investigation Work Plan AOU-1: East Side Springs 700 South 1600 East PCE Plume, Salt Lake City, Utah.* March.

First Environment (FE). 2015. *Final Remedial Investigation Work Plan, AOU-1: East Side Springs, 700 South 1600 East PCE Plume, Salt Lake City, Utah.* July.

Attachments

A Field Logbook
B HAPSITE Field Forms
C SUMMA Field Forms
D Vapor Intrusion Investigation Quality Assurance Checklist Forms
E Daily Report Forms
F Pressure Cycling Field Forms
G Chain-of-Custody Forms, Analytical Request Forms, SUMMA Canister Certifications, and HAPSITE Calibration Gas Documentation

Attachment A
Field Logbook

7000's 1600 FE ADR-1 3/5/16

~~PN 64616.01.FT~~ Q3 8/4/17
093005.0108.01

Personnel: QGB

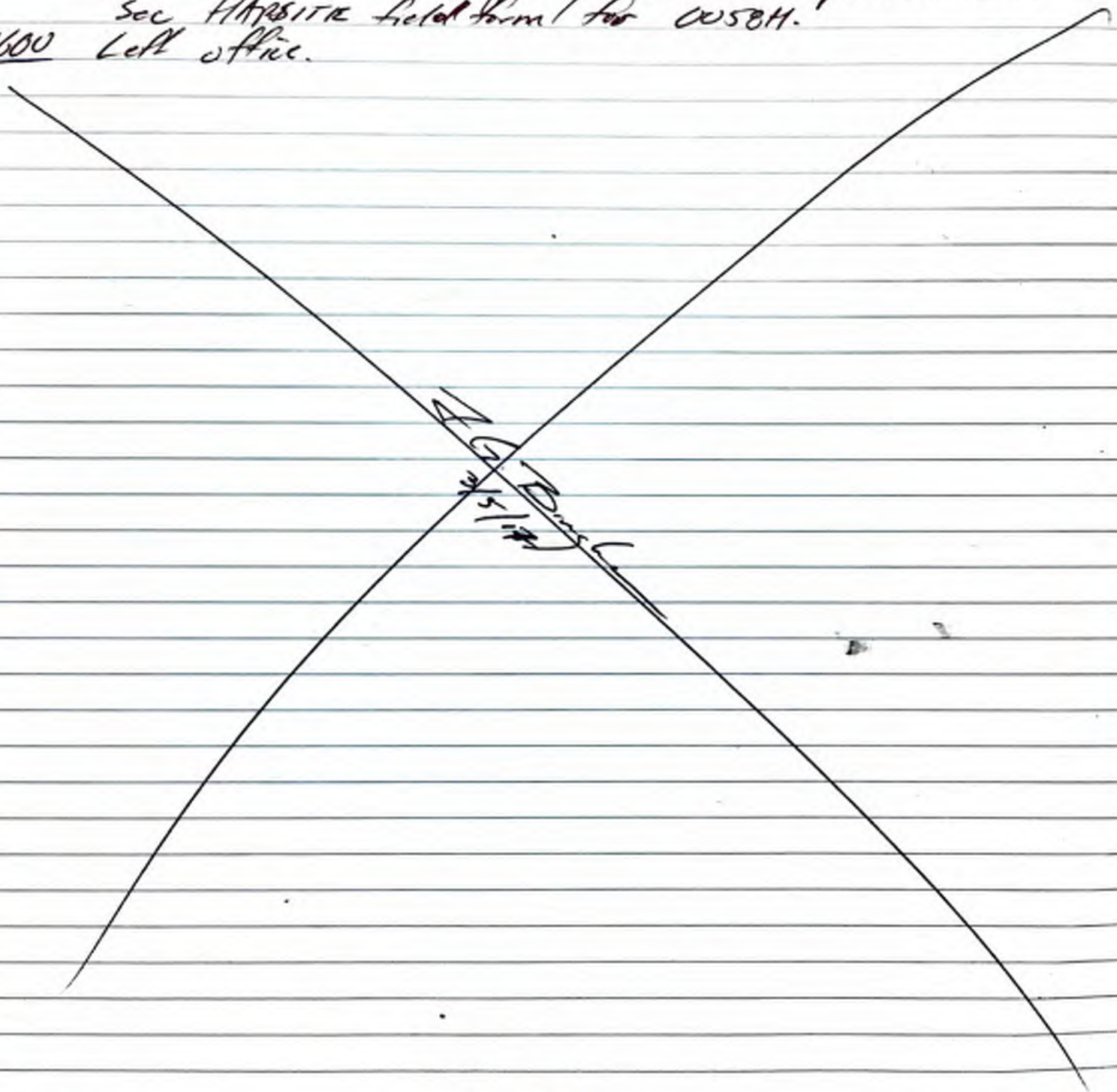
Objective: Field prep and HAPSITE calibration

Equipment: HAPSITE

Weather: 53°F, Windy

1400 Arrived @ office. Began HAPSITE calibration. Printed field forms + field documents. Calibration range 0.1 – 10 ppbv. Calibration gases concentrations 0.5 + 5.0 ppbv supplied by Applied Science Laboratory (Corvallis, Oregon). Calibration met all quality verification parameters. See HAPSITE field form for details.

1600 Left office.



AOU-1 VI as 5/4/17
~~PN 664616.01.FE~~ 683085.52.08.01 3/6/17

0058H

Personel: QGB, RA
Objective: Full protocol VI investigation
Equipment: HAPSITE, Blower door, omniguard IV, AMS Soil Gas kit, Fieldbook
Weather: 30's Partly Cloudy

0600 Arrived @ office. Ran morning CCV (2.5ppbv).
TCE = 2.6ppb/104% RPD PCE = 7.6 ppb/104% RPD CIS = 2.6ppbv/104% RPD
Morning CCV passed

0635 Began loading equipment in vehicle.

0715 MOB to Sunnyside Park for prep field asmt meeting w/ VA and Army Cor.

0755 Arrived @ Sunnyside Park. Filled out and signed PTSP.

0821 Rachel Adams arrived @ Sunnyside Park. Discussed field documentation

0825 Eric Gorman and Ray Weindorf arrived on-site.

0840 Lynn Welsch + Jeremy Laird arrived @ Sunnyside Park.

0850 Tailgate safety meeting. PTSP

0910 Arrive at site - G Bingham, J. Laird, E. Gorman, R. Weindorf, R. Adams. Discuss plan w/ resident. Distribute health and safety plan, pre-task safety form.

0912 prep HAPSITE, fill out VI protocol Sampling checklist.
HAPSITE method = SIM_100PPB_VA_20170305

0925 Collect ambient air sample (front porch)
Sample ID = A-0058H-OA-004-030617-OUT

0934 Collect upstairs air sample - front room between front door and dining area
Sample ID = A-0058H-IA-005-030617-LIV

0940 Resident states sq. footage is just over 1,000 sq ft

0945 Collect basement sample - basement living area
Sample ID = A-0058H-IA-006-030617-BAS

0957 No detects on 1st floor or basement
Set up for pressure cycling, resident leaves

1035 Blower door and omniguard set up (omniguard #G405105)
blower door on basement West door to back yard
omniguard on basement South window

1037 Start taking baseline pressure readings. J. Laird leaves, will return after pressure cycling is complete.

1055 Main stories sq footage (total) is 2450 sq ft
Will collect baseline pressure readings for 30 min (1040-1110)

1115 Start negative pressure cycle
target ΔP = -5

HOU-1

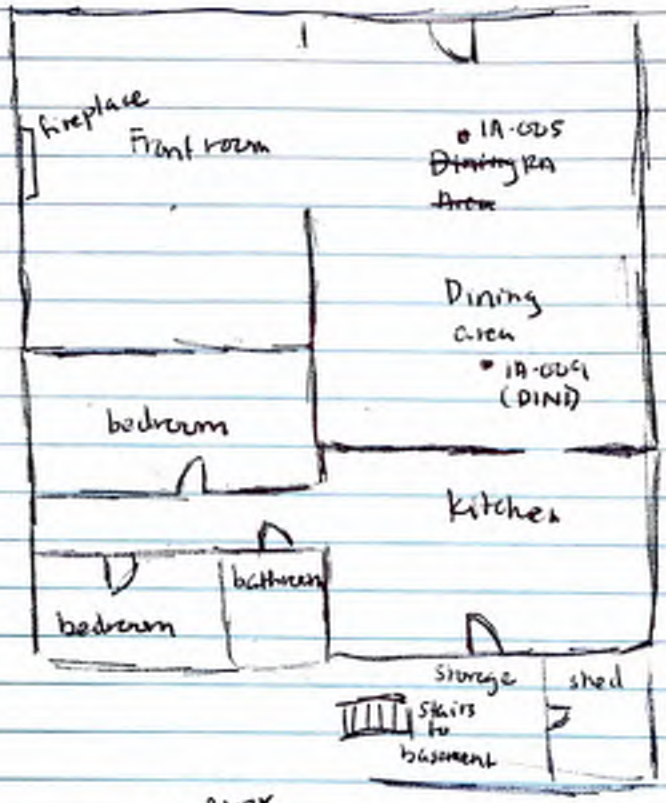
~~PN 666616.01.FT~~ 3/6/17

ODSSH PN 68385.SL.08.01

Site layout

OA-004 E ↑

1st Floor



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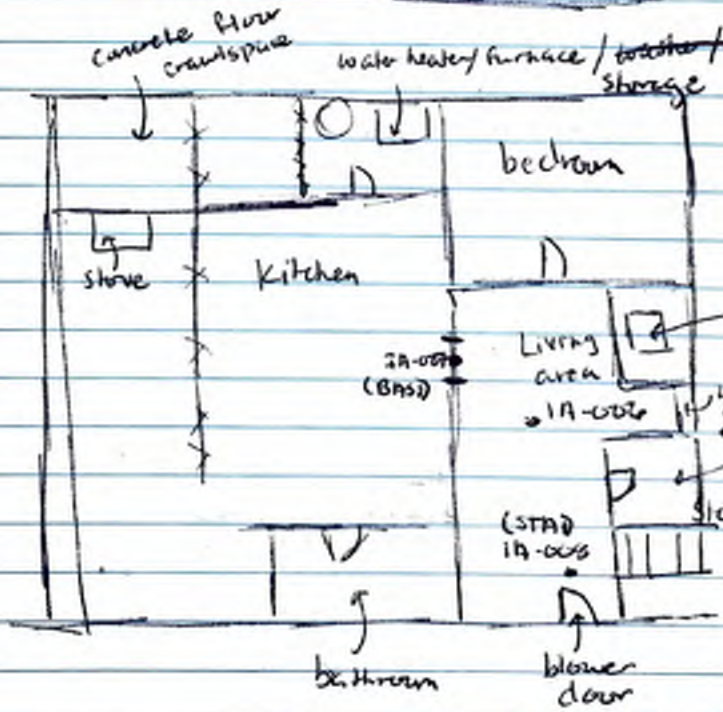


W ↓

3/4

AOU-1

~~FN 664616.61.FT~~ QA 5/4/17

0055-H PN 683085.52.08.01

3/6/17

1120 Wind appears to be affecting blower door - pressure readings consistently more negative than omniguard reading. Will use Omniguard reading to set target pressure/ blower flow rate.
Blower flow rate ~ 750 CFM, ~65 min for 2.5 air exchange
Quin collecting HAPSITE samples starting at 1115
Repeat 3 locations: basement between kitchen/ bedroom (1A-007)
basement adjacent to blower door (1A-005)
1st floor dining area (1A-009)
-5 pressure cycle Sample ID start: A-0055H-1A-007-030617-BAS1
Sample ID end: A-0055H-1A-014-030617-STA1

1222 end -5 pressure cycle. increase flow rate for -10 pressure cycle

1225 begin -10 pressure cycle
blower flow rate ~ 1430 CFM
A-ring in fan (-5 pressure cycle: B ring in fan)
~35 minutes for 2.5 air exchange
-10 pressure cycle Sample ID start: A-0055H-1A-015-030617-BAS1
Sample ID end: A-0055H-1A-019-STA1

1300 End -10 pressure cycle

1305 Set up for +5 pressure cycle

1310 begin +5 pressure cycle
blower flow rate ~ 1271 CFM
A-ring in fan
+5 pressure cycle Sample ID start: 1A-020-030617-BAS1
~~1350~~ RA Sample ID end: 1A-024-030617-STA1

1350 End +5 pressure cycle
break down blower door, omni guard
Quin leaves to set up soil gas sampling

1420 ~~soil~~ RA Collect soil gas sample (S side by basement window)
depth = ~~5' BGS~~ RA 48" BGS (4' below slab)
Diluted 1:10
Sample ID = A-0055H-SG-025-030617-04'

1430 Run SG-025-030617-04'. Results all non-detect.

1440 run undiluted sample
Sample ID = SG-026-030617-04'
Results all non-detect.

1452 Run undiluted sample collected @ 71.5" bgs (collected at 1430 by Q. Bingham)
Sample ID = SG-027-030617-06'

6 Results all non-detect.

AGU-1 QB 5/4/17 3/6/17 4/4

~~AGU-1 Groundwater Profile~~

OU 58-H PN 683085.SC.08.01

1500 Q. Bingham breaks down soil gas sampling equipment.

1502 Run blank on HAPSITE (run # 28)

1510 Pack up equipment

1520 leave residence, discuss documentation w/ R. Weindorf
will meet at residence tomorrow ~10 min before appt

1530 - Survey mode not utilized as no indoor concentrations observed
- Floor drain in basement kitchen covered by linoleum, not an entry point
- Floor crack (small) in mechanical room, did not appear to be an entry point
- Only 2 soil gas samples collected due to both samples returning non-detect results

1535 MOB to SLC office. Rachel Adams MOB home.

1605 Arrived @ SLC office. For end of day CCV (5ppbv std)
TCE + PCE passed calibration checks (82% RPD for both)
Cis failed (RPD = 56%). Feedback 3/7/17 to improve Cis response

RCA RPD 3/6/17

Rite in the Rain

1/4

ACM-1
00601H
~~PW664016.01.TI~~ PW 683085.SC.08.01 @3 5/4/17 3/7/17

Personnel: QG3, RA
Objective: Full VI protocol investigation @ 00601H.
Equipment: HAPSITE, Blower door, Omniguard, AWS soil gas kit, field tools
Weather: Partly cloudy, 30°F

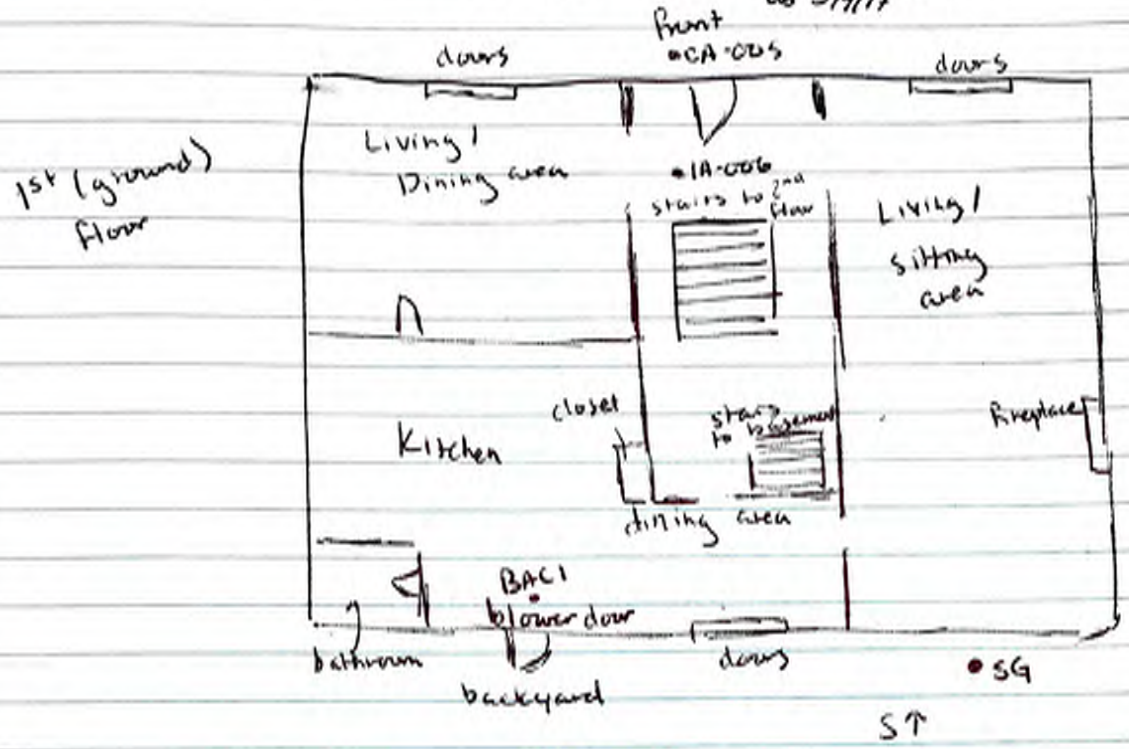
0600 Arrived @ the office to recalibrate the HAPSITE since CIS RPD was 50% @ the end of the day 3/6/17.
0630 Emailed 03/06/17 scanned field documentation to team.
0745 Calibration completed all analytes ~~passed~~ met @ 3/1107, the calibration quality verification run for calibration check w/ 2.5 ppbv. Calibration check Passed. RPDs for CIS, TCE, PCE were 96%, 108%, and 104%, respectively.
0800 left office for site
0845 Met w/ Roy Weindorf, Eric Gorman, Rolf Lange (VA), Joelle Dickson (SAGE). Distribute pre-task safety plan. Discuss plan for sampling.
0900 Enter residence, discuss sampling with resident. Prepare HAPSITE for sampling. Review documentation.
0906 Collect ambient air sample (front porch)
0916 Collect 1st floor sample (entryway)
0925 Collect 2nd floor sample (hallway)
0933 Collect basement sample (family room)
0940 Collect 2nd basement sample (laundry / water heater room)
0948 Results all non-detect - will not sample in survey mode as no indoor sources are indicated.
0950 Collect 3rd basement basement sample (storage room)
Minor crack noted in concrete in water heater room
paint cans stored in water heater room
1000 No HAPSITE surveys were conducted since all quantitative samples were non-detect for CIS, TCE, PCE.
1005 Set up blower door. Omniguard IV installed in basement living room. Set to log differential pressure every 5 minutes.
1020 begin collecting baseline pressures.
Quin notes Omniguard should be moved so it is not set up on the same wall as the blower door.
Move Omniguard to East bedroom window.
1030 ~~1025~~ RA Re-start baseline pressure readings
Noted floor drain in laundry room
1035 Quin turns off gas line to boiler / water heater
1045 Quin calculates sq. footage to be ~4400 sq ft.
Ceilings are ~7 ft (basement) to 9-10 ft (1-2 floors)
Will use 9 ft for ceiling height.

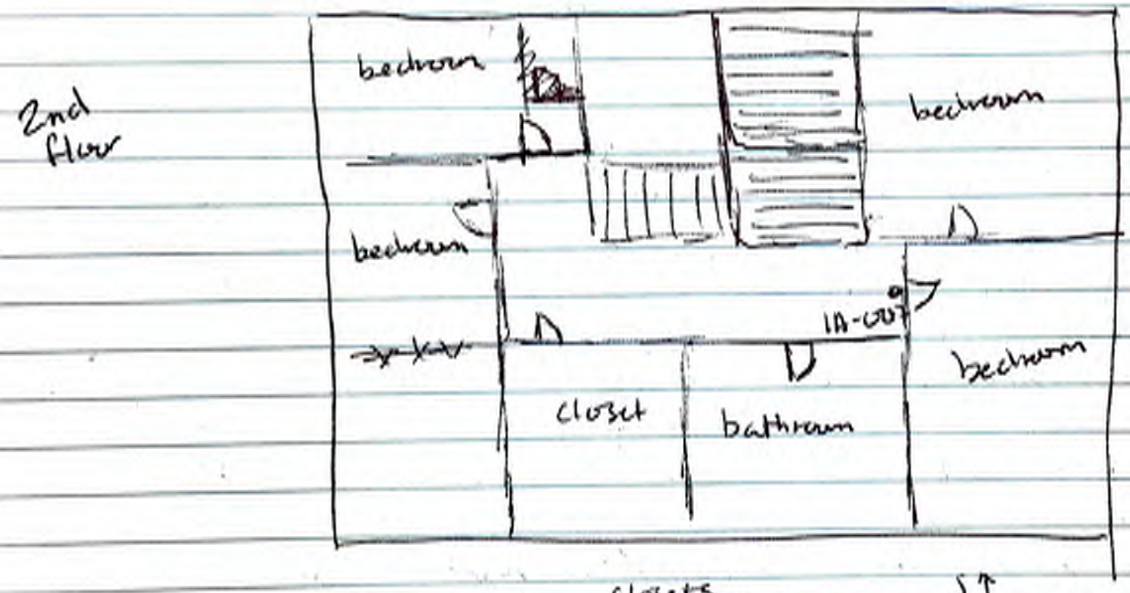
8 3/7/17

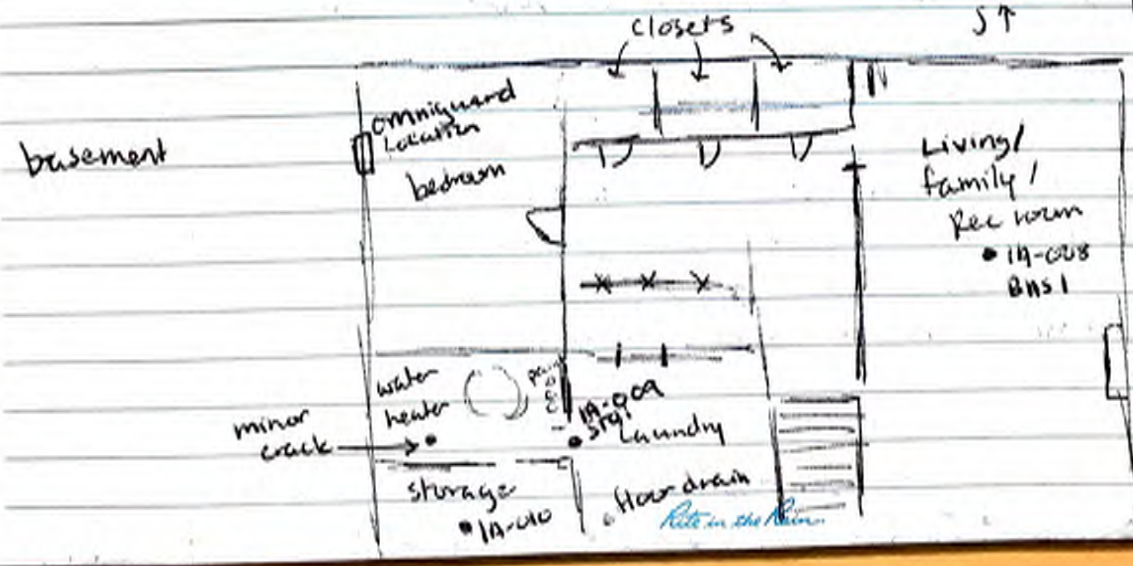
AOV-1 3/7/17

Circuit PN 683085.SL.08.01

~~PN 664616.01.FI~~ dtd 5/4/17







3/4

AOU-1
0360 H AB 5/4/17

3/7/17

~~PN 6044616.01.FE~~
PN 085085.SL.08.1

1100 finish baseline pressure readings
Discuss naming convention w/ E. Gorman. Appears to be a discrepancy between the SAP and MFM # 3-6. Followed naming convention in SAP 3/6/17. ~~Eric will continue to use SAP convention through the end of day.~~ AM 3/7/17 Will clarify w/ Lynne Welsch before sampling 3/8/17. Eric notes field notes need to be signed and dated at the bottom of each page. Quin notes he has been taking photographs of sampling locations for pressure cycling

1120 begin -5 pressure cycling, flow rate ~ 1130 CFM (A-ring in fan)
Quin begins collecting HAPSITE data
Repeat 3 locations: laundry room / basement
Family/Rec room / basement
blower door

1135 Quin states he will start using MFM #3-6 naming convention starting at 1135.

1140 blower door pressure consistently more negative than omniguard. Will use omniguard reading to set blower flow rate as it is more representative.
-5 pressure cycle sample ID start = 030717-IA-011-STD1
sample ID end = 030717_IA-020-STD1

1230 Resident returns (stepped out at start of -5 pressure cycle)

1245 End -5 pressure cycle, begin increasing flow rate for -10 pressure cycle

1250 begin -10 pressure cycle Sample ID start: 030717_IA-021-STD1
Sample ID end = ~~030717_IA-031-BTST~~ AM 3/14/17 030717-IA-029-STD1
flow rate ~ 1739 CFM (A-ring in fan)

1350 End -10 pressure cycle.

1358 Full HI protocol MFM #18 Attachment I Section 10 suggests collecting HAPSITE samples @ all initial characterization locations once the 2.5 air exchanges have been achieved. However, sampling has been conducted at two of the ~~four~~ basement locations and @ the blower door throughout both negative pressure steps. ~~All sample locations~~ All characterization sample locations were sampled @ the end of the -10 Pa pressure cycle and the +5 Pa pressure step.

AB 3/7/17

10

AB 5/4/17

AOU-1
CVOC H RB 5/7/17 3/7/17
~~PN 664616.01.FI~~
PN 683085.SL.08.01

1420 Begin TS pressure cycle
flow rate ~ 1430 CFM
A-ring in fan
Sample ID start: 030717-1A-030-STD1
Sample ID end: 030717-1A-036-STD1

1515 Resident leaves, R. Lange returns

1530 End TS pressure cycle
Pack up blower door, omniguard
Set up for soil gas sampling

1610 Q Bingham collects soil gas sample at 57" bgs. (4.8' bgs)
Sample is not quite 6" below slab due to obstacle.

1620 Run soil gas sample ~~6" below~~ RB 3/7/17 (1:10 dilution)
Sample ID: 030717-SG-037-4.8'

1637 Run undiluted soil gas sample collected @ 57" bgs
Sample ID: 030717-SG-038-4.8'
Three additional soil sample locations tested but all stopped @ approximately 50"-57" bgs.

1645 Run blank sample

1700 Off site. MOB to SLC office.

1730 Arrived @ SLC office.

1745 Ran 5 spikes CCV. All analytes passed. RPDs for cis, TCE, and PCE were 80%, 90%, and 88%, respectively.

RB 3/7/17

Rain in the Rain

1/4

0061-11
Aqui QB 5/4/17
~~PN 664616-01-FE~~
PN 683085-SL-0801

3/8/17

Personnel: QB, RA
Objective: Full-st sampling of 0061-H.
Equipment: HAPSITE, Blower door, Ams soil gas kit, field tools
Weather: 40°F Cloudy

0700 Arrived @ office. Ran 5 ppbv CCV. All analytes passed. CIS = 4.1 ppbv / 82% RPD, TCE = 4.5 ppbv / 90% RPD, PCE = 4.1 ppbv / 82% RPD

0830 mob to 0061H.

0905 Arrived @ 0061H. Began HAPSITE survey/investigation. Completed PTSP. Everyone signed it. Lawrence QB 3/8/17
Personnel on-site = Quin Bingham, Rachel Adams, Lawrence Kellam, Roy Wendorf, David Allison.

0915 Collected outdoor air sample.

0925 Collected main level indoor air sample.

0934 Collected basement indoor air. Basement is larger crawlspace w/ 5-foot ceiling. Basement is not livable space

0955 Collect upstairs bedroom indoor air.

1005 Collect main level kitchen indoor air

1025 No interior sources identified, survey mode not run

1030 2 potential entry paths observed in basement: crack near stairs / door, sunken foundation (sunken ~ 1 ft, bottom covered w/ concrete, sides not covered / dirt.)
- Set up omniguard, blower door. Set blower door in laundry room as dining area is an addition to the house (constructed in ~1960s)

1050 begin collecting baseline pressure readings

1056 Run mid-day cal check

1100 Quin states main floor is 1368 sq ft / 10 ft ceiling
upstairs is 528 sq ft / 8 ft ceiling
basement is 869 sq ft / 5 ft ceiling
- sq footage from county assessor
- Volume (calculated) = 22,349 cu. ft.

1120 End baseline pressure readings. Quin reviews sample results prior to starting -5 pressure step.

1135 begin -5 pressure step
Running in fan, flow rate ~ 1507 CFM
Quin rotates sample locations: 1A-0032 (living room) LIV1
1A-0034 (basement) BAS1
1A-0035 (2nd floor bedroom) BED1
1A-0037 (kitchen) KIT1
1A- (blower door)

12

3/8/17

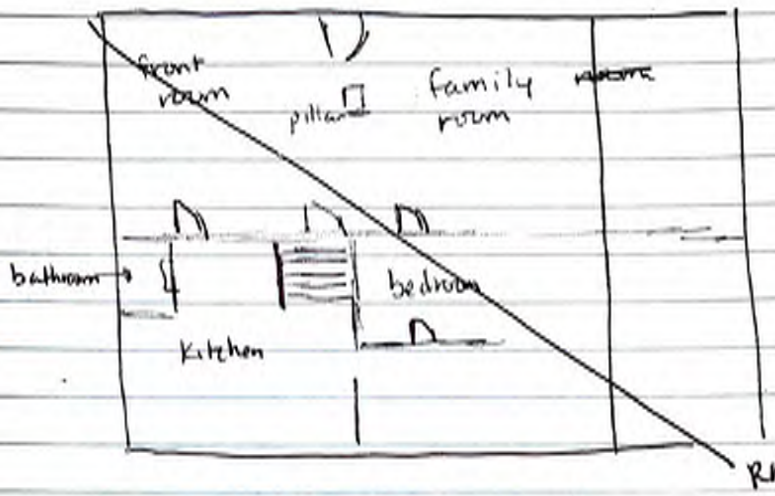
2/4

0061-H
AOV-1
~~PN 664016.01.FI~~
PN 683085.SL.08.01

03/5/4/17

3/8/17

N↑



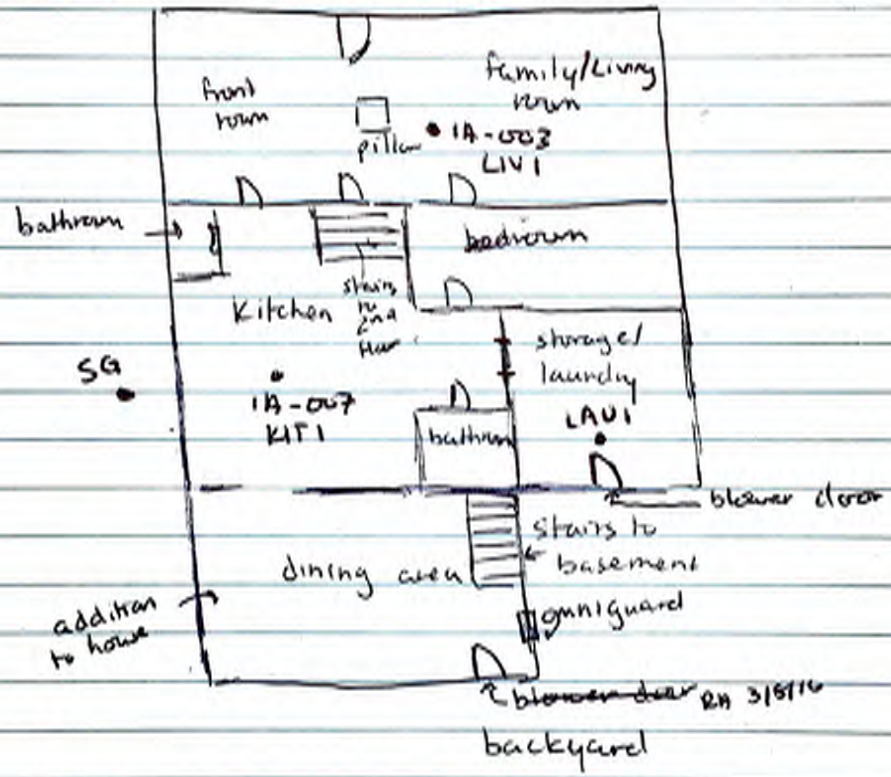
RA 3/8/17

front

OA-002

N↑

1st floor

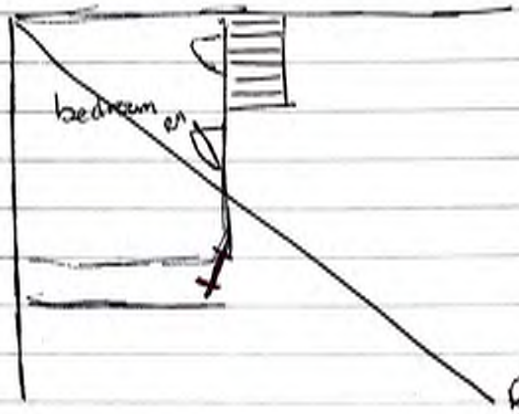


3/8/17

3/4

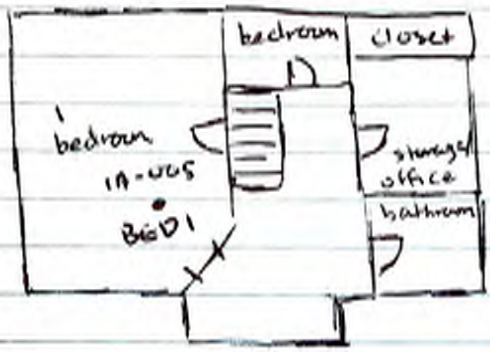
OCC 1-14
ACU-1 @ 5/4/17
~~PN 664616.01.FE~~
PN 683085.SC.08.01

3/8/17

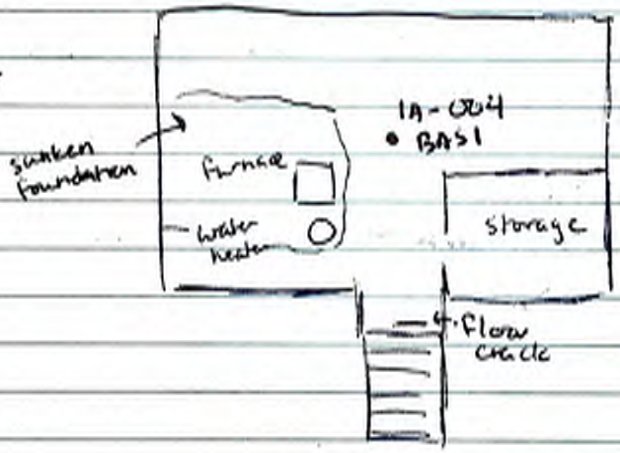


RA 3/8/17

2nd flor



basement



3/8/17

14

4/4

GC61-11
AGU-1
~~PN 664616.01.FF~~
PN 683085.SL.08.01

3/8/17

1140 Quin notes samples #002 - 007 did not detect cis when analyzed w/ software

1210 2.5 air exchanges reached, continue -5 cycle while Quin finishes collecting samples

1255 begin -10 pressure cycle.
Fan is open, flow rate ~3275 CFM
blower door consistently reads more negative than omni, ~~John~~ RN 3/8/17 will use omni to set pressure/flow rate as it is more representative

1320 HAPSITE power cord no longer recognized. Q. called Jeremy Cox to bring extra charger, battery, and power cord.

1320 J. Cox arrives w/ charger/power cord. HAPSITE shut off due to low battery prior to his arrival.

1325 Hapsite powered on, heat up and tune prior to sampling

1410 End 1 -10 pressure cycle, set up for +5 cycle

1415 begin +5 pressure cycle
A-ring in fan, flow rate ~1860 CFM

1445 2.5 air exchanges reached, continue +5 cycle until samples have been collected

1455 End +5 pressure cycle, break down blaer door/ omniguard. Quin sets up for soil gas.

1520 Collect soil gas sample on W. side of house @ 56" bgs (6" below slab) (4.7' bgs)

1530 Run soil gas sample (1:10 dilution) on HAPSITE
Sample ID = 030517-SG-029-4.7'

1535 Results non-detect, run undiluted soil gas sample
Sample ID = 030517-SG-030-4.7'

1540 Collect soil gas sample @ 73" bgs

1548 Run soil gas sample (73" bgs) on HAPSITE
Sample ID = 030517-SG-031-6.1'

1554 Results from soil gas all non-detect, pack up equipment / Run blank on HAPSITE (run # 32)

1630 MOB to SLC office

1710 Arrived @ SLC office. Ran 5ppbv CCV. Run #035
CIS = 3.5ppbv / 70% RPD, TCE = 4.2ppbv / 84% RPD
PCE = 4.1 / 82% RPD

3/8/17

Rite in the Rain

1/5 (AA 3/13/17)

AOU2

0013H, 0027H, 0026H Limited Protocol / HE Sampling

PN 693095. SL. 08.02

3/9/17

Personnel: QGB

Objective: Limited HE Protocol sampling @ 0026H, 0027H, and 0013H.

Equipment: HAPSITE, SUMMA canisters, field tools

Weather: Sunny 40°F

0730 Arrived @ SLC office. Ran 5 ppbv CCV. CIS = 4.0 ppbv / 8% RPD
TCE = 4.5 ppb / 90% RPD, PCE = 4.2 ppb / 8% RPD

0800 Printed questionnaires. Review SAP sample naming convention

0830 MOB to 0026H.

0900 Arrived @ 0026H. Introduced the team to resident. On-site: Dan Bingham, Jeremy Laird, Roy Wendorf, Laura Goldner. Flow down in Laundry room

0910 Began HAPSITE survey of 0026H.

0915 007-BAS1 basement Living Room 0.19 ppbv PCE

0925 008-LAU1 basement Laundry Room 0.16 ppbv PCE

~~0930~~ HAPSITE field log for other HAPSITE results.
Sampled all structure levels in quant mode. PCE was ubiquitous throughout structure @ 0.13 - 0.19 ppbv

1015 Ran survey mode to sniff products in basement utility room. No products containing PCE were identified. [PCE-3TON-SURVEY Run #001]

1035 Deployed 6-L SUMMA canister in basement pantry.

Canister ID: 0366 Flow Controller: 0155

Initial P: -25.01 inHg Final P: 0.05 inHg

Start time: 1040 End time: 925

Start Date: 3/9/17 End Date: 3/10/17

Sample ID: A-0026H-031017-TO-002-BAS

Previous 2015 sample location was in the basement pantry, which is not a livable space. Canister placed in this location to replicate 2015 results. Preferred canister placement would be in basement living room.

1050 Left 0026H. MOB to 0027H.

1100 Arrived @ 0027H. Resident signed access agreement. Set up to begin HAPSITE quantitative sampling.

1105 Collected outdoor air sample on north side of structure.

1114 Collected sample in main level Living room (Rm # 013)

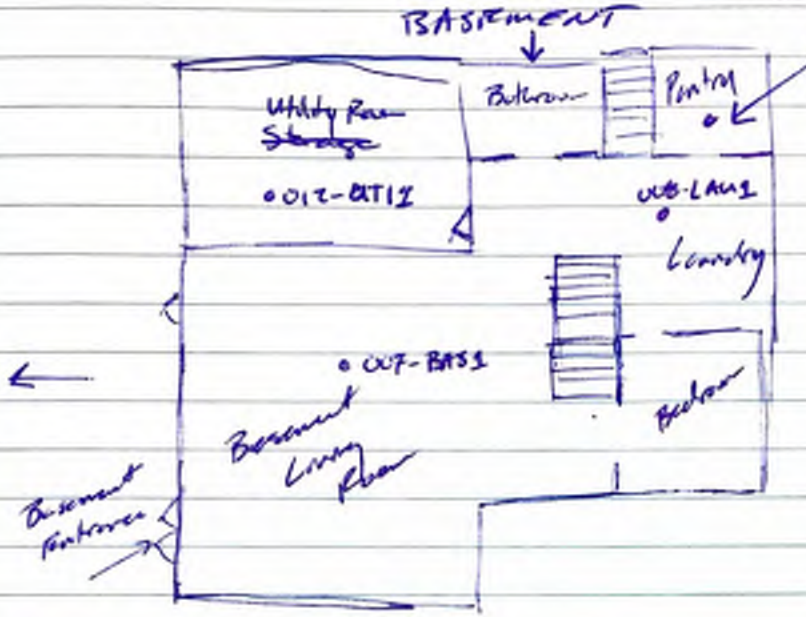
1123 Sampled basement level in two locations. Basement hallway between Laundry room and had remained the mechanical room w/ furnace and stamps. Mechanical room has large cracks in mechanical room concrete floor where old boiler used to be located. All levels of structures were sampled (2 levels). No target analytes were detected.

3/9/17

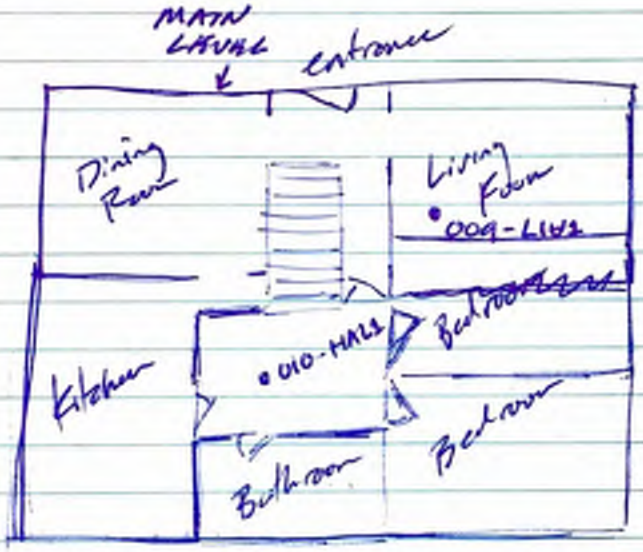
2/3 QB 3/1/17

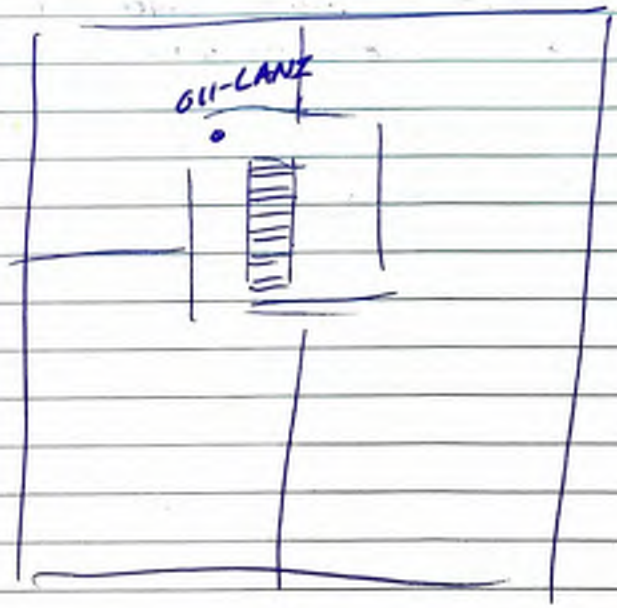
AOM
0026-H
Limited VE Patrol
Sample Location
PN 683085.52.08.02

3/9/17



TO-15 Sample Location
A0026H-030817-TO-002-BAS
RA 3/14/17





2-ND Level

QB 3/13/17

Jeff 3/9/17

Rite in the Rain

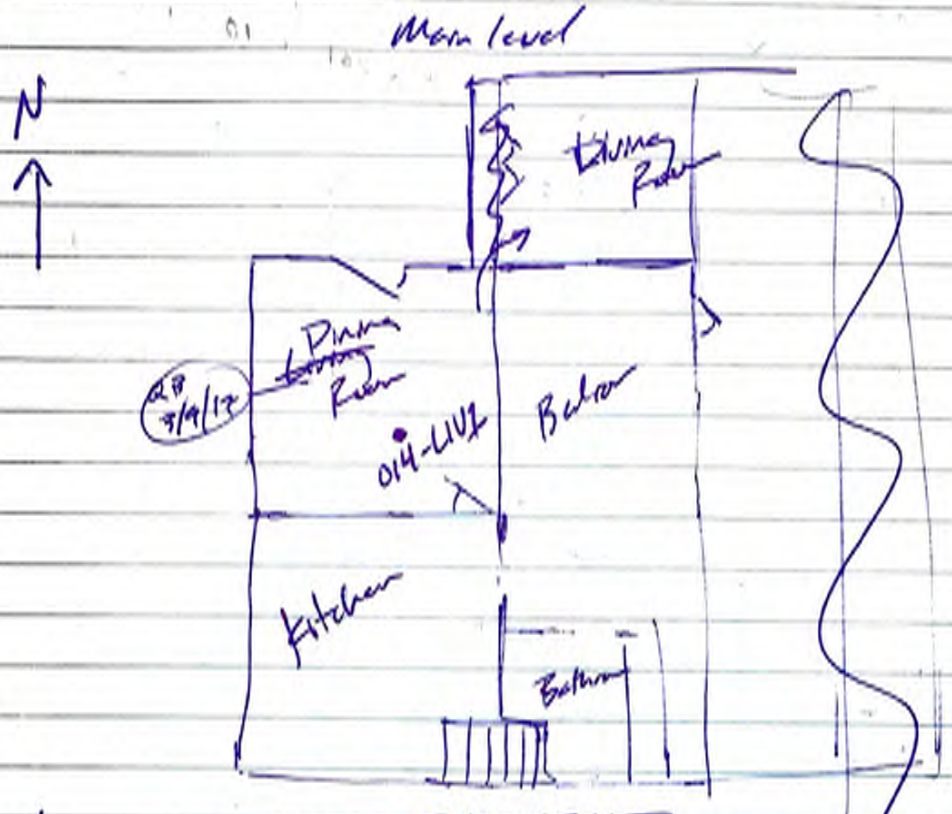
17

3/5 (QA 3/6/17)

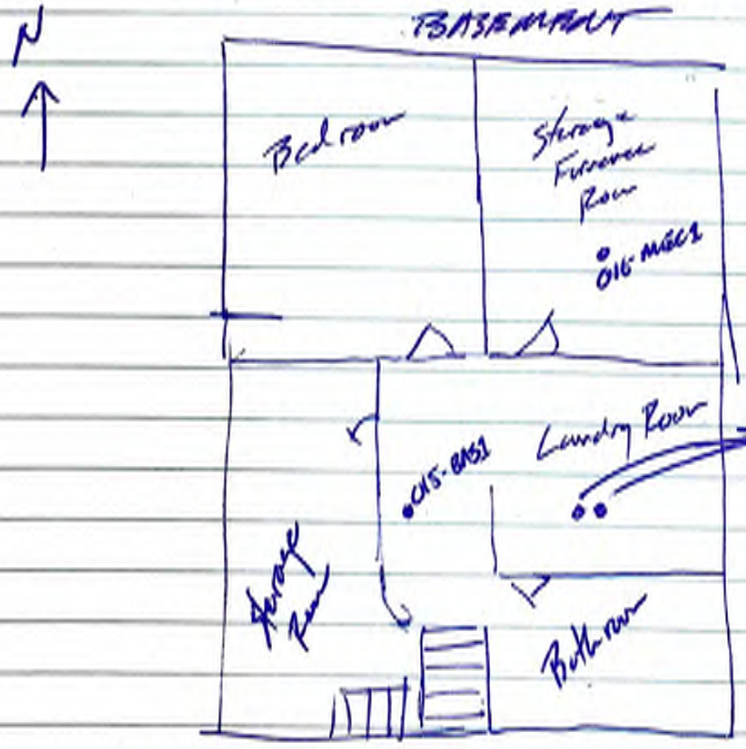
00271
Limited DI Protocol
Sample Locations
PW 083085: SL. 08.02 QA 5/4/17

3/5/17

Main level



BASEMENT



Summa Location
A-00271-03017-TO-001-BAS
A-00271-03017-TO-002-BAS
(PW 5/4/17)

PGB 5/4/17

18

4/5 QA 7/18/17

ADH
CO27H, CO26H, CO13H
Limited IA Protocol
PN 6830E5: 6L, 48 hr

3/9/17

QA 5/14/17

1205 Deployed two 6-L summa canister, in basement laundry room.

031017 QA 3/10/17

Normal
- Sample ID: A-0027H-~~030917~~-TO-001-BAS
- Canister ID: 0688 — Initial P: -25.59 inHg
- Flow Controller ID: 0695 — Final P: -3.88
- Start Date: 3/9/17 — Start time: 1207
- End Date: 3/10/17 — ~~End time~~ QA 7/4/17
- End time: 1114

031017 QA 3/10/17

Field Dup
- Sample ID: A-0027H-~~030917~~-TO-002-BAS
- Canister ID: 0731 — Initial P: -25.39
- Flow Controller ID: 0695 — Final P: -2.94
- Start Date: 3/9/17 — Start time: 1207
- End Date: 3/10/17 — End time: 1114

1210 Left CO27H.
1350 Arrival @ CO13H. Began HI QA checklist.
1400 Nick Kirchner & Joel Dickson on-site. NKh contacted resident. Residents are on their way. Resident granted permission to park in driveway.
1410 Collected outdoor air sample [Run # 017].
1420 Main level indoor air sample in hallway near bathroom [Run # 018].
1430 Upstairs level indoor air sample in bedroom/office area [Run # 019].
1440 Basement level indoor air sample in basement living area [Run # 020]. No target analytes were detected in the indoor air (on all three levels) or outdoor air.
1458 Began summa canister prep

Sample ID: A-0013H-031017-TO-001-BAS
Canister ID: 0445 — Flow Controller ID: 0702
Initial P: -25.21 inHg — Final P: -0.06
Start Date: 3/09/17 — End Date: 3/10/17
Start time: 1510 — End Time: 1423

1525 Left CO13H. Set a pick up time of 1715.
1615 Arrival @ SLC office. Completed paperwork
1703 Run end of day 5ppbv CCV. All analytes passed. cis = 4.1 ppbv/82%RPD, TCE = 4.7 ppbv/92% RPD, PCE: 4.6 ppbv/92% RPD
1730 Prepare COCs & ARFs for tomorrows canister pick ups.

3/9/17

Rite in the Rain

5/5

00131 1
Limited HE Protocol
Sampling Locations
PU 685085. SL. 08.02 QB 5/4/17

3/9/17

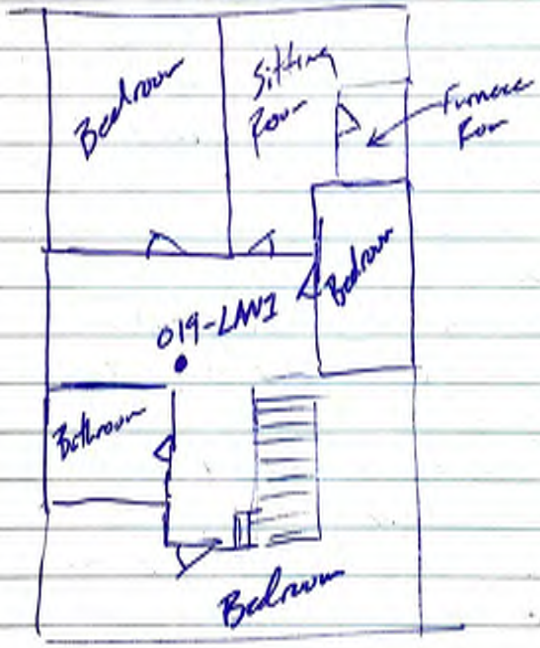
→ N

MAIN LEVEL

SUMMA DEPLOYMENT LOCATION

A-0018K-031017-TU-001-BAS

UPSTAIRS



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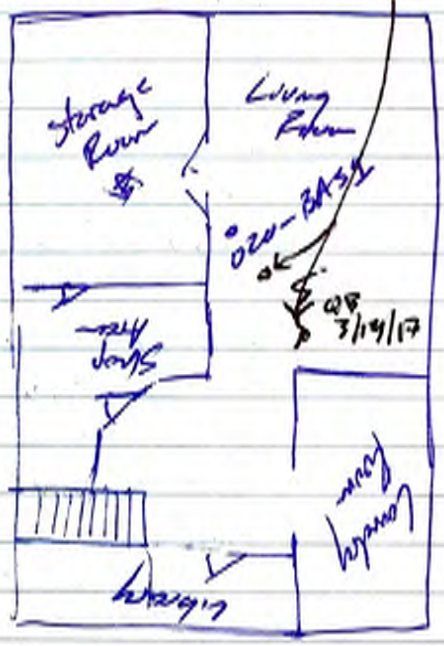


3/9/17

AOU-1 RA 3/14/17
PN ~~664616.01.EC~~ 683085.SL.05.02 RA 3/14/17
0026H, 0027H, 0013H

3/10/17

Personnel: Rachel Adams
Objective: pick up summa canisters for limited VI sampling @ A-0026H, A-0027H, ~~0028~~ RA 3/10/17 A-0013H
Equipment: digital pressure gauge, field tools
Weather: cloudy, 50°F

0745 Arrive at office, review documentation
0800 Pack up equipment / field forms
0815 Leave to pick up COC forms @ ALS Environmental
0840 Leave for A-0026H
0905 Arrive at residence. Meet Lynne Welsch, Eric Ayers, resident. Resident directs to summa canister located in laundry room pantry. Summa does not appear to have been moved. Fill out paperwork, discuss w/ resident. Safety discussion.
0915 Analog gauge = 4 in Hg
0925 Digital gauge = 0.05 in Hg
End time: 3/10/17 0925, < 23 hrs (see note below)
Fill out documentation, check completeness w/ L. Welsh
0935 leave residence, meet Joel Dickson. Miscommunication about meeting time. Discuss sampling. Will submit samples at end of next week and finalize COC in the office. Lynne noted the pick up time is 15 min short of 23 hrs - will not close canisters at other locations until after 23 hrs. Check meeting times w/ Joel, Lynne for other locations.
1015 Leave site, answer emails.
1045 Arrive at 0027H, review documentation
1100 Discuss sample IDs w/ Lynne Welsh. Will use 002 for field dup.
1105 Discuss sampling w/ resident, Joelle shows summa location. canisters do not appear to have been moved.
1114 Canister # 0655 Analog gauge = 10 "Hg Digital = -3.55 "Hg
Canister # 0731 Analog gauge = 5 "Hg Digital = -2.94 "Hg
retrieval time: 1114
1130 Checked gauge (digital) on first canister at 0026H. gauge reads 1.41 "Hg - still positive. Discuss with Lynne, may be an issue with flow rate/canister. Lynne will reschedule to deploy canister.
1150 Leave for lunch / answer emails / review documentation.
1350 Arrive at 0013-H.
1415 to meet resident, Summa canister does not appear to have

Rite in the Rain

3/10/17

2/2

A 02-1
PN ~~6644016-01-FE~~ Rev 3/14/17
002611, 002711, 002311

6'83085.92.05.02
Rev 3/14/17

3/10/17

1415 been moved.

analog gauge = 1" Hg

1423 close gauge, end time: 1423

Digital gauge = -0.06 " Hg

1430 Check documentation w/ Lynne, doc. complete

1435 leave residence, review documentation / sampling w/ Joelle.

1515 Arrive at office, unpack, finalize paperwork

3/10/17

3/10/17

AOM1
0025H, 0004H, 0012H
LIMITED VI PROTOCOL
PN 683085.5408.02

3/13/17

Personel: OGB
Objective: Limited VI protocol sampling of 0025H, 0004H, 0012H
Equipment: HAPSITE, SUMMA, field tools
Weather 45°, Partly Cloudy
0630 Arrived @ SLC office. Obtained last weeks field documents.
0705 Ran 5 ppbv CCV. All analytes passed. CIS: 4.5 ppbv / 90% RPD, TCE: 4.8 ppbv / 96% RPD, PCE: 4.7 ppbv / 94% RPD. Updated / Uploaded field documents to SharePoint site.
0830 MOB to 0025H.
0900 Arrived @ 0025H. Nic Kirkham & Laurie Goldner on site
0905 Resident signed access agreement. 3/13/17
0905 Collected outdoor air sample [Run # 003]. 68 ND.
0914 Collected indoor air sample in main level living room [Run # 003]. CIS - 12 - DCE = 0.18 ppbv. Will check to see if it was actually CIS - 12 - DCE. Detector was a false positive. 3/13/17
0923 Collected indoor air sample in basement hallway. Central location. No target analytes were detected in indoor air and outdoor air @ 0025H
0938 Set up to deploy 24-hr 6-L Summa canister. Deployed in basement hallway
SAMPLE ID = A-0025H-031017-TO-001-BAS
Canister ID = 0475 FLOW CONTROLLER ID: 0651
INITIAL PE = -25.14 in Hg FINAL PE = -1.00 " Hg
Start Date: 3/13/17 End date: 3/14/17
Start time: 1008 End time: 0910
1030 Left 0025H. Left return appointment for 3/14/17 @ 0900
1057 Arrived @ 0004H. Nic Kirkham and Laurie Goldner on site. Resident signed access agreements. Met Nic & Laurie Sup PTSP. Structure is a two-story duplex (basement/ground level)
1115 Collected outdoor air sample [Run #006] northside of east apt.
1125 Collected indoor air sample in main level living room [Run # 007].
1139 Collected indoor air sample in basement level [Run # 008]. Basement is ove Laggo room.
1148 No target analytes detected in indoor air or outdoor air.
1150 Set up to deploy Summa canister in basement area.

JG Berg 3/13/17

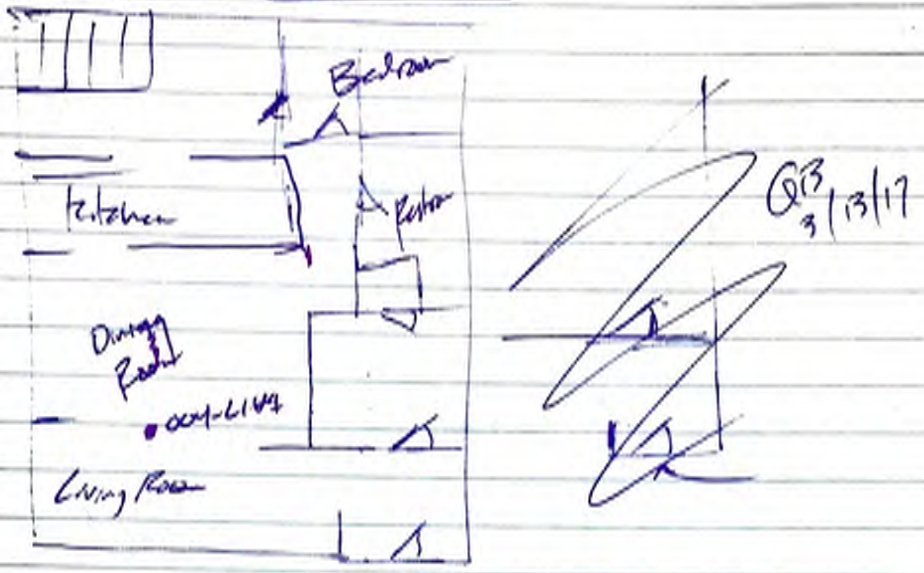
Rite in the Rain

3/5

0025H
LIMITED-USE PROTOCAL
SAMPLE LOCATIONS
PN: 68205.SL.08.02

3/13/17

MAIN LEVEL



BASEMENT

24

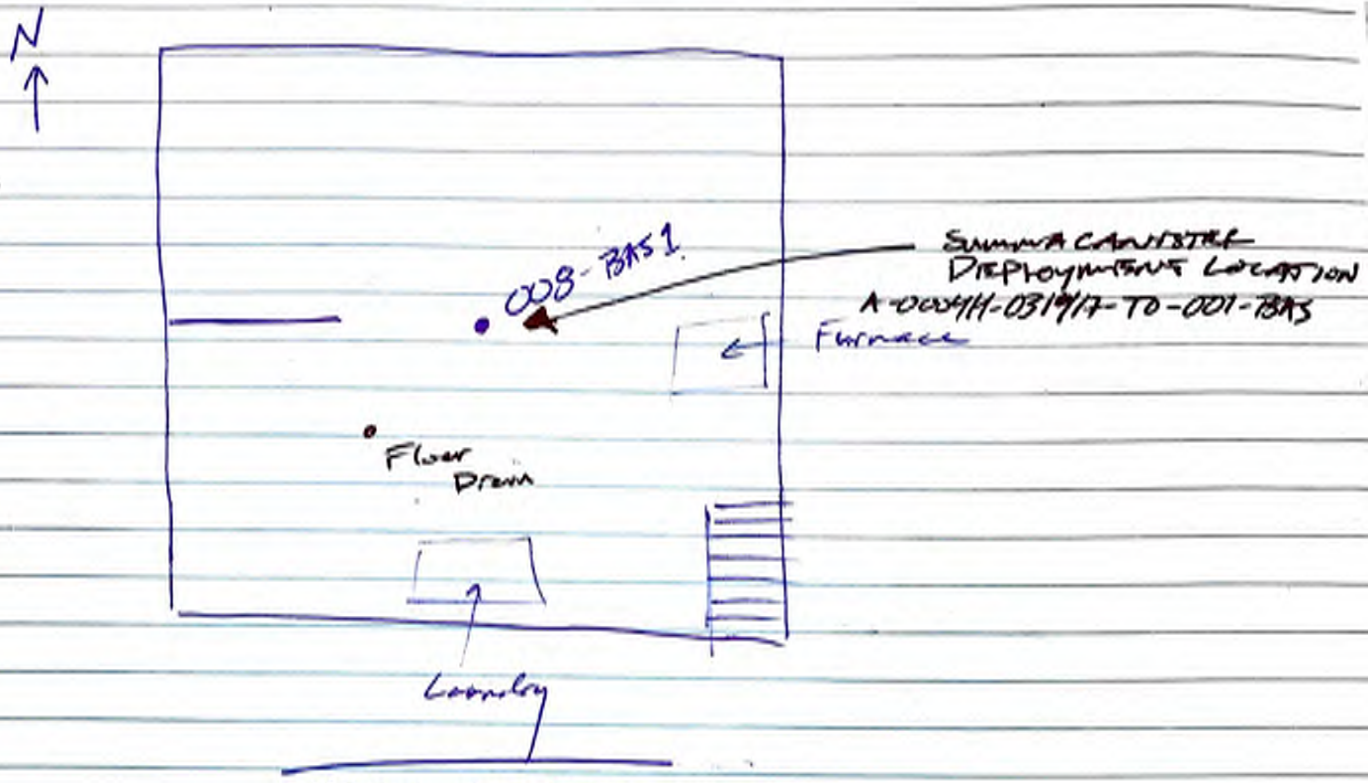
3/13/17

3/5

0004H
LIMITED IAQ PROTOCOL
SAMPLE LOCATIONS
PN 683085. SL. 08.02

3/13/17

BASEMENT



MAIN LEVEL

3/13/17

Rite in the Rain.

4/5

0025H, 0004H, 0012H
Limited VI Sampling
PN 653085.SL.08.02

3/13/17

0004H SUMMA SAMPLE – Canister placed in basement room. only one large room in basement.

Sample ID: A-0004H-0314H-TO-001-BAS
Canister ID: 0727 Flow controller ID: 0959
Initial P: -25.08 in Hg Final P: -2.79 in Hg
Start Date: 3/13/17 Final Date: 3/14/17
Start time: 1158 End time: 1104

1210 Left 0004H. Schedule canister pick-up for 3/14/17 @ 1100am
1235 Arrive @ SLC office.
1300 Ran a multiday 5ppbv CCV. All analytes passed.
CIS = 41 ppbv / 82% RPD, TCE = 4.6ppbv / 92% RPD, PCE = 4.5ppbv / 90% RPD.
1330 MOB to 0012H.
1350 Arrived @ 0012H. Waited for Nick + Laurie G to arrive.
1400 Jeremy Laird arrived on site. Resident allowed entrance and signed access agreement.
1416 Collected indoor air sample in main level living room [Run # 014]. PCE = 0.18
1430 Analyzed outdoor air [Run # 015]. All ND (non-detect).
1438 Analyzed basement living room air [Run # 016]. PCE = 0.28 ppbv.
1447 Analyzed basement ~~bathroom~~ office air [Run # 017] PCE = 0.38 ppbv.
@3/13/17
1456 Analyzed basement bathroom air [Run # 018]. PCE = 0.30 ppbv.
1508 Analyzed basement laundry air [Run #019] PCE = 0.30 ppbv.
floor drain located in basement laundry room.
Resident sleeping in basement bedroom.
1517 Set up to deploy Summa canister. Canister placed in basement living room

SAMPLE ID: A-0012H-031417-TO-001-BAS
CANISTER ID: 0691 Flow controller ID: 0242
Initial P: -25.24 in Hg Final P: -2.36 in Hg
Start Date: 3/13/17 End Date: 3/14/17
Start time: 1531 End time: 1432

*Analog gauge read -27.5 in Hg when sample began / canister opened.
1535 Analyzed basement bathroom floor drain air [Run # 020]. PCE = 0.33 ppbv
1550 Left 0012H.
1605 Arrived @ SLC office.
1630 Ran end of day 5ppbv CCV. All analytes passed.
CIS = 3.7 ppbv / 74% RPD, TCE = 4.3 ppbv / 86% RPD, PCE = 4.2 ppbv / 84% RPD

3/13/17

5/5

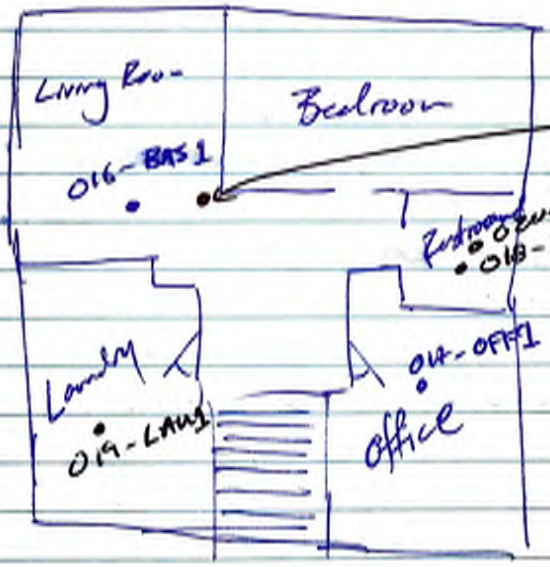
0012H
LIMITED AE PROTOCOL
SAMPLE LOCATION PN 683085. SC. 08.02

8/13/17

• 015-OUT1

→ N

MAIN LEVEL



27

8/15/17

Rite in the Rain

1/1

AOV-1

PN ~~664616.01.FL~~ RA 3/14/17
OU2SH, OU04H, OU12H
PN 683085.SL.05.02

3/14/17

~~0500~~ RA 3/14/17

Personel: RA / QGB
Objective: retrieve Summa Canisters from OU2SH, OU04H, OU12H
Equipment: Summa field tools
Weather: ~50°F, clear

~~0500~~ Arrival at office. RA will collect first canister at OU2SH, QGB will collect remaining canisters. Discuss pickup. QGB suggests carrying extra Summa canisters to deploy in case vacuum is at 0 i 2 extra summas brought in field.

0815 Leave for OU2SH.

0845 Arrive at OU2SH, fill out paperwork

~~0900~~ Enter residence. Call Lynne Welsch, will not be joining us today. Canister does not appear to have been moved.
Analog gauge reading = 4" Hg
Canister # 0475
Regulator # 0651
End time = 0910

0910 Jeremy Laird arrives, checks paperwork and sample ID
Digital gauge = -1.00 " Hg

0915 leave residence

1010 Picked up field documents from Foebel Adams. [QGB]

1020 Reviewed / QCed field notes.

1045 Arrived @ OU04H.

1058 Jeremy Laird on site as well as property owner.

1104 Turned off flow controller and measured vacuum [-2.77 inHg]

1105 Recorded final pressure and end time in Summa Log, COC, ARF, and field notes.

1115 Left OU04H. MOB to SLC office

1145 Arrived @ SLC office. QCed and scanned field documents. Uploaded HAPSITE data files and scanned field documentation to AMM SharePoint site.

1400 MOB to OU12H.

1430 Arrived @ OU12H.

1432 Turned off flow controller. Measured final vacuum (-2.36 inHg). Recorded information on all field documents

~~QB 3/14/17~~ ~~28~~ 1440 Left OU12H. MOB to SLC office.

28

RA 3/14/17

RA 3/14/17

0001H

LIMITED VI PROTOCOL SAMPLING

PN. 685085.SL.06.02

3/15/17

Personel: QGB

Objective: Limited VI protocol sampling of 0001H and Summa canister deployment @ 0026H.

Weather: ~50°F Sunny

Equipment: HAPSITE, Summa Canisters, Field tools

0819 Ran beginning of day 5 ppb CCV. All analytes passed CIS= 4.9 ppbv/96% RPD, TCE= 4.7 ppbv/7% RPD, PCE= 4.6 ppbv/92% RPD.

0830 MWD to 0001H.

0855 Arrived @ 0001H. Elizabeth Wessling (3rd party oversight) and Larry Kellum (VE/Arcadis) on site. All signed PTSP.

1000 Residents allowed entrance and signed access agreement.

1005 Analyzed outdoor air sample [Run # 003]. All non-detect.

1112 Analyzed Main level living room indoor air [Run # 004]. PCE = 0.73 ppbv. CIS + TCE = non-detect

1127 Analyzed basement living area indoor air [Run # 005]. Basement living area is one large area with a few closets and a mechanical Room PCE = 0.33 ppbv. CIS + TCE were non-detect.

1138 Analyzed basement sump room indoor air [Run #006]. PCE = 0.34 ppbv. CIS+TCE were non-detect. Water seeping in basement sump room (damp foundation wall) not a lot of water.

1152 Analyzed basement bedroom indoor air [Run #007]. PCE = 0.25 ppbv. CIS + TCE both non-detect.

1207 Analyzed upstairs west bedroom indoor air (window was cracked open 4-inches) [Run # 008]. PCE = 0.36 ppbv. CIS + TCE were non-detect.

1218 Analyzed master bedroom (east) indoor air [Run # 009]. PCE = 0.76 ppbv CIS + TCE were non-detect.

1227 Ran scan method to help determine background for Run 01.

1236 Analyzed upstairs bathroom indoor air [Run # 010]. PCE=

1245 Sniffed chemicals stored under kitchen sink.

BCIS-3 Room-Survey Runs 001 + 002

Goo Gone found to contain PCE. Requested that the resident remove Goo Gone from residence. Resident agreed and plans to store it outside / detached garage. No canister was deployed. Canister sample rescheduled for 3/22/17 @ 1100 am.

29 1315 Left residences.

3/15/17

Rite in the Rain

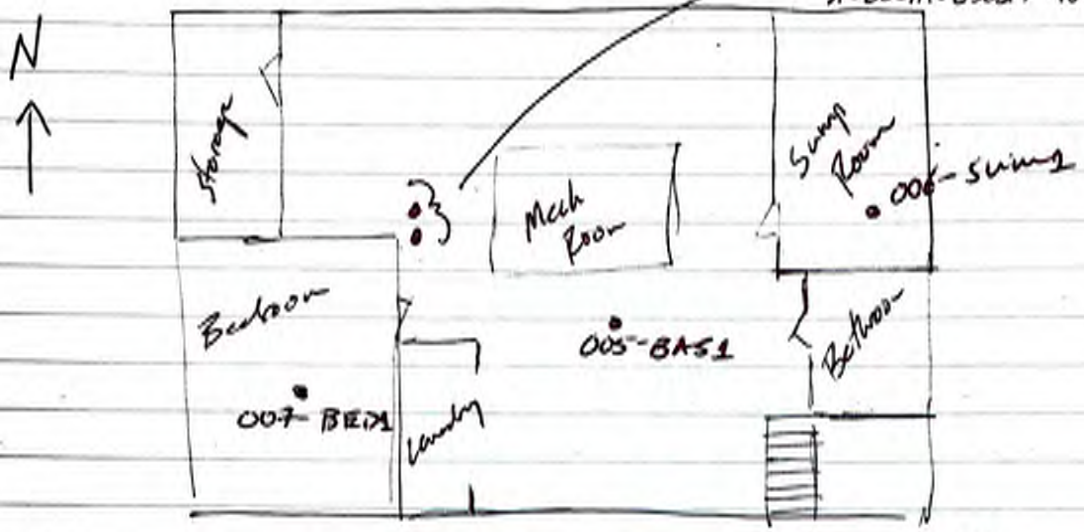
3/15/17

0001H

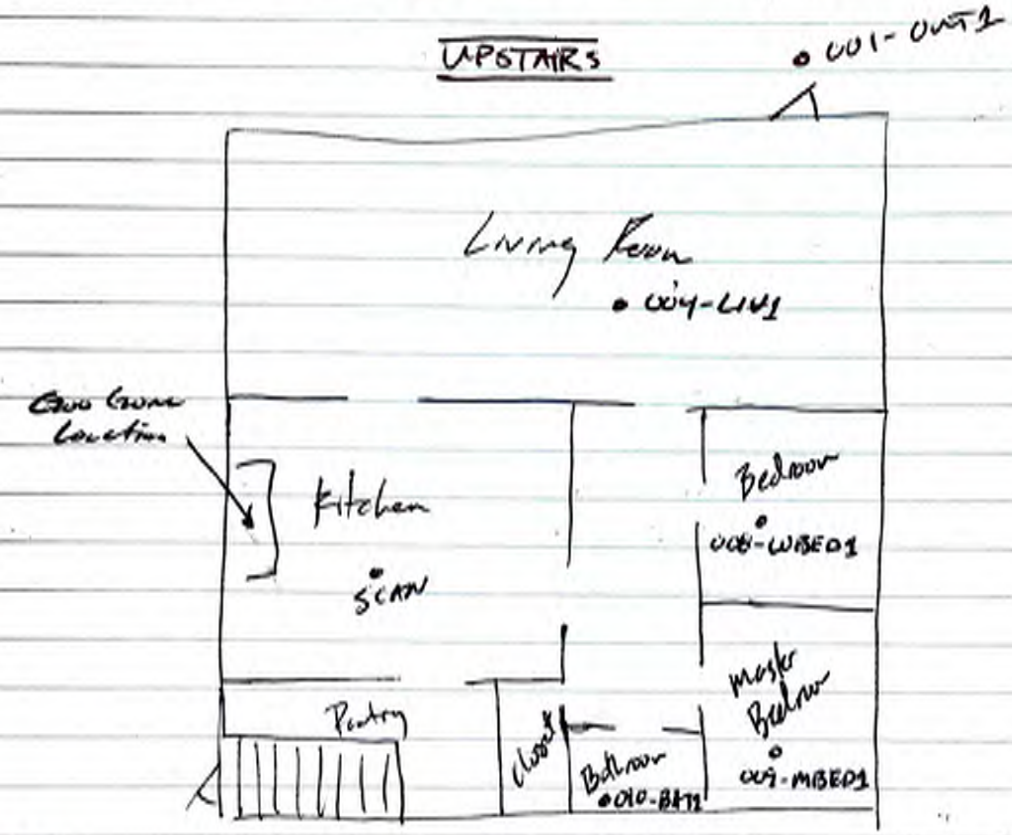
LIMITED VE PROTOCOL
SAMPLE LOCATION
PN 603085.SL.08.02

BASEMENT

03/22/17 Summa Location 3/22 - 3/23/17
A-0001H-032317-TO-001-BAS
A-0001H-032317-TO-002-BAS



UPSTAIRS



0900 Trouble shoot consistent CIS detections. CIS continued to be higher than expected on 5 ppbv CCV (~7 ppbv CIS).

1100 Ran end of day 6 ppbv CCV. PCE + TCE passed. CIS did not. CIS = 7.6 ppbv / PD = 152%.
TCE: 9.8 ppbv / 96% PD PCE = 4.2 ppbv / 84% PD.

TGB 3/15/17

3/15/17

CO26H
CONFIRMATION SAMPLING
PN 683085.5L.08.02

Personnel: QG3
Objective: Deploy summa canister
Weather: Sunny 68° F

51 10"
77 12"

Equipment: Summa Canister / Vacuum gauge
0805 1550 Arrived @ CO26H. Elizabeth Wessling and Jeremy Laird. on site.

Sample ID: A-CO26H-031617-TO-001-LIV
Canister: 0740 Flow controller: 0706
Initial Pi: -25.2 in Hg Final Pf: -3.22 in Hg
Start Date: 3/15/17 End Date: 3/16/17
Start time: 1607 End time: 1608

*Canister deployed in basement living room rather than pantry since basement living room is more "Livable" space

1610 Left residence.

QC: [illegible] 3/16/17

3/16/17

1/1

OO26H

3/16/17

LIMITED AIR PROTOCOL SAMPLING

PN 693085.SL.09.02

Personnel: QGB

Objective: Retrieve canister deployed on 3/15/17

Weather: Sunny ~60°F

Equipment: 1/SUMMA canister, vacuum gauge.

1425 MOB to OO26H to retrieve canister.

1458 Arrived @ OO26H. Elizabeth Wessling/MDEQ and Nic Kirkham/Avalon on site. Chatted w/ resident until 1508 when regulator/flow controller was closed. Final canister vacuum was -3.22 in Hg.

1506 turned off flow controller. Retrieved canister.

1515 Left OO26H. Completed COC and AFF.

QGB 3/16/17

32

QGB 3/16/17

0059H

3/17/17

Full VE Protocol

PN 083085.SL.08.02

Personel: QGB, RA

Objective: Full VE protocol sampling of 0059H.

Weather: Sunny 60°F

Equipment: HAPSITE, 1 Tedlar Soil Gas kit, blower door, omniguard IV, field tools

0530 Arrived @ SEC office. Loaded equipment in vehicle. Received TO-15 COC + AFF.

0600 Began HAPSITE calibration.

0830 QGB Finish calibration

0845 Leave for site

0900 Quin Bingham, Rachel Adams, Rolf Lange (VA), Liz Wessling (MEC*) meet at residence. Tailgate safety topics = slips trips and falls. Discuss sampling.

0905 Enter residence, discuss sampling with resident. Fill out daily, PISP, review documentation.

0910 Ambient outdoor air sample collected (OUT 1)

0922 QA 3/17/17 ~~Upstairs~~ hallway sample collected (HAL 1)

0928 Upstairs landing area sample collected (LAN 1)

0937 basement landing sample collected (BAS 1)

0948 All results non detect, no indoor sources identified. Prepare for pressure cycling

0950 Minor cracks noted in laundry room / boiler room, floor drain (concrete floor), basement storage room
No signs of seepage

1000 basement storage room in laundry / boiler area - 3 ft x 3 ft piece of concrete slab missing, water line enters at this location.
Quin photographs missing slab, cracks

1005 3100 sq. ft - resident estimate for square feet.
Resident turned off gas to boiler, states he will restart after sampling is complete. Resident states landscaping crew may need to enter home periodically.

1010 Set up blower door, omniguard

1020 begin baseline pressure readings

1040 Discuss sampling locations w/ Quin. Will rotate 4 locations:
blower door
laundry room door
main floor landing
Upstairs hallway

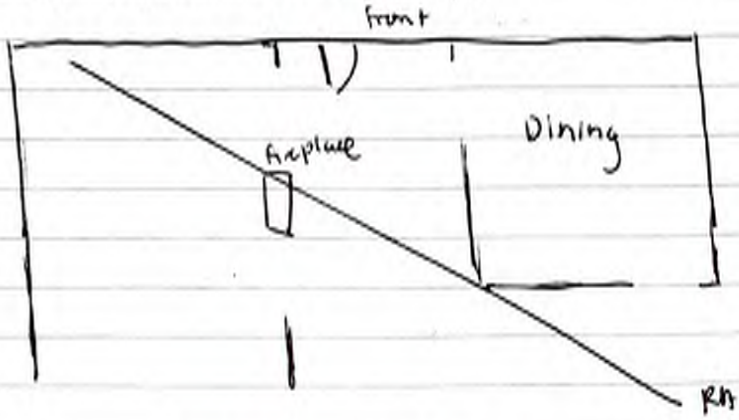
Rite in the Rain

3/17/17

2/5

0059 H
Full VI Protocol
PN 683085.SL.OE.02

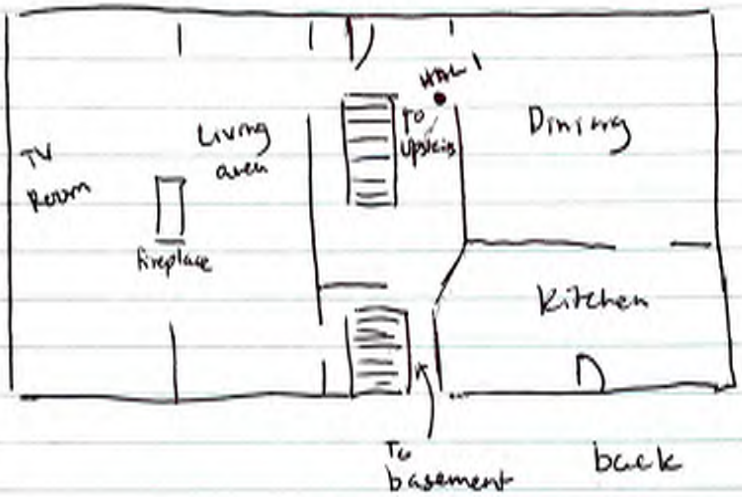
NE ↑ 3/17/17



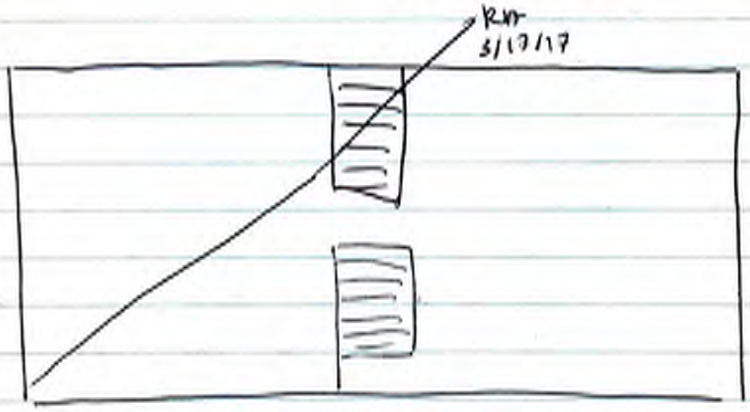
RM 3/17/17

front • OUT 1 NE ↑

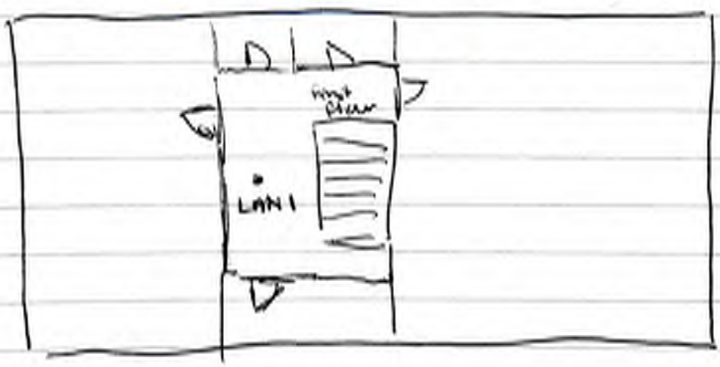
main floor



2nd floor



2nd floor



↑ NE

34

3/17/17

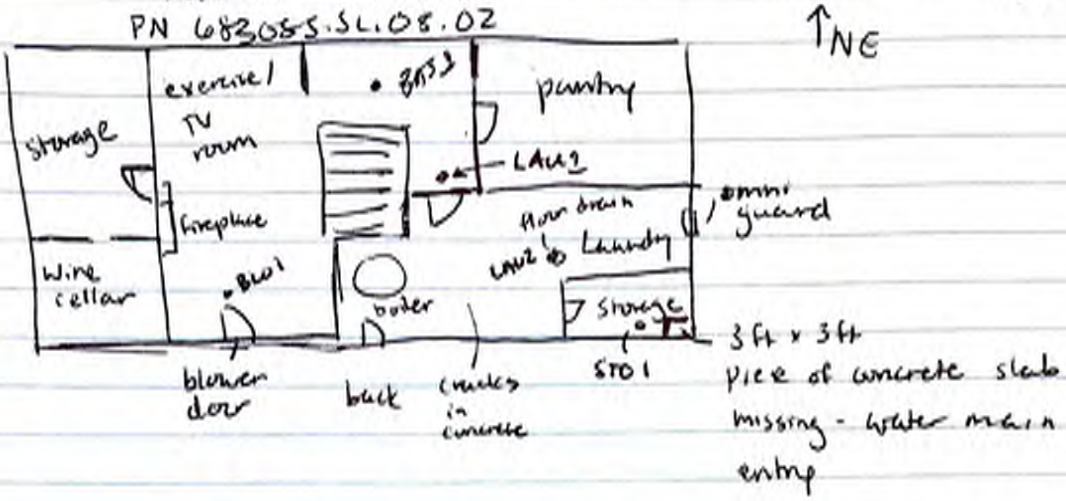
3/5

0059 H

Full VE Protocol

PN 683085.SL.08.02

3/17/17



1045 Collect sample from basement storage area, results non-detect (STO 1)

1050 End baseline pressure, begin set up for -5 pressure step

1100 Start -5 pressure step, A-ring in fan
Flow rate ~ ~~390 CFM~~ RM 3/17/17 1220 CFM
blower door trending more negative than omni guard, will use omni as set point
Volume calculated = 24800 ft³
Time calculated for 2.5 air exchange ≈ 50 min

1105 Quin discussed leaving the house w/ landscaping crew (leave quickly w/out leaving doors open)

1110 0.35 ppbv PCE detection in basement laundry room (run # 020), storage room nondetect

1120 Resident notes cleaning supplies are stored in laundry room, Quin will run survey mode to determine if indoor air sources are present.

1125 Quin begins survey mode, method = PCE 3 ion survey
Detect on Goo Gone (time 2:45) (removed to backyard)

1132 End survey mode

1136 Quin runs survey mode on additional products, no detects

1138 End survey mode, begin collecting samples

1155 Finish 2.5 air exchange, continue -5 pressure cycle until samples are collected

1204 0.18 ppbv PCE detection in basement laundry room (run # 25)

1234 Run survey mode on additional product, non detect

1235 End -5 pressure step, begin -10 pressure step
A-ring in fan, flow rate ~ 1965 cfm
Time calculated = 30 minutes

3/17/17

Rite in the Rain

0059 H
Full VI protocol
683085.9L.05.02

5/19/17

1235 Quin notes a discernible sewer smell coming from floor drain in laundry room after beginning -10 step

1240 Quin discusses floor drain w/ resident, resident uses hose in laundry room to rinse drain / flush odor
- Quin collects floor drain sample (LAU2) (collected at 1230)
PCE = 158 ppbv
TCE = 2.3 ppbv
Cis = 0.551 ppbv
Probe placed @ floor drain

1250 Collected laundry room indoor air sample after filling floor drain w/ water. [Run #030]
PCE = 0.47 ppbv
TCE = <0.1
CVS = <0.1

1258 Notable sewer odor coming from basement laundry room floor drain after adding water. ~~tester~~ Standing water is visible in drain now that it was filled. Standing water was not visible during sample run #029.

1303 Collected another laundry room sample (floor drain room) to see what PCE concentrations are doing. Run # 032. PCE = 0.14 ppbv PCE concentrations have decreased from 0.47 ppbv immediately ~~flowing~~ 200 ml/min following filling floor drain w/ water.

1317 Collect sample above floor drain after it was filled w/ water (floor drain located in laundry room [basement]). Concentrations of target analyte decrease w/ addition of water CIS = <0.1 ppbv
TCE = 0.39 ppbv
PCE = 32.49 ppbv

1323 Ended -10 pascal pressure cycle step.

1333 Began +5 pascal pressure cycle step
↳ ~~Burning~~ on 3/17/17 in fan, flow rate ~1560 CFM
A-ring
Estimated time = 40 minutes

1400 Quin discussed Goo Gone / Indoor air source w/ resident, requested removal

1430 Quin emailed indoor air results to PM/VIA
End 5 pressure step (1423), break down blower door, prepare soil gas sampling

3/17/17

5/5

0059 H
Full VI protocol
683055.SL.05.02

3/17/17

1455 Soil gas sample collected at 20" bgs (6" below slab)
Sample ID = 031717-SG-~~0059~~ 039 RH 3/17/17 - 1.5'
1508 Run undiluted sample on survey mode, no response
1517 Soil gas sample collected at 59" bgs ID: 031717-SG-040-5'
1520 Run undiluted 59" bgs sample on survey mode, no response
1522 Run undiluted 59" bgs sample on Hapsite
1532 Run 5 ppbv ~~from~~ RH 3/17/17 cal check
1542 Run blank on HAPSITE
1545 End sampling, pack up equipment
1600 MOB to SCC office

3/17/17

37

Rite in the Rain

1/4

CO63H

FULL VI PROTOCOL

PN 083085.SL.08.03

3/21/17

Personnel: QHB, RA

Objective: Full VI protocol @ CO63H

Equipment: HAPSITE, Blower door, Omnigrad, AMS soil gas kit, field tools

Weather:

0700 Arrived @ SLC office. Began HAPSITE calibration since CIS standard pass end of day CCA. on 3/17/17.

Method: SIM. 100PPB.VA.20170321

Calibration Range: 0.1 – 10 ppbv

0840 Ran morning 5 ppbv CCA. All analytes passed.

CIS = 5.6 ppbv / PD = 112% TCE = 5.6 ppbv / PD = 112% PCE = 5.7 ppbv / 114%

0910 MOB to CO63H.

0940 Arrived @ CO63H.

0950 Rachel Aslanian on site, Nic Kirkham & Jeremy Conrad on site as well

0950 Nic and Jeremy discuss air purifier w/ resident.

0955 Enter residence, prep HAPSite, fill out documentation

1002 Outdoor air sample collected (OUT 1)

1022 Upstairs landing sample collected (LAN 1)

1008 Main level sample collected (Dining room - DIN 1)
PCE detected on main and upper levels (0.34-0.39)

1032 basement sample collected (0.42 ppbv) (BAS 1)

1040 Floor drain noted in basement laundry area
Cleaning supplies stored in basement laundry area
basement bathroom sample collected @ 1038 (BAT 1)
↳ PCE = 0.48 ppbv

1050 Goo gone, car cleaner, noted in basement storage room. Sample collected in storage room @ 1047 (STO 1) PCE = 0.59 ppbv

1055 Product in storage area (Sheila Shine) lists PCE as ingredient

1057 PCE 1in·3 survey conducted in basement storage area.
Sheila Shine sniffed @ 30 sec (positive)
Goo gone sniffed @ 3:30 (positive)
Label Off sniffed @ 5:00 (positive)
Survey ended @ 1106

1108 Sample collected in garage (has been closed throughout sampling) (GAR 1) PCE = 0.295 ppbv

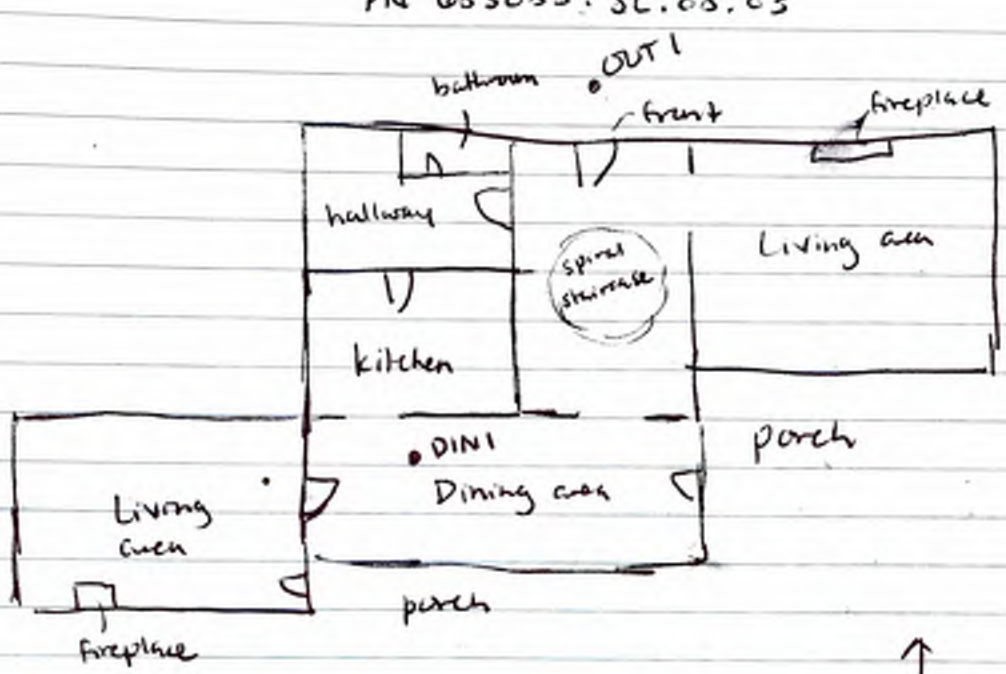
1125 HAPSITE shut off, power cord not working. Emilee Edgington will bring alternative power source from CHLM office.

30

3/21/17

5063H
Full VI protocol
PN 653085.SL.05.03

3/21/17



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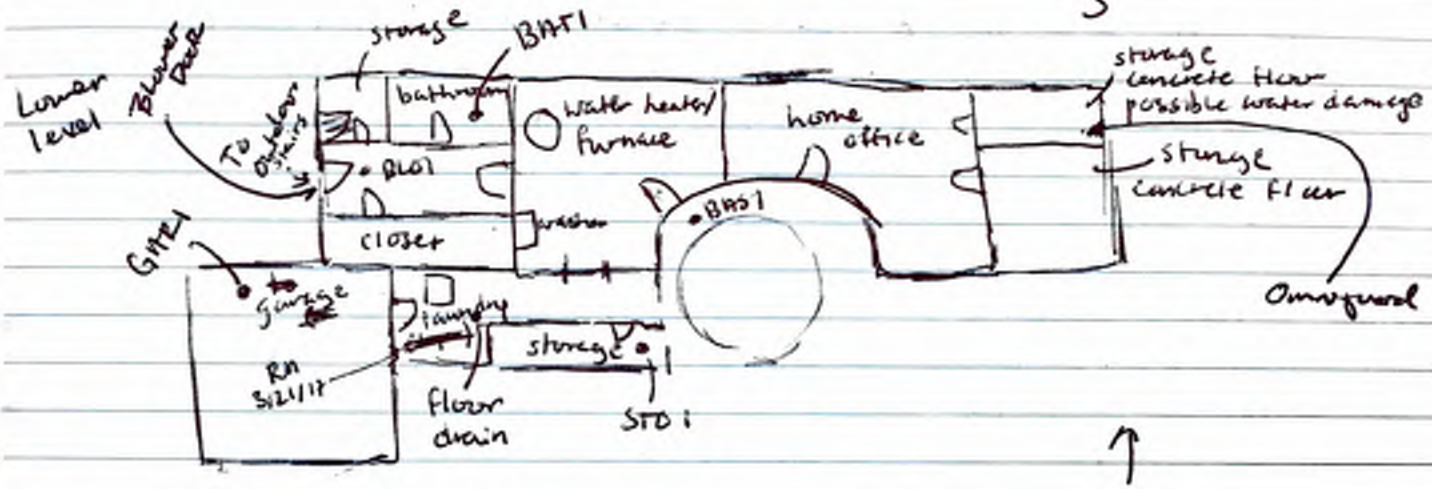

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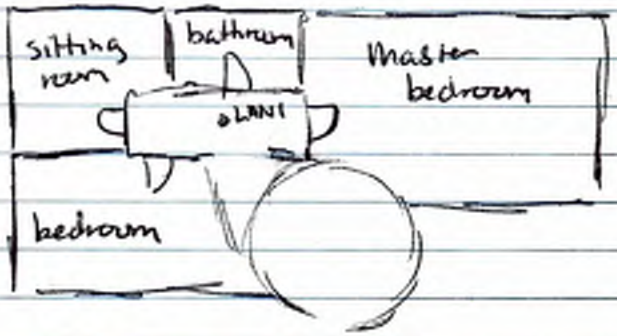


Rite in the Rain

3/21/17

3/4

00634
Full VI protocol
PN 653085.SL.05.03

3/21/17

1140 Board reset on HAPSITE while waiting for power source
1200 Square footage from assessor:
main flor = 1074 sq ft
Upper flor = 883 "
basement = 890 "
Total = 2847 sq ft
1205 Received power source, HAPSITE powers on successfully
1210 Set up for pressure cycling
1215 Forgot blower door frame. Rachel went to SLC office to pick up blower door frame.
1225 Set up Omnigard + blower door differential pressure monitors while Rachel went to office
1230 Began baseline ΔP measurements @ 5 minute intervals
Omnigard diff pressure monitor ~~stored~~ 953/6414 installed on west side of residence in basement south storage room [see floor plan]. Blower door installed in east basement east door.
1305 End baseline, start negative 5 pressure step
1310 begin -5 pressure step
B-ring in fan
flow rate ~450 cfm
pressure readings unstable due to wind
Quin rotates sample locations: basement landing (BAS1)
blower door (BLO1)
main level (DIN1)
Upstairs landing (LAN1)
Calculated time ~118 min (adjusted to 115 min due to flow rate)
1420 PCE decreasing throughout -5 pressure step
basement/blower door concentrations steady around 0.3 ppbv
1505 End -5 pressure step, increase flow rate for -10 pressure step
1510 Begin -10 pressure step
A-ring in fan, flow rate ~950 cfm
Estimated time is ~63 min.
1530 Resident leaves, states he will return around 5. Quin states that we will wrap up sampling at that point as the resident will leave for the evening.

40

3/21/17

0063H
Full VI protocol
PN 683085.SL.08.03

3/21/17

1545 PCE decreasing throughout -10 pressure step
Time adjusted to 58 min based on flow rate
1600 Blower door concentrations steady around 0.2 ppbv
1608 End ~~+5~~ RA 3/21/17 -10 pressure step
1610 Begin +5 pressure step.
H-ring on fan, flow rate ~ 900 cfm
Note: final reading at 16:08 not recorded, total time for -10 pressure step is 58 min.
16:12 additional products identified, ~~no pos~~ RA 3/21/17
Quin runs 3-ion survey on products in laundry cabinets
Wenol metal polish @ 5:00 (positive)
1615 3-ion survey on additional product, no detects
Air purifier run beginning at +5 pressure step at 130 cfm
1620 Source identified in survey returned to laundry cabinet to remain consistent w/ negative pressure steps
1640 Discuss leaving residence by 5. will break down blower door at 1650. Total time estimated for +5 step is 65 minutes. Total time at 1650 is 40 minutes.
1650 End +5 pressure step, break down equipment, Quin preps for soil gas. Slab is estimated to be 6.5' bgs.
1714 Collect soil gas sample @ 72.5" bgs (6')
Sample ID = 032117-SG-041-6'
1717 Screen sample w/ PCE 3-ion survey, No/v. limited response
1720 Run Sample 032117-SG-041-SG on Hapsite
1730 Resident returns, pack up remaining equipment. Will run cal check at office)

0804 3/22/17 Run 5ppbv Calc. CIS % difference was ~~failed~~ QB 3/22/17 66%.
TCE + PCE Calc passed.

3/22/17

41

CA01H, CA02H 3/22/17
Limited Vet Patrol
PN 6850BS.SL.08.02

Personnel: QGB
Equipment: HAPSITE, Summa canisters
Objective: Limited Vet protocol sampling of CA01H & CA02H.
Weather: Cloudy ~50°F
0900 Began HAPSITE recalibration since 3/21/17 5 ppbv CCV. CIS % difference was 66%.
Method: Sim-100HAPSITE-VA-20170322
Calibration Range: 0.1 – 10 ppbv
1040 Ran 5 ppbv CCV. All analytes passed.

1045 MOB to CA01H.
1110 Arrived @ CA01H. Resident was allowed access.
1115 Collected IA sample in Living Room (ground level). [Run # 010]
PCE = 0.29 ppbv. CIS false positive. Attributed to air fresheners.
1125 Collected OA sample west side of structure [Run # 011]. All target analytes were non-detect. No target analytes detected on OA.
1134 Collected IA sample in basement living area [Run # 012].
PCE = 0.20 ppbv. CIS + TCE not detected.
1152 Deployed two 6L Summa canisters equipped w/ 200 mL/m flow controllers. One is a field duplicate.

Normal
Sample ID: A-CA01H-032317-TO-001-IAS
Canister: 00805 Flow Controller: 0749
Initial P: -26.23 in Hg Final P: -7.98 in Hg
Start Date: 3/22/17 End Date: 3/23/17
Start time: 1151 End time: 1112
Sampler: QGB

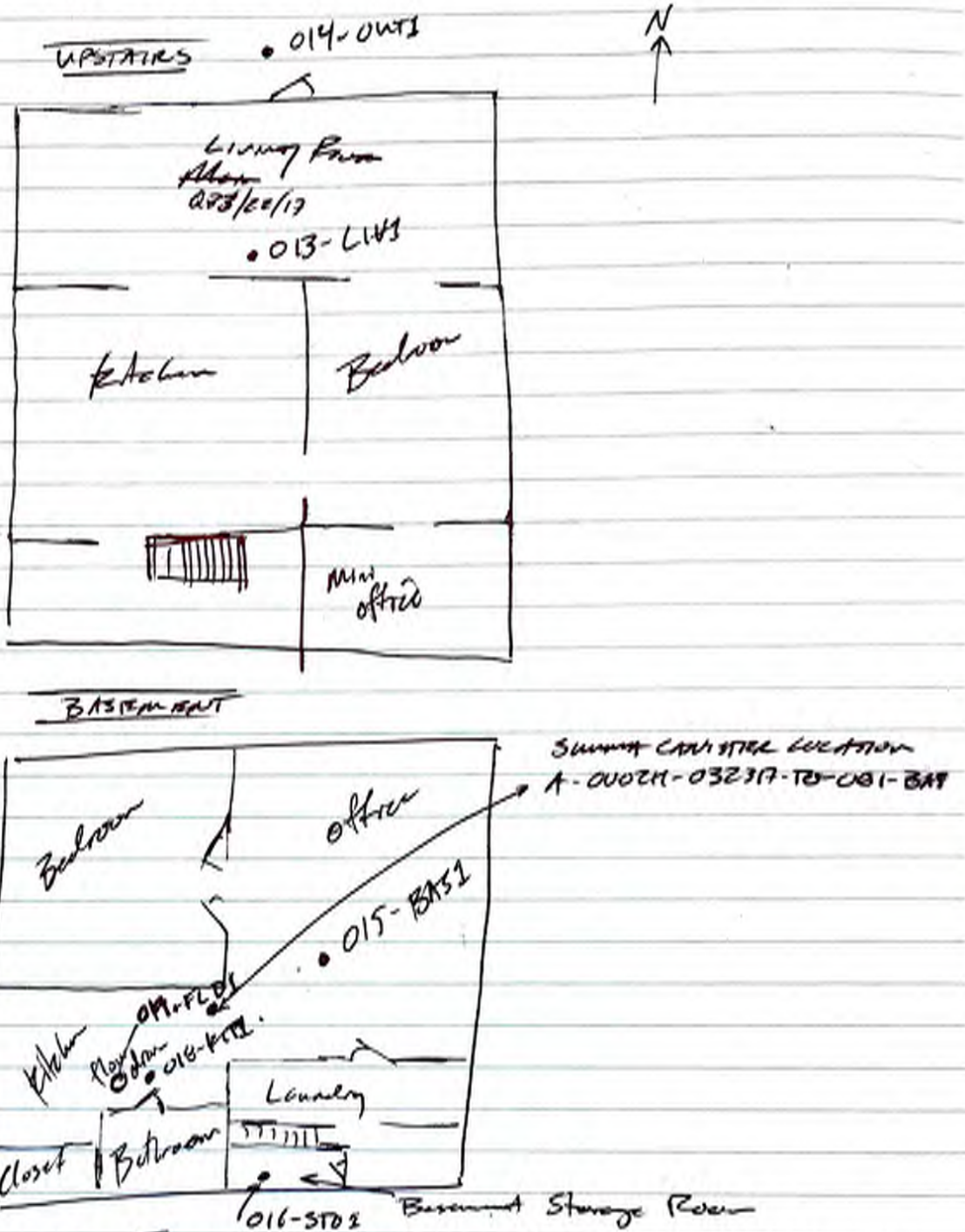
Field Dup
Larry Kellum/Avalon on site w/ me the entire time.
Sample ID: A-CA01H-032317-TO-002-IAS
Canister: 0190 Flow Controller: 0717
Initial P: -25.58 in Hg Final P: -8.23 in Hg
Start Date: 3/22/17 End Date: 3/23/17
Start time: 1151 End time: 1112
Sampler: QGB

Sampling 30 for deployment location for CA01H.
1215 Left CA01H.
1220 Worked on updating field documentation.
1355 Arrived @ CA02H Larry Kellum/Avalon on site
1600 Resident allowed entrance and signed access agreement.
1616 Analyzed ~~indoor~~ outdoor air [Run # 013]. No analytes detected.
QD 3/24/17

3/24/17

0002H, 0014
Limited VI Protocol
PN 683085.2C.08.02

3/22/17



1425 Analyzed outdoor air. [Run #014]. No target analytes detected.

1435 Analyzed indoor air in basement living room. [Run #015] PCE = 0.129 ppbv. CIS + TCE non-detected.

1444 Analyzed indoor air in basement storage room under stairs. [Run #016]. Random chemicals stored in this room. ~~PCE = 0~~ @ 13/22/17. No target analytes detected.

1454 Analyzed indoor air in basement kitchen. [Run # 017]. ~~Sump~~ Hydraulic fluid during this run [Run #017]. Re-sampled this area [Run #018]. Sample location near floor drain. Resident mentioned that floor drain seldom receives water.

43

Rain in the Rain.

JH 3/22/17

3/3

CWZH, CWIH
Limited IA Protocol
083085.SL.08.02

3/22/17

3/22/17

1514 ~~Hour~~ QB Analyzed indoor air right @ kitchen floor drain in basement. [Run # 079]

1523 deployed 6-L canister w/ 200 mL/hr flow controller. floor drain in basement is only viable potential VI entry point.

Sample ID: A-CWZH-032317-TO-001-IBAS

Canister: 0133 Flow Controller: 0744

Initial P: -25.21 inHg Final P: -8.03 inHg

Start Date: 3/22/17 Final Date: 3/23/17

End time: 1432 Start time: 1523

Sampler: QGB

1530 Left CWZH.

0723 3/23/16 Ran 5 ppbv CCV. All analytes passed.
CIS + TCE: 4.8 ppbv / 98% PCE: 4.6 ppbv / 92%

3/24/17

3/24

3/28/17

N/A

CO01H, CO02H
Limited HI Perfluorocarbon
PN 683095: 52.08.02

3/23/17

Personnel: QGB

~~Objective~~: Limited HI Perfluorocarbon sampling / Canister retrieval

~~Equipment~~: Vacuum gauge, 6-L summa canisters w/ flow controllers

~~Weather~~: ~~Clear~~ 03/22/17 Cloudy / Rain 50°F

1105 Arrived @ CO01H. Larry Kallum / Avelon on site.

1110 03/23/17 Resident allowed entrance. Resident confirmed location (PFC containing product) was removed from home last week.

1112 Turned off flow controllers. Collected canisters and recorded end time and final pressure.

1130 Left CO01H

1400 MUB to CO02H.

1405 ~~MUB to~~ 03/23/17 Arrived @ CO02H. Larry Kallum / Avelon on site.

1430 Resident allow entrance to retrieve canister.

1432 Flow controller closed. Final vacuum -8.03 inHg

* See 3/22/17 notes for all SUMMA sample information for CO01H and CO02H.

1440 Left CO02H.

1500 Updated COC + AREF w/ CO01H + CO02H and other field documentation.

Retrieved 3/23/17 *

45

Rite in the Rain

MH. Pg
3/23/17

1/1

0037H, 0051H, 0062H 3/24/17
FAN 693085: SL.08.02

Personel: CGB
Objective: Follow up HAPSITE investigation @ 0037H + 0051H to determine how crack sealing helped mitigate vapor intrusion. Full VI protocol interview w/ 0062H.
Equipment: HAPSITE, field tool,
Weather: Sunny 40° – 50°F

0800 Arrived @ SLC office. Ran morning 5 ppbv CCV. All analytes passed. CIS, TCE, PCE = 5.9 ppbv / 112% difference.
0900 Loaded equipment into vehicle
0930 Head to 0051H.
1000 Arrival @ 0051H.
1005 Resident allowed entrance to home.
Analyzed indoor air on all three levels of the residence.
Basement PCE = 0.28 ppbv
Basement Mechanical Room PCE = 0.93 ppbv
Main level PCE = 0.26 ppbv
2nd level PCE = 0.45 ppbv (furnace recirculation fan on)
Resident requested that the air w/in chimney and cold air return be sampled because he was concerned that the chimney flue was dirt and not capped.
Chimney Air PCE = 0.80 ppbv
Cold Air Return PCE = 0.97 ppbv.
Furnace cold air return is located in chimney
1110 Informed resident that this information (hapsite results) will be sent to the VI and they will provide the resident w/ a letter containing the results of the analysis collected.
1115 Left 0051H.
1152 Arrived @ 0037H.
1200 Resident allowed entrance. Collected/analyzed main level living room indoor air PCE = 0.58 ppbv
1218 Analyzed outdoor air. PCE = <0.1 ppbv
1225 Analyzed basement indoor air in hallway near furnace room. PCE = 0.74 ppbv
1235 Analyzed mechanical room (basement) air analysis. PCE = 0.70 ppbv.
1254 Analyzed laundry room (basement) indoor air. PCE = 0.73 ppbv.
Resident mentioned granulator entry issue in basement laundry room
1244 Analyzed upstair (2nd floor) indoor air. PCE = 0.74 ppbv.
1305 Left residence ~~CGB~~ CGB 3/24/17 0037H.
1315 3/27/17 Ran 5 ppbv CCV. CIS = 4.8 ppbv / 96%, TCE = 4.8 ppbv / 96% PCE = 4.6 ppbv / 92%

CGB 3/27/17 CGB 3/29/17

1/3

0062H
Full HE ~~Limited~~ RH 3/29/17 3/29/17
PN 683085.08.04

Personnel: QAB, PA
Objectives: Full-HE protocol sampling of 0062H
Equipment: HAPSITE, Omniguard, Soil Gas kit, Blower door, field tools
Weather:

0600 Arrived @ SLC office
0626 Ran morning 5 ppbv CCV. All analytes passed. CIS = 6.2 ppbv/1248
TCE and PCE = 5.6 ppbv/1128.
0634 Filled out PTSP and began daily report
0730 Began loading equipment into vehicle.
0800 MOB to 0062H.
0900 Arrived @ 0062H. Nic Kirkham and Rachel Adam on site as well.
0908 Collect outdoor air sample (OUT1)
0917 Collect main level / kitchen sample (KIT1)
0924 Collect basement sample (BAS 1) (#006)
0930 1 ft x 4 ft slab cut-out in basement- extends under slab (see layout)
Floor drain in laundry area
0935 Collect upstairs landing sample (LAN 1) (#005)
HAPSITE skipped run # 007
HAPSITE froze immediately after run #005, failed to save file
0950 Re-collect upstairs landing sample (run #009)
~~No detects observed, set up pressure cycling~~ RH 3/29/17
1002 Collect sample in attached garage - attached tubing to HAPSITE probe, thread under garage door (closed throughout sampling)
1008 All samples non-detect, set up for pressure cycling
1036 begin baseline pressure readings
Omniguard input line down basement stairs
Reference line out blower door, threaded to N side of house
1032 Resident states sq footage is ~2000 sq ft for all floors
1038 Quin looks up sq footage from county assessor = 1936 sq ft
Volume = 17424 ft3 (9 ft ceilings)
1100 End baseline pressure readings, set up for -5 pressure step

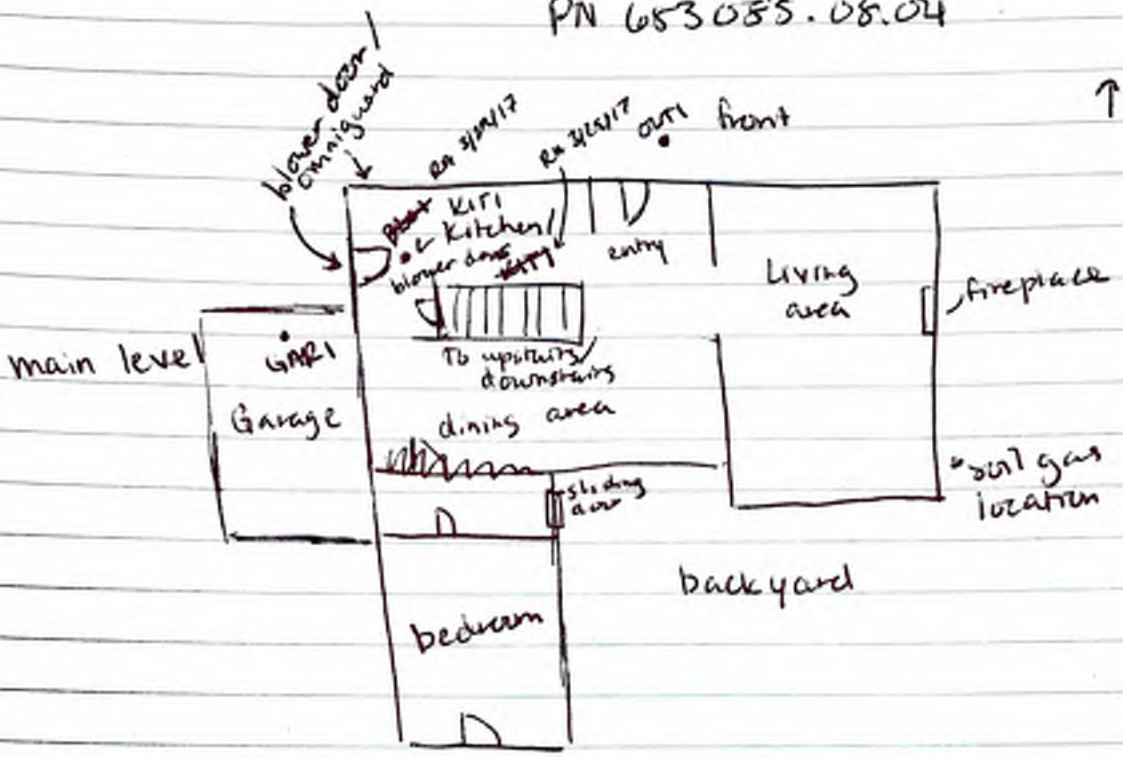
4/7

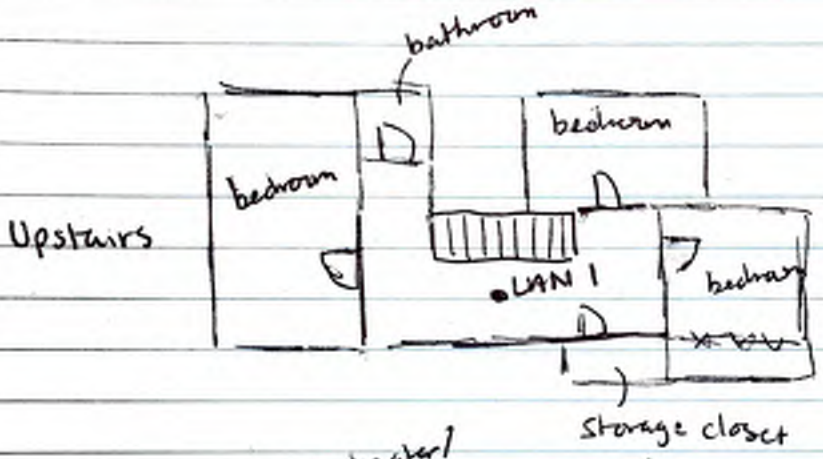
Rite in the Rain

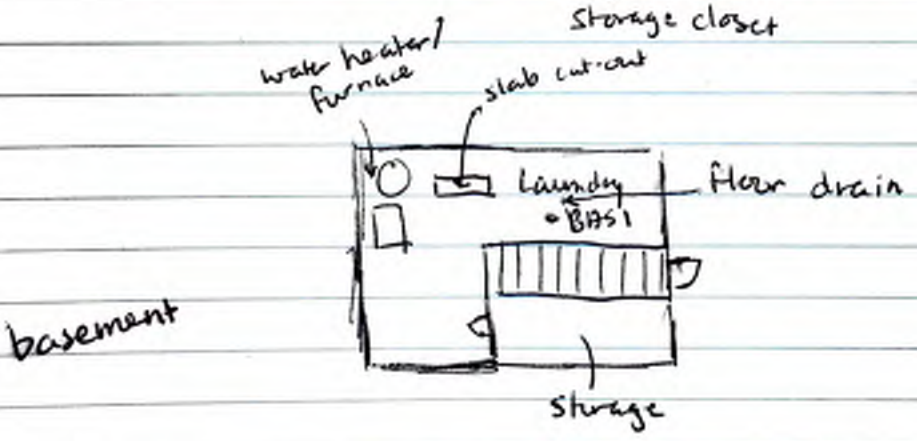
3/29/17

0062H
Full VI protocol
PN 653055.08.04

3/29/17







3/29/17

3/3

OU624
Full VI protocol
PN 683085.05.04

3/29/17

1105 begin -5 pressure step
A-ring in fan, CFM ~ 1568 (flow rate)
Estimated time to 2.5 air exchanges = 28 minutes
Quin notates sample locations: blower door (~~BLDR~~) (KIT1) PM 3/24/17 PM 3/29/17
~~garage~~ PM 3/24/17
basement (BAS1)
landing upstairs (LAN1)

1135 End -5 pressure step after 2.5 air exchanges (30 min)
Set up for -10 pressure step

1137 begin -10 pressure step
A-ring in fan, flow rate ~ 1846 CFM
Estimated time to 2.5 air exchanges = 24 min

1140 Removed A-ring from fan, adjusted flow rate
flow rate ~ 2268 cfm

1215 End -10 pressure step, set up for +5 pressure step

1220 begin +5 pressure step, A-ring in fan
flow rate 1612 CFM
Estimated time to 2.5 air exchanges = 27 minutes

1223 Run #20 failed (HHPSITE shut down mid run)

1300 End +5 pressure step, break down equipment
set up for soil gas

1310 Nic arrives back on site

1315 Quin attempts to collect soil gas from slab cut-out in basement - hit concrete, unable to collect sample. Move to backyard

1326 Quin begins collecting soil gas from backyard

1355 7.65' - soil gas sample collected. Slab estimated to be about 76" bgs. Quin hit refusal, ~~unable~~ PM 3/29/17

1345 soil gas non-detect - non-detect throughout sampling. Break down equipment.

1415 Left OU624.

0825 3/30/17 Ran 5 ppb CCV. All analytes passed. CIS = 4.7 ppbv / 94%
TCE = 4.7 ppbv / 94%. PCE = 4.6 ppbv / 92%.

3/29/17

49

Rite in the Rain

1/2

0029H
LIMITED VAPOR PROTOCOL
PN 683085.52.08.02

3/30/17

Personnel: QGB
Objective: Limited VP protocol sampling @ 0029H
Equipment: HAPSITE, Summa canister
Weather: Cloudy / Rain 45°F

1605 Arrived @ residence. Lacey Fallon & Chris EPA on site.

1608 Resident allowed access. Began sampling.

1617 Analyzed indoor air in main level living Room 002-LIV1 [Run # 002]. PCE = 0.78 ppbv.
A-0029H-033017-IA-002-LIV1

1628 Analyzed outdoor air. (South side). Run # 003. PCE = 0.1 ppbv.
003-OUT1
A-0029H-033017-IA-003-OUT1

1634 Analyzed indoor air in basement Living room. Run #004
004-BAS1 PCE = 0.18 ppbv
A-0029H-033017-IA-004-BAS1

1642 Analyzed indoor air 2nd floor Landing area. Run # 005.
005-LAN1 PCE = 0.97 ppbv
A-0029H-033017-IA-005-LAN1

1652 Placed canister in basement Living room.
Sample ID: A-0029H-033117 ~~FD~~ - 001-BAS
Canister: 0241 Flow controller: 0754
Initial P: -25.10 inHg Final P: -6.11 inHg
Start time: 1658 End time: 1455
Start Date: 3/30/17 End date: 3/31/17

1655 Resident requested that we be done and off site by 1700. Additional HAPSITE sampling would have been informative to determine the potential presences of an interior source(s). PCE (indoor air) concentrations were highest on the 2nd floor (0.97 ppbv) and lowest in basement (0.18 ppbv). Worth noting that the forced air furnace was operating when arrived. No interior sources were identified ~~at 3/31/17~~ as well as no vapor intrusion points ~~identified~~ identified

30

3/31/17

2/2

0029H

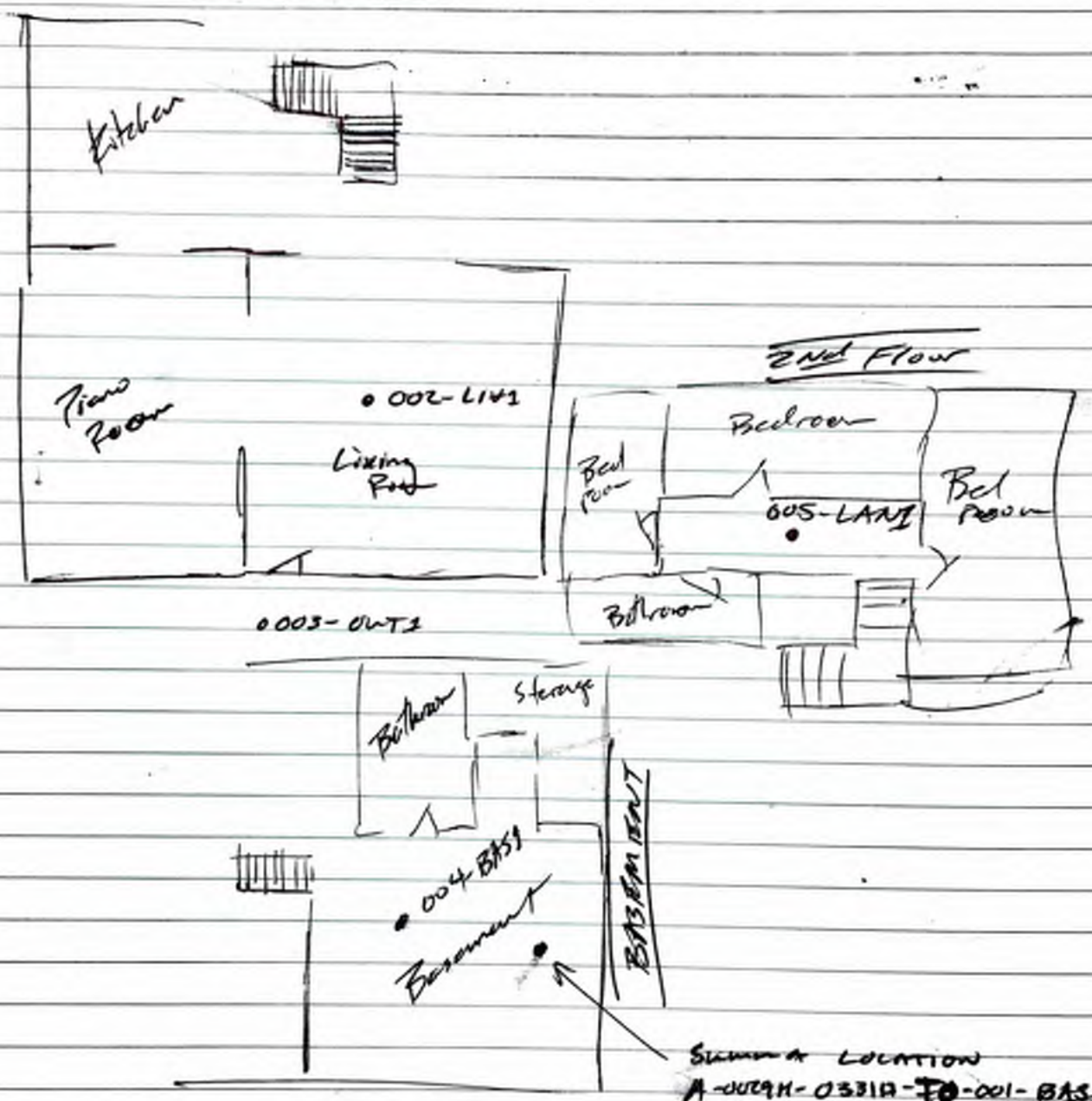
3/30/17

Limited HI Protocol

PN 693085.SL.08.02

N

MAIN LEVEL



59

Rite in the Rain

1/1

CW29H
Limited Ht Patrol
PN 683085 Sc. 08.02

3/31/17

Personnel: QGB
Objective: Limited Ht protocol
Equipment: Canister vacuum gauge
Weather: 54°F Partly cloudy

1430 MOB to CW29H.
1455 Arrived @ residence. Resident allowed entrance.
1458 Turned off canister flow controller. Recorded canister final vacuum. (-6.11 in Hg). Canister collected air for 22 hours 58 min. 23+ hours since resident changed the pick up time due to a child's soccer game they had to leave.
1515 Left CW29H.

QA. EB 3/31/17

SC

3/31/17

1/2

0057H
Full tt Protocol
PN683086.SL.08.05

4/5/17

Personnel: QGB, RA
Objective: Full tt protocol sampling of 0057H.
Equipment: HAPSITE, ATMS soil gas kit, omniguard, blower door
Weather:

0618 Arrived @ SLC office. Began HAPSITE calibration since last CCV did not meet the QC criteria.
Calibration range: 0.1 – 10 ppbv
Method: Sim-100MB-VA-20170405
Method runs 001 – 005 of method Sim-100MB-VA-20170322 are the calibration runs (0.1, 0.5, 2.5, 5.0, 10 ppbv, respectively).

0718 Morning 5ppbv CCV (Run #001) ran and all analytes passed. C1S = 5.7ppbv/114%, TCE = 5.3ppbv/106%, PCE = 5.3ppbv/106%.

0745 Loaded vehicle w/ equipment.

0800 MOB to 0057H.

0530 Arrive @ 0057H. Nic Kirkham (NK), Rachel Adams present. Enter and discuss sampling w/ resident. (top level)

0534 Collect sample in living room (LIV1)

0542 Collect main level / hallway sample (HAL1)

0550 No detections on top level

~~0608~~ RA 4/5/17 Enter bottom level (residence is a duplex - up and downstairs levels are not connected - separate outdoor entrance) Discuss sampling w/ residents. Lower level residents are renters.

0555

0559 Collect dining room sample ~~(DIN1)~~ RA 4/5/17 (LLIV1)

~~0907~~ 0906 Collect hallway sample ~~(HES1)~~ (LHAL1). No detects.
RA 4/5/17

0908 Nic attempts to contact upper level resident to open basement/crawl space. No response. Nic contacts Jeremy Laird to contact resident. Quin notes dirt floor in crawlspace.

0920 Quin attempts to sample crawl space using teflon tubing.

0921 Collect basement / crawlspace sample (STO1)

0926 Nic Contacts Jeremy to get access to crawlspace.

0928 No detects on lower level or crawlspace.

0930 Set up blower door, omniguard.

0945 Began recording baseline differential pressure.
Blower door on east sliding door to balcony
Omniguard on front door

0950 Quin measures volume of lower level = 13,500 ft³

1000 Nic leaves w/ Jeremy Laird

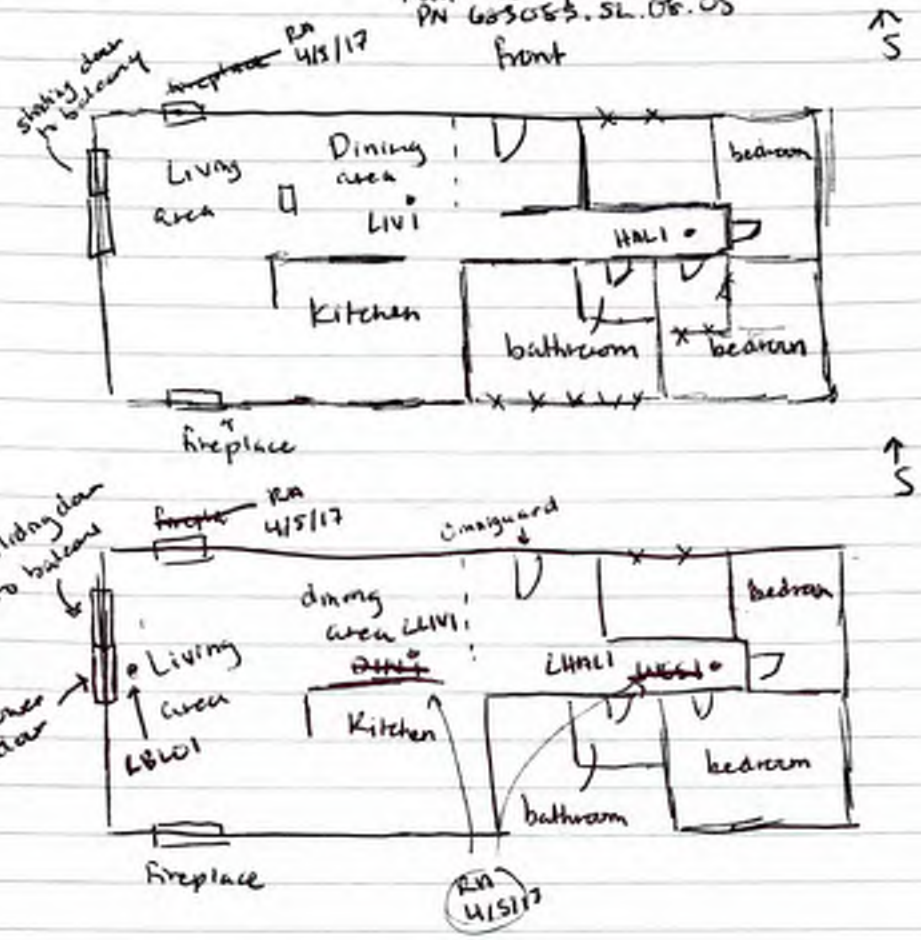
Rite in the Rain

53

4/5/17

0057 H
Full VI protocol
PN 605065.SL.06.05

4/5/17



1075 End baseline

1076 begin -5 pressure step
A-ring in fan, flow rate ~ 750 cfm
Quin rotates LLIV1
LHALI
blower door (BLO1)
Estimated time for 2.5 air exchanges = 43 min.

1100 End -5 pressure step, set up for -10 step

1102 begin -10 pressure step
A-ring in fan, flow rate ~1250 cfm
Estimated time for 2.5 air exchanges = 27 minutes

1130 Quin states he will collect 2 rounds of samples for -10 pressure step

1150 End -10 pressure step, set up for +5 step

1152 Begin +5 pressure step
A-ring in fan, flow rate ~ 1126 cfm
Estimated time for 2.5 pressure step = 30 min

1225 End +5 pressure step. Break down blower door, set up for soil gas.
No detects throughout pressure cycling

4/5/17

1245 24" bgs - soil gas sample collected
32" bgs - groundwater encountered

1250 Run soil gas sample on survey mode (PCE 3 min)
Sample ID = CC57H-040517-SG-022-2'
No response in survey

1252 Run soil gas (undiluted) in SIM mode
Run # 22
Soil gas collected on east side of structure adjacent to basement door
0.31 ppbv PCE detected in bag
break down soil gas equipment (Lawrence from VA on site)

1300 Run blank sample

1302 Open basement / crawlspace
Dirt floor, dirt / concrete piled on N side
Estimated 25' x 15'

1315 Finish packing up equipment, leave for office

1430 For out of day 1.0 ppbv CCV. All analytes passed. CCS = 0.7 ppbv / 70%, TCE: 0.8 ppbv / 80%, PCE: 0.8 ppbv / 80%.

Rite in the Rain

4/2 CO38H 4/10/17

Limited HE Protocol

PN. 683085. SL 08.02

Personel: CHB, Jeremy Laird

Objective: Limited HE protocol sampling @ CO38H.

Equipment: FIELDSITE, Summa Canisters, Vacuum gauge

Weather: 58°F Sunny

0853 Morning 5 ppbv CCV run. All analytes passed.
CIS = 4.8 ppbv / 96%, TCE = 4.6 ppbv / 92%, PCE = 4.6 ppbv / 92%.

1130 MOB to CO38H.

1200 ~~MOB~~ at 4/10/17 Arrived @ CO38H.

1205 Resident allowed entrance and signed access agreement.

1215 Analyzed indoor air in main level living room. Run #002.
No target analytes detected.

1225 Analyzed indoor air in basement living room Run #003
No target analytes detected.

SUMMA CANISTER PLACEMENT LOCATION

A-CO38H-041117-TO-001-BAS

A-CO38H-041117-TO-002-BAS

1300 Left residence CO38H

1340 Ran end of day CCV 5 ppbv. All analytes passed.
CIS = 4.1 ppbv / 82%, TCE = 4.3 ppbv / 86%, PCE = 4.2 ppbv / 84%

4/10/17

2/2

0038H
Limited Aff Protocol
PN 68308S. 82.08.02

4/11/17

Sample ID: A-0038H-041117-TO-001-BAS
Canister: 0126 Flow Controller: 0918
Initial P: -25.01 in Hg Final P: -3.37 in Hg
Start Date + time: 4/10/17 @ 1245 ~~End date + time~~: 4/11/17 @ 1145
Sampler: QGP

Sample ID: A-0038H-041117-TO-002-BAS ← Duplicate
Canister: 0430 Flow controller: 0592
Initial P: -25.72 in Hg Final P: -2.30 in Hg
Start date + time: 4/10/17 @ 1245
End date + time: 4/11/17 @ 1145
Sampler: QGP

4/24/17

5F

1/1

CO38H

4/11/17

Limited Ht Protocol

PN 603685.SL.0802

Personnel: QEB, Jeremy Loiral

Objective: Retrieve summa canisters from CO38H

Equipment: Pressure/Vacuum gauge

Weather: Sunny 60°F

1115 MOB to CO38H.

1140 Arrived @ CO38H. Jeremy Loiral on site w/ me.

1142 Entered residence. Resident not home but left door unlocked for us. We entered through west side door

1145 Turn off both flow controllers and measured remaining vacuum in canisters.

Canister: 0430 final pressure -2.3 in Hg.

Canister 0126 final pressure -3.39 in Hg

See page 55 for all summa canister details.

1200 Left residence.

QEB 4/11/17

JLB 4/11/17

1/2

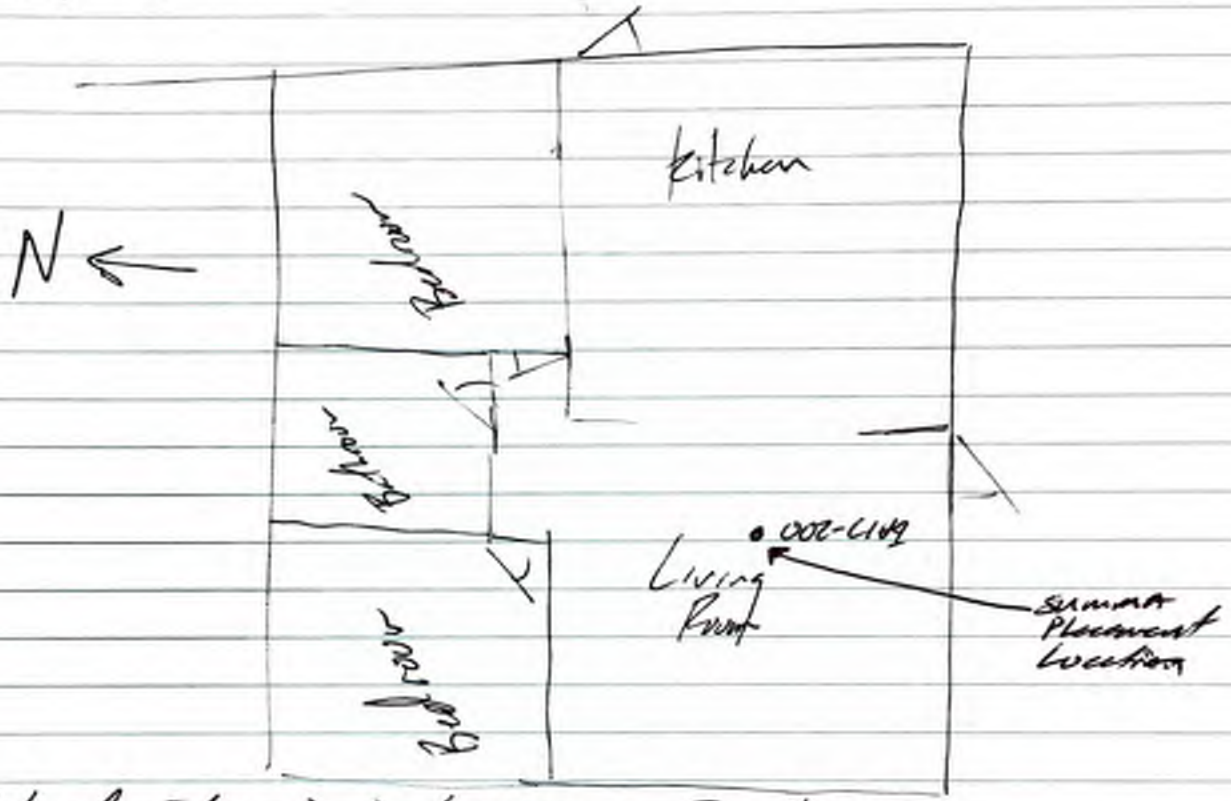
00644
Limited HI Protocol
PN 083085.SC.08.02

4/13/17

Personnel: QHB, Lynne Welch
Objective: Limited HI protocol sampling
Equipment: HAPSITE, Summa Canisters (6-L)
Weather ~50°F

0700 Loaded equipment and HAB to 00644. Ran 2.0 ppbv CCV on 4/12/17 @ 0823. All analytes passed. CIS = 2.4 ppbv / 120%, TCE: 2.1 ppbv / 105%. PCE = 2.0 ppbv / 100%

0800 Arrived @ 00644. Resident allowed access and signed access agreement. Home is one level w/ crawlspace. Crawlspace has standing - daylighting groundwater; no sump pump.



0825 Analyzed indoor air in Living room. Run #002. PCE = 0.37 ppbv. CIS & TCE < 0.1 ppbv. No interior background sources were identified in residence. HAPSITE stop requiring external power source and batteries died, so only one indoor air sample was collected.

0851 6-Liter summa canister treated w/ 200 mL/m flow controller was placed in Living room. Sample information on next page.

0905 Left 00644.

Ran end of day CCV. 2 ppbv.
CIS = 2.4 ppbv / 120% Diff TCE = 2.3 ppbv / 115% Diff. PCE = 2.1 ppbv / 105% Diff

59

Rite in the Rain

JW 4/19/17

7/2

00644
Limited Use Protocol
PN 693095.52.08.02

4/13/17

Sample ID: A-00644-041417-TO-001-LIH
Canister: 0085 Flow Controller: 0742
Initial P: -25.36 in Hg Final P: -1.74 in Hg
Start date & time 4/13/17 @ 0851
End date & time 4/14/17 @ 0810
Sampler QG3

4/14/17 Q3

58 60

1/1

0064H

4/14/17

Limited HI Probe/

PN 683085.SL.08.02

Personnel: QGB, Lynne Welsch

Objective: Retrieve summa canister

Equipment: Vacuum gauge, canister

Weather: Sunny 50°F

0720 MOB to 0064H.

0807 Arrived @ 0064H. Lynne Welsch/HA onsite

0808 Resident allowed access.

0810 Turned off flow controller. Recorded final canister vacuum (-1.74 in Hg).

0815 Left 0064H

1108 Dropped of canister @ Lab for analysis. Canisters from 0038H (Normal + field dup) and 0064H COC #003. Returned 2 6-L canisters + flow controllers (unused) and all soil gas canisters + flow controller (unused).

~~Carbon filter replaced last on 3/23/17.~~

0064H

QB 4/26/17

QB 4/14/17

QB 4/14/17

61

59

Attachment B
HAPSITE Field Forms

A-005BH-IA-003-030617-OUT

Project: AOU-1
Parent ID: 005BH
Sample Date: 3-6-17
HAPSITE: VA SMART PLUS Unit
Method: Sim_100PPB_VA_20170306
Cali. Date: 3/5/17
Cali. Range: 0.1 - 10 ppbv [TCE, PCE]
0.5 - 10 ppbv [CIS]

A-005BH

1226 u
1226 D
TOTAL SQFT = 2452 ft²

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
002	3/6/17	0625	—	—	~~CAL-030617 03~~ OUT-030617 3/6/17	2.5 ppbv CCV	—	2.6/104%	2.6/104%	2.6/104%	Morning calibration check
004	3/6/17	0926	005BH-OUT	005BH-OUT1	OA-004-030617-OUT	Outdoor Air (East side)	BL	005 Q1 Q3	<0.1	<0.1	Outdoor air (east side)
005	3/6/17	0937	005BH-LIV	005BH-LIV2	IA-005-030617-LIV	Upstairs Living Room	BL	005 Q1 Q3	<0.1	<0.1	
006	3/6/17	0944	005BH-BAS	005BH-BAS1	IA-006-030617-BAS	Basement Living Room	BL	<0.5	<0.1	<0.1	
007	3/6/17	1118 (Q3)	005BH-BAS	005BH-BAS2	IA-007-030617-BAS2	Basement Living Rm near kitchen	-5	<0.5	<0.1	<0.1	-5 Pa step started @ 1115 (B Ring)
008	3/6/17	1128	005BH-STA	005BH-STA1	IA-008-030617-STA1	Blower door/Backdoor	-5	<0.5	<0.1	<0.1	Blower door installed on back door (west side)
009	3/6/17	1136	005BH-DIN	005BH-DIN1	IA-009-030617-DIN1	Upstairs Dining Rm	-5	<0.5	<0.1	<0.1	
010	3/6/17	1145	005BH-BAS	005BH-BAS2	IA-010-030617-BAS2	Basement Liv Room	-5	<0.5	<0.1	<0.1	
011	3/6/17	1152	005BH-STA	005BH-STA1	IA-011-030617-STA1	Back Stairs/Blower door	-5	<0.5	<0.1	<0.1	
012	3/6/17	1200	005BH-DIN	005BH-DIN2	IA-012-030617-DIN2	Upstairs Dining Room	-5	<0.5	<0.1	<0.1	
013	3/6/17	1209	005BH-BAS	005BH-BAS2	IA-013-030617-BAS2	Basement living Rm/Near kitchen	-5	<0.5	<0.1	<0.1	
014	3/6/17	1218	005BH-STA	005BH-STA1	IA-014-030617-STA1	Blower door/Back Door	-5	<0.5	<0.1	<0.1	
015	3/6/17	1225	005BH-BAS	005BH-BAS2	IA-015-030617-BAS2	Basement living Rm/Near kitchen	-10	<0.5	<0.1	<0.1	-10 Pa step started @ 1225 (A Ring)
~~016~~	~~3/6/17~~	~~1230~~	~~005BH-BAS~~	~~005BH-BAS2~~	~~IA-016-030617-BAS2~~	(Q3) 3/6/17					
016	3/6/17	1236	005BH-STA	005BH-STA1	IA-016-030617-STA1	Back Stairs/Blower Door	-10	<0.5	<0.1	<0.1	
017	3/6/17	1240	005BH-DIN	005BH-DIN2	IA-017-030617-DIN2	Dining Room upstairs	-10	<0.5	<0.1	<0.1	
018	3/6/17	1249	005BH-BAS	005BH-BAS2	IA-018-030617-BAS2	Basement living Rm near kitchen	-10	<0.5	<0.1	<0.1	
019	3/6/17	1258	005BH-STA	005BH-STA1 BAS2 (Q3)	IA-019-030617-STA1	Back Stairs/Blower door	-10	<0.5	<0.1	<0.1	
020	3/6/17	1311	005BH-BAS	005BH-BAS2	IA-020-030617-BAS2	Basement living Rm near kitchen	+5	<0.5	<0.1	<0.1	+5 Pa step started @ 1310 (A Ring)
021	3/6/17	1319	005BH-STA	005BH-STA1	IA-021-030617-STA1	Blower Door/Stairs Back door	+5	<0.5	<0.1	<0.1	
022	3/6/17	1328	005BH-DIN	005BH-DIN2	IA-022-030617-DIN2	Upstairs Dining Rm	+5	<0.5	<0.1	<0.1	
023	3/6/17	1337	005BH-BAS	005BH-BAS2	IA-023-030617-BAS2	Basement living Rm/Near kitchen	+5	<0.5	<0.1	<0.1	
024	3/6/17	1348	005BH-STA	005BH-STA1	IA-024-030617-STA1	Blower Door/Stairs back door	+5	<0.5	<0.1	<0.1	+5 Pa ended @ 1350
025	3/6/17	1430	005BH-04'	005BH-04'	SG-025-030617-04'	S. side of house, 4' bgs (48")	NA	<0.5	<0.1	<0.1	Diluted 1:10 - Soil gas

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

Project: AOU-1
Location OU5BH
Sample Date: 3/5/17
HAPSITE: VA SMART PLUS Unit
Method: SIM-10073-HAZ20170305
Calibration Date: 3/5/16
Calibration Range: 0.1 – 10 ppbv
Calibration Std Conc. 0.5 + 5.0 ppbv [ASL]

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES
001	3/5/17	0.5	0.1	12 sec fill
002	3/5/17	0.5	0.5	60 sec fill
~~003~~ 006 (60)	3/5/17	5.0	2.5	30 sec fill
~~004~~ 007 (30)	3/5/17	5.0	5.0	60 sec fill
005	3/5/17	5.0	10.0	120 sec fill

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS	5.67	30.78	0.99	
TCE	5.64	3.15	1.0	
PCE	3.00	4.32	1.0	

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID: 0058H
Sample Date: 3/6/17
HAPSITE: VA SMART PLUS Unit
Method: SIM-102PPB VA. 20170305
Cali. Date: 3/5/17
Cali. Range: 0.1 - 10 ppbv (TCE, PCE)
0.5 - 10 ppbv (CIS)

A-0058H

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
026	3/6/17	1442	0058H-04'	0058H-04'	SG-026-030617-04'	S. side of house, 4' bgs (48")	NA	<0.5	<0.1	<0.1	Undiluted sample - soil gas
027	3/6/17	1452	0058H-06'	0058H-06'	SG-027-030617-06'	S. side of house, 6' bgs (71.5")	NA	<0.5	<0.1	<0.1	Undiluted sample - soil gas
028	3/6/17	1503	—	—	—	blank	NA	<0.5	<0.1	<0.1	blank sample
030	3/6/17	1628	—	—	CHZ-030617	5ppbv Calibration check	NA	2.8/56%	4.1/82%	4.1/82%	

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

Project: AOU-1
Parent ID: 0060H
Sample Date: 3/7/17
HAPSITE: VA SMART PLUS Unit
Method: SIM-100278-dA 20170307
Cali. Date: 3/7/17
Cali. Range: 0.1 - 10 ppbv

A-0060H-

							SG RSL (ppbv)	NA	2.98	54.58	
							IA RSL (ppbv)	NA	0.1	1.62	
Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
004	3/7/17	0736	—	—	CAL-03072017	2.5 ppbv CCH	—	2.7 / 96%	2.7 / 108%	2.6 / 104%	
005	3/7/17	0906	0060H-OUT	0060H-OUT2	OA-005-030717-OUT1	Outdoor Air (South side)	BL	<0.1	<0.1	<0.1	Wind from Southwest
006	3/7/17	0920	0060H-ENT	0060H-ENT2	IA-006-030717-ENT2	Main level entry area	BL	<0.1	<0.1	<0.1	
008	3/7/17	0938	0060H-BAS	0060H-BAS2	IA-008-030717-BAS2	Basement Living Room	BL	<0.1	<0.1	<0.1	
007	3/7/17	0930	0060H-STA	0060H-STA2	IA-007-030717-STA2	Upstairs Landing area	BL	<0.1	<0.1	<0.1	
009	3/7/17	0940	0060H-STO	0060H-STO2	IA-009-030717-STO2	Basement Storage/Mechanical Rm	BL	<0.1	<0.1	<0.1	
010	3/7/17	0950	0060H-STO	0060H-STO2	IA-010-030717-STO2	Basement Storage Room	BL	<0.1	<0.1	<0.1	
011	3/7/17	11:20	0060H-STO	0060H-STO2	030717-IA-011-STO2	Basement Storage/Mech Room	-5	<0.1	<0.1	<0.1	-5 Pa pressure cycle / changed sample naming to match MFM #3-6
012	3/7/17	11:30	0060H-BAS	0060H-BAS2	030717-IA-012-BAS2	Basement Living Room	-5	<0.1	<0.1	<0.1	
013	3/7/17	11:39	0060H-BAC	0060H-BAC2	030717-IA-013-BAC2	Blower Door/Back Entrance	-5	<0.1	<0.1	<0.1	
014	3/7/17	11:98	0060H-BAC STO	0060H-STO2	030717-IA-014-STO2	Basement Laundry/Storage/Mech Room	-5	<0.1	<0.1	<0.1	
015	3/7/17	12:57	0060H-BAS	0060H-BAS2	030717-IA-015-BAS2	Basement Living Room	-5	<0.1	<0.1	<0.1	
016	3/7/17	12:06	0060H-BAC	0060H-BAC2	030717-IA-016-BAC2	Blower Door/Back entrance	-5	<0.1	<0.1	<0.1	
017	3/7/17	12:15	0060H-STO	0060H-STO2	030717-IA-017-STO2	Basement Laundry/Storage/Mech Rm	-5	<0.1	<0.1	<0.1	
018	3/7/17	12:28	0060H-BAS	0060H-BAS2	030717-IA-018-BAS2	Basement Living Room	-5	<0.1	<0.1	<0.1	
019	3/7/17	12:37	0060H-BAC	0060H-BAC2	030717-IA-019-BAC2	Blower Door/Back entrance	-5	<0.1	<0.1	<0.1	
020	3/7/17	12:47	0060H-STO	0060H-STO2	030717-IA-020-STO2	Basement Laundry/Storage/Mech Rm	-5	<0.1	<0.1	<0.1	
021	3/7/17	12:56	0060H-BAC STO	0060H-STO2	030717-IA-021-STO2	Basement Laundry/Storage/Mech Rm	-10	<0.1	<0.1	<0.1	-10 Pa pressure cycle began @ 1250
022	3/7/17	1305	0060H-BAS	0060H-BAS2	030717-IA-022-BAS2	Basement Living Room	-10	<0.1	<0.1	<0.1	
023	3/7/17	1316	0060H-BAC	0060H-BAC2	030717-IA-023-BAC2	Blower door/Back entrance	-10	<0.1	<0.1	<0.1	
024	3/7/17	1325	0060H-STO	0060H-STO2	030717-IA-024-STO2	Basement Laundry/Storage/Mech Rm	-10	<0.1	<0.1	<0.1	
025	3/7/17	1334	0060H-BAS	0060H-BAS2	030717-IA-025-BAS2	Basement Living Room	-10	<0.1	<0.1	<0.1	
026	3/7/17	1343	0060H-BAC	0060H-BAC2	030717-IA-026-BAC2	Blower Door/Back entrance	-10	<0.1	<0.1	<0.1	
027	3/7/17	1352	0060H-STA	0060H-STA2	030717-IA-027-STA2	Upstairs Landing Area	-10	<0.1	<0.1	<0.1	

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

* Sample naming convention changed to match MFM #3-6 Table 11. Previous sample naming convention followed SAP table 11

Project: AOU-1
Location 006W
Sample Date: 3/7/17
HAPSITE: VA SMART PLUS Unit
Method: Sim_100PPB-VA-20170307
Calibration Date: 3/7/17
Calibration Range: 0.1 - 10 ppbv
Calibration Std Conc. 0.5 + 50 ppbv [ASL]

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES
001	3/7/17	0.5	0.1	Sim-100PPB-VA-20170306
002	3/7/17	0.5	0.5	" "
001	3/7/17	0.5	1.0	Sim-100PPB-VA-20170307
002	3/7/17	5.0	5.0	" "
003	3/7/17	5.0	10.0	" "

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS	2.67	5.44	1.0	
TCE	14.74	9.42	1.0	
PCE	2.78	1.55	1.0	

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID: 0060H
Sample Date: 3/7/17
HAPSITE: VA SMART PLUS Unit
Method: Sim-10028B-VA 20170307
Cali. Date: 3/7/17
Cali. Range: 0.1 – 10 ppbv

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
028	3/7/17	1400	0060H-ENT2	0060H-ENT2	030717-IA-028-ENT2	Main level entrance area	-10	<0.1	<0.1	<0.1	
029	3/7/17	1417	0060H-STO	0060H-STO2	030717-IA-029-STO2	Basement Storage Room	-10	<0.1	<0.1	<0.1	
030	3/7/17	1429	0060H-STO	0060H-STO2	030717-IA-030-STO2	Basement Laundry/Storage Room	+5	<0.1	<0.1	<0.1	
031	3/7/17	1438	0060H-BAS1	0060H-BAS1	030717-IA-031-BAS1	Basement Living Room	+5	<0.1	<0.1	<0.1	
032	3/7/17	1447	0060H-BAC2	0060H-BAC2	030717-IA-032-BAC2	Blower Door/Back entrance	+5	<0.1	<0.1	<0.1	
033	3/7/17	1457	0060H-STO	0060H-STO2	030717-IA-033-STO2	Basement Storage Room	+5	<0.1	<0.1	<0.1	
034	3/7/17	1506	0060H-ENT	0060H-ENT2	030717-IA-034-ENT2	Main level entrance	+5	<0.1	<0.1	<0.1	
035	3/7/17	1515	0060H-STA	0060H-STA2	030717-IA-035-STA2	Upstairs landing area	+5	<0.1	<0.1	<0.1	
036	3/7/17	1524	0060H-STO	0060H-STO2	030717-IA-036-STO2	Basement Laundry/Storage Rm	+5	<0.1	<0.1	<0.1	
037	3/7/17	1630	0060H-4.8'	0060H-4.8'	030717-SG-037-4.8'	N. Side of house, 57" bgs	NA	0.101	<0.1	<0.1	1:10 dilution
038	3/7/17	1637	0060H-4.8'	0060H-4.8'	030717-SG-038-4.8'	N. Side of house, 57" bgs	NA	<0.1	<0.1	0.71	undiluted sample
039	3/7/17	1645	—	—	—	blank sample	—	—			blank sample
040	3/7/17	1748	—	—	CAL-03072017	5 ppbv calibration check	—	99/104	95/102	94/88%	Passed

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

Project: AOU-1
Parent ID: 0061H
Sample Date: 03/08/17
HAPSITE: VA SMART PLUS Unit
Method: Sim-100PPB_VA - 20170307
Cali. Date: 3/7/17
Cali. Range: 0.1 – 10 ppbv

A-0061H-

								SG RSL (ppbv)	NA	2.98	54.58	
								IA RSL (ppbv)	NA	0.1	1.62	
Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
001	3/8/17	7:06	—	—	CAL-030820 17	5 ppbv calibration check	—	4.1/82%	4.5/90%	4.1/82%	concentration / RPD / morning CCV
002	3/8/17	0915	0061H-OUT	0061H-OUT2	030817-IA-002-OUT1	Outdoor air (north side)	BL	0.15	<0.1	<0.1	
003	3/8/17	0925	0061H-LIV	0061H-LIV2	030817-IA-003-LIV1	Main level Living Room	BL	0.35	<0.1	<0.1	
004	3/8/17	0934	0061H-BAS	0061H-BAS1	030817-IA-004-BAS1	Basement Area	BL	0.12	<0.1	<0.1	Basement not livable space
005(1)	3/8/17	0955	0061H-BED	0061H-BED1	030817-IA-005-BED1	Upstairs SW bedroom	BL	0.32	<0.1	<0.1	
007	3/8/17	1005	0061H-KIT	0061H-KIT1	030817-IA-007-KIT1	Main level Kitchen	BL	0.51	<0.1	<0.1	
008	3/8/17	1058	~~0061H-030817~~	—	CAL-030817	5 ppbv calibration check	—	3.9/78%	4.4/88%	4.4/88%	mid-day CCV
009	3/8/17	1136	0061H-BAS	0061H-BAS1	030817-IA-009-BAS1	Basement Area	-5	<0.1	<0.1	<0.1	-5 Pa pressure cycle began @ 11:35 am
010	3/8/17	1137	0061H-KIT	0061H-KIT1	030817-IA-010-KIT1	Kitchen	-5	<0.1	<0.1	<0.1	
011	3/8/17	1149	0061H-LIV	0061H-LIV2	030817-IA-011-LIV2	Living Room (main floor)	-5	<0.1	<0.1	<0.1	
012	3/8/17	1207	0061H-BED	0061H-BED1	030817-IA-012-BED1	Upstairs Bedroom	-5	<0.1	<0.1	<0.1	
013	3/8/17	1216	0061H-BASL	0061H-LAU1	030817-IA-013-LAU1	Laundry Room / Blower Door	-5	<0.1	<0.1	<0.1	
014	3/8/17	1225	0061H-BAS	0061H-BAS2	030817-IA-014-BAS2	Basement Area	-5	<0.1	<0.1	<0.1	
015	3/8/17	1234	0061H-KIT	0061H-KIT1	030817-IA-015-KIT1	Kitchen (main level)	-5	<0.1	<0.1	<0.1	
016	3/8/17	1245	0061H-LAU	0061H-LAU1	030817-IA-016-LAU1	Laundry Room / Blower Door	-5	<0.1	<0.1	<0.1	
017	3/8/17	1300	0061H-BAS	0061H-BAS1	030817-IA-017-BAS1	Basement Area	-10	<0.1	<0.1	<0.1	-10 Pa pressure cycle began @ 12:55 pm
018	3/8/17	1307	0061H-KIT	0061H-KIT1	030817-IA-018-KIT1	Kitchen (main level)	-10	<0.1	<0.1	<0.1	
019	3/8/17	1316	0061H-LAU	0061H-LAU1	030817-IA-019-LAU1	Laundry Room / Blower Door	-10				HAPSITE battery died
020	3/8/17	1324	0061H-LIV	0061H-LIV2	030817-IA-020-LIV1	Living Room (main level)	-10				HAPSITE force / re-booted HAPSITE
021	3/8/17	1347	0061H-LIV	0061H-LIV1	030817-IA-021-LIV1	Living Room (Main level)	-10	<0.1	<0.1	<0.1	
022	3/8/17	1356	0061H-LAU	0061H-LAU1	030817-IA-022-LAU1	Laundry Room / Blower Door	-10	<0.1	<0.1	<0.1	
023	3/8/17	1405	0061H-BED	0061H-BED1	030817-IA-023-BED1	Upstairs Bedroom	-10	<0.1	<0.1	<0.1	
024	3/8/17	1418	0061H-BAS	0061H-BAS1	030817-IA-024-BAS1	Basement Area	+5	<0.1	<0.1	<0.1	+5 Pa pressure cycle began @ 1415
025	3/8/17	1427	0061H-KIT	0061H-KIT1	030817-IA-025-KIT1	kitchen	+5	<0.1	<0.1	<0.1	

* CIS was a false detection in Runs 002 – 007. Reviewed samples in comparison w/ 0.5 ppbv calibration point. Runs 002 – 007 are missing 2nd + 3rd ions.

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

(1) Run #005 failed during analysis, therefore not recorded. QB 3/14/17

Project: AOU-1
Location: CXGH-1
Sample Date: 3/6/17
HAPSITE: VA SMART PLUS Unit (SN:3) 3/7/17
Method: SIM-100798_VA_~~050~~ 20170307
Calibration Date: 3/7/17
Calibration Range: 0.1-10 ppb
Calibration Std Conc. 0.5 + 5.0 ppb

See 3/7/17 field calibration log for calibration info.

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID: 0061H
Sample Date: 3/8/17
HAPSITE: VA SMART PLUS Unit
Method: Sem-100PPB_VA-20170307
Cali. Date: 03/7/17
Cali. Range: 0.1 – 10 ppbv

RA 3/5/17

								CIS	TCE	PCE	
Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	(ppbv)	(ppbv)	(ppbv)	Notes
						SG RSL (ppbv)	NA	2.98	54.58		
						IA RSL (ppbv)	NA	0.1	1.62		
026	3/8/17	1435	0061H-LAU	0061H-LAU	030817-IA-026-LAU2	Laundry Room/Blower Door	+5	<0.1	<0.1	<0.1	
027	3/8/17	1494	0061H-BED	0061H-BED2	030817-IA-027-BED2	Upstairs Bedroom	+5	<0.1	<0.1	<0.1	
028	3/8/17	1454	0061H-LIV	0061H-LIV2	030817-IA-028-LIV2	Living Room (Crawl Floor)	+5	<0.1	<0.1	<0.1	
029	3/5/17 3/8/17 SG	1530	0061H-4.7'	0061H-4.7'	030517-SG-029-4.7'	Soil gas (W. Side of house, 56" bgs)	NA	<0.1	<0.1	<0.1	1:10 dilution
030	3/8/17	1538	0061H-4.7'	0061H-4.7'	030817-SG-030-4.7'	W. Side of house, 56" bgs	NA	<0.1	<0.1	<0.1	Undiluted sample
031	3/8/17	1548	0061H-6.1'	0061H-6.1'	030817-SG-031-6.1'	W. Side of house, 73" bgs	NA	<0.1	<0.1	<0.1	Undiluted sample
032	3/5/17	1556	—	—	—	blank	NA				blank
033	3/8/17	1725	—	—	CV3-030817	5ppbv CCV	—	3.5/70%	42/84%	41/82%	

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

Project: AOU-1
Location
Sample Date:
HAPSITE: VA SMART PLUS Unit
Method:
Calibration Date:
Calibration Range:
Calibration Std Conc.

See 3/7/17 calibration field log for calibration info.

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID 0026H, 0027H, 0013H
Sample Date: 3/9/17
HAPSITE: VA SMART PLUS Unit
Method: Sim. 10096-VA-20170307
Cali. Date: 3/7/17
Cali. Range: 0.1 - 10 ppbv

A-0026H-, A-0027H, A0013H-

			CIS	TCE	PCE
SG RSL (ppbv)			NA	2.98	54.58
IA RSL (ppbv)			NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
004	3/9/17	0806	—	—	CAL-030917	5ppbv Calibration Check	—	4.0/80%	4.5/90%	4.2/84%	5ppb Cal [concentration/RPD]
006	3/9/17	0905	0026H-OUT	0026H-OUT1	030917-OA-006-OUT1	Outdoor Air / North side	BL	<0.1	<0.1	<0.1	
007	3/9/17	0915	0026H-BAS	0026H-BAS1	030917-IA-007-BAS1	Basement Living Room	BL	<0.1	<0.1	0.14	QS 3/10/17
008	3/9/17	0925	0026H-LAN	0026H-LAN1	030917-IA-008-LAN1	Basement Landing Room	BL	<0.1	<0.1	0.16	
009	3/9/17	0933	0026H-LIV	0026H-LIV1	030917-IA-009-LIV1	Main Level Living Room	BL	0.12	<0.1	0.13	
010	3/9/17	0942	0026H-HAL	0026H-HAL1	030917-IA-010-HAL2	Main Level Hallway near Kitchen	BL	<0.1	<0.1	0.13	
011	3/9/17	0951	0026H-LAN	0026H-LAN1	030917-IA-011-LAN1	2nd Level Landing	BL	<0.1	<0.1	0.14	
012	3/9/17	1000	0026H-UT1	0026H-UT12	030917-IA-012-UT12	Basement Utility Room	BL	<0.1	<0.1	0.16	
001	3/9/17	1010				PCE survey of products	BL	[No products w/ PCE found]			Underslab utility room products
003	3/9/17	1105	0027H-OUT	0027H-OUT3	030917-IA-013-OUT3	Outdoor Air / North side	BL	<0.1	<0.1	<0.1	
014	3/9/17	1114	0027H-LIV	0027H-LIV1	030917-IA-014-LIV1	Main Level Living Room	BL	<0.1	<0.1	<0.1	
015	3/9/17	1127	0027H-BAS	0027H-BAS1	030917-IA-015-BAS2	Basement Hallway Area	BL	<0.1	<0.1	<0.1	
016	3/9/17	1134	0027H-MEC	0027H-MEC1	030917-IA-016-MEC2	Mechanical Room / Basement	BL	<0.1	<0.1	<0.1	
017	3/9/17	1410	0013H-OUT	0013H-OUT1	030917-IA-017-OUT1	Outdoor Air (south side)	BL	<0.1	<0.1	<0.1	
018	3/9/17	1420	0013H-HAL	0013H-HAL2	030917-IA-018-HAL1	Main Level Hallway near kitchen	BL	<0.1	<0.1	<0.1	
019	3/9/17	1430	0013H-LAN	0013H-LAN1	030917-IA-019-LAN1	Upstairs Landing / Above Area	BL	<0.1	<0.1	<0.1	
020	3/9/17	1440	0013H-BAS	0013H-BAS1	030917-IA-020-BAS1	Basement Living Room	BL	<0.1	<0.1	<0.1	
025	3/9/17	1903	—	—	CAL-030917	5ppbv Calibration Check	—	4.1/82%	4.7/94%	4.6/92%	5ppb Cal

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

* Runs 021-024, 005 were blank runs.

Project: AOU-1
Location
Sample Date:
HAPSITE: VA SMART PLUS Unit
Method:
Calibration Date:
Calibration Range:
Calibration Std Conc.

See 3/7/17 Calibration field log for calibration info.

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID 0025H, 0004H, 0012H
Sample Date: 3/13/17
HAPSITE: VA SMART PLUS Unit
Method: SIM-10078-VA. 20170307
Call. Date: 03/07/17
Call. Range: 0.1 - 10 ppbv

A-0025H-, A-0004H-, A-0012H-

		CIS	TCE	PCE
SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
002	3/13/17	0700	—	—	CCH-031317	Spike CCH	—	4.5/90%	4.8/96%	4.7/94%	concentration/RPD Calibration check
003	3/13/17	0905	0025H-OUT	0025H-OUT1	031317-IA-003-OUT1	Outside Air (East side)	BL	<0.1	<0.1	<0.1	Outside Air / East side
004	3/13/17	0914	0025H-LIV	0025H-LIV1	031317-IA-004-LIV1	Main Level Living Room	BL	<0.1	<0.1	<0.1	
005	3/13/17	0923	0025H-BAS	0025H-BAS1	031317-IA-005-BAS1	Basement Hallway (center/locality)	BL	<0.1	<0.1	<0.1	
006	3/13/17	1015	0004H-OUT	0004H-OUT1	031317-IA-006-OUT1	Outdoor Air (north side)	BL	<0.1	<0.1	<0.1	
007	3/13/17	1025	0004H-LIV	0004H-LIV1	031317-IA-007-LIV1	Main Level Living Room	BL	<0.1	<0.1	<0.1	
008	3/13/17	1139	0004H-BAS	0004H-BAS1	031317-IA-008-BAS1	Basement (open the large room)	BL	<0.1	<0.1	<0.1	
009	3/13/17	1221	BLANK								Blank sample
010-011	HAPSITE freeze. Had to cancel sample runs and reboot HAPSITE.										
012	3/13/17	1300	—	—	CH2-031317	5ppb CCH	—	4.1/82%	4.6/92%	4.5/90%	Calibration Check
013	3/13/17	1316	BLANK								Blank sample
014	3/13/17	1416	0012H-LIV	0012H-LIV1	031317-IA-014-LIV1	Main Level Living Room	BL	<0.1	<0.1	0.16	
015	3/13/17	1430	0012H-OUT	0012H-OUT1	031317-IA-015-OUT1	Outdoor Air (west side)	BL	<0.1	<0.1	<0.1	
016	3/13/17	1439	0012H-BAS	0012H-BAS1	031317-IA-016-BAS1	Basement Living Room	BL	<0.1	<0.1	0.28	
017	3/13/17	1447	0012H-OFF	0012H-OFF1	031317-IA-017-OFF1	Basement Office	BL	<0.1	<0.1	0.38	
018	3/13/17	1456	0012H-BAT	0012H-BAT1	031317-IA-018-BAT1	Basement Bathroom	BL	<0.1	<0.1	0.30	Floor drain on bathroom floor
019	3/13/17	1505	0012H-LAU	0012H-LAU1	031317-IA-019-LAU1	Basement Laundry Room	BL	<0.1	<0.1	0.30	floor drain in laundry room
020	3/13/17	1535	0012H-FDR	0012H-FDR1	031317-IA-020-FDR1	Basement bathroom floor drain	BL	<0.1	<0.1	0.33	HAPSITE probe placed on floor drain
021	3/13/17	1635	—	—	CH3-031317	Spike CCH	BL	3.7/74%	4.3/86%	4.2/84%	concentration/RPD End of day CCV

NOTES:
Call. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

Project: AOU-1
Location
Sample Date:
HAPSITE: VA SMART PLUS Unit
Method:
Calibration Date:
Calibration Range:
Calibration Std Conc.

See 3/7/17 Calibration field log for calibration information

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID: 0001H
Sample Date: 3/15/17
HAPSITE: VA SMART PLUS Unit
Method: SIM_100PPB_HA_20170307
Cali. Date: 03/15/17 to 3/7/17
Cali. Range: 0.1 – 10

A-0001H-

							SG RSL (ppbv)	NA	2.98	54.58	
							IA RSL (ppbv)	NA	0.1	1.62	
Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
001	3/15/17	1019	—	—	CH-031517	Sploe CCA	—	4.8/98%	4.7/94%	4.6/92%	Concentration / RPD
002	3/15/17	1021	BLANK	RUN							
003	3/15/17	1105	0001H-OUT	0001-OUT2	031517-IA-003-OUT2	Outside air (east side)	BL	<0.1	<0.1	<0.1	
004	3/15/17	1112	0001H-LIV	0001H-LIV2	031517-IA-004-LIV2	Main level living Room	BL	<0.1	<0.1	0.73	
005	3/15/17	1127	0001H-BAS	0001H-BAS2	031517-IA-005-BAS2	Basement Utility Area	BL	<0.1	<0.1	0.33	
006	3/15/17	1138	0001H-SUM	0001H-SUM2	031517-IA-006-SUM2	Basement Sump Room	BL	<0.1	<0.1	0.34	
007	3/15/17	1152	0001H-BED	0001H-BED2	031517-IA-007-BED2	Basement bedroom	BL	<0.1	<0.1	0.35	
008	3/15/17	1207	0001H-UBED	0001H-UBED2	031517-IA-008-UBED2	Upstairs bedroom (west)	BL	<0.1	<0.1	0.36	
009	3/15/17	1218	0001H-MBED	0001H-MBED2	031517-IA-009-MBED2	Master bedroom (East)	BL	<0.1	<0.1	0.76	
001	3/15/17	1227	0001H-KIT	0001H-KIT2	031517-IA-001-KIT2	Kitchen (upstairs)	BL				SCAN_100PPB_HILL_VE_LIST_2 / Scan method
010	3/15/17	1236	0001H-BAT	0001H-BAT2	031517-IA-010-BAT2	Upstairs bathroom	BL		<0.1	0.71	
001	3/15/17	1245	PCE_3_FAN_SURVEY			Under kitchen sink (chemicals)	BL				Scotted chemicals stored under kitchen sink
002	3/15/17	1251	PCE_3_FAN_SURVEY			" " (chemicals)	BL				"
~~001~~ 007	3/15/17	1300	—	—	CH2-031517	Sploe CCA	~~BL~~ 105Pa	7.6/158%	4.9/96%	4.2/84%	

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

Project: AOU-1
Location
Sample Date:
HAPSITE: VA SMART PLUS Unit
Method:
Calibration Date:
Calibration Range:
Calibration Std Conc.

See 3/7/17 Calibration record

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

1/3

Project: AOU-1
Parent ID 0059H
Sample Date: 3/17/17
HAPSITE: VA SMART PLUS Unit
Method: SIM-10-PPB-VA-20170317
Cali. Date: 3/17/17
Cali. Range: 0.1 – 10 ppbv

A-0059H-

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
015	3/17/17	0910	0059H-OUT	0059H-OUT1	031717-OA-015-OUT1	Outdoor Air (east side)	BL	<0.1	<0.1	<0.1	
016	3/17/17	0922	0059H-HAL	0059H-HAL2	031717-IA-016-HAL2	Hallway (main level)	BL	<0.1	<0.1	<0.1	
019	3/17/17	0930	[illegible]	—	CH1-031717	0.5 ppbv CCV	—	0.46/92%	0.49/98%	0.48/96%	0.5 ppbv CCV
017	3/17/17	0928	0059H-LAN2	0059H-LAN2	031717-IA-017-LAN2	Upstairs Landing area	BL	<0.1	<0.1	<0.1	
018	3/17/17	0937	0059H-BAS	0059H-BAS2	031717-IA-018-BAS2	Basement Landing	BL	<0.1	<0.1	<0.1	
014	3/17/17	1044	0059H-STO	0059H-STO2	031717-IA-014-STO2	Basement Storage Room w/ hole in floor	BL	<0.1	<0.1	<0.1	3-ft by 2-ft hole in floor/slab material open
020	3/17/17	1100	0059H-LAU	0059H-LAU2	031717-IA-020-LAU2	Basement Laundry Room	-5	<0.1	<0.1	0.35	-5 Pascal Pressure Cycle began @ 1100
021	3/17/17	1108	0059H-STO2	0059H-STO1	031717-IA-021-STO1	Basement Storage Room w/ hole in floor	-5	<0.1	<0.1	[illegible]	
022	3/17/17	1118	0059H-BLO	0059H-BLO1	031717-IA-022-BLO1	Blower door/Basement Living Room	-5	<0.1	<0.1	0.27	
001	3/17/17	1125-1132	PCE 3-DAY SURVEY			Screened Laundry room ceiling tile. Odor Given. Found to have PCE. Placed outside house					
002	3/17/17	1136-1138	"	"							
023	3/17/17	1141	0059H-HAL	0059H-HAL2	031717-IA-023-HAL2	Hallway main level	-5	<0.1	<0.1	<0.1	
024	3/17/17	1150	0059H-LAN	0059H-LAN2	031717-IA-024-LAN2	Upstairs Landing	-5				
025	3/17/17	1158	0059H-BAS	0059H-BAS2	031717-IA-025-BAS2	QA 3/17/17					
025	3/17/17	1158	0059H-LAU	0059H-LAU2	031717-IA-025-LAU2	Basement Laundry Room	-5	<0.1	<0.1	0.18	
026	3/17/17	1206	0059H-BLO	0059H-BLO2	031717-IA-026-BLO2	Blower Door/Basement Living Room	-5	<0.1	<0.1	0.17	
027	3/17/17	1214	0059H-STO	0059H-STO2	031717-IA-027-STO2	Basement Storage Room/hole in floor	-5	<0.1	<0.1	<0.1	
028	3/17/17	1224	0059H-HAL	0059H-HAL2	031717-IA-028-HAL2	Hallway (main level)	-5	<0.1	<0.1	<0.1	
029	3/17/17	1230	0059H-LAU	0059H-LAU2	031717-IA-029-LAU2	Basement Laundry room floor drain	-10	0.55	2.3	158 B	-10 Pascal began @ 1235 / Floor drain has visible sewer odor when water -10 Pa DP
030	3/17/17	1240	0059H-LAU	0059H-LAU2	031717-IA-030-LAU2	Basement Laundry room	-10	<0.1	<0.1	0.47	
031	3/17/17	1253	0059H-BLO	0059H-BLO2	031717-IA-031-BLO2	Blower door/Basement living Room	-10	<0.1	<0.1	<0.1	
032	3/17/17	1303	0059H-LAU	0059H-LAU2	031717-IA-032-LAU2	Basement Laundry Room	-10	<0.1	<0.1	0.14	
033	3/17/17	1317	0059H-LAU	0059H-LAU2	031717-IA-033-LAU2	Basement Laundry Room floor drain	-10	<0.1	0.39	32.49	Floor drain w/ water
034	3/17/17	1340	0059H-LAU	0059H-LAU1	031717-IA-034-LAU1	Basement Laundry Room	+5	<0.1	<0.1	<0.1	

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

2/3

Project: AOU-1
Location: OU5/4
Sample Date: 3/17/17
HAPSITE: VA SMART PLUS Unit
Method: Sim_100 PPB_VA_20170317
Calibration Date: 3/17/17
Calibration Range: 0.1 – 10 ppbv
Calibration Std Conc. 0.5 & 5.0 ppbv

6-3 3/17/17

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES
~~001~~ 008	3/17/17	0.5	~~01~~ 2.5	~~30 sec fill~~ 30 sec fill
3 3/17/17 ~~002~~ 009	3/17/17	0.5	~~05~~ 5.0	~~60 sec fill~~ 60 sec fill
03/17/17 ~~005~~ 010	3/17/17	0.5	~~10~~ 10.0	~~120 sec fill~~ 120 sec fill
~~006~~ 011	3/17/17	5.0	~~50~~ 0.5	~~6 sec fill~~ 6 sec fill
~~007~~ 013	3/18/17	5.0	~~100~~ 0.1	~~120 sec fill~~ 12 sec fill

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS	4.087	7.091	0.999	
TCE	8.330	7.721	1.000	
PCE	1.783	2.579	1.000	

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

3/3

Project: AOU-1
Parent ID: 0059H
Sample Date: 3/17/17
HAPSITE: VA SMART PLUS Unit
Method: Sim-100ppb-VA-20170317
Cali. Date: 3/17/17
Cali. Range: 0.1 – 10 ppbv

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
035	3/17/17	1347	0059H-BL0	0059H-BL01	031717-IA-035-BL01	Blower Door / Basement Living Room	+5	<0.1	<0.1	<0.1	
004	3/17/17	1315	PCE-3-ISM-SURVEY			Basement Laundry room / Aerosolve / PCE survey of floor drain / PCE present... obviously					
003	3/17/17	1245	"	"		Survey of carpet / fabric deloborum. PCE not present.					
036	3/17/17	1358	0059H-HAL	0059H-HAL2	031717-IA-036-BA01	Main Level Hallway	+5	<0.1	<0.1	<0.1	
037	3/17/17	1415	0059H-LAN	0059H-LAN2	031717-IA-037-LAN2	2nd Floor Landing	+5	<0.1	<0.1	<0.1	
038	3/17/17	1425	0059H-LAN	0059H-LAN1	031717-IA-038-LAN1	Laundry Room basement	+5	<0.1	<0.1	<0.1	
033	3/17/17	1508	PCE-3-ISM-Survey	0059H-1.8'	031717-SG-033-1.8'	soil gas - survey - 20" bgs	NA	No response			undiluted sample
039	3/17/17	1510	0059H-1.5'	0059H-1.5'	031717-SG-039-1.5'	soil gas - SW side of house - 20" bgs	NA	<0.1	<0.1	<0.1	Undiluted sample
004	3/17/17	1520	PCE-3-ISM-Survey	0059H-5'	031717-SG-040-5'	Soil gas - SW side of house - 59" bgs	NA	No response			Undiluted sample
040	3/17/17	1522	0059H-5'	0059H-5'	031717-SG-040-5'	soil gas - SW side of house - 59" bgs	NA	<0.1	<0.1	<0.1	Undiluted sample
041	3/17/17	1532	—	—	CV7-3/17/17	5 ppbv cal check	NA	2.6/521.	4.7/947.	4.6/927.	
042	3/17/17	1542	—	—	blank	blank	NA	<0.1	<0.1	<0.1	

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

\13

Project: AOU-1
Parent ID: 0063H
Sample Date: 3/21/17
HAPSITE: VA SMART PLUS Unit
Method: SOP-IWP98-VA_20170321
Cali. Date: 3/17/17
Cali. Range: 0.1 - 10 ppbv

A-0063H-

								SG RSL (ppbv)	NA	2.98	54.58	
								IA RSL (ppbv)	NA	0.1	1.62	
Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
008	3/21/17	0840	—	—	CAL-CB21 17	5ppbv CCV	—	5.1/112%	5.6/112%	5.7/114%	5ppb CCV concentration/% difference
009	3/21/17	0853	Blank run			Blank run	—	—	—	—	Blank run
010	3/21/17	1002	0063H-OUT	0063H-OUT2	~~032117-01A~~ 032117-IA-010-OUT2	Ambient air (Southside)	BL	<0.1	<0.1	<0.1	
011	3/21/17	1008	0063H-DIN	0063H-DIN2	032117-IA-011-DIN2	Dining Room (main level)	BL	<0.1	<0.1	0.34	
012	3/21/17	1022	0063H-LAN	0063H-LAN2	032117-IA-012-LAN2	Upstairs Landing (2nd floor)	BL	<0.1	<0.1	0.39	
013	3/21/17	1050	0063H-BAS	0063H-BAS2	032117-IA-013-BAS2	Basement Landing area	BL	<0.1	<0.1	0.42	
014	3/21/17	1038	0063H-BAT	0063H-BAT2	032117-IA-014-BAT2	Basement Bathroom	BL	<0.1	<0.1	0.48	
015	3/21/17	1047	0063H-STO	0063H-STO2	032117-IA-015-STO2	Basement Storage Room	BL	<0.1	<0.1	0.59	Room contains various chemicals including fuel from generator
016	3/21/17	1108	0063H-GAR	0063H-GAR2	032117-IA-016-GAR2	Garage	BL	<0.1	<0.1	0.30	
017	3/21/17	1314	0063H-BAS	0063H-BAS1	032117A-017-BAS1	Basement Landing area	-5	<0.1	<0.1	0.33	-5 Pa pressure step began @ 1310
018	3/21/17	1321	0063H-BLO	0063H-BLO2	032117-IA-018-BLO2	Blower Door / East basement door	-5	<0.1	<0.1	0.28	
~~019~~	~~3/21/17~~	~~1330~~	~~0063H-LAN~~	~~0063H-LAN2~~	~~032117-IA-019-LAN2~~	~~Upstairs Landing 03/21/17~~	~~-5~~	~~<0.1~~	~~<0.1~~	~~0.24~~	
019	3/21/17	1330	0063H-DIN	0063H-DIN2	032117-IA-019-DIN2	Dining Room (main level)	-5	<0.1	<0.1	0.24	
020	3/21/17	1338	0063H-LAN	0063H-LAN2	032117-IA-020-LAN2	2nd floor Landing Area	-5	<0.1	<0.1	0.19	
021	3/21/17	1347	0063H-BAS	0063H-BAS1	032117-IA-021-BAS1	Basement Landing	-5	<0.1	<0.1	0.27	
022	3/21/17	1358	0063H-BLO	0063H-BLO2	032117-IA-022-BLO2	Blower Door/Basement exit door	-5	<0.1	<0.1	0.32	
~~023~~	~~3/21/17~~	~~1407~~	~~0063H-LAN~~	~~0063H-LAN2~~	~~032117-IA-023-LAN2~~	~~2nd floor Landing~~	~~-5~~	~~<0.1~~	~~<0.1~~	~~0.21~~	QB 3/21/17
023	3/21/17	1407	0063H-DIN	0063H-DIN2	032117-IA-023-DIN2	Dining Room (main level)	-5	<0.1	<0.1	0.21	
024	3/21/17	1415	0063H-LAN	0063H-LAN2	032117-IA-024-LAN2	2nd floor Landing area	-5	<0.1	<0.1	0.15	
025	3/21/17	1423	0063H-BAS	0063H-BAS1	032117-IA-025-BAS1	Basement Landing area	-5	<0.1	<0.1	0.30	
026	3/21/17	1438	0063H-BLO	0063H-BLO2	032117-IA-026-BLO2	Blower Door/Basement exit/bathroom	-5	<0.1	<0.1	0.27	
027	3/21/17	1440	0063H-DIN	0063H-DIN2	032117-IA-027-DIN2	Dining Room (main level)	-5	<0.1	<0.1	0.16	
028	3/21/17	1448	0063H-LAN	0063H-LAN2	032117-IA-028-LAN2	2nd floor Landing area	-5	<0.1	<0.1	0.11	
029	3/21/17	1500	0063H-BAS	0063H-BAS2	032117-IA-029-BAS2	Basement Landing area	-5	<0.1	<0.1	0.41	

QB 3/21/17

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

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Project: AOU-1
Location OU63M
Sample Date: 3/21/17
HAPSITE: VA SMART PLUS Unit
Method: SOM-1009P13-HA-20170328
Calibration Date: 3/21/17
Calibration Range: 0.1 - 10
Calibration Std Conc. 0.5 + 5.0 ppbv [ABL]

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES
001	3/21/17	0.5	0.1	
002	3/21/17	0.5	0.5	
003	3/21/17	0.5	1.0	
004	3/21/17	5.0	5.0	
007	3/21/17	5.0	10.0	

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS	16.784	15.322	0.994	
TCE	19.541	0.449	0.998	
PCE	12.984	5.085	0.999	

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

3/3

Project: AOU-1
Parent ID: 0063H
Sample Date: 3/21/17
HAPSITE: VA SMART PLUS Unit
Method: Stnd UOPPB-HA-20170321
Cali. Date: 3/21/17
Cali. Range: 0.1 - 10 ppbv

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
030	3/21/17	1520	0063H-BAS	0063H-BAS1	032117-IA-030-BAS1	Basement landing area	-10	<0.1	<0.1	0.14	-10 pa pressure step began @ 1570
031	3/21/17	1519	0063H-BLO	0063H-BLO1	032117-IA-031-BLO1	Blower Door/Basement Exit entrance	-10	<0.1	<0.1	0.21	
032	3/21/17	1528	0063H-DIN	0063H-DIN1	032117-IA-032-DIN1	Dining Room (main level)	-10	<0.1	<0.1	0.12	
033	3/21/17	1537	0063H-LAN	0063H-LAN1	032117-IA-033-LAN1	2nd Floor Landing	-10	<0.1	<0.1	<0.1	
034	3/21/17	1546	0063H-BAS	0063H-BAS1	032117-IA-034-BAS1	Basement landing area	-10	<0.1	<0.1	<0.1	
035	3/21/17	1555	0063H-BLO	0063H-BLO1	032117-IA-035-BLO1	Blower Door/Basement exterior	-10	<0.1	<0.1	0.25	
036	3/21/17	1604	0063H-BLO	0063H-BLO1	032117-IA-036-BLO1	Blower Door/Basement exterior	-10	<0.1	<0.1		
001	3/21/17	1057				PCE-3-ion survey					Basement storage/interior footing
002	3/21/17	1612				" "					Basement Laundry cabinet/interior sewer drain
003	3/21/17	1615				" "					" "
037	3/21/17	1620	0063H-BAS	0063H-BAS1	032117-IA-037-BAS1	Basement landing area	-10 (3/21/17)	<0.1	<0.1	<0.1	
038	3/21/17	1630	0063H-BLO	0063H-BLO1	032117-IA-038-BLO1	Blower Door/Basement exterior	-10	<0.1	<0.1	<0.1	
039	3/21/17	1638	0063H-DIN	0063H-DIN1	032117-IA-039-DIN1	Dining Room (main level)	-10	<0.1	<0.1	<0.1	
040	3/21/17	1647	0063H-LAN	0063H-LAN1	032117-IA-040-LAN1	2nd Floor Landing	-10				
004	3/21/17	1717				PCE-3-ion survey	NA				undiluted soil gas sample @ 6' bgs
041	3/21/17	1720	0063H-6'	0063H-6'	032117-SG-041-6'	Soil gas @ 72.5" bgs	NA	<0.1	<0.1	16	undiluted soil gas sample @ 6' bgs
042	3/21/17	1729	—	—	—	blank	NA				
002	3/21/17	0804	—	—	CH2-032117	5ppbv CCl4	—	3.3%/66%	4.0/80%	3.8/76%	

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

Project: AOU-1
Parent ID: 000H, 002H
Sample Date: 3/22/17
HAPSITE: VA SMART PLUS Unit
Method: Sum 100 PPB SA-T2170322
Cali. Date: 3/22/17
Cali. Range: 0.1 - 100.0

A-000H- A-002H-

SG RSL (ppbv)								NA	2.98	54.58		
IA RSL (ppbv)								NA	0.1	1.62		
Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes	
008	3/22/17				CCI-032217	CCI-032217/5ppbv CCV	—	5.6/104%	5.7/110%	5.4/112%	5ppbv CCV	
009	3/22/17	Blank run										
010	3/22/17	1115	000H-LIV	000H-LIV1	032217-IA-010-LIV1	Living Room (main level)	BL	<0.1	<0.1	0.29		
011	3/22/17	1125	000H-OUT	000H-OUT1	032217-IA-011-OUT1	Outdoor Air (west side)	BL	<0.1	<0.1	<0.1		
012	3/22/17	1132	000H-BAS	000H-BAS1	032217-IA-012-BAS1	Basement living area	BL	<0.1	<0.1	0.20		
013	3/22/17	1146	002H-LIV	002H-LIV1	032217-IA-013-LIV1	Living Room (main level)	BL	<0.1	<0.1	<0.1		
014	3/22/17	1425	002A-OUT	002A-OUT1	032217-IA-014-OUT1	Outdoor air (north side)	BL	<0.1	<0.1	<0.1		
015	3/22/17	1435	002H-BAS	002H-BAS1	032217-IA-015-BAS1	Basement living room	BL	<0.1	<0.1	<0.1	QC 3/22/17	
016	3/22/17	1444	002H-STO	002H-STO1	032217-IA-016-STO1	Basement storage understairs	BL	<0.1	<0.1	<0.1		
017	HAPSITE	Flow	during	TAG	Sample	run						
018	3/22/17	1509	002H-KIT	002H-KIT	032217-IA-018-KIT1	Kitchen (basement) near floordrain	BL	<0.1	<0.1	0.13		
019	3/22/17	1519	000H-FLO	000H-FLO1	032217-IA-019-FLO1	Floor drain (basement kitchen)	BL	<0.1	<0.1	0.15		
001	3/23/17	0723			CCI-032317	5ppbv CCV		4.8/96%	4.8/96%	4.6/92%	5ppbv CCV	

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

2/2

Project: AOU-1
Location OOU11, GOOGH
Sample Date: 3/22/17
HAPSITE: VA SMART PLUS Unit
Method: Stm-ww8260-HA-20170322
Calibration Date: 3/22/17
Calibration Range: 0.1 – 10 ppbv
Calibration Std Conc. 0.5 + 5.0 ppbv

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES
001	3/22/17	0.5	0.1	
004	"	5.0	5.0	
005	"	"	10.0	
006	"	"	2.5	
007	"	"	7.5	

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS	8.213	14.809	1.000	
TCE	29 3/24/17 ~~2.5420~~ 9.981	~~20.913~~ 14.763	27 3/24/17 ~~0.999~~ 0.999	
PCE	~~17.032~~ 6.110	20 3/24/17 ~~20.996~~ 13.587	27 3/24/17 ~~0.999~~ 0.999	

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID: 0062H
Sample Date: 3/29/17
HAPSITE: VA SMART PLUS Unit
Method: SIM, 100 ppb VA - Entech
Cali. Date: 3/22/17
Cali. Range: 0.1 – 40 ppbv

Skipped run #007, run #8 Pulled PH 3/29/17

A-0062H-

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
002	3/29/17	0626	—	—	CVI-032917	5 ppbv CCV	—	62/129%	56/112%	56/112%	5 ppbv CCV / concentration/% difference
003	3/29/17	0701	Blank Run	—	—	Blank run	—	—	—	—	
004	3/29/17	0908	0062H-OUT	0062H-OUT2	032917-IA-004-OUT2	Outdoor air (north side)	BL	<0.1	<0.1	<0.1	
005	3/29/17	0917	0062H-KIT	0062H-KIT2	032917-IA-005-KIT2	Kitchen (main level)	BL	<0.1	<0.1	<0.1	
006	3/29/17	0924	0062H-BAS	0062H-BAS2	032917-IA-006-BAS2	Basement	BL	<0.1	<0.1	<0.1	
008 009	3/29/17	0935 (0941)	0062H-LAN	0062H-LAN2	032917-IA-008-LAN2	2nd floor landing area	BL	<0.1	<0.1	<0.1	
010	3/29/17	1001	0062H-GAR	0062H-GAR2	032917-IA-010-GAR2	Garage	BL	<0.1	<0.1	<0.1	
011	3/29/17	1103	0062H-KIT	0062H-KIT2	032917-IA-011-KIT2	Kitchen / Blower door	BL	<0.1	<0.1	<0.1	1105 PH 3/29/17 -5 Pa began @ 1105
012	3/29/17	1113	0062H-BAS	0062H-BAS2	032917-IA-012-BAS2	Basement	-5	<0.1	<0.1	<0.1	
013	3/29/17	1121	0062H-LAN	0062H-LAN2	032917-IA-013-LAN2	2nd floor landing area	-5	<0.1	<0.1	<0.1	
014	3/29/17	1130	0062H-KIT	0062H-KIT2	032917-IA-014-KIT2	Kitchen / Blower door	-5	<0.1	<0.1	<0.1	
015	3/29/17	1138	0062H-BAS	0062H-BAS2	032917-IA-015-BAS2	Basement	-10	<0.1	<0.1	<0.1	-10 Pa began @ 1137
016	3/29/17	1146	0062H-KIT	0062H-KIT2	032917-IA-016-KIT2	Kitchen / Blower door	-10	<0.1	<0.1	<0.1	
017	3/29/17	1155	0062H-LAN	0062H-LAN2	032917-IA-017-LAN2	2nd floor landing area	-10	<0.1	<0.1	<0.1	
018	3/29/17	1204	0062H-BAS	0062H-BAS2	032917-IA-018-BAS2	Basement	-10	<0.1	<0.1	<0.1	
019	3/29/17	1213	0062H-KIT	0062H-KIT2	032917-IA-019-KIT2	Kitchen / Blower door	-10	<0.1	<0.1	<0.1	
Run failed 020	3/29/17	1223	0062H-KIT	0062H-KIT2	032917-IA-020-KIT2	Kitchen / Blower door	+5	—	—	—	+5 Pa began @ 1230 / Run failed
021	3/29/17	1231	0062H-KIT	0062H-KIT2	032917-IA-021-KIT2	Kitchen / Blower door	+5	<0.1	<0.1	<0.1	
022	3/29/17	1241	0062H-BAS	0062H-BAS2	032917-IA-022-BAS2	Basement	+5	<0.1	<0.1	<0.1	
023	3/29/17	1250	0062H-LAN	0062H-LAN2	032917-IA-023-LAN2	2nd floor landing area	+5	<0.1	<0.1	<0.1	
024	3/29/17	1300	0062H-BAS	0062H-BAS2	032917-IA-024-BAS2	Basement	+5	<0.1	<0.1	<0.1	
025	3/29/17	1345	0062H-6.5'	0062H-6.5'	032917-SG-025	Soil gas @ 76.5" bgs	NA	<0.1	<0.1	<0.1	Undiluted soil gas @ ~76.5" bgs (6.5')
001	3/30/17	0825	—	—	CVI-033017	5 ppbv CCV	—	47/94%	47/94%	46/92%	5 ppbv CCV / concentration/% difference

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

BL = Baseline

Project: AOU-1
Location: OU6EA
Sample Date: 3/21/17
HAPSITE: VA SMART PLUS Unit
Method: SIM-100PPB-VA-20170322
Calibration Date: 3/22/17
Calibration Range: 0.1 - 10 ppbv
Calibration Std Conc. 0.5 & 5.0 ppbv

See 3/22/17 calibration

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID: 0029H
Sample Date: 3/30/17
HAPSITE: VA SMART PLUS Unit
Method: Sim-1003PPB-FA-20170322
Cali. Date: ~~3/22/17~~ 10 ppbv 3/22/17
Cali. Range: 0.1-10 ppbv

A-0029H-

								SG RSL (ppbv)	NA	2.98	54.58	
								IA RSL (ppbv)	NA	0.1	1.62	
Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
001	3/30/17	0825	—	—	CAL-033017	5ppbv CCA	—	4.7/94%	4.7/94%	46/92%	
002	3/30/17	1617	0029H-LIV	0029H-LIV2	033017-IA-002-LIV2	Living Room (Mainland)	BL	<0.1	<0.1	0.78	
003	3/30/17	1628	0029H-OUT	0029H-OUT2	033017-IA-003-OUT2	Outdoor air (South side)	BL	<0.1	<0.1	<0.1	
004	3/30/17	1634	0029H-BAS	0029H-BAS2	033017-IA-004-BAS2	Basement (Living Room	BL	<0.1	<0.1	0.18	
005	3/30/17	1642	0029H-LAN	0029H-LAN2	033017-IA-005-LAN2	2nd floor landing	BL	<0.1	<0.1	0.97	Resident needed to leave @ 1700.
006	4/3/17		—	—	CAL-040317	5ppbv CCA	BL	7/140%	6.7/134%	66/132%	Requested use Lastek by 1700.

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

Project: AOU-1
Location
Sample Date:
HAPSITE: VA SMART PLUS Unit
Method:
Calibration Date:
Calibration Range:
Calibration Std Conc.

See 3/22/17 calibration record

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID: 0057H
Sample Date: 4/5/17
HAPSITE: VA SMART PLUS Unit
Method: SIM.100 PPB_VA_20170405
Cali. Date: 4/5/17
Cali. Range: 0.1–10 ppbv

A-0057H-

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
001	4/5/17	0718	—	—	CAL-040517	5 ppbv CCH	—	5.7 / 114%	5.3 / 106%	5.3 / 106%	concentration % difference
002	4/5/17	0834	0057H-LLIV	0057H-LLIV1	040517-IA-002-LLIV1	Main Level Living Room	BL	<0.1	<0.1	<0.1	Upper unit
003	4/5/17	0842	0057H-UHAL	0057H-UHAL1	040517-IA-003-UHAL1	Main Level Hallway	BL	<0.1	<0.1	<0.1	Upper unit
~~004~~	~~4/5/17~~	~~0854~~	~~0057H-DIN~~	~~0057H-DIN1~~	~~040517-IA-004-DIN1~~	~~Dining Room~~	~~BL~~	~~<0.1~~	~~<0.1~~	~~<0.1~~	~~Lower unit~~
~~005~~	~~4/5/17~~	~~0900~~	~~0057H-WEST~~	~~0057H-WEST1~~	~~040517-IA-005-WEST1~~	~~West end of Hallway~~	~~BL~~	~~<0.1~~	~~<0.1~~	~~<0.1~~	~~Lower unit~~ } QB 4/5/17
006	4/5/17	0921	0057H-STO	0057H-STO1	040517-IA-006-STO1	Storage under lower unit	BL	<0.1	<0.1	<0.1	Storage area under Lower unit
004	4/5/17	0859	0057H-LLIV	0057H-LLIV1	040517-IA-004-LLIV1	Lower Level Living Room	BL	<0.1	<0.1	<0.1	Lower unit
005	4/5/17	0946	0057H-LHAL	0057H-LHAL1	040517-IA-005-LHAL1	Lower Hallway	BL	<0.1	<0.1	<0.1	Lower unit
006	4/5/17	1017	0057H-LHAL	0057H-LHAL2	040517-IA-006-LHAL2	Lower Hallway	-5	<0.1	<0.1	<0.1	-5 Pa step began @ 1016
008	4/5/17	1026	0057H-LLIV	0057H-LLIV1	040517-IA-008-LLIV1	Lower Level Living Room	-5	<0.1	<0.1	<0.1	
009	4/5/17	1035	0057H-LBLO	0057H-LBLO1	040517-IA-009-LBLO1	Blower door / East wall	-5	<0.1	<0.1	<0.1	
010	4/5/17	1043	0057H-LHAL	0057H-LHAL1	040517-IA-010-LHAL1	Lower Level Hallway	-5	<0.1	<0.1	<0.1	
011	4/5/17	1052	0057H-LBLO	0057H-LBLO2	040517-IA-011-LBLO2	Blower door / East wall	-5	<0.1	<0.1	<0.1	
012	4/5/17	1103	0057H-LHAL	0057H-LHAL1	040517-IA-012-LHAL1	Lower Level Hallway	-10	<0.1	<0.1	<0.1	-10 Pa step began @ 1102
013	4/5/17	1112	0057H-LLIV1	0057H-LLIV1	040517-IA-013-LLIV1	Lower Level Living Room	-10	<0.1	<0.1	<0.1	
014	4/5/17	1120	0057H-LBLO	0057H-LBLO2	040517-IA-014-LBLO2	Blower door / East wall	-10	<0.1	<0.1	<0.1	
015	4/5/17	1130	0057H-LHAL	0057H-LHAL2	040517-IA-015-LHAL2	Lower Level Hallway	-10	<0.1	<0.1	<0.1	
016	4/5/17	1138	0057H-LLIV	0057H-LLIV1	040517-IA-016-LLIV1	Lower Level Living Room	-10	<0.1	<0.1	<0.1	
017	4/5/17	1147	0057H-LBLO	0057H-LBLO1	040517-IA-017-LBLO1	Blower door / East wall	-10	<0.1	<0.1	<0.1	
018	4/5/17	1156	0057H-LHAL	0057H-LHAL2	040517-IA-018-LHAL2	Level Lower Hallway	+5	<0.1	<0.1	<0.1	↩
019	4/5/17	1205	0057H-LLIV1	0057H-LLIV1	040517-IA-019-LLIV1	Lower Level Living Room	+5	<0.1	<0.1	<0.1	+5 Pa step began @ 1152
020	4/5/17	1214	0057H-LBLO	0057H-LBLO2	040517-IA-020-LBLO2	Blower door	+5	<0.1	<0.1	<0.1	
021	4/5/17	1224	0057H-LLIV	0057H-LLIV1	040517-IA-021-LLIV1	Lower Level Living Room	+5	<0.1	<0.1	<0.1	+5 Pa step ended @ 1285
007	4/5/17	1250				PCE 3-ton Sweep					Soil gas sample - undiluted

NOTES:
Cali. = Calibration.
CIS = cis-1,2-Dichloroethene
IA = Indoor air.
NA = Not applicable.
Pa = Pascal.
PCE = Tetrachloroethene
ppbv = Parts per billion.
RSL = Residential screening level.
SG = Soil gas.
TCE = Trichloroethene

BL = Baseline

~~780 266-3373~~ QB 4/6/17
~~5647627~~

Project: AOU-1
Location CO571
Sample Date: 4/5/17
HAPSITE: VA SMART PLUS Unit
Method: SIM_100PPB_VA_20170405
Calibration Date: 4/5/17
Calibration Range: 0.1 - 10 ppbv
Calibration Std Conc. 0.5 & 5.0 ppbv ABZ

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES
001	4/5/17	0.5	0.1	
002	↓	0.5	0.5	
003		5.0	2.5	
004		5.0	5.0	
005	↓	5.0	10.0	

Method SIM_100PPB_VA_20170322

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS	7.575	22.293	0.998	
TCE	4.741	3.804	1.000	
PCE	3.641	3.444	1.000	

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID: 0057H
Sample Date: 4/5/17
HAPSITE: VA SMART PLUS Unit
Method: Sim-100PPB_VA_20170405
Cali. Date: 4/5/17
Cali. Range: 0.1-10 ppbv

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
022	4/5/17	1252	0057H-2'	0057H-2'	040517-SG-022-2'	Soil gas @ 24" bgs	NA	<0.1	<0.1	0.31	Undiluted soil gas sample
023	4/5/17	1300	—	—	blank	blank	NA	<0.1	<0.1	<0.1	blank sample
025	4/5/17	1430	—	—	CAL-040517	1.0 ppbv CCV	NA	0.7/70%	0.8/80%	0.8/80%	1.0 ppbv CCV

Project: AOU-1
Location
Sample Date:
HAPSITE: VA SMART PLUS Unit
Method:
Calibration Date:
Calibration Range:
Calibration Std Conc.

See 4/5/17 calibration

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID: 0038H
Sample Date: 4/10/17
HAPSITE: VA SMART PLUS Unit
Method: SIM - WAPPB-VA-
Cali. Date:
Cali. Range: 0.1 - 40.0 ppbv

A-0038H-

SG RSL (ppbv)	NA	2.98	54.58
IA RSL (ppbv)	NA	0.1	1.62

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
001	4/10/17	0853	—	—	CAE-041017	5 ppbv CCH	—	4.8/96%	4.6/92%	4.6/92%	5 ppbv CCH
002	4/10/17	1205	0038H-LIV	0038H-LIV2	041017-IA-002-LIV2	Main Level Living Room	B2	<0.1	<0.1	<0.1	• Residence has radon mitigation system in
003	4/10/17	1225	0038H-BAS	0038H-BAS1	041017-IA-003-BAS1	Basement Living Room	B2	<0.1	<0.1	<0.1	the basement.
004	4/10/17	1340	—	—	CAE-041017	5 ppbv CCH	—	4.1/82%	4.4/88%	4.2/84%	5 ppbv CCH

Project: AOU-1
Location
Sample Date:
HAPSITE: VA SMART PLUS Unit
Method:
Calibration Date:
Calibration Range:
Calibration Std Conc.

See calibration report from 4/5/17

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Project: AOU-1
Parent ID 00644
Sample Date: 4/13/17
HAPSITE: VA SMART PLUS Unit
Method: Sim-100PPB-VA-20170405
Cali. Date: 4/5/17
Cali. Range: 0.1 – 100 ppbv

A-00644-

		CIS	TCE	PCE
SG RSL (ppbv)	NA	2.98	54.58	
IA RSL (ppbv)	NA	0.1	1.62	

Run #	Date	Time	Space ID	Location ID	Sample ID	Sample Location Description	Pressure (Pa)	CIS (ppbv)	TCE (ppbv)	PCE (ppbv)	Notes
001	4/12/17	1525	—	—	CAL-041217	2 ppbv CCV	—	2.4/120%	2.1/105%	2.0/100%	concentration / % difference
002	4/13/17	0823	M64H-LIV	M64H-LIV1	041317-IA-002-LAB2	Living Room	BL	<0.1	<0.1	0.37	
003	4/14/17	0841/13/17	~~0064-HAL2~~	0841/13/17 ~~0064H-HAL2~~	CAL-041317	2 ppbv CCV	—	2.4/120%	2.3/115%	2.1/105%	concentration / % difference

Project: AOU-1
Location
Sample Date:
HAPSITE: VA SMART PLUS Unit
Method:
Calibration Date:
Calibration Range:
Calibration Std Conc.

See 9/5/17 Calibration

HAPSITE CALIBRATION				
RUN #	DATE	CALIBRATION STANDARD CONCENTRATION (ppbv)	CALIBRATION POINT CONCENTRATION (ppbv)	NOTES

HAPSITE CALIBRATION QUALITY VERIFICATION				
ANALYTE	RSD (<20%)	RSD of RF (<30%)	Curve fit (R^2 >= 0.98)	NOTES
CIS				
TCE				
PCE				

NOTES:
Conc. = Concentration.
ppbv = Parts per billion.
RF = Response factor.
RSD = Relative standard deviation.

Attachment C
SUMMA Field Forms

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Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: ADW 00017 Project #: 683085.5L.05.03

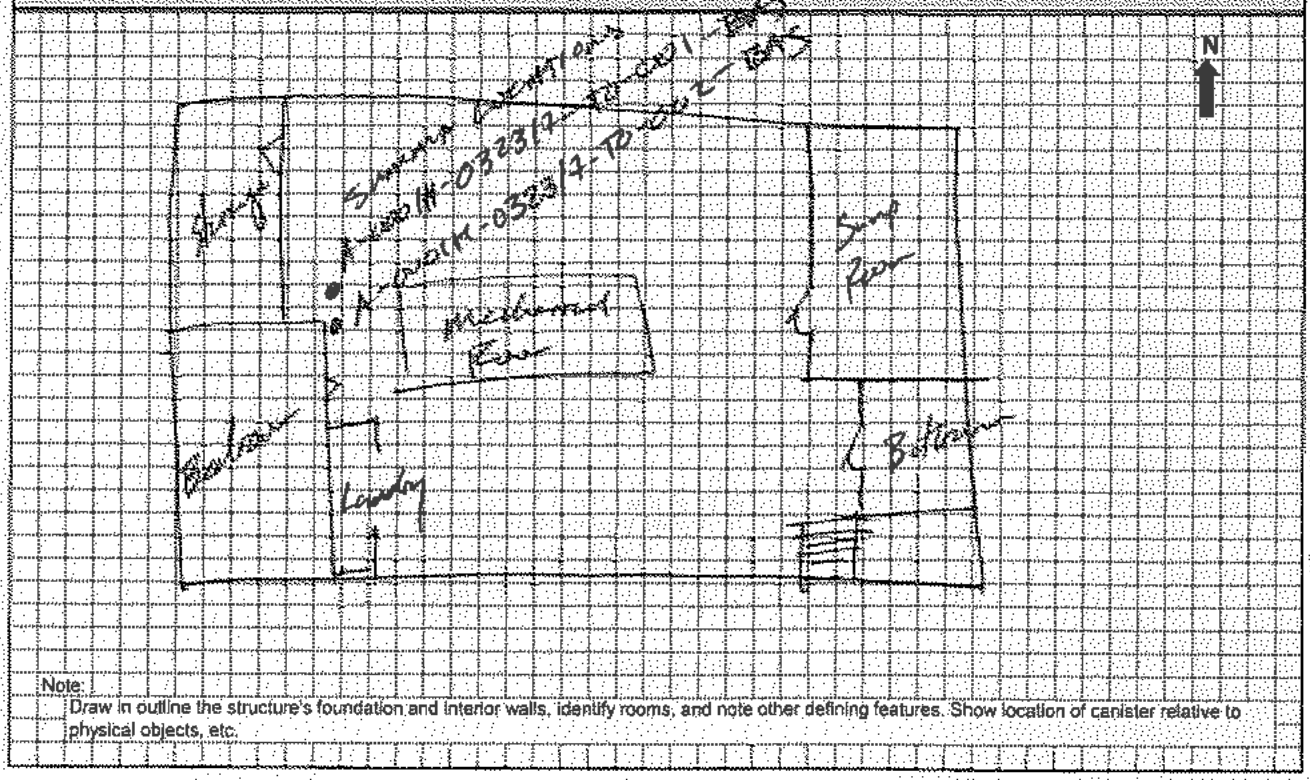
Sampler Name: QAB Date: 3/22/17 - 3/23/17

QA 3/22/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-SSVH-032317-TO-0001-BAS		000805	0749	-25.23	200	3/22/17 11:51	3/23/17 11:15	-7.48	200
A-SSVH-032317-TO-0002-BAS		0190	0717	-25.58	200	3/22/17 11:57	3/23/17 11:12	-8.23	200

Sample Location Diagram



Note:
Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: Partly Sunny 60 °F

Other Observations and Comments (note any unique circumstances): Pest detected w/ HARBITE @ 0.20 g/hr basement & 0.29 g/hr upstairs

Canisters and flow controllers individually-certified clean (if required)? Yes

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Sheet 1 of 1

Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: AOI 002H — Project #: 683085.SL.08.03

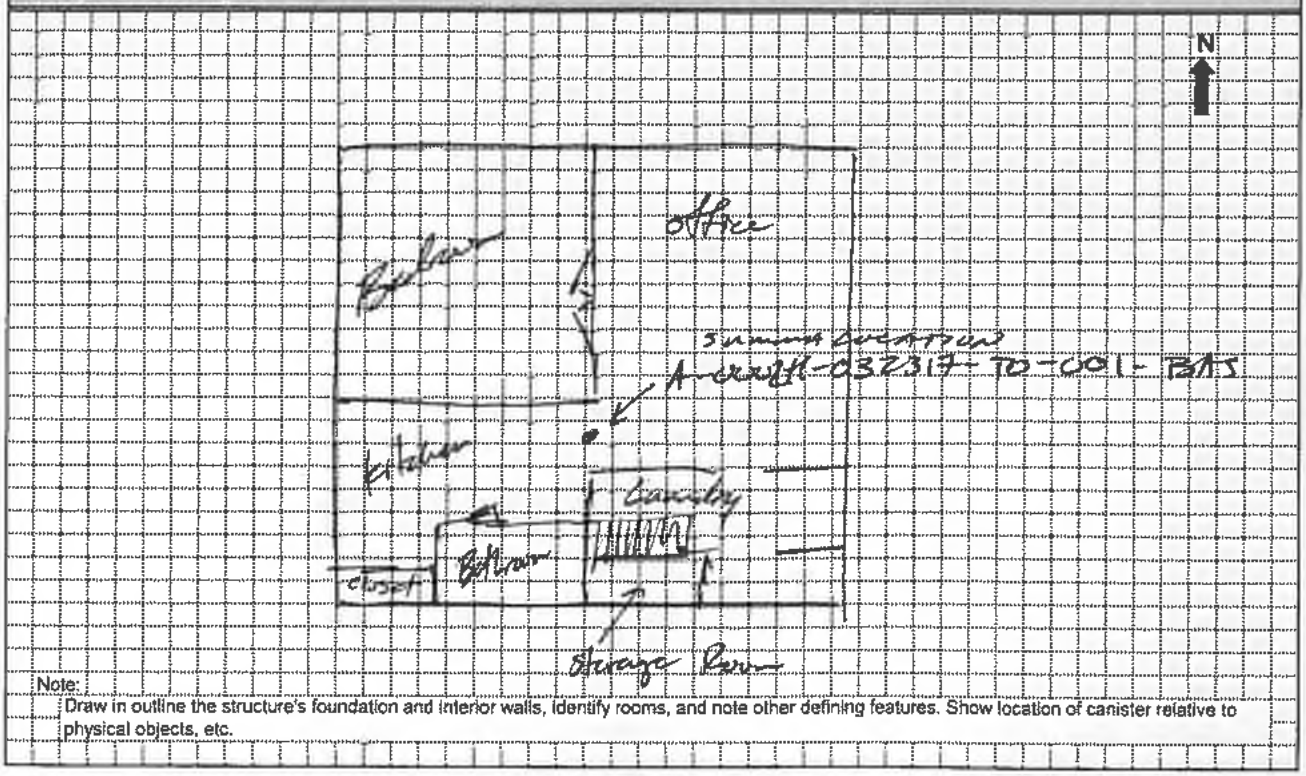
Sampler Name: QGB — Date: 3/22 - 3/23/17

QB 3/22/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-002H-032317-TO-001-BAS	0133	0744	-25.21	200	3/22/17 1523	3/23/17 1432	-8.03	200

Sample Location Diagram



Note: Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: Cloudy 60°F

Other Observations and Comments (note any unique circumstances): Indoor air PCE concentrations in basement 0.13 ppbv No interior sources.

Canisters and flow controllers individually-certified clean (if required)? Yes

QC and Reviewed 2/2017

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Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: 1011 Ord H

Project #: 693085.SL.09.02

Sampler Name: AGB

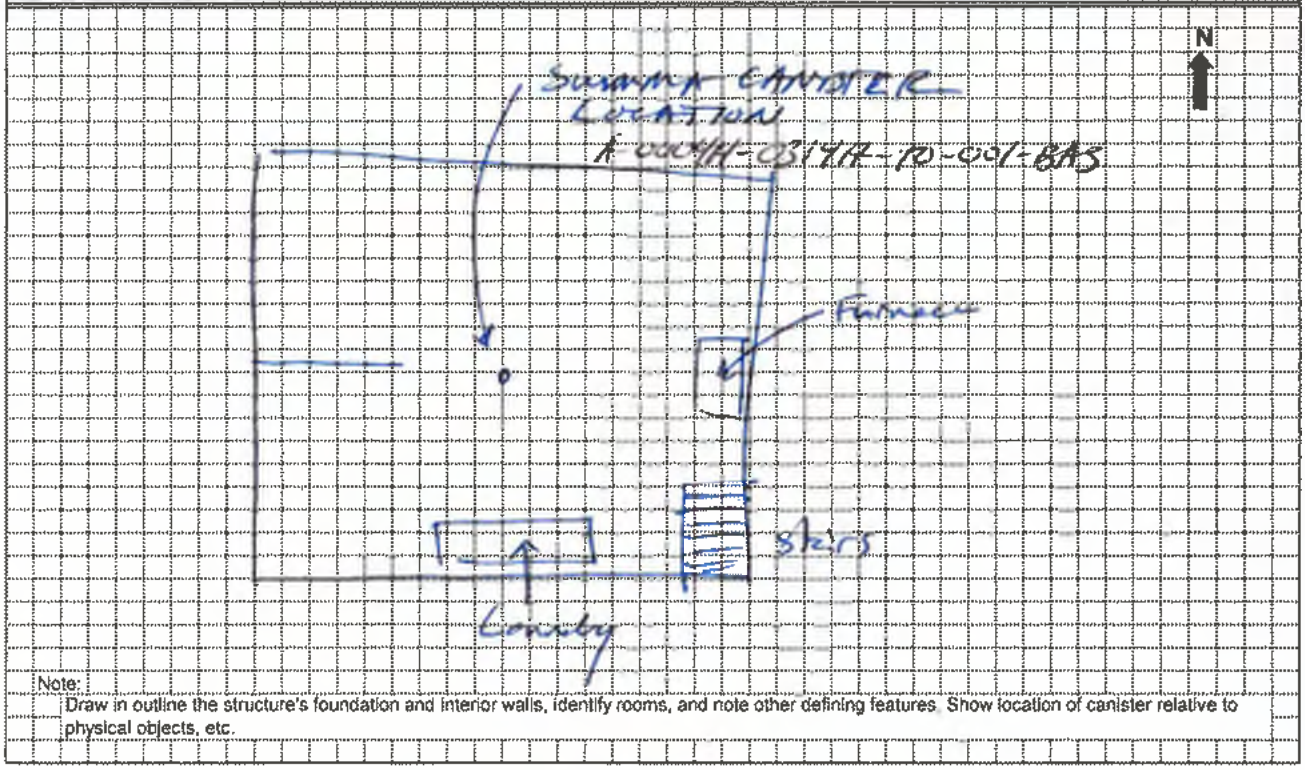
Date: 3/13/17

AGB 3/13/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-0004H-031417-TO-001-BAS		5827	0759	-25.08	200	3/13/17 1154	3/14/17 1104	-2.79	200

Sample Location Diagram



Note:
Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: ~50°F Sunny

Other Observations and Comments (note any unique circumstances): No target analytes were detected above or other air 2/ standards

Canisters and flow controllers individually-certified clean (if required)? Yes

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Sheet 1 of 1

Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: AOU1 OD12H

Project #: 683085.SC.00.02

Sampler Name: QGB

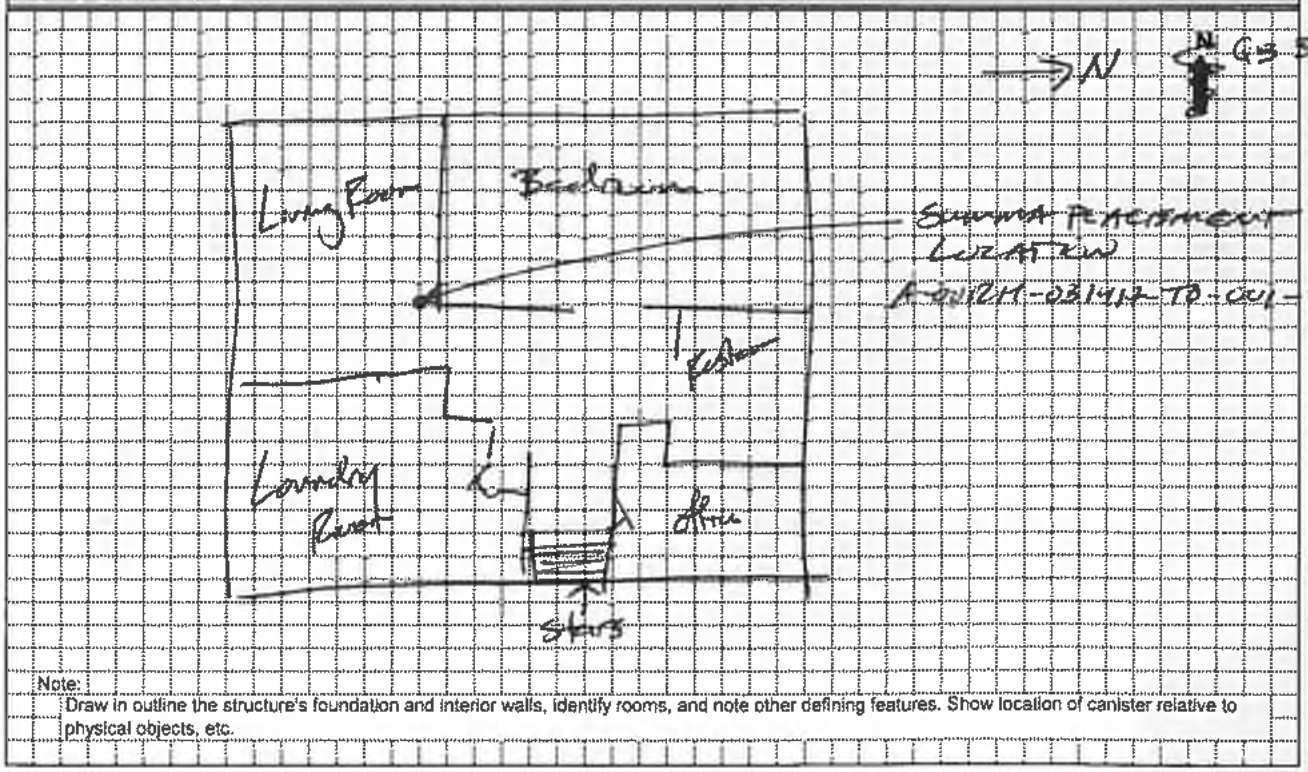
Date: 3/13/17

QB 3/13/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-OD12H-031417-TO	OD01-BAS	0691	0242	-25.24	200	3/13/17 1531	3/14/17 1432	-2.36	200

Sample Location Diagram



Note:
Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: ~60°F Sunny

Other Observations and Comments (note any unique circumstances): PCE detected throughout residence 0.18 — 0.58 µg/m³

Canisters and flow controllers individually-certified clean (if required)? Yes

QC and Reviewed 2/2017

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Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: AOC1 C013H

Project #: 683085.SL.08.02

Sampler Name: QB

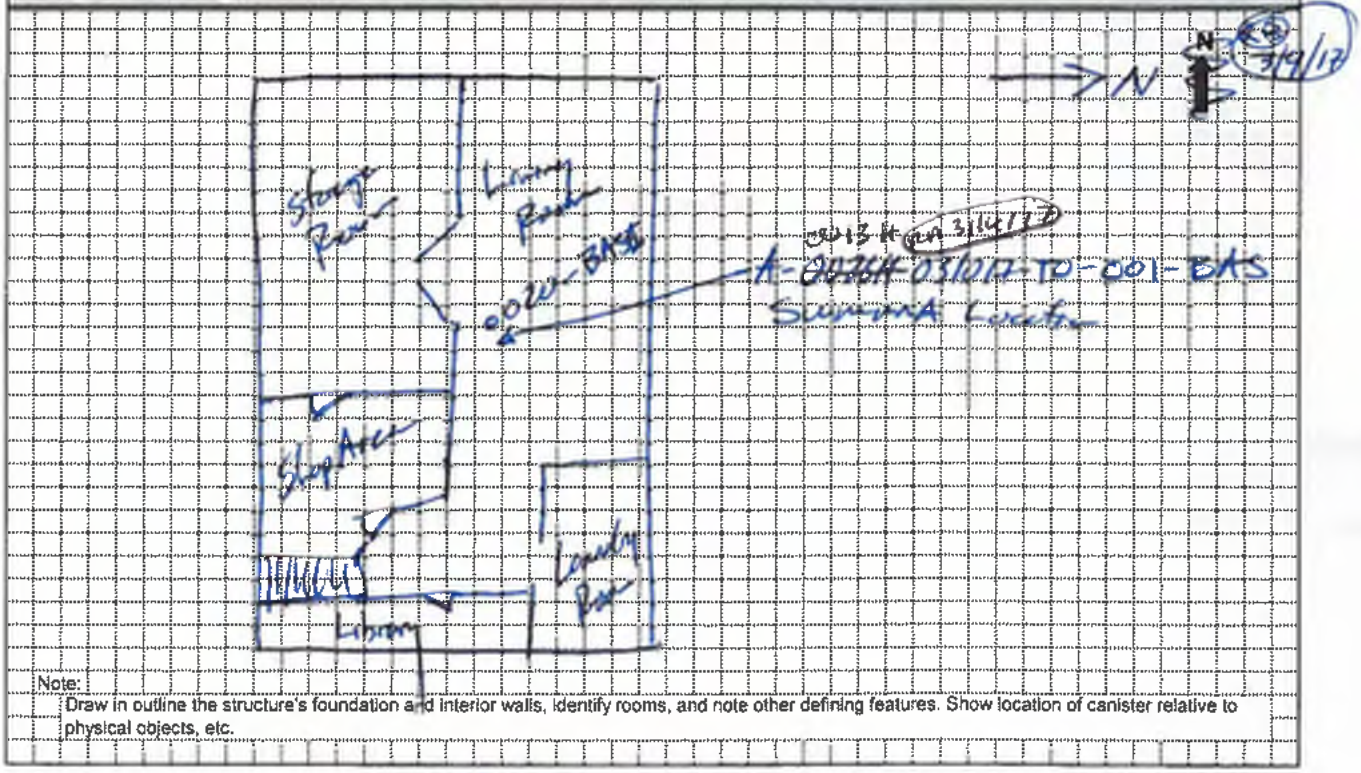
Date: 3/9/17

QB 3/9/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-C013H-031017	TO-001-BAS	0445	0702	-25.21	200	3/9/17 1510	3/10/17 1423	-0.06	200

Sample Location Diagram



Note: Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: 60°F Sunny

Other Observations and Comments (note any unique circumstances):

Canisters and flow controllers individually-certified clean (if required)? Yes

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Sheet 1 of 1

Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: AOC1 OU2SH

Project #: 183085.SL.CB.02

Sampler Name: QGB

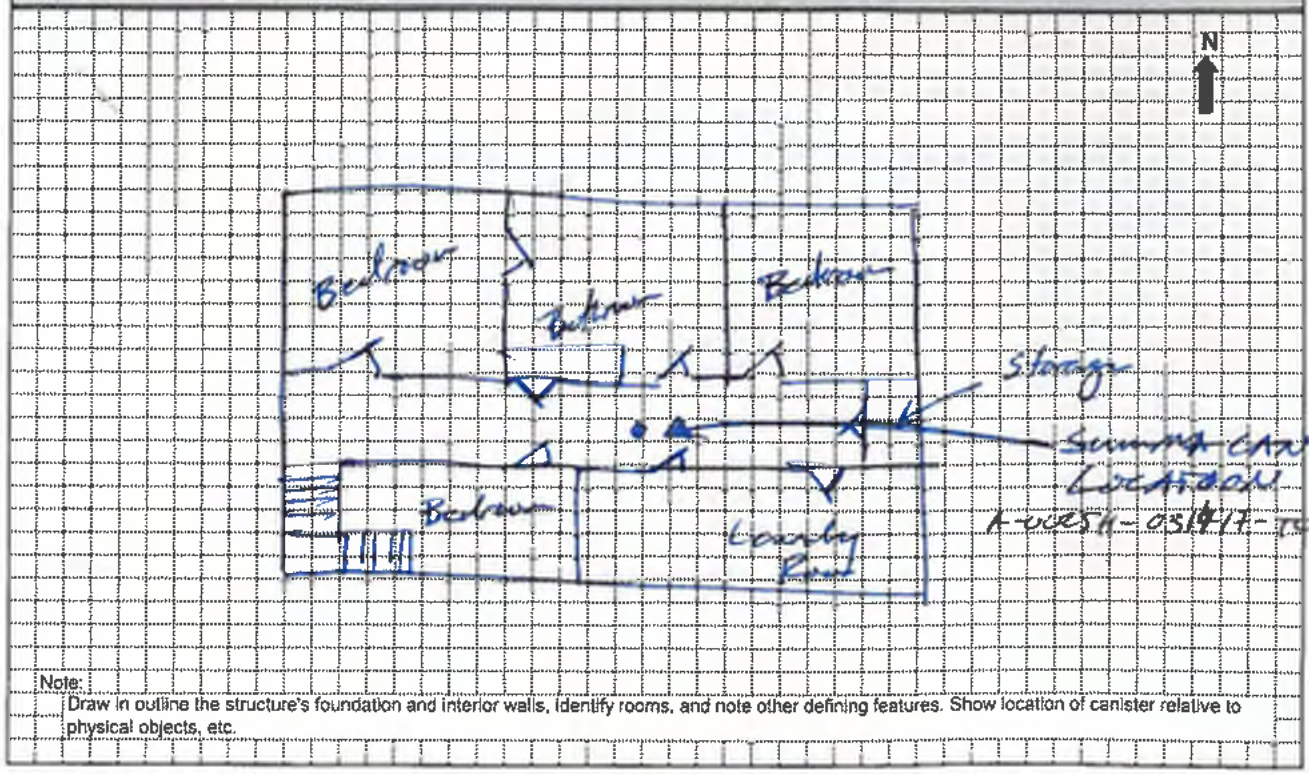
Date: 3/13/17

QF 3/14/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-OU2SH-031417-TO-001-BA5		0475	0651	-25.14	200	3/13/17 1009	3/14/17 0910	-1.00	200

Sample Location Diagram



Note:
Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and Indoor temperature: ~45°F, Partly Cloudy

Other Observations and Comments (note any unique circumstances): All indoor air samples analyzed with MA5176 were non-detect

Canisters and flow controllers individually-certified clean (if required)? Yes

QC and Reviewed 2/2017

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Sheet 1 of 1

Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: AOC1 COPC4H

Project #: 484085.SL.08.02 TCN 3/10/17

Sampler Name: QG3

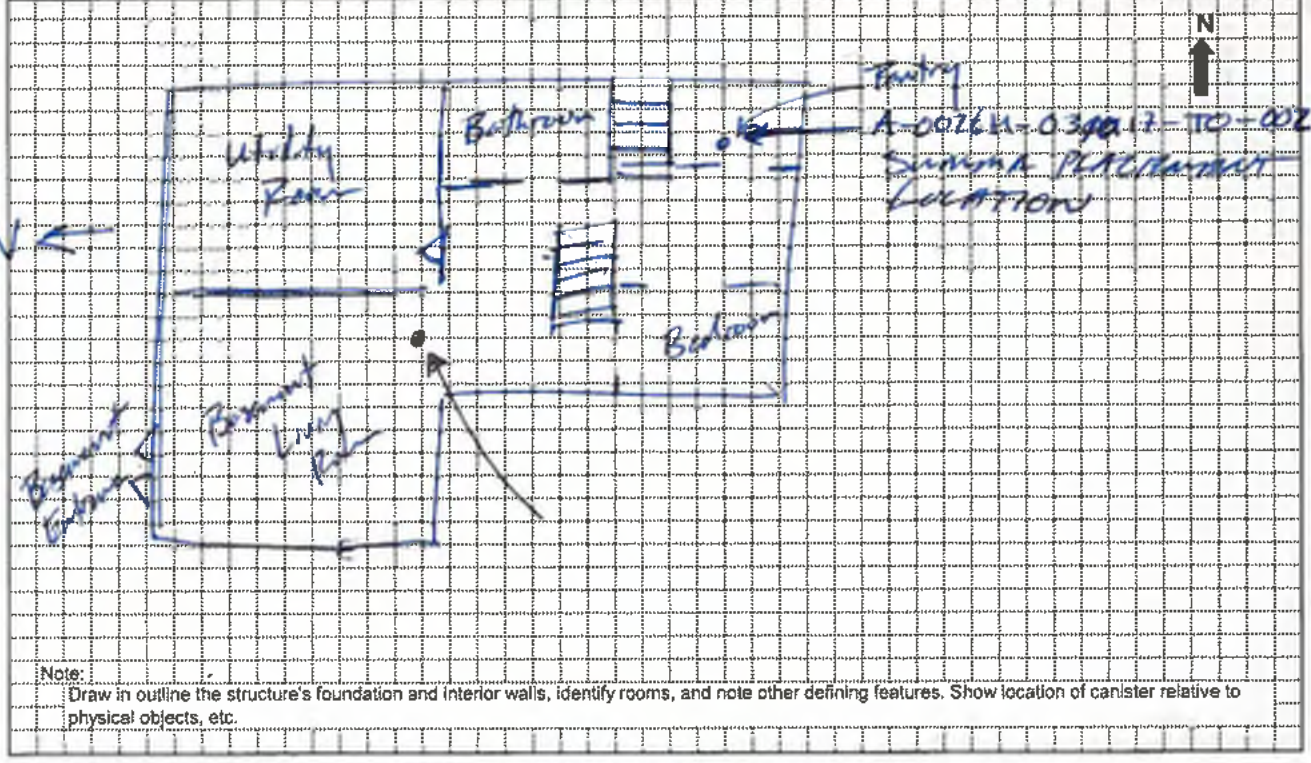
Date: ~~3/10/17~~ 3/9/17

QG 3/9/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-002CH-03-20170309-TO-002-BAS		0366	0105	-25.01	200	3/9/17 1040	3/10/17 925	0.05	200
* Sample not analyzed by Lab since positive pressure upon pick up (QF 3/14/17)									

Sample Location Diagram



Note: Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: 50°F Sunny

Other Observations and Comments (note any unique circumstances): Indoor Air PCE concentrations ranged from 0.13 to 0.19 ppbv throughout entire house

Canisters and flow controllers individually-certified clean (if required)? Yes

QC and Reviewed 2/2017

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Sheet 1 of 1

Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: AOC 002611 Project #: 693085.SC.03.02

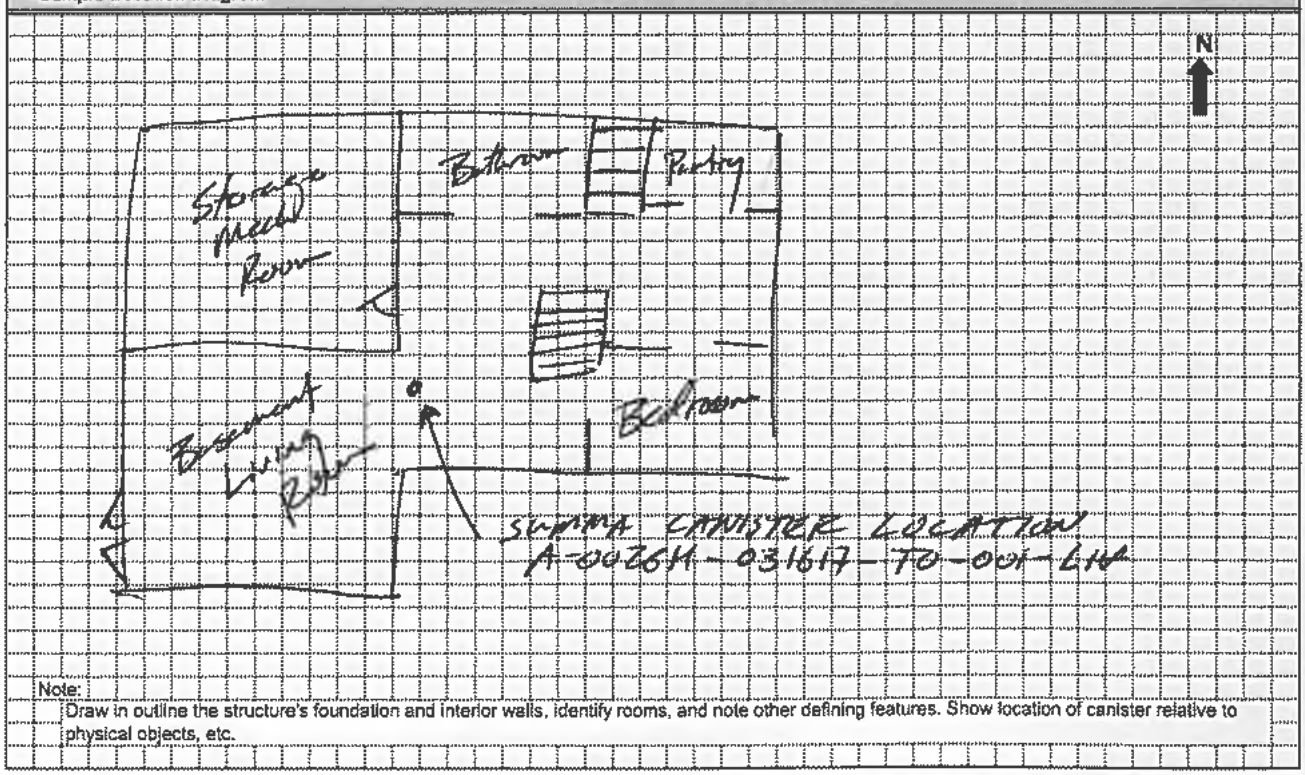
Sampler Name: QGB Date: 3/15/17

QB 3/15/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-002611-031617-TD-	001-LIV	0740	0706	-25.22	200	3/15/17 1107	3/16/17 1506	-3.22	200

Sample Location Diagram



Note: Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: 70° F Sunny

Other Observations and Comments (note any unique circumstances): Canister placed in living Room (basement)

Canisters and flow controllers individually-certified clean (if required)? Yes

QC and Reviewed 2/2017

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Sheet 1 of 1

Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: AOU 00274 Project #: 683085.GL.08.02

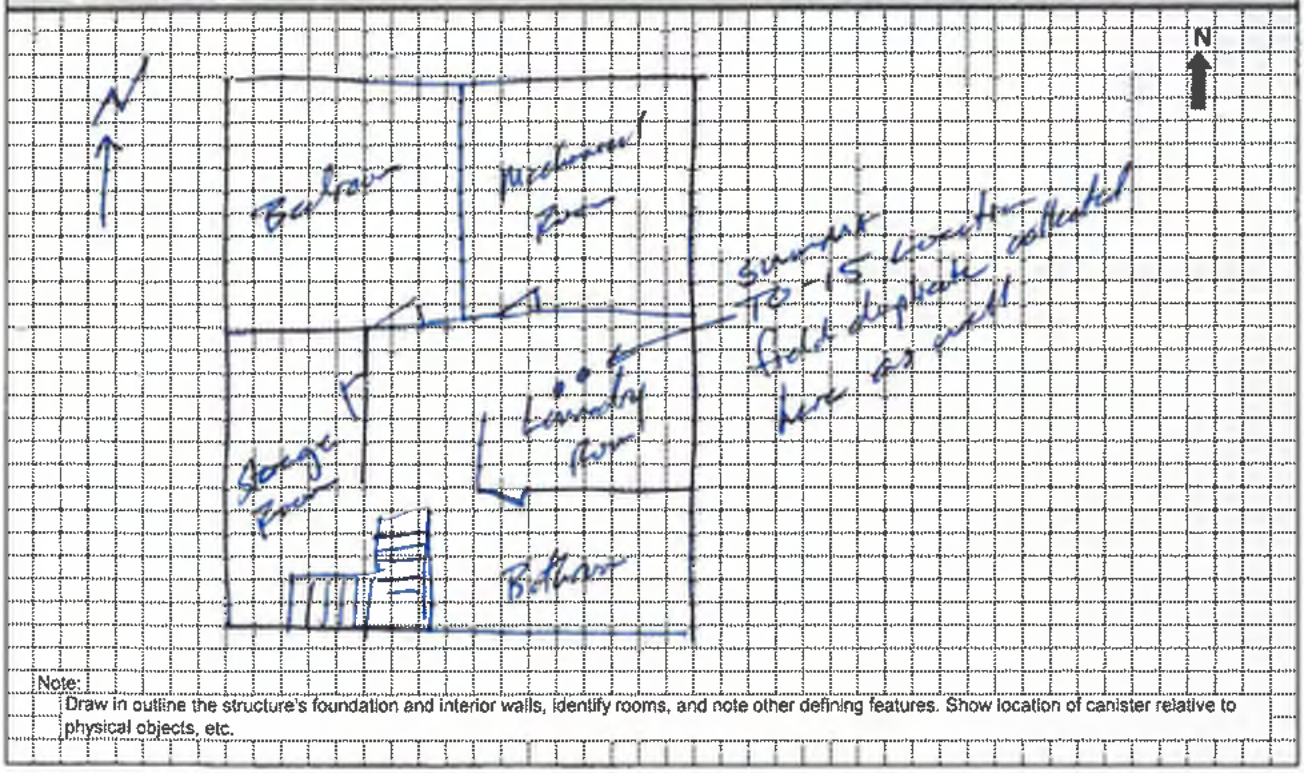
Sampler Name: QG3 Date: 3/9/17

Sampling Data Log

QG 3/9/17

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)	
A-00274-031017-TO-outdoor		0688	0695	-25.59	200	3/11/17 1207	3/10/17 1114	-3.68	200	
A-00274-031017-TO-crawl		0731	0650	-25.39	200	3/9/17 1207	3/10/17 1114	-2.94	200	Field Dup

Sample Location Diagram



Note:
Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: 50°F Sunny

Other Observations and Comments (note any unique circumstances):

Canisters and flow controllers individually-certified clean (if required)? Yes

QC and Reviewed 2/2017

CH2MHILL

Sheet 1 of 1

Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: OU2H Limited HI Patrol

Project #: 683085.52.08.02

Sampler Name: QGB

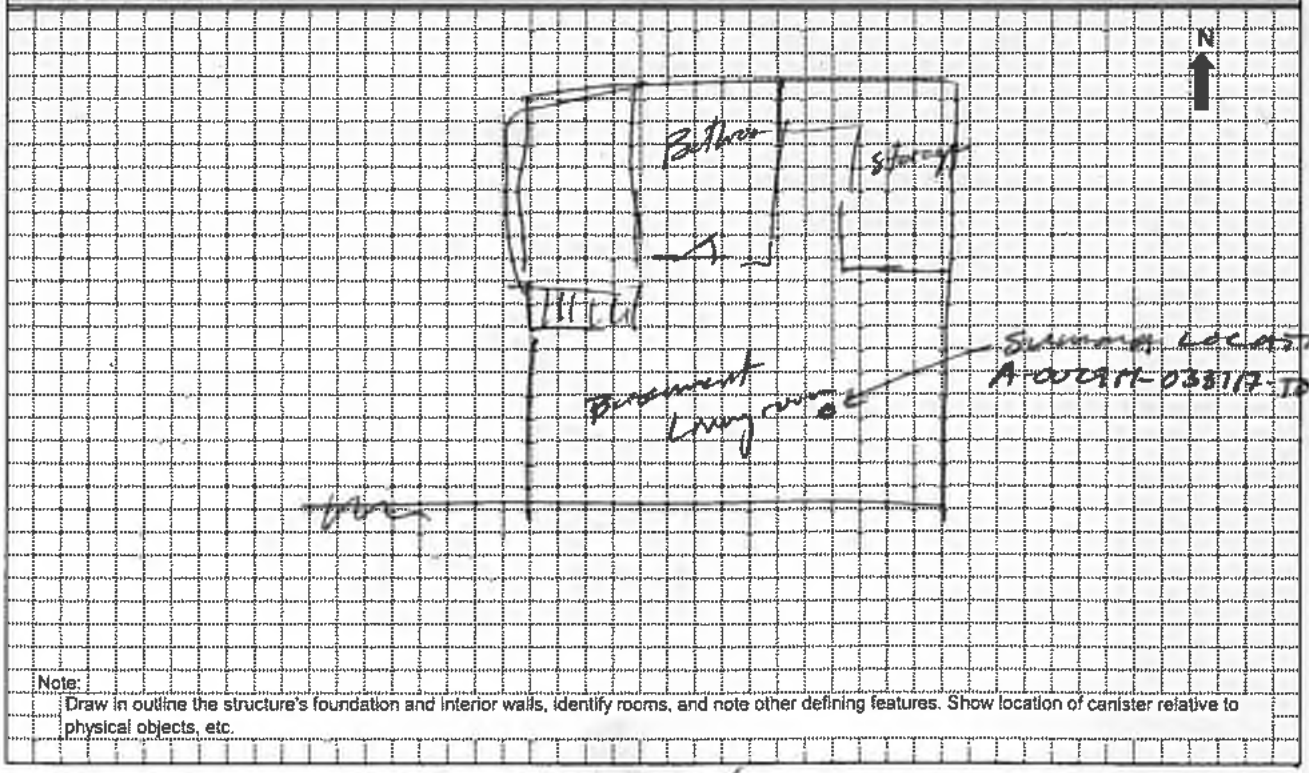
Date: 3/30/17 – 3/31/17

QB 3/29/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-OU2H-033117-ID-001-BR		0241	0754	-25.10	200	3/30/17 1654	3/31/17 1458	-6.11	200

Sample Location Diagram



Note: Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: 45°F Rainy / Windy

Other Observations and Comments (note any unique circumstances): PCE detected in indoor air at all levels of residence ranging from 0.18 – 0.97 µg/m³.

Canisters and flow controllers individually-certified clean (if required)? Yes

QC and Reviewed 2/2017

CH2MHILL

Sheet 1 of 1

Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: AOC 1 & I CW38A

Project #: 693095.52.02

Sampler Name: QCB

Date: 4/10/17 - 4/11/17

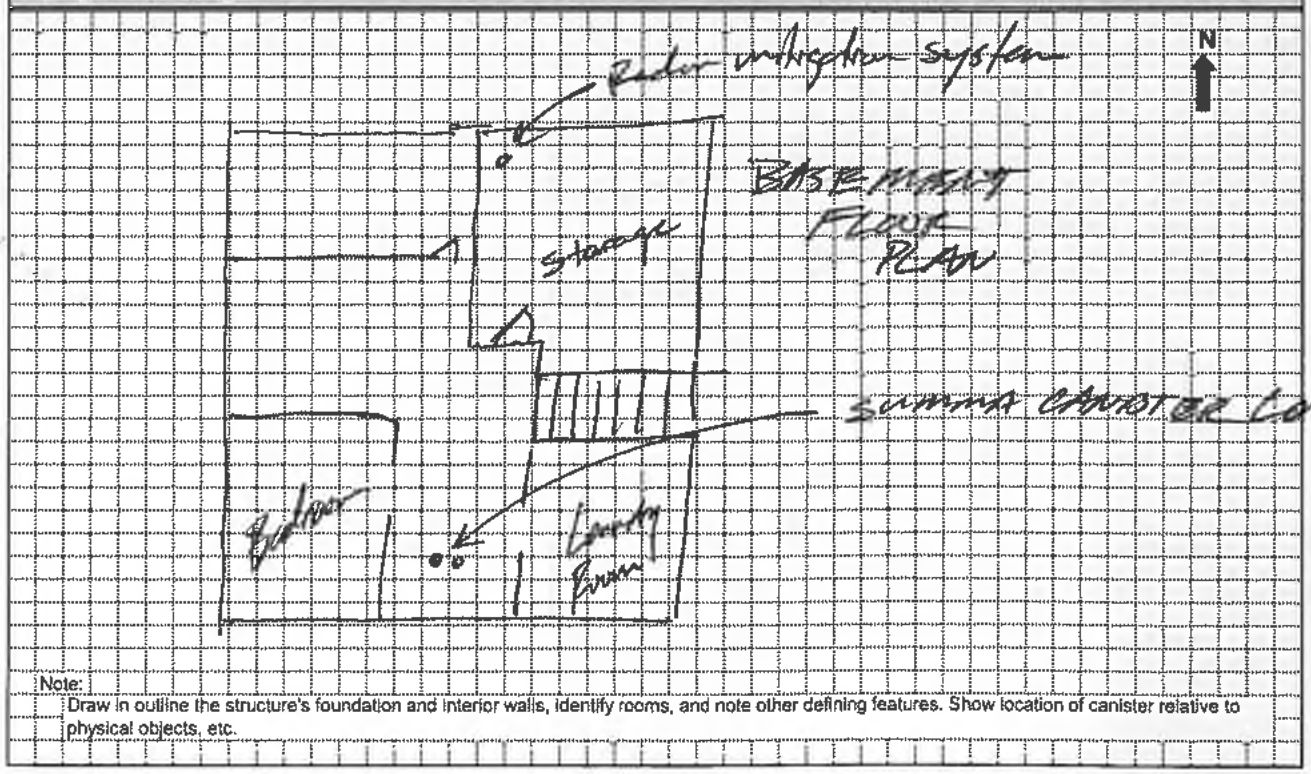
Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-0038A-041017-TO-001-BAS		0126	0718	-28.01	200	4/10/17 1245	4/11/17 1145	-3.39	200
A-0038A-041117-TO-002-BAS		0430	0592	-25.72	200	4/10/17 1245	4/11/17 1145	-2.30	200

QCB 4/10/17

Field Duplicate

Sample Location Diagram



Note:
Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: Sunny 50° F

Other Observations and Comments (note any unique circumstances):

Canisters and flow controllers individually-certified clean (if required)?

QC and Reviewed 2/2017

CH2MHILL

Sheet 1 of __

Vapor Intrusion Best Practices

Indoor, Outdoor, and Crawl Space Air Sampling Log - Canister Method

Project Information

Project Name: AOI1 062411 Project #: 687506.03.SL.0802

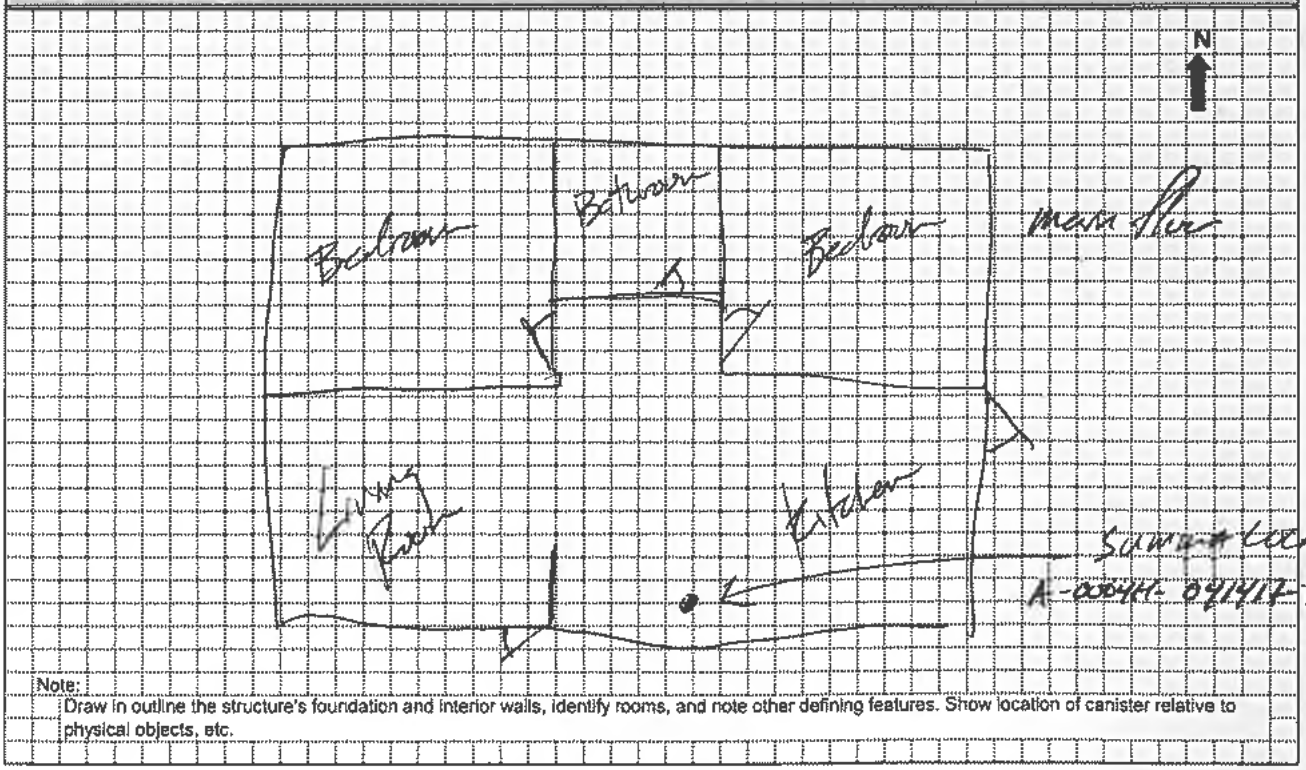
Sampler Name: QAB Date: 4/13/17 4/14/17

QB 4/13/17

Sampling Data Log

Sample Location	Field ID	Canister ID	Flow Controller ID	Initial Canister Pressure ("Hg)	Initial Flow Controller Rate (ml/min)	Start Date & Time	End Date & Time	Final Pressure ("Hg)	Final Flow Controller Rate (ml/min)
A-006H-041417-TO-001-LIH		0085	0747	-25.3 ~~-30~~	200	4/13/17 0851	4/14/17 0810	-4.4	202

Sample Location Diagram



Note:
Draw in outline the structure's foundation and interior walls, identify rooms, and note other defining features. Show location of canister relative to physical objects, etc.

Weather conditions and indoor temperature: 50-60° F Sunny

Other Observations and Comments (note any unique circumstances): One Story home w/ crawlspace

Not has day-lighting ground under

Canisters and flow controllers individually-certified clean (if required)? Yes

QC and Reviewed 2/2017

Attachment D
Vapor Intrusion Investigation Quality Assurance Checklist Forms

OOOIH

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/15/16

PERSONNEL PRESENT:

Name	Position	Company/Government
Dan Bingham	Env. Eng.	CH2M
Elizabeth Wessling	3rd Party Oversight	MECX
Larry Kellum	Public Relations	HH

LOCATION/RESIDENCE: OOOIH

Circle correct response for all items:

PROTOCOL: LIMITED FULL

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? Geo Grade
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted? resident agreed to place in backyard
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source? Returned 3/31/17 3/29/17 @ 11AM
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description? Although there is a sump and floor drain in basement.
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed? NA
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)? NA

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?
    QA 1/19/17

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Owen Bingham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/15/17.

QA Reviewer

Name Jeremy Cox

Signature Jeremy Cox Date 3/17/17

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/22/17 – 3/23/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Ryan Bingham	Env. Eng.	CH2M
Kerry Hallam	PR	Avalon

LOCATION/RESIDENCE: CLINTH

Circle correct response for all items:

PROTOCOL: LIMITED FULL

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %. (NA)

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? NA
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description? Sump in basement
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Dan Bingham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/22 - 3/23/17.

QA Reviewer

Name Rachel Adams

Signature _____ Date 3/27/17

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/22/17 – 3/23/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Dan Bingham	Env. Eng.	CH2M
Larry Kellam	PE	Anchor

LOCATION/RESIDENCE: CH2M

Circle correct response for all items:

PROTOCOL: LIMITED FULL

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? N/A
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description? 3/28/17
   Potential entry point floor drain in basement kitchen
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Olivia Brigham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/22 - 3/23/17.

QA Reviewer

Name Rachel Adams

Signature _____ Date 3/27/17

CCOU4H

Version 1.0
February 2017

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/13/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Quin Bingham	Env Eng.	CH2M
Nic Herlihan	Aveton/Other Relations	Aveton
Laurie Goldner	3rd Party Oversight	SAGE
3/14/17 Jeremy Leard	Public Relations	HA

LOCATION/RESIDENCE: CCOU4H

Circle correct response for all items:

PROTOCOL: LIMITED **FULL**

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE? all non-detects
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? NA
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description? Floor drain in basement
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

Complete @ the office

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Ann Brigham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/14/17.

QA Reviewer

Name Rachel Adams

Signature [signature] Date 3/14/17

0012H

Version 1.0
February 2017

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/13/17 – 3/14/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Quin Bingham	ENV Eng.	CH2M
Jeremy Cottrell	Public Relations	HT

LOCATION/RESIDENCE: 0012H

Circle correct response for all items:

PROTOCOL: LIMITED FULL

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? (NR)
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any potential vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description? 6/24/2017 floor drains in basement bathroom laundry room
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Quin Bingham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/13/17 - 3/19/17

QA Reviewer

QA 3/14/17

Name [signature] Jeremy Cox

Signature Jeremy Cox Date 3/14/17

0013H

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/9/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Dan Bingham	Env. Eng.	CH2M
Joel Dickson	3rd Party Oversight	SAGE
Nick Kirkham	Public Relations	Avelon
Rachel Adams (3/10/17)	Geologist	CH2M

LOCATION/RESIDENCE: 0013H

Circle correct response for all items:

PROTOCOL: LIMITED **FULL**

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?
Yes. All analytes passed

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? N/A No interior source
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description? Floor drain in laundry room sealed w/ concrete
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample Identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)? deployed 1510, appt at 1415, discussed w/ Lynne
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

Will be completed in office.

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Rachel Adams, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/10/17.

QA Reviewer

Name Ryan Byl

Signature Ryan Byl Date 3/13/17

00254

Version 1.0
February 2017

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/13/17

PERSONNEL PRESENT:

	Name	Position	Company/Government
	Ron Bingham	Proj. Enviro.	CH2M
	Nick Kirkham	Public Relations	Avalon
	Lonnie Goldner	3rd Party Oversight	SAGR
3/14/17	Rachel Adams	Geologist	CH2M
3/14/17	Jeremy Laird	Public Relations	UA

LOCATION/RESIDENCE: 00254

Circle correct response for all items:

PROTOCOL: LIMITED **FULL**

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? (NA)
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
   Note: old floor drain in water heater closet but indoor air was all ND.
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?
Will be completed in office

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Quin Bingham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/14/17.

QA Reviewer

Name Rachel Adams

Signature [signature] Date 3/14/17

CO26H

Version 1.0
February 2017

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/9/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Dan Bingham	Env. Eng.	CH2M
Jeremy Lord	Public Relations	HA
Joel Dickson	3rd Party	
Rachel Adams (3/10/17)	Geologist	CH2M

LOCATION/RESIDENCE: CO26 H

Circle correct response for all items:

PROTOCOL: **LIMITED** **FULL**

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?
all analytes passed

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
   floor drain in basement laundry Room
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)? RA 3/10/17

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?
Will be completed in the office

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Rachel Adams, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/10/17.

QA Reviewer

Name Quin Bingham

Signature _____ Date 3/13/17

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/15/17 – 3/16/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Dan Bingham	Env. Eng.	CH2M
Elizabeth Wessling	3rd Party Oversight	MRC
Jeremy Laird	Pebble Collecting	HA

LOCATION/RESIDENCE: OU26 H

Circle correct response for all items:

PROTOCOL: **LIMITED** **FULL**

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION → No HAPSITE sampling as it was performed on 3/9/17.

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

QA 3/16/17 NK

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?

   Basement Living room

10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample Identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?
16. **YES or NO:** Were adequate field notes taken during the sampling event?
17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?
18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?
19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Ryan Bingham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/15/17 – 3/16/17.

QA Reviewer

Name Jeremy Cox

Signature Jeremy Cox Date 3/17/17

CW27H

Version 1.0
February 2017

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/9/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Quin Bingham	Env. Eng	CH2M
Joel Nielsen	3rd Party Oversight	STATE
Laurie Goldner	" "	" "
Jeremy Laird	3/9/17 Public Relations	N/A
Rachel Adams (3/10/17)	Geologist	CH2M

LOCATION/RESIDENCE: CW27H

Circle correct response for all items:

PROTOCOL: **LIMITED** **FULL**

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

all analytes passed.

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
   Sump + cracked floor in basement mechanical room (Photo 6)
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

Will be finished in the office

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Rachel Adams, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/10/17.

QA Reviewer

Name Owen Bingham

Signature _____ Date 3/13/17

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/30/17 - 3/31/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Quentin Bingham	Env. Eng.	CH2M
Larry Fellows	PL	Arcadis

LOCATION/RESIDENCE: CW294

Circle correct response for all items:

PROTOCOL: LIMITED FULL

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? NA
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure? Basement Canister Form
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)? Due to residents schedule, canister was retrieved after 22 hours.
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Dan Bingham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/31/17.

QA Reviewer

Name Rachel Adams

Signature _____ Date 4/4/17

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 9/10/17 – 9/11/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Owen Bingham	Env. Eng.	CH2M
Jeremy Conrad	QA PR	USA

LOCATION/RESIDENCE: CW38H

Circle correct response for all items:

PROTOCOL: LIMITED **FULL**

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? NA
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
   Residence has a radon mitigation system in basement.
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)? 9/14/17 @ 1145
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed? Yes
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Ann Brigham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 4/10 – 4/14/17.

QA Reviewer

Name Jeremy Cox

Signature Jeremy Cox Date 5/4/17

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 4/6/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Ann Bingham	Env. Eng.	CH2M
Rachel Abrams	Geologist	CH2M
Nic Kirkham	PR	VA

LOCATION/RESIDENCE: 0057H

Circle correct response for all items:

PROTOCOL: LIMITED FULL

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %. NA

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? (N/A)
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis? (N/A)
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly? RM 4/5/17

26. **YES or NO:** Was the laboratory COC completed properly?

I, Rachel Adams, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 4/5/17.

QA Reviewer

Name Ann Bingham

Signature _____ Date 4/10/17

0058H QA 3/10/17

Version 1.0
February 2017

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: VA259-15-F-3886

DATE: 3/6/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Dan Bingham	Envir. Engineer	CH2M
Rachel Adams	Geologist	CH2M
Eric Gorman	Army Cor	Government
Roy Weisdorf	Geologist	Weston Solutions

LOCATION/RESIDENCE: 0058H RA 3/13/17

Circle correct response for all items:

PROTOCOL: LIMITED (FULL)

PRE-FIELD/LAB SUPPLIES

YES or (NO) or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)? Picking up from lab 3/7/17

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?
cis did not pass. Recalibrate in morning.

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE? No detections of target analytes
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? No interior source
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated? 2450 sq. feet
   19,600 cubic feet
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
    Floor crack in mechanical room
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** (NA) If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Dan Bingham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/6/17.

QA Reviewer

Name Rachel Adams

Signature _____ Date 3/6/17

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/17/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Rachel Adams	Geologist	CH2M
Quin Bingham	Env Eng	CH2M
Liz Hessling		MECX
Rolf Lange		VHA

LOCATION/RESIDENCE: 0959 H

Circle correct response for all items:

PROTOCOL: **LIMITED** **(FULL)**

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

QA 3/20/17 (NA)

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
   floor drain, floor cracks, concrete slab cut out (laundry)
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

3/17/17

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? Identified during -5 pressure step
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
    floor drain, floor cracks, slab cut out in laundry room
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade? 20" + 59" bgs
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance? Measurement at floor drain (not in breathing space)
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance? Measurement at floor drain (not in breathing space)
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
    TO be discussed w/ PM
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?
22. **YES or NO:** Was all applicable field documentation completed?
23. **YES or NO:** Were adequate field notes taken during the sampling event?
24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?
25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?
26. **YES or NO:** Was the laboratory COC completed properly?

NA

I, Rachel Adams, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/17/17.

QA Reviewer

Name Ann Bingham

Signature _____ Date 3/19/17

00611 QA 3/10/17

Version 1.0
February 2017

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
~~Order No: VA259-15-F-3886~~ ~~TASK 005~~ QA 3/7/17
TASK ORDER 005

DATE: 3/7/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Dan Bingham	Envir. Eng.	CHZM
Rachel Adams	Geologist	CHZM
Eric Guzman	Army Geologist	Army
Ray Weinhart	Geologist	Weston Solutions
Joel Dickson		SAGE

LOCATION/RESIDENCE: 00610 H QA 3/13/17

Circle correct response for all items:

PROTOCOL: **LIMITED** (FULL)

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)? Arriving today

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample (NA) analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?
All analytes passed

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

X see full VI checklist

Q13 3/9/17

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? NA
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted? NA
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description? potential entry points noted
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed? NA
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)? NA

Limited VI protocol filled out in error - see full VI protocol checklist RA 3/15/17

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? NA
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description? potential entry points noted
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade? approximately 57" bgs. Basement slab @ ~60" bg
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis? NA
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed? NA

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)? NA

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly? NA

I, Rachel Adams, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/7/17.

QA Reviewer

Name Ron Bingham

Signature [signature] Date 3/7/17

0061H QA 3/10/17

Version 1.0
February 2017

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/8/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Orrin Bingham	Environ. Eng.	CH2M
Rachel Adam	Geologist	CH2M
Dave Allison	UDEQ/DRC	UDEQ
Ray Weindorf	3rd Party Oversight	Weston
Larry Eastham	HA Rep	Avilon

LOCATION/RESIDENCE: 0061 H KD 3/13/17

Circle correct response for all items:

PROTOCOL: LIMITED FULL

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? NA
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis? NA
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Rachel Adams, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/8/17.

QA Reviewer

Name Deb Bingham

Signature _____ Date 3/8/17

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/29/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Quin Bingham	Env. Eng.	CH2M
Rachel Adams	Geologist	CH2M
Nick Kirkham	PR	Avelon
Jeremy Laird	PR	AA

LOCATION/RESIDENCE: 00624

Circle correct response for all items:

PROTOCOL: LIMITED FULL

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

Q3
3/22/17

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?

Potential points - floor drain, slab cut-out in basement

13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade? @ slab depth 76" inch bgs
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, [signature], certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/29/17.

QA Reviewer

Name Rachel Adams

Signature [signature] Date 4/4/2017

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 3/21/2017

PERSONNEL PRESENT:

Name	Position	Company/Government
Quin Bingham	Env. Eng.	CH2M
Rachel Adams	Geologist	CH2M
Nic Korkham		Avalon
Jeremy Laird	PR	YA

LOCATION/RESIDENCE: 00063 H

Circle correct response for all items:

PROTOCOL: LIMITED (FULL)

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event?

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

(NA)

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on-site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE?
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

RA
3/21/17

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)? 1.5 air exchanges for 15 pressure step due to time constraints (resident requested removal by 1700)
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade? Basement slab is 6.5 ft bgs Sampled @ 7.5 inches bgs
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis? (NA)
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample Identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly? pa 3/21/17

26. **YES or NO:** Was the laboratory COC completed properly?

I, [signature], certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 3/21/17.

QA Reviewer

Name Rachel Adams

Signature [signature] Date 3/27/17

VAPOR INTRUSION INVESTIGATION
QUALITY ASSURANCE CHECKLIST

PROJECT:
700 SOUTH 1600 EAST PCE PLUME AOU-1:
East Side Springs
Contract No: W912DQ-15-D-3014
Order No: Task Order 5

DATE: 4/13 – 4/14/17

PERSONNEL PRESENT:

Name	Position	Company/Government
Quin Bingham	Env. Eng.	CH2M
Lynne Welsh	HA PM	HA

LOCATION/RESIDENCE: 0064

Circle correct response for all items:

PROTOCOL: LIMITED FULL

PRE-FIELD/LAB SUPPLIES

YES or NO or NA: Individually certified-clean SUMMA canister(s) and flow controller(s) on-hand (if needed)?

HAPSITE CALIBRATION

YES or NO: HAPSITE was calibrated by KD Analytical-trained personnel prior to initiation of sampling event? Calibration date 4/5/17

YES or NO: Five-point HAPSITE calibration met quality assurance criteria for all target analytes (cis-DCE, TCE, PCE) and was recorded on the HAPSITE field form (relative standard deviation (RSD) < 20%, RSD of response factor < 30%, and curve fit R-squared ≥ 0.98)?

YES or NO: If HAPSITE not calibrated on date of form completion, was a calibration verification sample analyzed using a known concentration calibration gas and was the relative percent difference (RPD) for all target analytes ≥ 70% or ≤ 130 %.

YES or NO: Was continuing calibration verification standard run at end of the daily sampling event?

FIELD DOCUMENTATION

YES or NO: All required field documentation on site (field log book, HAPSITE Field Form, Pressure Cycling Field Form, SUMMA Field Form, Analytical Laboratory Chain of Custody [COC], Minor Field Modification #18)?

LIMITED VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
4. **YES or NO:** All levels of structure have had at least one indoor air sample analyzed with the HAPSITE? one level w/ crawl space
5. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book? (NA)
6. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
7. **YES or NO or NA:** If interior background source(s) was identified, was a future appointment to deploy a 24-hr SUMMA canister scheduled no sooner than 72 hours after HAPSITE identification and removal of the interior background source?
8. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description? However, resident mentioned daylighting ground water in crawlspace
9. **YES or NO or NA:** If no interior background source(s) was identified, was a 24-hr SUMMA canister deployed in the lowest livable space within the structure?
10. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?
11. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?
12. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?
13. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?
14. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

15. **YES or NO:** Was all applicable field documentation completed?

16. **YES or NO:** Were adequate field notes taken during the sampling event?

17. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

18. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

19. **YES or NO:** Was the laboratory COC completed properly?

FULL VI PROTOCOL SAMPLING CHECKLIST

1. **YES or NO:** Signed access agreement has been obtained?
2. **YES or NO:** Reviewed completed residential questionnaire?
3. **YES or NO:** Were all underground utilities marked by Blue Stake and/or 3rd Party Utility locate?
4. **YES or NO:** HAPSITE was operated by KD Analytical-trained personnel?
5. **YES or NO:** All levels of structure have had at least one indoor air sampled analyzed with the HAPSITE?
6. **YES or NO:** If interior background source(s) was identified, was its location and product name recorded in the field log book?
7. **YES or NO or NA:** If interior background source(s) was identified, was the structure owner informed of the product and was its removal requested and granted?
8. **YES or NO:** Was the structure's air volume calculated?
9. **YES or NO:** Were all combustible appliances turned off prior to beginning pressure cycling?
10. **YES or NO:** Were all target differential pressures achieved during pressure cycling (both negative and positive)?
11. **YES or NO:** Were 2.5 air volume exchanges achieved during pressure cycling (both negative and positive)?
12. **YES or NO:** Were any vapor intrusion entry points identified within the structure? If so, was the location(s) recorded in the field log book along with a description?
13. **YES or NO:** Was the required soil gas sample collected at approximately 6-inches below the basement slab grade?
14. **YES or NO:** Were any indoor air RALs exceeded? If so, were the Project Manager and VA informed of the exceedance?
15. **YES or NO:** Were any indoor air RSLs exceeded? If so, were the Project Manager and VA informed of the exceedance?
16. **YES or NO:** If an indoor air RSL was exceeded, was a future appointment scheduled to deploy a 24-hr SUMMA canister and collect a soil gas sample for TO-15 analysis?
17. **YES or NO or NA:** Was the deployment location, date/time, initial pressure, canister/flow controller identification number, sample identification number recorded on the SUMMA field form?

18. **YES or NO or NA:** Do completed SUMMA tags match information recorded on the SUMMA field form and COC?

19. **YES or NO or NA:** Was a canister retrieval appointment scheduled (< 23 hours from canister deployment time)?

20. **YES or NO:** Was a SUMMA field duplicate required? If so, was it deployed?

21. **YES or NO:** Was the correct sample identification assigned to the SUMMA sample(s)?

22. **YES or NO:** Was all applicable field documentation completed?

23. **YES or NO:** Were adequate field notes taken during the sampling event?

24. **YES or NO:** Were corrections to field notes necessary? If so, were corrections completed correctly (i.e., single-line through the error, initialed, and dated)?

25. **YES or NO:** Were the HAPSITE and SUMMA Field Forms completed properly?

26. **YES or NO:** Was the laboratory COC completed properly?

I, Ann Bingham, certify that this quality assurance checklist was reviewed and completed and that all field forms herein referenced were completed and reviewed at the end of the sampling event conducted on 4/13 – 4/14/17.

QA Reviewer

Name Jeremy Cox

Signature Jeremy Cox Date 5/4/17

Attachment E Daily Report Forms

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	001
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/6/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	AOU-1
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	HI Investigation
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	~~Jasin Olsen~~ Qwin Bingham	**SITE SAFETY COORDINATOR:**	~~Jasin Olsen~~ Qwin Bingham

SUMMARY OF WORK PERFROMED THIS PERIOD

Full HI probed investigation @ CW58H.
HYDROFTE survey and pressure cycling w/ soil gas sampling

HEALTH AND SAFETY REPORT

AM WEATHER: Cloudy 30°F	**PM WEATHER:**

TAILGATE TOPICS:
Property clearing snowy car for travel

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)
Used GFCI extension for blower
Held Pre-Task safety meeting

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Qwin Bingham	CH/Env. Eng.	0	11.5	11.5
Rachel Adams	CH/Geologist	0	8	8

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HYDROFTE	SMART PLUS	HA unit	QGB
Blower Door	Minneapolis	Fine Tube	
Omniguard 4	III		
Amms Soil Gas kit	—		
Field tools	—		

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
	Pre-task form completed	☑	☐	☐
	HI QA form completed	☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO (NA) If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
Hyperite	1	Yes	
Elmer Dear	1	Yes	
Orangeguard IV	1	Yes	

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
HAPSITE Survey	Dan Bingham and Todd Adams	Passed	No target analytes detected
Pressure Cycling	" "	Passed	" "

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

ch2m:

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	002
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/7/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	AOU2
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	HF Investigation
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	~~Jasin Olsen~~ Quin Bingham	**SITE SAFETY COORDINATOR:**	~~Jasin Olsen~~ Quin Bingham

SUMMARY OF WORK PERFROMED THIS PERIOD

Full HF protocol investigation of OU60H.

HEALTH AND SAFETY REPORT

AM WEATHER: Sunny 40°F	**PM WEATHER:**

TAILGATE TOPICS: 3/7/17 (Q3)

Focused ~~Tool~~ on potential hazards during HF investigation.

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

Managed extension cords, used GFCI extension for blower

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY (3/7/17)		TOTAL WORK HOURS
Quin Bingham	CH2M / Eng Trainee	11.5	Q3 11.5	13.5	25
Rubel Adams	CH2M / Geologist	8	8	9	17
Eric Gorman	~~Arcadis~~ / Geologist				
Ryan Weindorf	Weston / Geologist				
Joel Dickson	Sage / Geologist				

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
MAPSITE	SMART PLUS	HA unit	QB
Blower door	Minneapolis	Pro Fanner	QB
Omnigard IV	Omnigard	G405105	QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
	HAPSITE survey/investigation	☐	☐	☐
	Pressure cycling	☐	☐	☐
	Soil gas sampling	☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☑ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
HAPSITE Survey	Ava Bongiovi/Rachel Adams	Passed/No detections	No detections
Pressure Cycling	" "	Passed	No detections
Soil Gas sampling	" "	" "	PCE detected below RSL

REGULATORY COMPLIANCE REPORT

Conducted full site protocol investigation or residence 0000 H.

INSPECTION PERFORMED BY: [signature] SIGNATURE OF INSPECTOR [signature]

ch2m:

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	003
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/8/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	VA Aoc1 / OU61H
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Full HE Protocol
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	~~Jasin Olsen~~ Quin Bingham	**SITE SAFETY COORDINATOR:**	~~Jasin Olsen~~ Quin Bingham

SUMMARY OF WORK PERFROMED THIS PERIOD

Full HE protocol sampling of OU61H.

HEALTH AND SAFETY REPORT

AM WEATHER:	40°F Partly Cloudy	**PM WEATHER:**	45°F Partly Cloudy

TAILGATE TOPICS: Slip trip, falls

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

Lift w/ Legs

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH / Env. Eng / HE	25	11.2	36.2
Rudel Adams	CH / Geol / HE	(003 3/6/17) 17	9	26
Roy Wendorf	Weston / Geol / 3rd Party Rep			
Lenny Kellum	VA / Oversight			
Derek Allison	UDEQ / Public Relations			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
MultiRae	SMART PLUS	MAnut	QB
Blower Door	Minneapolis	Pine Env. Inc.	QB
Omnigard	IV / G405105	Pine Env. Inc.	QB
Soil Gas Sampling Kit	Amis	" "	QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
	HASP/SITE Survey	☐	☐	☐
	Passive Cycling	☐	☐	☐
	Soil Gas Sampling	☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☒ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
HASP/SITE Survey	Quinn Bingham/Rachel Adams	Passed	No target analytes detected
Passive Cycling	" "	Passed	" "
Soil Gas Sampling	" "	Passed	" "

REGULATORY COMPLIANCE REPORT

Conducted full VE pothead investigations @ 0814.

INSPECTION PERFORMED BY: [signature] SIGNATURE OF INSPECTOR [signature]

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	004
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/9/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	0026H/0027H/0013H
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Limited VI Protocol
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	~~Jasin Olsen~~ Ann Bingham	**SITE SAFETY COORDINATOR:**	~~Jasin Olsen~~ Ann Bingham

SUMMARY OF WORK PERFROMED THIS PERIOD

Limited VI Protocol sampling of 0026H, 0027H, and 0013H.

HEALTH AND SAFETY REPORT

AM WEATHER: 40°F Sunny	**PM WEATHER:** 60°F Sunny

TAILGATE TOPICS: Ergonomics

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Ann Bingham	CH2M / Env. Eng.	36.2	11	47.2
Tommy Driscoll	VA / PR			
Roy Weinhardt	Weston / 3rd Party Oversight			
Lance Goldner	Stantec / " "			
Joel Dickson	Stantec / " "			
Nick Kirkham	Arcadis / PR			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HAPSITE	SMART PLUS	VA	QB
SUMMA Canisters	Entech 6-L	ALS	QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
	HABITAT Survey	☐	☐	☐
	SUMMA deployment	☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
HABITAT Survey	QG13	00126H/00127H/00134	00126H - PCB in indoor air (0.13 - 0.19 ppbv)
SUMMA deployment	QG13	" "	00127H + 00134 all non-det

REGULATORY COMPLIANCE REPORT

00126H indoor air PCB concentration throughout residence were 0.13 - 0.19 ppbv. No interior sources identified.
00127H + 00134 no target analytes detected in indoor air

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

ch2m:

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	005
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/10/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	00261 / 00271 / 02131
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Limited VI Protocol
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	~~Jasin Olsen~~ Quin Bingham 3/14/17	**SITE SAFETY COORDINATOR:**	Jasin Olsen

SUMMARY OF WORK PERFROMED THIS PERIOD

Pick up Summa canisters from 0026H, 0027H, 0213H

HEALTH AND SAFETY REPORT

AM WEATHER: Cloudy, ~50 °F	**PM WEATHER:** Overcast, ~60 °F

TAILGATE TOPICS: Slips trips and falls

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Rachel Adams	CH2M	0	8.5	8.5 (Corr 3/13/17)
Lynne Welsh	VA			
Eric Ayers	VA			
Joelle Dickson	SAGE			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
Summa canisters			
Field tools			

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
	Pick up summa canisters	☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☒ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.
NA			

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
NA	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION

REGULATORY COMPLIANCE REPORT

	NA

INSPECTION PERFORMED BY:	K Adams	SIGNATURE OF INSPECTOR	

ch2m:

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	006
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/13/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	OU2SH, OU4YH, OU2CH
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Limited HE Protocol
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	~~Jasin Olsen~~ Ann Bingham	**SITE SAFETY COORDINATOR:**	~~Jasin Olsen~~ Ann Bingham

SUMMARY OF WORK PERFROMED THIS PERIOD

Limited HE protocol sampling @ OU2SH, OU4YH, and OU2CH.

HEALTH AND SAFETY REPORT

AM WEATHER: ~45°F, Sunny	**PM WEATHER:**

TAILGATE TOPICS: Slip, trip falls Pets

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Ann Bingham	CH2M / Field Eng.	0	11	11
Nic Kirkham	Arcadis / Field Collection			
Lewis Gelobter	CH2M / 3rd Party Oversight			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HAPSITE	SMART PLUS	HA Unit	QB
6-L Summa Canisters / 200 ml/min Flowcontroller	ENTECH		QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
	HAPSITE survey	☐	☐	☐
	Summa Canister deployment	☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
HAPSITE SURVEY	QGB	✓ Passed	00251, 00041, 00121
Summa Deployment	QGB	✓ Passed	" "

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:	Quan Bingham	SIGNATURE OF INSPECTOR	QGB

ch2m

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	007
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/14/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	OU2S H, OU2N H, OU2H
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Limited VE
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

Pick up Summa Canisters

HEALTH AND SAFETY REPORT

AM WEATHER: ~50 °F, clear	**PM WEATHER:** 60°F, Sunny

TAILGATE TOPICS: Slip, trip, falls

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Rachel Adams	CH2M / Geologist	0	2	2
Quin Bingham	CH2M / Env. Eng	11	5	16

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
Summa field tools			

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
	Pick up Summa Canisters	☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Pick up Summa	Rachel Adams / W Bingham	Pass	00251, 00044, 00124

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:	Rachel Adams	SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

- Pick up Summa canisters @ 0025H, 0004H, and 0012H.
- All canisters registered showing vacuum. No re-sampling necessary.

Planned Work / Test for Tomorrow: 0001H Limited UFP protocol sampling

Planned Work / Test for Next Week: See above and 3/17/17 0059H Full UFP protocol sampling

VISITORS AND DISCUSSIONS: Jeremy Laird

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

NOTE: Write all entries legibly in ink. Line out all unused portions or designate as "not applicable". Preparer signs first and last name on each completed daily report. This form may be filled out electronically and signed electronically.

Preparer Signature	Date
[signature]	3/14/17

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	008
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/15/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	AOU1
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	0001H, 0026H
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

Conduct HF protocol sampling @ 0001H.
Summa canister deployment @ 0026H.

HEALTH AND SAFETY REPORT

AM WEATHER:	Sunny 45°F	**PM WEATHER:**	Sunny 65°F

TAILGATE TOPICS: Slip, trip, falls. Pet hazards

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

TTSP completed

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M / Env. Eng	46	6	52
Larry Feldman	Arcadis / PR			
Elizabeth Wessling	MACTEC / 3rd Party Oversight			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HAPSITE	SMART PLUS	AA Unit	QB
Summa Canisters/flow controllers	Rotork		QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
	Limited Int Pathol @ 0001H	☐	☐	☐
	Counter deployment @ 0026H	☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Limited Int 0001H	QCB	Passed	Interior PCR survey found
Counter deploy 0026H	QCB	Passed	Counter deployed 1608

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:	Dan Bergeron	SIGNATURE OF INSPECTOR	Dan Bergeron

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

- Limited HI performed conducted @ 0231H. Interior PCE screen formed under kitchen sink (Gio Gomez). Schedule canister deployment 3/22 @ 1100 am.
- QB 3/14 ~~Droppe~~ Deployed canister @ 0026H.

Planned Work / Test for Tomorrow:	Retrieve canister from 0026H
Planned Work / Test for Next Week:	Full HI performed @ 0059H 3/17/17

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.): NOTE: Write all entries legibly in ink. Line out all unused portions or designate as "not applicable". Preparer signs first and last name on each completed daily report. This form may be filled out electronically and signed electronically.	*Preparer Signature*	*Date* 3/15/17

ch2m

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	009
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/16/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	ADUS
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	UOZH summa retrieval
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

Retrieve summa canister from UO26H.

HEALTH AND SAFETY REPORT

AM WEATHER:	Sunny 50°F	**PM WEATHER:**	Sunny 68°F

TAILGATE TOPICS: Pets (primarily dogs)

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

PTSP completed

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M / Eng. Assoc	22	2	24
Nic Forkum	Arcadis / PE			
Elizabeth Wessling	Mack / 3rd Party Oversight			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
Summa Canister / Flow controller	Fortech		QB
Vacuum gauge	APTech		QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Refrigerant Evacuation	QGB	Passed	Final Vacuum = -3 inHg

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

Retrieved summa canister from 00208 that was deployed on 3/15/17.

Final vacuum = -3.2 inHg

Planned Work / Test for Tomorrow:	Full test protocol @ 00594
Planned Work / Test for Next Week:	" " @ 00634 3/21/17 @ 1000

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):		
NOTE: Write all entries legibly in ink. Line out all unused portions or designate as "not applicable". Preparer signs first and last name on each completed daily report. This form may be filled out electronically and signed electronically.	*Preparer Signature*	*Date*

ch2m

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	010
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/17/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	AOU 1
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	0059H
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

Full VI protocol

HEALTH AND SAFETY REPORT

AM WEATHER: cloudy, ~55°F	**PM WEATHER:** p cloudy, ~70°F

TAILGATE TOPICS:
Slip trip and falls, pets, traffic

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M/Env Eng	2	11	13
Rachel Adams	CH2M / Geologist	0	9	9
Rolf Lange	VA			
Liz Wessling	MEC x			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HAPSITE	Smart plus	VA Unit	QB
blower door	Minneapolis	Pine Env	QB
hand tools			
Omniguard IV	Omniguard	6405105	QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
	Full VE sampling	☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Full VE 0059 H	QGB	Pass	

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:	Quin Bingham	SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

Full VE protocol

Planned Work / Test for Tomorrow:

Planned Work / Test for Next Week: full VE @ 022634, Limited VE

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.): NOTE: Write all entries legibly in ink. Line out all unused portions or designate as "not applicable". Preparer signs first and last name on each completed daily report. This form may be filled out electronically and signed electronically.	*Preparer Signature*	*Date*
		3/17/17

ch2m

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	011
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/21/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	AOU1 OW63H
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Full VI Pulsed
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

Full VI pulsed sampling of OW63H

HEALTH AND SAFETY REPORT

AM WEATHER:	**PM WEATHER:**

TAILGATE TOPICS: Slip, trip, falls, ergonomics

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

Reviewed PTSP and signed it

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M / Field Eng.	13	11	24
Rachel Williams	CH2M / Geologist	9	9	18

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
GRUNDFOS	SMART PUS	VA	QB
Transducer	TV	Pine Env.	QB
Alles Sonic Pro Kit	ANS	Pine Env.	QB
Blower Door	Minneapolis	Pine Env.	QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
		☐	☐	☐
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		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Manhole Survey	QGB, RA	Passed	
Pressure Cycled	QGB, RA	Passed	

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

Full VI protocol of 0063H

Planned Work / Test for Tomorrow: Limited Protocol 0059H and 0062H

Planned Work / Test for Next Week:

VISITORS AND DISCUSSIONS:

Mic Erickson / Aecom on site to represent the VA

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

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Preparer Signature	Date
[signature]	3/21/17

ch2m

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	012
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/22/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	OU1H, OU2H
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Limited HF Protocol
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

Limited HF protocol sampling @ OU1H and OU2H

HEALTH AND SAFETY REPORT

AM WEATHER: 50°F Partly Cloudy **PM WEATHER:** 60°F Cloudy

TAILGATE TOPICS: Slip, trip, Falls, PPE's

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

Completed and signed PTSP

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M / Env. Eng	24	7	31
Leroy Fallen	Avalon / PR			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HAPSITE	SMART PLUS	HA	QB
Summa canister / flow controllers	Entech	KLS	QB
Vacuum Gauge	Apex	CH	QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
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		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
0001H Limited HT Pedestal	QCB	Passed	deployed 2 screws
0002H Limited HT Pedestal	QCB	Passed	deployed 1 screw

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

OU2H = Limited ft probed sampling. Deployed two 6-L summa canisters in basement. Living room.

OU2H = Limited ft probed sampling. No interior source(s) identified. Deployed one 6-L summa canister in basement living room.

Planned Work / Test for Tomorrow:	OU2H + OU2H Canister retrieval
Planned Work / Test for Next Week:	
VISITORS AND DISCUSSIONS:	

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

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Preparer Signature	Date
	3/20/17

ch2m

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	013
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/23/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	ATU1 000116, 0002H
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Limited HE Protocol
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

Limited HE protocol sampling @ 0001H and 0002H.

HEALTH AND SAFETY REPORT

AM WEATHER: Partly Cloudy 40°F **PM WEATHER:** Cloudy Rainy 35°F

TAILGATE TOPICS:

Slip, trip, fall and driving in rain

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M / Env. Eng	31	4.5	35.5
Larry Kellum	Avalon / PIC			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
Horizontal Geoprobe	6620	CH	QB
6-L Cannisters w/ 200ml/min flow Controller	Tentech	AES	QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
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		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Canister returned	Quin Bang	0001H Passed	No eco steam canister
@ 0001H & 0002H		0002H Passed	" "

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

- Retrieved both summa canisters @ 0930H. Neither were @ zero vacuum upon retrieval.
- Retrieved summa canister @ 0900H. Vacuum greater than 5cm-0 (remaining vacuum).

Planned Work / Test for Tomorrow: MMSITE investigation @ 0951H, 0937H

Planned Work / Test for Next Week: Limited HE protocol @ 0849H, full HE @ 0844H

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

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Preparer Signature	*Date*
[signature]	8/28/17

ch2m

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	014
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/24/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	OU5IA, OU3FA, OU8A
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	HABITE Seeps & Interviews
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

- OU5IA & OU3FA follow-up HABITE investigation to assess crack-sealing mitigation.
- OU8A Full HI investigation interview

HEALTH AND SAFETY REPORT

AM WEATHER:	Partly Cloudy 45°F	**PM WEATHER:**	Sunny 60°F

TAILGATE TOPICS: Pets

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M / Resv. Eng	35.5	6.5	42
Nia Robinson	Arcadis / PE			
Jeremy Lucal	HA / PE			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HABITE	SMART PLUS	HA	QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
		☐	☐	☐
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		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
CO51H MAPSite investigation	QGB	Passed	
CO37H MAPS1178 investigation	QGB	Passed	
00624 Intoxicated	QGB	Passed	

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

- 0057H & 0037H HABSITE survey to assess if crack-sealing helped w/ VI mitigation. PCE still present w/ in both residences, NO IA RSL exceedance
- 0062H full VI protocol interview. Scheduled sampling event for 3/31/17 @ 0900.

Planned Work / Test for Tomorrow: none

Planned Work / Test for Next Week: 0029H limited VI + 0062H full VI protocol

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

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Preparer Signature	Date
[signature]	3/24/17

ch2m

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	015
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/29/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	OU2A
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Full-SE Pretest
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

Full-SE protocol sampling @ OU2A

HEALTH AND SAFETY REPORT

AM WEATHER: 45°F Sunny **PM WEATHER:** 55°F Sunny

TAILGATE TOPICS: Slip, trip, falls

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

PTSP

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M / Env. Eng.	42	8.5	50.5
Robert Adams	" " / Geologist	0	6.5	6.5
Nic Kirkham	Arcadis / PR			
Jeremy Conrad	HA / PR			
Mark Aguilar	EPA / PR			

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HAPSITE	SMART PLUS		QB
Blower door	Minneapolis		QB
Omniguard	Pine Environ.		QB
APMS / Soil Gas	" "		QB
Field tools	CH2M		QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
		☐	☐	☐
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		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
8260H Full HE Protocol	QGB, RA	Passed	No target analytes detected

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

- 0062H full list protocol sampling event
- No target analytes detected during full list protocol sampling

Planned Work / Test for Tomorrow:	0029H Limited list protocol
Planned Work / Test for Next Week:	0057H full list protocol (4/5/17)

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

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Preparer Signature	Date
[signature]	3/29/17

ch2m

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	016
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	3/30 - 3/31/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	00294
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	United HE Pretreat
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Quin Bingham	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFORMED THIS PERIOD

United HE pretreat @ 00294

HEALTH AND SAFETY REPORT

AM WEATHER: 55°F Partly Cloudy	**PM WEATHER:** 65°F Partly Cloudy

TAILGATE TOPICS: Slip, trip, falls

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

filled out and signed PTSP

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M / Env. Eng.	50.5	4.5	55

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HANDHELD	SMART PLUS		QB
Controller / Flow Controller	FANTECH		↓
Manometer gauge	APEG		

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Concrete Placement 10	8/29/11 QCP	Passed	Pre-delivered Inspection

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

- Vented Vt probe @ CW29/1
  PCE detected in indoor air ranging from 0.18 — 0.9 ppbv.
- TO-15 sample collected for 22 hrs. not ~~24 hrs~~ 23+ hrs since resident called and changed pickup time last minute.

Planned Work / Test for Tomorrow: NONE

Planned Work / Test for Next Week: CW5/1 fill Vt probes

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

NOTE: Write all entries legibly in ink. Line out all unused portions or designate as "not applicable". Preparer signs first and last name on each completed daily report. This form may be filled out electronically and signed electronically.

Preparer Signature	Date
	3/31/17

ch2m:

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	017
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	4/5/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	0057H
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Full SI Protocol
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Jasin Olsen	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFROMED THIS PERIOD

Full SI Protocol @ 0057H

HEALTH AND SAFETY REPORT

AM WEATHER: 40°F Partly Cloudy **PM WEATHER:** 45°F Partly Cloudy

TAILGATE TOPICS: Slip, Trip, Falls

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

filled out and signed PTSP

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M / Field Eng.	55	9.5	64.5
Robert Adams	" / Geologist	—	6.5	6.5

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
Hydrotech	SMART Plus	#4	QB
Bauer Duo	Minuteman	Pre	QB
Omnisteel III	I+I	Pre	QB

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Full VE Protocol @ 05th	QB/PA	Passed	NO PSL exceedances

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

Full 4H Patrol @ 0057H

Planned Work / Test for Tomorrow: none

Planned Work / Test for Next Week: Crushed 4H @ 0038H and 0064H

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

NOTE: Write all entries legibly in ink. Line out all unused portions or designate as "not applicable". Preparer signs first and last name on each completed daily report. This form may be filled out electronically and signed electronically.

Preparer Signature	*Date*
[signature]	4/5/14

ch2m:

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	018
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	4/10/17 - 4/16/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	00384
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Limited HT
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Jasin Olsen	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFROMED THIS PERIOD

Limited HT protocol @ 00384

HEALTH AND SAFETY REPORT

AM WEATHER:	50°F Sunny	**PM WEATHER:**	55°F Sunny

TAILGATE TOPICS: Pet danger

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

Completed and Signed PTSP

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CH2M/ Field Eng.	64.5	4.5	69
Corey Kelleher	Arcadis/ PR	NA	NA	NA

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
MAPSITE Computer / Flow Controller	SMART PUMP / ENTECH		QB ↓
Aluminum Canopy	APEG		

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Limited UT protocol @ 0330H	QB	Yes	SUMMA deployed in basement Conf Rm

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

- Limited-HT protocol @ 0338H.
- Summa collected in basement living room (Dup collected).

Planned Work / Test for Tomorrow: Retrieve Canister from 0338H 4/11/17

Planned Work / Test for ~~Next Week~~: 4/13/17 Limited-HT @ 0649H

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

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Preparer Signature	Date
JGB	4/11/17

DAILY REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTRACT NAME:	OU-2 RI for PCE Plume Site	**REPORT NO:**	019
CONTRACT NUMBER:	W912DQ-15-D-3014	**REPORT DATE:**	4/13 - 4/14/17
REVISION NUMBER:	Not Applicable	**REVISION DATE:**	
TASK ORDER NUMBER:	TO-0005	**PROJECT NAME / LOCATION:**	OU6HH
PROJECT NUMBER:	683085	**PROJECT DESCRIPTION:**	Limited HT
PROJECT MANAGER:	David Waite	**QUALITY SYSTEMS MANAGER:**	Theresa Rojas
FIELD TEAM LEADER:	Jasin Olsen	**SITE SAFETY COORDINATOR:**	Quin Bingham

SUMMARY OF WORK PERFROMED THIS PERIOD

Limited HT preheat @ OU6HH.

~~Stg, trip, fall~~ QB 4/13/17

HEALTH AND SAFETY REPORT

AM WEATHER:	~50°F PtCldy Cloudy	**PM WEATHER:**	Same

TAILGATE TOPICS:

Slip, trip, falls

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safe Behavior Obs., Safety Violations, Corrective Actions)

Completed PTSP

WORK FORCE – CONTRACTOR AND SUBCONTRACTOR

NAME	COMPANY AND ROLE	HOURS FROM PREVIOUS REPORT	HOURS TODAY	TOTAL WORK HOURS
Quin Bingham	CHSM / Proj. Resp.	69	3	72
Lynne Welsh	HA / PR / PAM	NA	NA	NA

EQUIPMENT ON HAND	MAKE/MODEL	EQUIPMENT ID	INSPECTION PERFORMED BY
HAPSITE	SMART PLUS		QB ↓
Canister / Flow Controller	Entech		
Vacuum Gauge	APEX		

QUALITY CONTROL REPORT

DFW No.	TASK/ACTIVITY	PREPARATORY	INITIAL	FOLLOW-UP
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

PREPARATORY

Was Preparatory Phase work performed today? ☐ YES ☐ NO If yes, see Preparatory Phase Checklist

DFW No.	Task/Activity	AHA No.	Preparatory Phase Report No.

INITIAL AND FOLLOW UP

DFW No.	Phase	Comment/Finding/Action	AHA No.
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		
	Initial ☐ Follow up ☐		

INSPECTION AND TESTING

MATERIAL/EQUIPMENT RECEIVED	NUMBER/VOLUME/WEIGHT	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION

SUBMITTAL RECEIVED	REVIEWED BY	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION

TESTING/SAMPLING PERFORMED	TESTING/SAMPLING PERFORMED BY	PASS/FAIL?	COMMENT/REASON/ACTION
Limited SI performed @	006411 QB	Passed	

REGULATORY COMPLIANCE REPORT

INSPECTION PERFORMED BY:		SIGNATURE OF INSPECTOR	

OPERATIONS / PRODUCTION REPORT

WORK AND/OR TESTS ACCOMPLISHED OR IN PROGRESS:

Limited HT protocol @ 0064 H
Pick up coupler on 4/14/14.

Planned Work / Test for Tomorrow: None

Planned Work / Test for Next Week: None

VISITORS AND DISCUSSIONS:

List of Attachments: (examples, as applicable: submittals, meeting minutes, safety meeting minutes, COCs, weight tickets, manifests, profiles, rework item list, RFIs, DCNs, photographs, etc.):

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Preparer Signature	*Date*
	4/19/14

Attachment F
Pressure Cycling Field Forms

Project: AOU-1

Location: 00574

Sample Date: 4/5/17

Time	Target ΔP (PA)	Omniguard ΔP (PA)	Blower Fan ΔP (PA)	Blower Flowrate (CFM)	Notes
945	0	-1.0	-1.0	0	begin baseline
950	0	-0.5	-0.8	0	
955	0	-1.0	-1.0	0	
1000	0	-1.0	-1.0	0	
1005	0	-1.0	-1.1	0	
1010	0	-1.0	-1.2	0	
1015	0	-1.0	-1.1	0	End baseline
1016	-5	-5.0	-5.5	780	begin -5 pressure step
1020	-5	-6.0	-5.4	827	Airing in fan
1025	-5	-5.5	-5.6	800	
1030	-5	-5.0	-5.4	775	
1035	-5	-5.0	-5.5	775	
1040	-5	-5.0	-5.1	792	
1045	-5	-5.5	-5.9	777	
1050	-5	-4.5	-5.0	782	
1055	-5	-4.5	-5.3	760	
1100	-5	-5.0	-5.2	788	End -5 pressure step
1102	-10	-10	-10.4	1250	Begin -10 pressure step
1105	-10	-10	-10.6	1259	Airing in fan
1110	-10	-10	-10.6	1274	
1115	-10	-9.5	-10.5	1264	
1120	-10	-10	-10.5	1290	
1125	-10	-9.5	-10.6	1286	
1130	-10	-10	-10.1	1290	
1135	-10	-9.5	-10.3	1276	
1140	-10	-10	-10.2	1299	
1145	-10	-10	-10	1254	
1150	-10	-9.5	-10.4	1283	End -10 pressure step
1152	+5	5.5	4.9	1126	Begin +5 pressure step
1155	+5	5.5	4.7	1119	Airing in fan
1200	5	5.5	5.5	1101	
1205	5	5.0	4.9	1103	
1210	5	5.5	5.3	1112	
1215	5	5.0	5.7	1123	
1220	5	6.0	5.5	1113	
1225	5	5.5	5.1	1112	End +5 pressure step

NOTES:

CFM = Cubic feet per minute.

PA = Pascal.

Project: AOU-1

Location: 005814

Sample Date: 3/6/17

Omniguard serial # G405105

Time	Target ΔP (PA)	Omniguard ΔP (PA)	Blower Fan ΔP (PA)	Blower Flowrate (CFM)	Notes
1040	0	-2.5	-4.6	0	baseline
1045	0	-2.0	-3.4	0	↓
1050	0	-2.0	-3.1	0	↓
1055	0	-2.5	-3.1	0	↓
1100	0	-2.0	-3.2	0	↓
1105	0	-2.0	-3.6	0	↓
1110	0	-2.5 3/6/17	-3.3	0	↓
1115	-5	~~-6.0~~ -4.5	-7.3	~~224~~ RM 3/6/17	Blower CFM: 752/ begin -5 cycle
1120	-5	-4.5	-7.1	735	B ring in fan
1125	-5	-5.5	-6.2	741	
1130	-5	-5.5	-7.4	748	
1135	-5	-5.0	-7.2	729	
1140	-5	-5.0	-7.0	729	
1145	-5	-5.5	-6.2	734	
1150	-5	-5.5	-6.1	746	
1155	-5	-4.5	-5.4	732	
1200	-5	-4.5	-5.3	747	
1205	-5	-4.5	-4.6	748	
1210	-5	-4.5	-6.2	744	
1215	-5	-4.5	-6.1	736	
1220	-5	-4.5	-5.7	745	
1225	-10	-10.0	-12.0	1427	Start -10 cycle
1230	-10	-9.5	-11.3	1420	B ring in fan
1235	-10	-10.0	-10.7	1514	
1240	-10	-10.0	-10.6	1423	
1245	-10	-9.5	-11.2	1425	
1250	-10	-9.5	-11.3	1417	
1255	-10	-10	-11.1	1408	
1300	-10	-9.5	-12.4	1454	
1310	+5	4.5	3.8	1271	Start +5 cycle
1315	+5	5.0	4.0	1266	B ring in fan
1320	+5	5.0	5.1	1265	
1325	+5	5.0	4.4	1247	
1330	+5	6.0	4.0	1293	
1335	+5	+5.5	4.2	1297	
1340	+5	+5.5	3.4	1297	
1345	+5	+5.0	4.8	1290	
1350	~~+6~~ RM +5 3/6/17	+6.0	3.2	1304	End +5 cycle

NOTES:

CFM = Cubic feet per minute.

PA = Pascal.

Project: ADU-1
Location: 00591H
Sample Date: 3/17/17

Omniguard #G405105

Time	Target ΔP (PA)	Omniguard ΔP (PA)	Blower Fan ΔP (PA)	Blower Flowrate (CFM)	Notes
1020	0	-2.0	-2.3	0	baseline
1025	0	-1.5	-2.3	0	
1030	0	-1.5	-2.7	0	
1035	0	-2.0	-2.3	0	
1040	0	-2.0	-2.2	0	
1045	0	-1.5	-2.7	0	
1050	0	-1.5	-2.1	0	
1100	-5	-5.0	-5.8	~~1225 390~~ 1220	begin -5 pressure steps A-ring in fan
1105	-5	~~-6.8~~ -5.5	-6.8	1230	
1110	-5	-5.5	-6.5	1247	
1115	-5	-5.5	-7.1	1185	
1120	-5	-5.0	-6.9	1194	
1125	-5	-5.0	-5.9	1172	
1130	-5	-5.0	-5.5	1162	
1135	-5	-5.0	-6.1	1124	
1140	-5	-5.0	-3.3	1165	
1145	-5	-4.5	-5.6	1139	
1150	-5	-4.0	-5.3	1142	
1155	-5	-4.5	-5.3	1175	
1200	-5	-5.0	-5.8	1226	
1205	-5	-4.0	-5.4	1251	
1210	-5	-5.0	-6.1	1235	
1215	-5	-4.5	-5.6	1247	
1220	-5	-4.5	-5.8	1240	
1225	-5	-4.5	-6.4	1220	
1230	-5	-4.5	-5.9	1248	
1235	-10	-10.0	-11.0	1949	begin -10 pressure step A-ring in fan
1240	-10	-10.0	-10.6	1966	
1245	-10	-10.0	-11.1	1976	
1255	-10	-10.0	-11.0	2040	R. Adams stepped out - unable to collect readings at 5-min intervals
1310	-10	-10.0	-10.9	2059	
1335	+5	5.5	5.2	1600	begin +5 pressure step B-ring in fan
1340	+5	5.0	3.8	1573	
1345	+5	5.0	4.4	1573	
1350	+5	5.0	4.5	1572	
1355	+5	4.5	5.3	1562	
1400	+5	5.5	3.8	1576	
1405	+5	6.0	4.4	1561	
1410	+5	6.0	4.8	1604	
1415	+5	4.0	4.2	1513	
1420	+5	5.5	4.8	1591	
1425	+5	4.5	3.6	1578	End +5 pressure steps

NOTES:
CFM = Cubic feet per minute.
PA = Pascal.

Project: AOU-1

Location: 0060 H

Sample Date: 3/7/17

Omniguard serial # G405105

Time	Target ΔP (PA)	Omniguard ΔP (PA)	Blower Fan ΔP (PA)	Blower Flowrate (CFM)	Notes
1020	0	-2.5	-1.7	0	baseline pre moved Omniguard
1025	0				-RA 3/7/17
1030	0	-1.5	-1.5	0	baseline
1035	0	-1.5	-1.7	0	
1040	0	0.0	-1.9	0	
1045	0	-0.5	-2.0	0	
1050	0	-1.0	-1.5	0	
1055	0	0.0	-1.5	0	
1100	0	-1.0	-1.3	0	
1120	-5	-5.5	-5.8	1130	begin -5 pressure step
1125	-5	-5.5	-6.8	1171	A-ring in fan
1130	-5	-5.0	-5.2	1195	
1135	-5	-5.0	-6.2	1252	
1140	-5	-6.0	-7.0	1247	
1145	-5	-5.5	-6.6	1197	
1150	-5	-5.5	-6.3	1177	
1155	-5	-5.0	-6.6	1182	
1200	-5	-5.5	-6.2	1190	
1205	-5	-5.0	-6.5	1151	
1210	-5	-5.0	-5.6	1173	
1215	-5	-5.0	-6.3	1177	
1220	-5	-5.0	-6.2	1171	
1225	-5	-5.5	-6.2	1206	
1230	-5	-5.5	-6.2	1212	
1235	-5	-6.5	-6.2	1240	
1240	-5	-5.0	-6.7	1232	
1245	-5 RA 3/7	-5.0	-6.3	1212	
1250	-5 -10	-10.0	-9.9	1739	begin -10 pressure step
1255	-10	-9.5 WIB	-10.1	1732	A-ring in fan
1300	-10	-10.4 RA	-10.4	1759	Omniguard = -10.5
1305	-10	-10.5	-9.7	1765	
1310	-10	-10.5	-9.8	1783	
1315	-10	-10.5	-10.1	1748	
1320	-10	-10.0	-10.3	1791	
1325	-10	-10.0	-10.3	1752	
1330	-10	-9.5	-10.3	1758	
1335	-10	-9.0	-10.2	1794	
1340	-10	-10.0	-10.0	1819	
1345	-10	-10.0	-10.9	1764	
1350	-10	-9.5	-10.8	1792	End -10 pressure step. Continue
1355	-10	-11.0	-10.3	1802	at current flow rate / pressure
1400	-10	-10.5	-10.7	1788	until all samples have been collected.
1405	-10	-10.5	-10.1	1792	
1410	-10	-9.5	-10.2	1778	
1420	+5	5.0	4.6	1430	Start +5 pressure cycle
1425	+5	5.0	4.2	1456	A-ring in fan
1430	+5	5.0	4.1	1464	
1435	+5	6.5	4.2	1448	
1440	+5	5.5	4.6	1461	
1445	+5	5.5	3.9	1428	

NOTES:

CFM = Cubic feet per minute.

PA = Pascal.

Project: AOU-1
Location: 7060 4
Sample Date: 3/7/17

Omniguard serial # G40S105

Time	Target ΔP (PA)	Omniguard ΔP (PA)	Blower Fan ΔP (PA)	Blower Flowrate (CFM)	Notes
1450	+5	5.0	4.0	1430	
1455	+5	5.5	3.9	1433	
1500	+5	5.5	3.9	1414	
1505	+5	4.5	3.7	1453	
1510	+5	~~4.5~~ 5.5	4.5	1464	Omniguard = 5.5
1515	+5	5.5	5.3	1476	
1520	+5	5.5	5.2	1430	
1525	+5	5.0	4.2	1431	
1530	+5	5.5	5.5	1461	End +5 pressure cycle

NOTES:
CFM = Cubic feet per minute.
PA = Pascal.

Project: AOU-1
Location: 0061-H
Sample Date: 3/8/17

Omniguard serial # G405105

Time	Target ΔP (PA)	Omniguard ΔP (PA)	Blower Fan ΔP (PA)	Blower Flowrate (CFM)	Notes
1050	0	-0.5	-0.9	0	baseline
1055	0	-0.5	-0.4	0	
1100	0	-1.0	-1.0	0	
1105	0	-2.0	-1.6	0	
1110	0	-0.5	-1.0	0	
1115	0	-1.0	-0.9	0	
1120	0	-0.5	-1.6	0	
1125	-5	-4.5	-5.7	1501	begin -5 pressure cycle running in fan
1130	-5	-4.5	-5.9	1567	
1135	-5	-4.0	-5.7	1526	
1140	-5	-4.0	-6.1	1635	
1145	-5	-4.5	-6.2	1686	
1150	-5	-4.5	-6.1	1687	
1155	-5	-5.0	-6.8	1764	
1200	-5	-5.0	-6.9	1704	
1205	-5	-4.5	-6.8	1769	
1210	-5	-5.0	-6.7	1723	
1215	-5	-5.0	-6.7	1743	
1220	-5	-5.0	-6.8	1753	
1225	-5	-5.0	-6.4	1756	
1230	-5	-5.0	-7.0	1787	
1235	-5	-5.0	-6.4	1727	
1240	-5	-5.0	-6.4	1716	
1245	-5	-5.0	-6.4	1716	
1250	-5	-5.0	-6.4	1716	
1255	-10	-10.0	-13.9	3086	begin -10 pressure cycle fan is upon
1300	-10	-10.5	-14.0	3286	
1305	-10	-10.5	-14.1	3221	
1310	-10	-10	-12.9	3172	
1315	-10	-10	-13.4	3214	
1320	-10	-9.5	-13.1	3053	
1325	-10	-10	-13.2	3066	
1330	-10	-9.5	-12.6	3240	
1335	-10	-10.0	-13.0	3220	
1340	-10	-10.0	-12.8	3204	
1345	-10	-10.0	-12.8	3359	
1350	-10	-10.5	-11.8	3054	
1355	-10	-10.5	-12.3	3251	
1400	-10	-10.0	-13.6	3371	
1405	-10	-10.5	-13.7	3274	
1410	-10	-10.0	-12.3	3356	
1415	+5	+5.0	5.2	1929	begin +5 pressure cycle running in fan
1420	+5	+5.0	5.7	1935	
1425	+5	+6.0	6.0	1929	
1430	+5	+6.0	5.3	1923	
1435	+5	+5.5	5.8	1873	
1440	+5	+6.5	4.9	1872	
1445	+5	+5.5	5.4	1882	
1450	+5	+5.0	5.3	1824	
1455	+5	+5.0	5.2	1847	

NOTES:
CFM = Cubic feet per minute.
PA = Pascal.

Project: AOU-1
Location: 053614
Sample Date: 3/29/17

Time	Target ΔP (PA)	Omniguard ΔP (PA)	Blower Fan ΔP (PA)	Blower Flowrate (CFM)	Notes
1030	0	-0.5	-0.5	0	baseline
1035	0	-1.0	-1.0	0	
1040	0	-0.5	-0.7	0	
1045	0	-1.0	-0.9	0	
1050	0	-1.0	-0.8	0	
1055	0	-1.5	-1.5	0	
1100	0	-1.5	-1.5	0	End baseline
1105	-5	-5.0	-5.2	1508	begin -5 pressure step
1110	-5	-6.0	-6.1	1570	3 Rings in fan
1115	-5	-4.5	-4.8	1501	
1120	-5	-5.0	-5.0	1299	
1125	-5	-5.0	-4.8	1225	
1130	-5	-5.5	-5.6	1510	
1135	-5	-5.5	-5.6	1523	End -5 pressure step
1137	-10	-10.0	-10.2	1846	begin -10 pressure step
1140	-10	-9.0	-9.0	2036	3 Rings in fan
1145	-10	-9.5	-9.8	2251	Removed 1 ring @ 1140,
1150	-10	-9.5	-10.3	2429	adjusted flow rate
1155	-10	-10.0	-10.6	2264	
1200	-10	-9.5	-9.7	2336	
1205	-10	-10	-10.4	2400	
1210	-10	-10	-10.4	2354	
1215	-10	-10.5	-10	2399	End -10 pressure step
1220	5.0	5.5	4.9	1589	begin +5 pressure step
1225	5.0	4.5	4.9	1605	3 Rings in fan
1230	5.0	5.5	5.2	1712	
1235	5.0	5.5	5.7	1654	
1240	5.0	4.5	4.2	1724	
1245	5.0	4.5	4.7	1724	
1250	5.0	5.0	4.5	1753	
1255	5.0	5.0	5.0	1724	
1300	5.0	5.0	5.3	1752	End +5 pressure step
~~1305~~	5.0	5.0	EM 3/29/17		

NOTES:
CFM = Cubic feet per minute.
PA = Pascal.

Project: AOU-1
Location: 00631
Sample Date: 3/21/12

Omniguard # G405105

Time	Target ΔP (PA)	Omniguard ΔP (PA)	Blower Fan ΔP (PA)	Blower Flowrate (CFM)	Notes
1235	BL	-1.5	-1.8	-	Weekend work/Fan ΔP unstable
1235	BL	-0.5	-2.0	-	
1240	BL	+0.5	-3.1	-	
1245	BL	-2.5	-5.2	-	
1250	BL	0.0	-0.9	-	
1255	BL	-1.0	-0.6	-	
1300	BL	-2.0	0.5	-	
1305	BL	-1.6	0.5	-	
1310	-5	-7.5	-5.6	474	begin -5 pressure step
1315	-5	-6.5	-2.6	484	Running time
1320	-5	-5.0	-4.7	459	
1325	-5	-5.6	-6.6	467	
1330	-5	-5.0	-5.1	474	
1335	-5	-5.0	-4.7	480	
1340	-5	-5.5	-6.2	485	
1345	-5	-5.0	-5.9	464	
1350	-5	-5.0	-6.6	446	
1355	-5	-5.0	-5.2	474	
1402	-5	-5.0	-5.2	471	
1405	-5	-4.0	-2.0	482	
1410	-5	-5.0	-6.5	518	
1415	-5	-5.0	-5.1	524	
1420	-5	-4.5	-6.1	522	
1425	-5	-5.0	-5.2	541	
1430	-5	-5.0	-5.5	544	
1435	-5	-5.5	-6.7	555	
1440	-5	-5.0	-4.4	535	
1445	-5	-4.5	-5.8	537	
1450	-5	-4.5	-4.2	550	
1455	-5	-6.0	-6.9	546	
1500	-5	-5.5	-5.0	552	
1505	-5	-5.0	-6.2	556	End -5 pressure step
1510	-10	-9.5	-10.0	910	begin -10 pressure step
1515	-10	-11.0	-10.5	955	Running time
1520	-10	-9.5	-9.6	987	
1525	-10	-9.5	-9.2	970	
1530	-10	-10.0	-9.8	977	
1535	-10	-10.5	-10.4	944	
1540	-10	-12.0	-11.5	996	
1545	-10	-11.5	-11.6	1051	
1550	-10	-10.0	-10.3	993	
1555	-10	-10.0	-10.4	1054	
1602	-10	-10.0	-12.5	924	
1605	-10	-10.5	-10.5	1024	End -10 pressure step
1610	+5	5.0	5.6	856	Begin +5 pressure step
1615	5	4.5	4.7	852	Running time
1620	+5	5.0	5.1	842	
1625	+5	5.0	5.6	878	
1630	+5	5.5	5.3	856	
1635	+5	5.0	10.7	856	

NOTES:
CFM = Cubic feet per minute.
PA = Pascal.

Project: AOU-1

Location: OU6314

Sample Date: 3/21/17

Time	Target ΔP (PA)	Omniguard ΔP (PA)	Blower Fan ΔP (PA)	Blower Flowrate (CFM)	Notes
1640	+5	5.0	5.4	860	
1645	+5	5.5	5.9	558	
1650	+5	5.0	5.6	860	End +5 pressure step

NOTES:

CFM = Cubic feet per minute.

PA = Pascal.

Attachment G
Chain-of-Custody Forms, Analytical Request Forms, SUMMA Canister Certifications, and HAPSITE Calibration Gas Documentation

ALS Environmental
Field Chain-of-Custody Record

CoC #: 001

Page 1 of 1

Client Name & Address:	Project Name & No.:
~~Accadis~~ CH2M HILL 4246 S Riverboat Rd Ste 210 Taylorsville, UT 84123	AOU-1 700 S 1600 E PCE PLUME
	ALS Quote No: RFP II 8002065S - R17 - 0003
	Report to: Mark Cichy
Phone: 385-474-8505	Report to e-mail: mark.cichy@ch2m.com
e-mail: Quin.bingham@ch2m.com	Bill to: PO # 10006-7-107234

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: TO-15 (51 m)	Preservation Code	Sample Matrix Code	Remarks
~~A-0026H-031017-TO-002-BAS~~	~~A-0026H~~		~~3/10/17 / 0925~~	1		1		~~A~~	~~Final P= -0.05 inHg~~
A-0027H-031017-TO-001-BAS	A-0027H	/	3/10/17 / 1114	1		1 Canister: 0699		A	Final P= -3.88 inHg
A-0027H-031017-TO-002-BAS	A-0027H	/	3/10/17 / 1114	1		1 Canister: 0731		A	Final P: ~~-3.68~~ -3.77 inHg
A-0013H-031017-TO-001-BAS	A-0013H	/	3/10/17 / 1423	1		1 Canister: 0445		A	Final P= -0.06 inHg
A-0025H-031417-TO-001-BAS	A-0025H	/	3/14/17 / 0910	1		1 Canister: 0475		A	Final P= -1.00 inHg
A-0004H-031417-TO-001-BAS	A-0004H	/	3/14/17 / 1104	1		1 Canister: 0427		A	Final P= -2.79 inHg
A-0012H-031417-TO-001-BAS	A-0012H	/	3/14/17 / 1432	1		1 Canister: 0691		A	Final P= -2.36 inHg
A-0026H-031617-TO-001-LIM	A-0026H	/	3/16/17 / 1508	1		1 Canister: 0740		A	Final P= -3.77 inHg

Possible Hazard Identification
☒ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Archive ____ Months
☒ Disposal by Lab
(fees assessed for samples retained > 3 months)

Data Deliverable:
☐ Level 1 ☐ Level 3
☐ Level 2 ☒ Level 4
EDD Type: LABSPEC 7

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days (Rush)
☐ 3 Days (Rush) ☒ 14 Days
(Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Quin Bingham	3/17/17 ~~8/21/14~~	10:35 ~~14:30~~	[signature]	3/17/17	1035
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Shipped to:
ALS Environmental
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
WEB:www.alsglobal.com

[For lab use only]

ANALYTICAL REQUEST FORM

1. ☑ REGULAR Status [14-Day TAT]

☐ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____ DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 3/17/17 Purchase Order No. 10006-7-107234 4. Quote No. 80Q20655-R17-0003

3. Company Name CH2M HILL ALS Project Manager Kevin Conti

Address 4216 S. Riverboat Rd, Suite 210
Taylorsville, UT 84123

Person to Contact Mark Cichy

Telephone (530) 229-3274

Fax Telephone ( )

E-mail Address Mark.cichy@ch2m.com

Billing Address (if different from above)

5. Sample Collection

Sampling Site NA Area 1 (SLC, UT)

Industrial Process Residential / Indoor Air

Date of Collection 3/10/17 – 3/16/17

Time Collected

Date of Shipment dropped @ Lab

Chain of Custody No. 001

6. How did you first learn about ALS?

7. REQUEST FOR ANALYSES

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
~~A-002611-031017-TO-002-BAS~~	~~SOIL SOIL AIR Indoor Air~~		~~Sim TO-15 (VOCs)*~~	~~5+6~~	
-002711-031017-TO-001-BAS	"		Sim TO-15 (VOCs)*	5+6	
-002711-031017-TO-002-BAS	"		Sim TO-15 (VOCs)*	5+6	
-001311-031017-TO-001-BAS	"		Sim TO-15 (VOCs)*	5+6	
-002511-031417-TO-001-BAS	"		SIM TO-15 (VOCs)*	5+6	
-000911-031417-TO-001-BAS	"		Sim TO-15 (VOCs)*	5+6	
-001211-031417-TO-001-BAS	"		Sim TO-15 (VOCs)*	5+6	
-002611-031617-TO-001-LAB	"		Sim TO-15 (VOCs)*	5+6	

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % 5. µg/m³ 6. ppb (other) Please indicate one or more units in the column entitled Units**

Comments EDD type: Lab spec 7 Data Deliverable: Level 4

* VC, cis-1,2-DCE, TCE, PCE ~~by TO-15~~ and 1,4-Dioxane by TO-15 SIM

Possible Contamination and/or Chemical Hazards None

7. Chain of Custody (Optional)

Relinquished by	[signature]	Date/Time	3/17/17 10:35
Received by	[signature]	Date/Time	3/17/17 1035
Relinquished by		Date/Time	
Received by		Date/Time	

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
ALS Environmental

ALS Environmental
Field Chain-of-Custody Record

CoC #: 002

Page 1 of 1

Client Name & Address: Arcadis CH2M HILL 4246 S. Riverboat Rd Suite 710 Taylorsville, UT	Project Name & No.: TOU-1 FWS. 100 G IRE Plume
	ALS Quote No: 8UQ20655-1017-00003
	Report to: Mark Ciehy
Phone: 385-474-8505	Report to e-mail: Mark.Ciehy@CH2M.com
e-mail: Quin.bingham@ch2m.com	Bill to: PO# 10006-7-107234

Matrix Codes: W) Water, B) Bulk, L) Liquid, F) Filter, S) Soil, G) Wipe, C) Solid, M) Media

Preservation Codes: 1) Cool to 4°C; 2) HCl to pH<2, 4°C; 3) H_2SO_4 to pH<2, 4°C; 4) HNO_3 to pH<2, 4°C; 5) NaOH to pH>12, 4°C; 6) ZnOAc/NaOH to pH>9, 4°C

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: TO-15 (SIM)*	Preservation Code	Sample Matrix Code	Remarks
A-0001H-032317-TO-001-BAS	0001H	—	3/23/17 1112	1		1 Canister 000805			Final P: -7.48 in Hg
A-0001H-032317-TO-002-BAS	0001H	—	3/23/17 1112	1		1 Canister 0190			Final P: -8.23 in Hg
A-0002H-032317-TO-001-BAS	0002H	—	3/23/17 1432	1		1 Canister 0133			Final P: -8.05 in Hg
A-0029H-033117-TO-001-BAS	0029H	—	3/31/17 1458	1		1 Canister 0291			Final P: -6.11 in Hg

Possible Hazard Identification: ☑ Non-Hazard ☐ Skin Irritant ☐ Rad ☐ Flammable ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☐ Archive ____ Months ☑ Disposal by Lab (fees assessed for samples retained > 3 months)

Data Deliverable: ☐ Level 1 ☐ Level 3 ☐ Level 2 ☑ Level 4 EDD Type: LabSpec 7

Requested Turn Around Time: ☐ 2 Days (Rush) ☐ 7 Days (Rush) ☐ 3 Days (Rush) ☑ 14 Days (Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	3/31/17 ~~3/21/14~~	1554 ~~14:30~~		3-31-17	15:54
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Shipped to:
ALS Environmental
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
WEB:www.alsglobal.com

* VC, CIS-1,2-DCE, TCE, PCE, 1,4-Dioxane by TO-15 SIM

ALSCoC9 30 14

9/30/2014

[For lab use only]

ANALYTICAL REQUEST FORM

1. ☒ REGULAR Status

☐ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____ DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 3/31/17 Purchase Order No. 10006-7-107284

3. Company Name CHEM HILL
Address 4246 S. Riverboat Rd Suite 210
Taylorsville, UT 84123
Person to Contact Mark Cichy
Telephone (531) 224-3274
Fax Telephone ( )
E-mail Address Mark.Cichy@CHEM.com
Billing Address (if different from above)

4. Quote No. 80Q20655-R17-0003
ALS Project Manager Kevin Griffith

5. Sample Collection
Sampling Site VA AOU1 (SLC, UT)
Industrial Process Residential Indoor Air
Date of Collection
Time Collected
Date of Shipment Dropped off @ Lab
Chain of Custody No. 002

6. How did you first learn about ALS?

7. REQUEST FOR ANALYSES

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
4-000111-032317-TO-001-BAS	Indoor Air		SIM TO-15 (VOCs)*	5+6	
4-000114-032317-TO-002-BAS	"		SIM TO-15 (VOCs)*	5+6	
4-000111-032317-TO-001-BAS	"		SIM TO-15 (VOCs)*	5+6	
4-002911-033117-TO-001-BAS	"		SIM TO-15 (VOCs)*	5+6	

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % 5. µg/m³ 6. ppbV (other) Please indicate one or more units in the column entitled Units**

Comments EDD type: Lapspec 7 Data Deliverable: Level 4

* VC, 1,4-Dioxane, TCE, PCE, cis-1,2-DCE by TO-15 SIM

Possible Contamination and/or Chemical Hazards None

7. Chain of Custody (Optional)

Relinquished by		Date/Time	3/31/17 @ 15:54
Received by		Date/Time	3/31/17 15:54
Relinquished by		Date/Time	
Received by		Date/Time	

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
ALS Environmental

ALS Environmental
Field Chain-of-Custody Record

CoC #: 003

Page 1 of 1

Client Name & Address: Arcadis — CH2M HILL, 4246 S. Riverboat Rd STE 210, Taylorsville, UT 84123	Project Name & No.: HA AOU1 7005. 1600K. Plume
	ALS Quote No: 8DQ70655-R17-0003
	Report to: Mark Ciccu
Phone: 385-477-8505	Report to e-mail: Mark.ciccu@ch2m.com
e-mail: Quin.bingham@ch2m.com	Bill to: PO # 100006-7-107234

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: * TO-15 / TO-15 SIM	Preservation Code	Sample Matrix Code	Remarks
A003811-041117-TO-001	BAS 003811	—	4/11/17 @ 1145	1		X Canister: 0126			Final P: -3.39 in Hg
A-003811-041117-TO-002	BAS 003811	—	4/11/17 @ 1145	1		X Canister: 0430			Final P: -2.30 in Hg
A-006411-041417-TO-001-LIK	006411	—	4/14/17 @ 0810	1		X Canister: 0085			Final P: -1.79 in Hg

Matrix Codes: W) Water, B) Bulk, L) Liquid, F) Filter, S) Soil, G) Wipe, C) Solid, M) Media

Preservation Codes: 1) Cool to 4°C; 2) HCl to pH<2, 4°C; 3) H_2SO_4 to pH<2, 4°C; 4) HNO_3 to pH<2, 4°C; 5) NaOH to pH>12, 4°C; 6) ZnOAc/NaOH to pH>9, 4°C

Possible Hazard Identification
☑ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Archive ____ Months
☑ Disposal by Lab
(fees assessed for samples retained > 3 months)

Data Deliverable:
☐ Level 1 ☐ Level 3
☐ Level 2 ☑ Level 4
EDD Type: Lab Spec 7

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days (Rush)
☐ 3 Days (Rush) ☑ 14 Days
(Rush = email data by COB on day due. Surcharges assessed.)

Carrier/Airbill #:

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4/14/17 ~~8/21/14~~	1108 ~~14:30~~	Jennifer Fissel 041417	11:06	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Shipped to:
ALS Environmental
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
WEB:www.alsglobal.com

* HC, CIS-1,2-DCE, TCE, PCE, 1,4-DIOXANE by TO-15 SIM

[For lab use only]

ANALYTICAL REQUEST FORM

1. ☑ REGULAR Status 14 day TAT

☐ RUSH Status Requested - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____ DATE
CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 4/11/17 Purchase Order No. 10006-7-107234

3. Company Name CH2M HILL
Address 4712 S. Foothill Rd, STE 210
Taylorsville, UT 84123
Person to Contact Mark Cicby
Telephone (530) 229-3279
Fax Telephone ( )
E-mail Address Mark.Cicby@ch2m.com
Billing Address (if different from above)

4. Quote No. 80020655-R17-0003
ALS Project Manager Kevin Conant

5. Sample Collection
Sampling Site HA AOU1 (SLC, UT)
Industrial Process Residential Indoor Air
Date of Collection 3/23/17 + 4/14/17
Time Collected 8:41 4/14/17
Date of Shipment Dropped off @ Lab
Chain of Custody No. 0023

6. How did you first learn about ALS?

7. REQUEST FOR ANALYSES

Client Sample Number	Matrix*	Sample/Area Volume	ANALYSES REQUESTED - Use method number if known	Units**	Lab Comments
1-003811-041117-TO-001-BAS	Indoor Air		TO-15 / TO-15 SIM*	5+6	
1-003811-041117-TO-002-BAS	"		TO-15 / TO-15 SIM*	5+6	
1-003811-041417-TO-001-LIV	"		TO-15 / TO-15 SIM*	5+6	

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other

** 1. µg/sample 2. mg/m³ 3. ppm 4. % 5. µg/m³ 6. ppbv (other) Please indicate one or more units in the column entitled Units**

Comments EDD type: LabSpec 7 Db Deliverable: Level 4
* MC, CIS-1,2-DCE, TCE, PCE, 1,4-DIOXANE by TO-15 SIM

Possible Contamination and/or Chemical Hazards NONE

7. Chain of Custody (Optional)

Relinquished by		Date/Time	4/14/17 @ 1108
Received by		Date/Time	04.14.17 1108
Relinquished by		Date/Time	
Received by		Date/Time	

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9135 or 801-266-7700 / FAX: 801-268-9992
ALS Environmental

Summa® Canister Request

n		Deliver By:	Date: 3/7/17	Time: AM X PM
Requested By:	Kevin Griffiths	Ext: 302	Request Date:	3/1/17
Client Purchase Order Number:		Account Number:	Task:	Section:

Analyte:	Total VOCs by TO15 and TO15 SIM for PCE,DCE,12DCE, VC, 1,4-Dioxane						
Analytical Method:	EPA TO-15						
Summa Type:	6 Liter Summa	x	6 Liter Sulfur		1LMini Canister	3	Mini Sulfur	
Quantity:	9						
Trip Blanks:							
Regulator Type:	Passive Sampler	x	Sulfur Sampler		Mini Passive Sampler	X	Mini Sulfur Sampler	
Quantity:	9				3		
Sampling Time:	Set at 225 ml/hour 24 hours				Set at 150 ml/min 5 min		
Special Instructions:	Client will be doing 3 soil gas vapor sampling (full scan) and 9 Indoor air for both Full scan and SIM						

Additional Equipment Needed: Holsters:	Quantity Needed:										
Additional Equipment Needed: Tubing:	Quantity:				Length:						
Chain of Custody:	Yes	X	No		Labels:	Yes	X	No		Seals:	Yes	X	No	
Canister Cleaning Certificate Included:	Yes	X	No		Method of Payment for Shipping									
Bill Client for Shipping:	Yes		No	X										

Company Name	Contact Name
CH2M	Quin Bingham
Address	City, State, ZIP
Pick-up	
	Telephone:

Canister ID Numbers (Internal Use)			Regulator ID Numbers (Internal Use)		
0009	0740		0232	0650	
0075	0120		0336	0702	
0030	0475		0374	0695	
0045	0691		0651	0155	
03-0366			0706		
0688			0242		
0731			0759		
0727			0718		
Tracking Information:					

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Canister Chain of Custody

Client: CH2M	Project/Job/Task:
Account No:	

Please do not apply adhesive labels directly on Canisters
Manilla tags are provided, attached to Canisters for your convenience, to apply adhesive labels

Canister Serial No.:	Date Cleaned	Initial Vacuum (inches of Hg vacuum)	VFR flow rate (ml/min)	Initials:	Field Vacuum before sampling (inches of Hg vacuum)	Final Vacuum after sampling (inches of Hg vacuum)	Client Sample Identification	Other Client Information	ALS use only
0009	11/09/16	~25							
0075	02/27/17	~25							
0030	02/27/17	~25							
0445	02/24/17	~25							
0366	02/24/17	~25							
VFR Serial No.:									
0232	03/06/17		~150						
0336	03/06/17		~150						
0374	03/06/17		~150						
0651	03/06/17		~3.7 or 225 ml/min						
0706	03/06/17		~3.7 or 225 ml/min						

Original Field Sample Chain-of-Custody

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/Storage Location
	03/06/17		

Return to:
ALS Laboratory Group
960 W. LeVoy Drive
Salt Lake City, UT 84123
800-356-9135

If canisters are kept for longer than the original project scheduled sampling, a $40 per can - per week rental fee will be assessed. If a project is cancelled after ALS has shipped cans, in addition to the cost of the initial shipping, a $40 weekly rental fee will be charged for each unused can until they are returned to ALS.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Canister Chain of Custody

Client: CH2M

Account No:

Project/Job/Task:

Please do not apply adhesive labels directly on Canisters

Manilla tags are provided, attached to Canisters for your convenience, to apply adhesive labels

Canister Serial No.:	Date Cleaned	Initial Vacuum (inches of Hg vacuum)	VFR flow rate (ml/min)	Initials:	Field Vacuum before sampling (inches of Hg vacuum)	Final Vacuum after sampling (inches of Hg vacuum)	Client Sample Identification	Other Client Information	ALS use only
0688	01/24/17	~25							
0731	12/9/16	~25							
0729	07/24/17	~25							
0740	02/22/17	~25							
0120	02/27/17	~25							
VFR Serial No.:									
0242	03/06/17		~3.7 or 225 ml/hr						
0759	03/06/17		~3.7 or 225 ml/hr						
0718	03/06/17		~3.7 or 225 ml/hr						
0650	03/06/17		~3.7 or 225 ml/hr						
0702	03/06/17		~3.7 or 225 ml/hr						

Original Field Sample Chain-of-Custody

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/Storage Location
	03/06/17		

Return to:
ALS Laboratory Group
960 W. LeVoy Drive
Salt Lake City, UT 84123
800-356-9135

If canisters are kept for longer than the original project scheduled sampling, a $40 per can - per week rental fee will be assessed. If a project is cancelled after ALS has shipped cans, in addition to the cost of the initial shipping, a $40 weekly rental fee will be charged for each unused can until they are returned to ALS.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Canister Chain of Custody

Client: CH2M	Project/Job/Task:
Account No:	

Please do not apply adhesive labels directly on Canisters

Manilla tags are provided, attached to Canisters for your convenience, to apply adhesive labels

Canister Serial No.:	Date Cleaned	Initial Vacuum (inches of Hg vacuum)	VFR flow rate (ml/min)	Initials:	Field Vacuum before sampling (inches of Hg vacuum)	Final Vacuum after sampling (inches of Hg vacuum)	Client Sample Identification	Other Client Information	ALS use only
0475	02/24/17	~25		SH					
0491	02/24/17	~25		SH					
VFR Serial No.:									
0695	03/06/17		~3.7 at 22.5 in Hg	SH					
0155	03/06/17		~3.7 at 22.5 in Hg	SH					

Original Field Sample Chain-of-Custody

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/Storage Location
SH	03/06/17		

Return to:
ALS Laboratory Group
960 W. LeVoy Drive
Salt Lake City, UT 84123
800-356-9135

If canisters are kept for longer than the original project scheduled sampling, a $40 per can - per week rental fee will be assessed. If a project is cancelled after ALS has shipped cans, in addition to the cost of the initial shipping, a $40 weekly rental fee will be charged for each unused can until they are returned to ALS.

DataChem Laboratories, Inc. - Summa® Canister Request

		Delivery By:	Date: 3/15/17	Time: AM [X] PM [ ]			
Requested By:	Kevin Griffiths	Ext:	302	Request Date:	3-10-17		
Client Purchase Order Number:		Account Number: 8001	Task: 46	Section: Pm			
Analyte:	VOCs						
Analytical Method:	TO15						
Summa Type:	6 Liter Summa [X]	6 Liter Sulfur [ ]	Mini Canister 3	Mini Sulfur [ ]			
Quantity:	8						
Trip Blanks:							
Regulator Type:	Passive Sampler [X]	Sulfur Sampler [ ]	Mini Passive Sampler [X]	Mini Sulfur Sampler [ ]			
Quantity:	8						
Sampling Time:	Set at 200 ml/Hour						
Special Instructions:	Individually certified can for SIM analysis PCE, TCE, Cis-1,2-Dichloroethene, Vinyl Chloride, 1,4-Dioxane Regulators set at 225ml/min 3.2 ml/min						
Additional Equipment Needed: Holsters:	Quantity Needed:						
Additional Equipment Needed: Tubing:	Quanity:		Length:				
Chain of Custody: Yes [X] No [ ]	Labels: Yes [ ] No [ ]	Seals: Yes [ ] No [ ]					
Canister Cleaning Certificate Included: Yes [ ] No [ ]	Method of Payment for Shipping						
Bill Client for Shipping: Yes [ ] No [X]							
Company Name	Contact Name						
CH2M	Quin Brigham						
Address	City, State, ZIP						
Pick-up at Lab							
	Telephone:						

Canister ID Numbers (Internal Use)			Regulator ID Numbers (Internal Use)		
0722			0754		
0726			0701		
0085			0747		
0241			0592 RC-03-14-17		
0133			0744		
0805			0749		
0190			0763		
0430			0717		

Tracking Information:

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Canister Chain of Custody

Client: CH2M	Project/Job/Task:
Account No:	

Please do not apply adhesive labels directly on Canisters

Manilla tags are provided, attached to Canisters for your convenience, to apply adhesive labels

Canister Serial No.:	Date Cleaned	Initial Vacuum (inches of Hg vacuum)	VFR flow rate (ml/min)	Initials:	Field Vacuum before sampling (inches of Hg vacuum)	Final Vacuum after sampling (inches of Hg vacuum)	Client Sample Identification	Other Client Information	ALS use only
0805	02/27/17	>25		JW					
0190	02/27/17	>25		JW					
0430	02/27/17	>25		JW					
VFR Serial No.:									
0749	03/12/17		3	JW					
0763	03/12/17		3	JW					
0717	03/12/17		3	JW					

Original Field Sample Chain-of-Custody

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/Storage Location
	03-14-17		

Return to:
ALS Laboratory Group
960 W. LeVoy Drive
Salt Lake City, UT 84123
800-356-9135

If canisters are kept for longer than the original project scheduled sampling, a $40 per can - per week rental fee will be assessed. If a project is cancelled after ALS has shipped cans, in addition to the cost of the initial shipping, a $40 weekly rental fee will be charged for each unused can until they are returned to ALS.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Canister Chain of Custody

Client: CH2M	Project/Job/Task:
Account No:	

Please do not apply adhesive labels directly on Canisters

Manilla tags are provided, attached to Canisters for your convenience, to apply adhesive labels

Canister Serial No.:	Date Cleaned	Initial Vacuum (inches of Hg vacuum)	VFR flow rate (ml/min)	Initials:	Field Vacuum before sampling (inches of Hg vacuum)	Final Vacuum after sampling (Inches of Hg vacuum)	Client Sample Identification	Other Client Information	ALS use only
0722	03/01/17	>25							
0726	02/27/17	>25							
0085	03/01/17	>25							
0241	02/27/17	>25							
0133	02/27/17	>25							
VFR Serial No.:									
0754	03/12/17		3						
0701	03/12/17		3						
0747	03/12/17		3						
0592	03/12/17		3						
0744	03/12/17		3						

Original Field Sample Chain-of-Custody

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/Storage Location
	03-14-17		

Return to:
ALS Laboratory Group
960 W. LeVoy Drive
Salt Lake City, UT 84123
800-356-9135

f canisters are kept for longer than the original project scheduled sampling, a $40 per can - per week rental fee will be assessed. If a project is cancelled after ALS has shipped cans, in addition to the cost of the initial shipping, a $40 weekly rental fee will be charged for each unused can until they are returned to ALS.

DataChem Laboratories, Inc. - Summa® Canister Request

		Delivery By:	Date: 4/18/17	Time: AM [X] PM [ ]			
Requested By:	Kevin Griffiths	Ext:	302	Request Date:	4-18-17		
Client Purchase Order Number:		Account Number: 8001		Task: 46		Section: Pm	
Analyte:	VOCs						
Analytical Method:	TO15						
Summa Type:	6 Liter Summa [X]	6 Liter Sulfur [ ]		Mini Canister [3 → 4 4/18/17]		Mini Sulfur [ ]	
Quantity:	2						
Trip Blanks:							
Regulator Type:	Passive Sampler [X]	Sulfur Sampler [ ]		Mini Passive Sampler [X]		Mini Sulfur Sampler [ ]	
Quantity:	2						
Sampling Time:	Set at 200 ml/Hour						
Special Instructions:	Individually certified can for SIM analysis PCE, TCE, Cis-1,2-Dichloroethene, Vinyl Chloride, 1,4-Dioxane Regulators set at 225ml/min						
Additional Equipment Needed: Holsters:		Quantity Needed:					
Additional Equipment Needed: Tubing:		Quanity:		Length:			
Chain of Custody: Yes [X] No [ ]		Labels: Yes [ ] No [ ]		Seals: Yes [ ] No [ ]			
Canister Cleaning Certificate Included: Yes [ ] No [ ]		Method of Payment for Shipping					
Bill Client for Shipping: Yes [ ] No [X]							
Company Name		Contact Name					
CH2M		Quin Brigham					
Address		City, State, ZIP					
Pick-up at Lab							
		Telephone:					

Canister ID Numbers (Internal Use)			Regulator ID Numbers (Internal Use)		
0860			0718		
0554			0155		

Tracking Information:	

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Canister Chain of Custody

Client: CH2M	Project/Job/Task:
Account No:	

Please do not apply adhesive labels directly on Canisters
Manilla tags are provided, attached to Canisters for your convenience, to apply adhesive labels

Canister Serial No.:	Date Cleaned	Initial Vacuum (inches of Hg vacuum)	VFR flow rate (ml/min)	Initials:	Field Vacuum before sampling (inches of Hg vacuum)	Final Vacuum after sampling (inches of Hg vacuum)	Client Sample Identification	Other Client Information	ALS use only
0860	03/08/17	>25		JL					
0554	03/08/17	>25		JL					
VFR Serial No.:									
~~0374~~ 0718	04/18/17		~225 ml/hr	JL					
~~0336~~ 0155	04/18/17		~225 ml/hr	JL					

Original Field Sample Chain-of-Custody

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/Storage Location
	04/18/17		

Return to:
ALS Laboratory Group
960 W. LeVoy Drive
Salt Lake City, UT 84123
800-356-9135

If canisters are kept for longer than the original project scheduled sampling, a $40 per can - per week rental fee will be assessed. If a project is cancelled after ALS has shipped cans, in addition to the cost of the initial shipping, a $40 weekly rental fee will be charged for each unused can until they are returned to ALS.

CH2M Applied Sciences Laboratory
1100 NE Circle Blvd, Suite 300
Corvallis, OR 97330
Tel 541.768.3120, EMail ASL@ch2m.com

EQUIPMENT SHIPPING FORM

Ship To: RI, VHA
Quin Bingham/SLC

Shipping Information :
Ship Via : Fed-Ex 3 Day Express Saver
Ship Date: 2/24/2017 Shipping No.: **13713**
Purchase Order:

This Order was Packed By : Russ Southard Ext. :

(If there are any questions or problems with this shipment, please contact: Customer Services at 541-752-4271 ext. 3120.)

IMPORTANT NOTICE :
A $20.00 cleaning fee will be added if the surface of the canister is marked with tape, labels, or markers .
Certification/Cleaning charges: Assessed upon return of equipment and completion of analysis at the following rates: 6.0 liter canister - $75.00 per sample, 850 ml canister - $55.00 per sample, flow controller - $25.00 per sample.
Rental charges: Assessed upon equipment not returned within 14 days at the following weekly rates: Canister - $20.00, Flow Controller - $25.00, Flow Meter - $125.00. User assumes all responsibility for damage or loss. In the event of loss, user will be charged full equipment value.
Equipment Use: This equipment is the property of CH2M HILL and is part of an analytical service. This equipment cannot transferred to any other party without prior approval by CH2M HILL.

ITEMS SHIPPED:

ITEM : Sample Canisters

Device ID	Size	Cleaning Date	Cleaning Batch ID	Certified (TO-12)	Certified (TO-14/15)	Ins. Value
6L2560A	6 L	1/13/2017	011317C1		2/1/2017	$500.00
6L2571A	6 L	1/19/2017	011917M1		2/1/2017	$500.00

Additional Comments: tracking to Quin Bingham/SLC and Russ/CVO
Request # 13713

CH2M Applied Sciences Laboratory
1100 NE Circle Blvd, Suite 300
Corvallis, OR 97330
Tel 541.768.3120, EMail ASL@ch2m.com

EQUIPMENT SHIPPING FORM

Ship To: RI, VHA
Quin Bingham/SLC

Shipping Information :
Ship Via : Fed-Ex Overnight AM
Ship Date: 3/9/2017 Shipping No.: **13720**
Purchase Order:

This Order was Packed By : Russ Southard Ext. :

(If there are any questions or problems with this shipment, please contact: Customer Services at 541-752-4271 ext. 3120.)

IMPORTANT NOTICE :
A $20.00 cleaning fee will be added if the surface of the canister is marked with tape, labels, or markers .
Certification/Cleaning charges: Assessed upon return of equipment and completion of analysis at the following rates: 6.0 liter canister - $75.00 per sample, 850 ml canister - $55.00 per sample, flow controller - $25.00 per sample.
Rental charges: Assessed upon equipment not returned within 14 days at the following weekly rates: Canister - $20.00, Flow Controller - $25.00, Flow Meter - $125.00. User assumes all responsibility for damage or loss. In the event of loss, user will be charged full equipment value.
Equipment Use: This equipment is the property of CH2M HILL and is part of an analytical service. This equipment cannot transferred to any other party without prior approval by CH2M HILL.

ITEMS SHIPPED:

ITEM : Sample Canisters

Device ID	Size	Cleaning Date	Cleaning Batch ID	Certified (TO-12)	Certified (TO-14/15)	Ins. Value
6L2562S	6 L	12/16/2016	121616C1		1/30/2017	$500.00
6L2704A	6 L	11/30/2016	113016M1		12/21/2016	$500.00

Additional Comments: Tracking to Quin Bingham/SLC and Russ/CVO
Request # 13720

Appendix F
HAPSITE Data Reports

Unknown Identification Report
Date: 07/12/17 Time: 09:52:41
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_002.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 10:32:24 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:01.4	0.613	1	303821	0.1745	
130	02:38.1	TCE	02:36.9	0.904	1	315566	0.1066	
166	03:38.9	PCE	03:35.8	0.995	1	253888	0.06463	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_003.hps
GPS Info:
Latitude: N 40 Deg 45.12726 Min Longitude: W 111 Deg 51.55106 Min GMT: 03/15/17 05:03:22 PM

Acquisition Date and Time: 3/15/2017 11:14:01 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:01.4	0.607	1	193099	0.1109	
130	02:38.1	TCE	02:45.8	0.902	1	12100	0.00409	
166	03:38.9	PCE	03:35.9	0.992	1	97698	0.02487	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_004.hps
GPS Info:
Latitude: N 40 Deg 45.12131 Min Longitude: W 111 Deg 51.54327 Min GMT: 03/15/17 05:12:08 PM

Acquisition Date and Time: 3/15/2017 11:22:46 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:01.5	0.549	1	895815	0.5145	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:36.3	0.995	1	3209559	0.8171	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_005.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 11:38:16 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.1	0.535	1	887811	0.5099	
130	02:38.1	TCE	02:37.6	0.902	1	78717	0.02659	
166	03:38.9	PCE	03:36.7	0.994	1	1443911	0.3676	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_006.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 11:49:01 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.0	0.53	1	1402616	0.8056	
130	02:38.1	TCE	02:37.5	0.897	1	60626	0.02048	
166	03:38.9	PCE	03:37.1	0.995	1	1512482	0.385	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_007.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 12:02:33 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.5	0.572	1	794105	0.4561	
130	02:38.1	TCE	02:38.0	0.907	1	119020	0.04021	
166	03:38.9	PCE	03:37.7	0.994	1	1096278	0.2791	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_008.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 12:17:14 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.8	0.542	1	415437	0.2386	
130	02:38.1	TCE	02:38.3	0.911	1	32025	0.01082	
166	03:38.9	PCE	03:38.3	0.996	1	1596034	0.4063	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_009.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 12:29:13 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.8	0.524	1	885389	0.5085	
130	02:38.1	TCE	02:38.9	0.911	1	27758	0.00938	
166	03:38.9	PCE	03:37.8	0.993	1	3357945	0.8549	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_010.hps
GPS Info:
Latitude: N 40 Deg 45.10139 Min Longitude: W 111 Deg 51.55197 Min GMT: 03/15/17 06:36:06 PM

Acquisition Date and Time: 3/15/2017 12:46:44 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.5	0.646	1	740725	0.4254	
130	02:38.1	TCE	02:38.0	0.899	1	29006	0.0098	
166	03:38.9	PCE	03:37.2	0.993	1	3140228	0.7994	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_011.hps
GPS Info:
Latitude: N 40 Deg 37.36473 Min Longitude: W 111 Deg 49.20273 Min GMT: 03/15/17 08:17:27 PM

Acquisition Date and Time: 3/15/2017 2:28:08 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity		area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.3	0.93		1	5729665	3.291	
130	02:38.1	TCE	02:38.5	0.906		1	11233419	3.795	
166	03:38.9	PCE	03:37.5	0.994		1	13873209	3.532	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_012.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 9:48:27 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity		area	ppb	Flag
61	02:00.6	cis-1,2 DCE	01:56.8	0.919		1	13155783	7.556	
130	02:38.1	TCE	02:43.9	0.91		1	15493786	5.234	
166	03:38.9	PCE	03:44.8	0.994		1	17618148	4.485	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_013.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 9:57:23 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	01:55.5	0.92	1	13463258	7.733	
130	02:38.1	TCE	02:42.5	0.909	1	15120992	5.109	
166	03:38.9	PCE	03:43.2	0.994	1	17575878	4.474	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_014.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 10:17:49 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.1	0.947	1	5673702	3.259	
130	02:38.1	TCE	02:40.9	0.908	1	5405958	1.826	
166	03:38.9	PCE	03:42.6	0.995	1	5965122	1.519	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_015.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 10:27:49 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity		area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.937		1	2961945	1.701	
130	02:38.1	TCE	02:39.6	0.908		1	2620638	0.8854	
166	03:38.9	PCE	03:40.2	0.993		1	3082165	0.7847	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_016.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 10:45:31 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity		area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.9	0.945		1	14806662	8.504	
130	02:38.1	TCE	02:40.2	0.908		1	15800332	5.338	
166	03:38.9	PCE	03:40.2	0.993		1	17768826	4.524	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170315\SIM_100PPB_VA_20170307_20170315_017.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/15/2017 11:06:34 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 04MAR2016
Last Calibrated: 3/4/2016 7:30:36 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.7	0.946	1	15488018	8.896	
130	02:38.1	TCE	02:39.7	0.908	1	16234919	5.485	
166	03:38.9	PCE	03:40.3	0.995	1	18351460	4.672	

Unknown Identification Report
Date: 07/12/17 Time: 09:54:43
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_008.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/22/2017 10:41:29 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.935	1	7763959	5.227	
130	02:38.1	TCE	02:38.3	0.91	1	15290948	5.516	
166	03:38.9	PCE	03:37.0	0.994	1	17395912	5.599	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_007.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/22/2017 10:24:33 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017

Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.5	0.937	1	11612687	7.818	
130	02:38.1	TCE	02:37.6	0.91	1	21852014	7.882	
166	03:38.9	PCE	03:37.1	0.994	1	24782240	7.976	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_009.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/22/2017 10:50:50 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.4	0.78	1	105595	0.07109	
130	02:38.1	TCE	02:37.4	0.705	1	32999	0.0119	
166	03:38.9	PCE	03:36.7	0.994	1	71108	0.02289	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_010.hps
GPS Info:
Latitude: N 40 Deg 45.11078 Min Longitude: W 111 Deg 51.55334 Min GMT: 03/22/17 05:14:06 PM

Acquisition Date and Time: 3/22/2017 11:24:57 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017

Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.2	0.575	1	2533659	1.706	
130	02:38.1	TCE	02:37.9	0.91	1	25293	0.00912	
166	03:38.9	PCE	03:37.4	0.995	1	900491	0.2898	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_011.hps
GPS Info:
Latitude: N 40 Deg 45.10757 Min Longitude: W 111 Deg 51.55151 Min GMT: 03/22/17 05:22:47 PM

Acquisition Date and Time: 3/22/2017 11:33:38 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.761	1	35990	0.02423	
130	02:38.1	TCE	02:40.9	0.523	1	6073	0.00219	
166	03:38.9	PCE	03:24.6	0.882	1	2513		Area too low

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_012.hps
GPS Info:
Latitude: N 40 Deg 45.09270 Min Longitude: W 111 Deg 51.55014 Min GMT: 03/22/17 05:31:28 PM

Acquisition Date and Time: 3/22/2017 11:42:19 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017

Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.7	0.539	1	1254749	0.8448	
130	02:38.1	TCE	02:38.2	0.523	1	77914	0.0281	
166	03:38.9	PCE	03:37.7	0.994	1	610846	0.1966	

Unknown Identification Report
Date: 06/07/17 Time: 15:47:46
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_008.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/22/2017 10:41:29 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.935	1	7763959	5.227	
130	02:38.1	TCE	02:38.3	0.91	1	15290948	5.516	
166	03:38.9	PCE	03:37.0	0.994	1	17395912	5.599	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_013.hps
GPS Info:
Latitude: N 40 Deg 45.04578 Min Longitude: W 111 Deg 51.48514 Min GMT: 03/22/17 08:10:51 PM

Acquisition Date and Time: 3/22/2017 2:21:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.8	0.676	1	543193	0.3657	
130	02:38.1	TCE	02:39.8	0.882	1	19958	0.0072	
166	03:38.9	PCE	03:41.1	0.997	1	157565	0.05071	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_014.hps
GPS Info:
Latitude: N 40 Deg 45.04921 Min Longitude: W 111 Deg 51.48285 Min GMT: 03/22/17 08:20:51 PM

Acquisition Date and Time: 3/22/2017 2:31:46 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.8	0.545	1	48073	0.03237	
130	02:38.1	TCE	02:38.6	0.912	1	4822		Area too low
166	03:38.9	PCE	03:40.5	1	1	15184	0.00489	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_015.hps
GPS Info:
Latitude: N 40 Deg 45.04372 Min Longitude: W 111 Deg 51.48514 Min GMT: 03/22/17 08:29:25 PM

Acquisition Date and Time: 3/22/2017 2:40:21 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.5	0.611	1	410822	0.2766	
130	02:38.1	TCE	02:39.2	0.837	1	104507	0.0377	
166	03:38.9	PCE	03:39.7	0.994	1	400382	0.1289	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_016.hps
GPS Info:
Latitude: N 40 Deg 45.03250 Min Longitude: W 111 Deg 51.48788 Min GMT: 03/22/17 08:40:15 PM

Acquisition Date and Time: 3/22/2017 2:51:11 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.1	0.578	1	225990	0.1522	
130	02:38.1	TCE	02:39.5	0.9	1	60684	0.02189	
166	03:38.9	PCE	03:39.6	0.996	1	232774	0.07492	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_018.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/22/2017 3:13:07 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.0	0.559	1	603519	0.4063	
130	02:38.1	TCE	02:39.6	0.908	1	106572	0.03844	
166	03:38.9	PCE	03:39.3	0.994	1	420673	0.1354	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170322_019.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/22/2017 3:22:05 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.5	0.629	1	363926	0.245	
130	02:38.1	TCE	02:39.4	0.907	1	106929	0.03857	
166	03:38.9	PCE	03:39.2	0.994	1	466606	0.1502	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170322\SIM_100PPB_VA_20170322_20170323_001.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/23/2017 7:32:05 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 22MAR2017
Last Calibrated: 3/22/2017 10:33:08 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:05.6	0.939	1	7142512	4.809	
130	02:38.1	TCE	02:41.6	0.909	1	13436434	4.847	
166	03:38.9	PCE	03:42.2	0.993	1	14370490	4.625	

Unknown Identification Report
Date: 06/07/17 Time: 15:54:32
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_002.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 6:10:56 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.5	0.939	1	9208218	4.512	
130	02:38.1	TCE	02:37.8	0.904	1	16142715	4.76	
166	03:38.9	PCE	03:36.6	0.993	1	20698360	4.684	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_006.hps
GPS Info:
Latitude: N 40 Deg 45.23918 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:14:30 PM

Acquisition Date and Time: 3/13/2017 11:25:12 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.1	0.592	1	177629	0.08704	
130	02:38.1	TCE	02:33.0	0.815	1	5256	0.00155	
166	03:38.9	PCE	03:40.5	0.994	1	67350	0.01524	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_008.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.46637 Min GMT: 03/13/17 05:36:50 PM

Acquisition Date and Time: 3/13/2017 11:47:32 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.524	1	195302	0.0957	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.3	0.994	1	87332	0.01976	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_007.hps
GPS Info:
Latitude: N 40 Deg 45.23735 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:23:17 PM

Acquisition Date and Time: 3/13/2017 11:33:59 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.2	0.602	1	288537	0.1414	
130	02:38.1	TCE	02:39.1	0.902	1	5088	0.0015	
166	03:38.9	PCE	03:39.8	0.996	1	85075	0.01925	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_012.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 1:12:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.6	0.929	1	8384043	4.108	
130	02:38.1	TCE	02:38.7	0.906	1	15629375	4.608	
166	03:38.9	PCE	03:37.6	0.994	1	19955268	4.516	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_009.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.38992 Min GMT: 03/13/17 06:10:46 PM

Acquisition Date and Time: 3/13/2017 12:21:28 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.929	1	2800771	1.372	
130	02:38.1	TCE	02:38.6	0.904	1	5046950	1.488	
166	03:38.9	PCE	03:39.4	0.995	1	6503494	1.472	

Unknown Identification Report
Date: 06/07/17 Time: 15:54:32
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_002.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 6:10:56 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.5	0.939	1	9208218	4.512	
130	02:38.1	TCE	02:37.8	0.904	1	16142715	4.76	
166	03:38.9	PCE	03:36.6	0.993	1	20698360	4.684	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_006.hps
GPS Info:
Latitude: N 40 Deg 45.23918 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:14:30 PM

Acquisition Date and Time: 3/13/2017 11:25:12 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.1	0.592	1	177629	0.08704	
130	02:38.1	TCE	02:33.0	0.815	1	5256	0.00155	
166	03:38.9	PCE	03:40.5	0.994	1	67350	0.01524	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_008.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.46637 Min GMT: 03/13/17 05:36:50 PM

Acquisition Date and Time: 3/13/2017 11:47:32 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.524	1	195302	0.0957	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.3	0.994	1	87332	0.01976	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_007.hps
GPS Info:
Latitude: N 40 Deg 45.23735 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:23:17 PM

Acquisition Date and Time: 3/13/2017 11:33:59 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.2	0.602	1	288537	0.1414	
130	02:38.1	TCE	02:39.1	0.902	1	5088	0.0015	
166	03:38.9	PCE	03:39.8	0.996	1	85075	0.01925	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_012.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 1:12:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.6	0.929	1	8384043	4.108	
130	02:38.1	TCE	02:38.7	0.906	1	15629375	4.608	
166	03:38.9	PCE	03:37.6	0.994	1	19955268	4.516	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_009.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.38992 Min GMT: 03/13/17 06:10:46 PM

Acquisition Date and Time: 3/13/2017 12:21:28 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.929	1	2800771	1.372	
130	02:38.1	TCE	02:38.6	0.904	1	5046950	1.488	
166	03:38.9	PCE	03:39.4	0.995	1	6503494	1.472	

Unknown Identification Report
Date: 06/07/17 Time: 15:54:32
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_002.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 6:10:56 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.5	0.939	1	9208218	4.512	
130	02:38.1	TCE	02:37.8	0.904	1	16142715	4.76	
166	03:38.9	PCE	03:36.6	0.993	1	20698360	4.684	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_006.hps
GPS Info:
Latitude: N 40 Deg 45.23918 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:14:30 PM

Acquisition Date and Time: 3/13/2017 11:25:12 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.1	0.592	1	177629	0.08704	
130	02:38.1	TCE	02:33.0	0.815	1	5256	0.00155	
166	03:38.9	PCE	03:40.5	0.994	1	67350	0.01524	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_008.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.46637 Min GMT: 03/13/17 05:36:50 PM

Acquisition Date and Time: 3/13/2017 11:47:32 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.524	1	195302	0.0957	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.3	0.994	1	87332	0.01976	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_007.hps
GPS Info:
Latitude: N 40 Deg 45.23735 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:23:17 PM

Acquisition Date and Time: 3/13/2017 11:33:59 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.2	0.602	1	288537	0.1414	
130	02:38.1	TCE	02:39.1	0.902	1	5088	0.0015	
166	03:38.9	PCE	03:39.8	0.996	1	85075	0.01925	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_012.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 1:12:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.6	0.929	1	8384043	4.108	
130	02:38.1	TCE	02:38.7	0.906	1	15629375	4.608	
166	03:38.9	PCE	03:37.6	0.994	1	19955268	4.516	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_009.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.38992 Min GMT: 03/13/17 06:10:46 PM

Acquisition Date and Time: 3/13/2017 12:21:28 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.929	1	2800771	1.372	
130	02:38.1	TCE	02:38.6	0.904	1	5046950	1.488	
166	03:38.9	PCE	03:39.4	0.995	1	6503494	1.472	

Unknown Identification Report
Date: 06/07/17 Time: 15:54:32
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_002.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 6:10:56 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.5	0.939	1	9208218	4.512	
130	02:38.1	TCE	02:37.8	0.904	1	16142715	4.76	
166	03:38.9	PCE	03:36.6	0.993	1	20698360	4.684	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_006.hps
GPS Info:
Latitude: N 40 Deg 45.23918 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:14:30 PM

Acquisition Date and Time: 3/13/2017 11:25:12 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.1	0.592	1	177629	0.08704	
130	02:38.1	TCE	02:33.0	0.815	1	5256	0.00155	
166	03:38.9	PCE	03:40.5	0.994	1	67350	0.01524	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_008.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.46637 Min GMT: 03/13/17 05:36:50 PM

Acquisition Date and Time: 3/13/2017 11:47:32 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.524	1	195302	0.0957	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.3	0.994	1	87332	0.01976	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_007.hps
GPS Info:
Latitude: N 40 Deg 45.23735 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:23:17 PM

Acquisition Date and Time: 3/13/2017 11:33:59 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.2	0.602	1	288537	0.1414	
130	02:38.1	TCE	02:39.1	0.902	1	5088	0.0015	
166	03:38.9	PCE	03:39.8	0.996	1	85075	0.01925	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_012.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 1:12:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.6	0.929	1	8384043	4.108	
130	02:38.1	TCE	02:38.7	0.906	1	15629375	4.608	
166	03:38.9	PCE	03:37.6	0.994	1	19955268	4.516	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_009.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.38992 Min GMT: 03/13/17 06:10:46 PM

Acquisition Date and Time: 3/13/2017 12:21:28 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.929	1	2800771	1.372	
130	02:38.1	TCE	02:38.6	0.904	1	5046950	1.488	
166	03:38.9	PCE	03:39.4	0.995	1	6503494	1.472	

Unknown Identification Report
Date: 06/07/17 Time: 15:54:32
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_002.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 6:10:56 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.5	0.939	1	9208218	4.512	
130	02:38.1	TCE	02:37.8	0.904	1	16142715	4.76	
166	03:38.9	PCE	03:36.6	0.993	1	20698360	4.684	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_006.hps
GPS Info:
Latitude: N 40 Deg 45.23918 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:14:30 PM

Acquisition Date and Time: 3/13/2017 11:25:12 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.1	0.592	1	177629	0.08704	
130	02:38.1	TCE	02:33.0	0.815	1	5256	0.00155	
166	03:38.9	PCE	03:40.5	0.994	1	67350	0.01524	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_008.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.46637 Min GMT: 03/13/17 05:36:50 PM

Acquisition Date and Time: 3/13/2017 11:47:32 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.524	1	195302	0.0957	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.3	0.994	1	87332	0.01976	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_007.hps
GPS Info:
Latitude: N 40 Deg 45.23735 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:23:17 PM

Acquisition Date and Time: 3/13/2017 11:33:59 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.2	0.602	1	288537	0.1414	
130	02:38.1	TCE	02:39.1	0.902	1	5088	0.0015	
166	03:38.9	PCE	03:39.8	0.996	1	85075	0.01925	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_012.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 1:12:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.6	0.929	1	8384043	4.108	
130	02:38.1	TCE	02:38.7	0.906	1	15629375	4.608	
166	03:38.9	PCE	03:37.6	0.994	1	19955268	4.516	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_009.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.38992 Min GMT: 03/13/17 06:10:46 PM

Acquisition Date and Time: 3/13/2017 12:21:28 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.929	1	2800771	1.372	
130	02:38.1	TCE	02:38.6	0.904	1	5046950	1.488	
166	03:38.9	PCE	03:39.4	0.995	1	6503494	1.472	

Unknown Identification Report
Date: 06/07/17 Time: 15:54:32
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_002.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 6:10:56 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.5	0.939	1	9208218	4.512	
130	02:38.1	TCE	02:37.8	0.904	1	16142715	4.76	
166	03:38.9	PCE	03:36.6	0.993	1	20698360	4.684	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_006.hps
GPS Info:
Latitude: N 40 Deg 45.23918 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:14:30 PM

Acquisition Date and Time: 3/13/2017 11:25:12 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.1	0.592	1	177629	0.08704	
130	02:38.1	TCE	02:33.0	0.815	1	5256	0.00155	
166	03:38.9	PCE	03:40.5	0.994	1	67350	0.01524	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_008.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.46637 Min GMT: 03/13/17 05:36:50 PM

Acquisition Date and Time: 3/13/2017 11:47:32 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.524	1	195302	0.0957	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.3	0.994	1	87332	0.01976	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_007.hps
GPS Info:
Latitude: N 40 Deg 45.23735 Min Longitude: W 111 Deg 51.46042 Min GMT: 03/13/17 05:23:17 PM

Acquisition Date and Time: 3/13/2017 11:33:59 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.2	0.602	1	288537	0.1414	
130	02:38.1	TCE	02:39.1	0.902	1	5088	0.0015	
166	03:38.9	PCE	03:39.8	0.996	1	85075	0.01925	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_012.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/13/2017 1:12:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.6	0.929	1	8384043	4.108	
130	02:38.1	TCE	02:38.7	0.906	1	15629375	4.608	
166	03:38.9	PCE	03:37.6	0.994	1	19955268	4.516	

Data File: E:\AOU1\LimitedVIProtocol\0004H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170313_009.hps
GPS Info:
Latitude: N 40 Deg 45.24399 Min Longitude: W 111 Deg 51.38992 Min GMT: 03/13/17 06:10:46 PM

Acquisition Date and Time: 3/13/2017 12:21:28 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/8/2017 11:32:49 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.929	1	2800771	1.372	
130	02:38.1	TCE	02:38.6	0.904	1	5046950	1.488	
166	03:38.9	PCE	03:39.4	0.995	1	6503494	1.472	

Unknown Identification Report
Date: 07/12/17 Time: 11:49:32
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\0029H\SIM_100PPB_VA_20170322_20170330_001.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/30/2017 8:38:13 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 05APR2017
Last Calibrated: 4/5/2017 7:12:33 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.2	0.936	1	6923446	2.683	
130	02:38.1	TCE	02:40.4	0.909	1	13039402	2.624	
166	03:38.9	PCE	03:40.5	0.994	1	14298205	2.543	

Data File: E:\AOU1\0029H\SIM_100PPB_VA_20170322_20170330_004.hps
GPS Info:
Latitude: N 40 Deg 44.95972 Min Longitude: W 111 Deg 51.49750 Min GMT: 03/30/17 10:34:18 PM

Acquisition Date and Time: 3/30/2017 4:45:30 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 05APR2017
Last Calibrated: 4/5/2017 7:12:33 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:05.5	0.557	1	129299	0.05011	
130	02:38.1	TCE	02:41.7	0.827	1	32869	0.00661	
166	03:38.9	PCE	03:41.8	0.993	1	542847	0.09656	

Data File: E:\AOU1\0029H\SIM_100PPB_VA_20170322_20170330_003.hps
GPS Info:
Latitude: N 40 Deg 44.95811 Min Longitude: W 111 Deg 51.47369 Min GMT: 03/30/17 10:26:07 PM

Acquisition Date and Time: 3/30/2017 4:37:20 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 05APR2017
Last Calibrated: 4/5/2017 7:12:33 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:05.6	0.611	1	83958	0.03254	
130	02:38.1	TCE	02:37.4	0.888	1	5114	0.00103	
166	03:38.9	PCE	03:42.8	0.991	1	18432	0.00328	

Data File: E:\AOU1\0029H\SIM_100PPB_VA_20170322_20170330_002.hps
GPS Info:
Latitude: N 40 Deg 44.96590 Min Longitude: W 111 Deg 51.47278 Min GMT: 03/30/17 10:17:36 PM

Acquisition Date and Time: 3/30/2017 4:28:48 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 05APR2017
Last Calibrated: 4/5/2017 7:12:33 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:06.3	0.524	1	423057	0.1639	
130	02:38.1	TCE	02:43.2	0.883	1	48832	0.00982	
166	03:38.9	PCE	03:44.3	0.995	1	2436517	0.4334	

Data File: E:\AOU1\0029H\SIM_100PPB_VA_20170322_20170330_005.hps
GPS Info:
Latitude: N 40 Deg 44.96841 Min Longitude: W 111 Deg 51.47919 Min GMT: 03/30/17 10:42:30 PM

Acquisition Date and Time: 3/30/2017 4:53:42 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170322.mth
Target Library: QB 05APR2017
Last Calibrated: 4/5/2017 7:12:33 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.6	0.524	1	354072	0.1372	
130	02:38.1	TCE	02:40.8	0.876	1	10235	0.00206	
166	03:38.9	PCE	03:41.7	0.994	1	3020368	0.5372	

Unknown Identification Report
Date: 06/07/17 Time: 16:08:11
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_001.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 4/5/2017 7:22:19 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.94	1	14729539	5.708	
130	02:38.1	TCE	02:37.4	0.909	1	26557538	5.343	
166	03:38.9	PCE	03:36.3	0.993	1	29536940	5.254	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_002.hps
GPS Info:
Latitude: N 40 Deg 45.19409 Min Longitude: W 111 Deg 51.47186 Min GMT: 04/05/17 02:34:14 PM

Acquisition Date and Time: 4/5/2017 8:45:33 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.604	1	812221	0.3148	
130	02:38.1	TCE	02:41.5	0.91	1	16662	0.00335	
166	03:38.9	PCE	03:38.4	0.996	1	159372	0.02835	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_003.hps
GPS Info:
Latitude: N 40 Deg 45.19707 Min Longitude: W 111 Deg 51.46454 Min GMT: 04/05/17 02:43:46 PM

Acquisition Date and Time: 4/5/2017 8:55:05 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.541	1	698239	0.2706	
130	02:38.1	TCE	02:38.6	0.892	1	33490	0.00674	
166	03:38.9	PCE	03:37.7	0.993	1	100332	0.01785	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_004.hps
GPS Info:
Latitude: N 40 Deg 45.20531 Min Longitude: W 111 Deg 51.46957 Min GMT: 04/05/17 02:58:07 PM

Acquisition Date and Time: 4/5/2017 9:09:26 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.1	0.647	1	392907	0.1523	
130	02:38.1	TCE	02:37.8	0.838	1	10137	0.00204	
166	03:38.9	PCE	03:37.6	0.992	1	157699	0.02805	

Unknown Identification Report
Date: 06/07/17 Time: 16:15:04
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_001.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 4/5/2017 7:22:19 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.94	1	14729539	5.708	
130	02:38.1	TCE	02:37.4	0.909	1	26557538	5.343	
166	03:38.9	PCE	03:36.3	0.993	1	29536940	5.254	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_002.hps
GPS Info:
Latitude: N 40 Deg 45.19409 Min Longitude: W 111 Deg 51.47186 Min GMT: 04/05/17 02:34:14 PM

Acquisition Date and Time: 4/5/2017 8:45:33 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.604	1	812221	0.3148	
130	02:38.1	TCE	02:41.5	0.91	1	16662	0.00335	
166	03:38.9	PCE	03:38.4	0.996	1	159372	0.02835	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_003.hps
GPS Info:
Latitude: N 40 Deg 45.19707 Min Longitude: W 111 Deg 51.46454 Min GMT: 04/05/17 02:43:46 PM

Acquisition Date and Time: 4/5/2017 8:55:05 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.541	1	698239	0.2706	
130	02:38.1	TCE	02:38.6	0.892	1	33490	0.00674	
166	03:38.9	PCE	03:37.7	0.993	1	100332	0.01785	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_004.hps
GPS Info:
Latitude: N 40 Deg 45.20531 Min Longitude: W 111 Deg 51.46957 Min GMT: 04/05/17 02:58:07 PM

Acquisition Date and Time: 4/5/2017 9:09:26 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.1	0.647	1	392907	0.1523	
130	02:38.1	TCE	02:37.8	0.838	1	10137	0.00204	
166	03:38.9	PCE	03:37.6	0.992	1	157699	0.02805	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_005.hps
GPS Info:
Latitude: N 40 Deg 45.20760 Min Longitude: W 111 Deg 51.46591 Min GMT: 04/05/17 03:06:49 PM

Acquisition Date and Time: 4/5/2017 9:18:08 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.692	1	274963	0.1066	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.9	0.993	1	162210	0.02885	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_006.hps
GPS Info:
Latitude: N 40 Deg 45.19089 Min Longitude: W 111 Deg 51.47415 Min GMT: 04/05/17 03:21:14 PM

Acquisition Date and Time: 4/5/2017 9:32:33 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.836	1	109190	0.04231	
130	02:38.1	TCE	02:29.1	0.821	1	9600	0.00193	
166	03:38.9	PCE	03:37.9	0.994	1	298204	0.05304	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_007.hps
GPS Info:
Latitude: N 40 Deg 45.19409 Min Longitude: W 111 Deg 51.46912 Min GMT: 04/05/17 04:16:52 PM

Acquisition Date and Time: 4/5/2017 10:28:11 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.4	0.591	1	174808	0.06774	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.7	0.995	1	400800	0.07129	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_008.hps
GPS Info:
Latitude: N 40 Deg 45.19180 Min Longitude: W 111 Deg 51.46912 Min GMT: 04/05/17 04:25:23 PM

Acquisition Date and Time: 4/5/2017 10:36:42 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.9	0.607	1	211797	0.08208	
130	02:38.1	TCE	02:39.8	0.907	1	17806	0.00358	
166	03:38.9	PCE	03:38.2	0.992	1	132326	0.02354	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_009.hps
GPS Info:
Latitude: N 40 Deg 45.19157 Min Longitude: W 111 Deg 51.45035 Min GMT: 04/05/17 04:34:43 PM

Acquisition Date and Time: 4/5/2017 10:46:02 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.4	0.636	1	333657	0.1293	
130	02:38.1	TCE	02:47.8	0.837	1	10977	0.00221	
166	03:38.9	PCE	03:39.0	0.991	1	156778	0.02789	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_010.hps
GPS Info:
Latitude: N 40 Deg 45.19844 Min Longitude: W 111 Deg 51.45996 Min GMT: 04/05/17 04:43:25 PM

Acquisition Date and Time: 4/5/2017 10:54:44 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.8	0.638	1	276222	0.107	
130	02:38.1	TCE	02:38.9	0.899	1	14394	0.0029	
166	03:38.9	PCE	03:38.1	0.992	1	373539	0.06644	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_011.hps
GPS Info:
Latitude: N 40 Deg 45.19638 Min Longitude: W 111 Deg 51.43433 Min GMT: 04/05/17 04:52:03 PM

Acquisition Date and Time: 4/5/2017 11:03:21 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.566	1	257538	0.0998	
130	02:38.1	TCE	02:38.6	0.523	1	20187	0.00406	
166	03:38.9	PCE	03:38.5	0.991	1	129968	0.02312	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_012.hps
GPS Info:
Latitude: N 40 Deg 45.19020 Min Longitude: W 111 Deg 51.46774 Min GMT: 04/05/17 05:04:26 PM

Acquisition Date and Time: 4/5/2017 11:15:44 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.8	0.696	1	249674	0.09675	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.0	0.996	1	151823	0.027	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_013.hps
GPS Info:
Latitude: N 40 Deg 45.19341 Min Longitude: W 111 Deg 51.46820 Min GMT: 04/05/17 05:12:55 PM

Acquisition Date and Time: 4/5/2017 11:24:14 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.3	0.667	1	183629	0.07116	
130	02:38.1	TCE	02:39.5	0.904	1	12807	0.00258	
166	03:38.9	PCE	03:39.4	0.995	1	154938	0.02756	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_014.hps
GPS Info:
Latitude: N 40 Deg 45.20096 Min Longitude: W 111 Deg 51.46454 Min GMT: 04/05/17 05:21:39 PM

Acquisition Date and Time: 4/5/2017 11:32:58 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.2	0.544	1	187329	0.07259	
130	02:38.1	TCE	02:43.3	0.901	1	8512	0.00171	
166	03:38.9	PCE	03:39.5	0.996	1	104407	0.01857	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_015.hps
GPS Info:
Latitude: N 40 Deg 45.19112 Min Longitude: W 111 Deg 51.45538 Min GMT: 04/05/17 05:30:06 PM

Acquisition Date and Time: 4/5/2017 11:41:25 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.6	0.628	1	191595	0.07425	
130	02:38.1	TCE	02:34.6	0.871	1	47538	0.00956	
166	03:38.9	PCE	03:39.0	0.992	1	121043	0.02153	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_016.hps
GPS Info:
Latitude: N 40 Deg 45.19501 Min Longitude: W 111 Deg 51.44165 Min GMT: 04/05/17 05:38:51 PM

Acquisition Date and Time: 4/5/2017 11:50:10 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.663	1	186314	0.0722	
130	02:38.1	TCE	02:36.5	0.912	1	11414	0.0023	
166	03:38.9	PCE	03:39.6	1	1	85700	0.01524	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_017.hps
GPS Info:
Latitude: N 40 Deg 45.19981 Min Longitude: W 111 Deg 51.46317 Min GMT: 04/05/17 05:47:31 PM

Acquisition Date and Time: 4/5/2017 11:58:50 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.4	0.561	1	164133	0.06361	
130	02:38.1	TCE	02:39.6	0.888	1	9379	0.00189	
166	03:38.9	PCE	03:39.6	0.998	1	111916	0.01991	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_018.hps
GPS Info:
Latitude: N 40 Deg 45.20004 Min Longitude: W 111 Deg 51.46362 Min GMT: 04/05/17 05:56:35 PM

Acquisition Date and Time: 4/5/2017 12:07:53 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.6	0.612	1	69764	0.02704	
130	02:38.1	TCE	02:40.5	0.905	1	14214	0.00286	
166	03:38.9	PCE	03:40.0	0.998	1	99906	0.01777	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_019.hps
GPS Info:
Latitude: N 40 Deg 45.20119 Min Longitude: W 111 Deg 51.47232 Min GMT: 04/05/17 06:05:15 PM

Acquisition Date and Time: 4/5/2017 12:16:34 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.5	0.824	1	53730	0.02082	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.3	0.988	1	78403	0.01395	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_020.hps
GPS Info:
Latitude: N 40 Deg 45.19318 Min Longitude: W 111 Deg 51.45264 Min GMT: 04/05/17 06:14:12 PM

Acquisition Date and Time: 4/5/2017 12:25:30 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.7	0.785	1	59167	0.02293	
130	02:38.1	TCE	02:41.4	0.89	1	13231	0.00266	
166	03:38.9	PCE	03:39.2	0.999	1	90857	0.01616	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_021.hps
GPS Info:
Latitude: N 40 Deg 45.20256 Min Longitude: W 111 Deg 51.46820 Min GMT: 04/05/17 06:22:37 PM

Acquisition Date and Time: 4/5/2017 12:33:56 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.6	0.651	1	70517	0.02733	
130	02:38.1	TCE	02:49.3	0.523	1	13643	0.00274	
166	03:38.9	PCE	03:39.9	0.995	1	97321	0.01731	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_022.hps
GPS Info:
Latitude: N 40 Deg 45.20554 Min Longitude: W 111 Deg 51.45630 Min GMT: 04/05/17 06:53:42 PM

Acquisition Date and Time: 4/5/2017 1:05:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.9	0.733	1	20777	0.00805	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.4	0.992	1	1745222	0.3104	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_023.hps
GPS Info:
Latitude: N 40 Deg 45.21217 Min Longitude: W 111 Deg 51.45538 Min GMT: 04/05/17 07:03:23 PM

Acquisition Date and Time: 4/5/2017 1:14:41 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.1	0.77	1	173544	0.06725	
130	02:38.1	TCE	02:31.3	0.908	1	8254	0.00166	
166	03:38.9	PCE	03:39.4	0.996	1	123455	0.02196	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_024.hps
GPS Info:
Latitude: N 40 Deg 37.38007 Min Longitude: W 111 Deg 49.20868 Min GMT: 04/05/17 07:52:04 PM

Acquisition Date and Time: 4/5/2017 2:03:22 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity		area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.8	0.934		1	1681105	0.6515	
130	02:38.1	TCE	02:41.1	0.911		1	3714401	0.7473	
166	03:38.9	PCE	03:40.7	0.993		1	4520160	0.804	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170405\SIM_100PPB_VA_20170405_20170405_025.hps
GPS Info:
Latitude: N 40 Deg 37.37663 Min Longitude: W 111 Deg 49.21646 Min GMT: 04/05/17 08:19:17 PM

Acquisition Date and Time: 4/5/2017 2:30:35 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity		area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.6	0.933		1	1718287	0.6659	
130	02:38.1	TCE	02:40.6	0.91		1	3862556	0.7771	
166	03:38.9	PCE	03:41.2	0.995		1	4454828	0.7924	

Unknown Identification Report
Date: 06/07/17 Time: 16:17:51
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_002.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 6:28:42 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:01.5	0.941	1	6795137	2.369	
130	02:38.1	TCE	02:36.6	0.903	1	9928171	2.573	
166	03:38.9	PCE	03:34.8	0.993	1	12763751	2.557	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_004.hps
GPS Info:
Latitude: N 40 Deg 45.03410 Min Longitude: W 111 Deg 51.58722 Min GMT: 03/06/17 04:25:35 PM

Acquisition Date and Time: 3/6/2017 9:36:06 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.9	0.574	1	484168	0.1688	
130	02:38.1	TCE	02:41.1	0.904	1	28277	0.00733	
166	03:38.9	PCE	03:41.8	0.992	1	46508	0.00932	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_005.hps
GPS Info:
Latitude: N 40 Deg 45.03250 Min Longitude: W 111 Deg 51.58218 Min GMT: 03/06/17 04:33:50 PM

Acquisition Date and Time: 3/6/2017 9:44:21 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.9	0.642	1	556173	0.1939	
130	02:38.1	TCE	02:41.1	0.899	1	46986	0.01218	
166	03:38.9	PCE	03:41.1	0.996	1	83822	0.01679	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_006.hps
GPS Info:
Latitude: N 40 Deg 45.06683 Min Longitude: W 111 Deg 51.58585 Min GMT: 03/06/17 04:46:17 PM

Acquisition Date and Time: 3/6/2017 9:56:48 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.4	0.569	1	372109	0.1298	
130	02:38.1	TCE	02:40.5	0.903	1	23790	0.00617	
166	03:38.9	PCE	03:40.7	0.997	1	77629	0.01555	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_007.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 11:25:47 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.5	0.599	1	338370	0.118	
130	02:38.1	TCE	02:42.7	0.814	1	9582	0.00248	
166	03:38.9	PCE	03:39.1	0.992	1	44832	0.00898	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_008.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 11:34:19 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.5	0.575	1	342150	0.1193	
130	02:38.1	TCE	02:40.3	0.911	1	12851	0.00333	
166	03:38.9	PCE	03:38.7	0.994	1	57552	0.01153	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_009.hps
GPS Info:
Latitude: N 40 Deg 45.03387 Min Longitude: W 111 Deg 51.56754 Min GMT: 03/06/17 06:32:52 PM

Acquisition Date and Time: 3/6/2017 11:43:23 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.3	0.718	1	307383	0.1072	
130	02:38.1	TCE	02:40.2	0.911	1	10556	0.00274	
166	03:38.9	PCE	03:39.4	0.997	1	45581	0.00913	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_010.hps
GPS Info:
Latitude: N 40 Deg 45.02472 Min Longitude: W 111 Deg 51.57166 Min GMT: 03/06/17 06:41:20 PM

Acquisition Date and Time: 3/6/2017 11:51:51 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.3	0.687	1	213531	0.07446	
130	02:38.1	TCE	02:38.8	0.905	1	8931	0.00231	
166	03:38.9	PCE	03:38.7	0.996	1	67541	0.01353	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_011.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 12:00:21 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.5	0.562	1	243686	0.08497	
130	02:38.1	TCE	02:38.6	0.909	1	20509	0.00531	
166	03:38.9	PCE	03:38.3	0.997	1	66477	0.01332	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_012.hps
GPS Info:
Latitude: N 40 Deg 45.03181 Min Longitude: W 111 Deg 51.58127 Min GMT: 03/06/17 06:58:17 PM

Acquisition Date and Time: 3/6/2017 12:08:48 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.661	1	236576	0.08249	
130	02:38.1	TCE	02:39.4	0.895	1	16894	0.00438	
166	03:38.9	PCE	03:38.5	0.993	1	53725	0.01076	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_013.hps
GPS Info:
Latitude: N 40 Deg 45.03616 Min Longitude: W 111 Deg 51.58585 Min GMT: 03/06/17 07:06:45 PM

Acquisition Date and Time: 3/6/2017 12:17:16 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.1	0.661	1	201242	0.07017	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.8	0.995	1	54261	0.01087	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_014.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 12:26:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.8	0.654	1	210701	0.07347	
130	02:38.1	TCE	02:39.0	0.892	1	12265	0.00318	
166	03:38.9	PCE	03:38.5	0.993	1	52002	0.01042	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_015.hps
GPS Info:
Latitude: N 40 Deg 45.02495 Min Longitude: W 111 Deg 51.58035 Min GMT: 03/06/17 07:24:44 PM

Acquisition Date and Time: 3/6/2017 12:35:15 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.2	0.603	1	165611	0.05775	
130	02:38.1	TCE	02:39.4	0.811	1	10058	0.00261	
166	03:38.9	PCE	03:38.6	0.998	1	38403	0.00769	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_016.hps
GPS Info:
Latitude: N 40 Deg 45.03021 Min Longitude: W 111 Deg 51.60233 Min GMT: 03/06/17 07:33:12 PM

Acquisition Date and Time: 3/6/2017 12:43:43 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.3	0.6	1	198381	0.06918	
130	02:38.1	TCE	02:38.4	0.89	1	8765	0.00227	
166	03:38.9	PCE	03:39.5	0.999	1	27849	0.00558	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_017.hps
GPS Info:
Latitude: N 40 Deg 45.03365 Min Longitude: W 111 Deg 51.58401 Min GMT: 03/06/17 07:41:38 PM

Acquisition Date and Time: 3/6/2017 12:52:09 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.5	0.645	1	148655	0.05184	
130	02:38.1	TCE	02:38.9	0.912	1	12626	0.00327	
166	03:38.9	PCE	03:38.9	1	1	34853	0.00698	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_018.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 1:00:36 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.5	0.64	1	180354	0.06289	
130	02:38.1	TCE	02:39.6	0.91	1	11023	0.00286	
166	03:38.9	PCE	03:38.8	0.998	1	88689	0.01777	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_019.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 1:09:06 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.8	0.653	1	168961	0.05892	
130	02:38.1	TCE	02:40.0	0.904	1	12873	0.00334	
166	03:38.9	PCE	03:38.5	0.994	1	28171	0.00564	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_020.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 1:19:15 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.8	0.76	1	145143	0.05061	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.8	0.994	1	18759	0.00376	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_021.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 1:29:56 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.5	0.612	1	156575	0.0546	
130	02:38.1	TCE	02:40.8	0.892	1	8428	0.00218	
166	03:38.9	PCE	03:41.4	0.97	1	15144	0.00303	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_022.hps
GPS Info:
Latitude: N 40 Deg 45.04257 Min Longitude: W 111 Deg 51.58768 Min GMT: 03/06/17 08:30:34 PM

Acquisition Date and Time: 3/6/2017 1:41:05 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:05.2	0.711	1	281705	0.09823	
130	02:38.1	TCE	02:42.1	0.912	1	13975	0.00362	
166	03:38.9	PCE	03:40.9	0.996	1	23071	0.00462	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_023.hps
GPS Info:
Latitude: N 40 Deg 45.01923 Min Longitude: W 111 Deg 51.58630 Min GMT: 03/06/17 08:38:54 PM

Acquisition Date and Time: 3/6/2017 1:49:25 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.2	0.603	1	179695	0.06266	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:40.7	0.984	1	18114	0.00363	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_024.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 1:57:39 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.2	0.616	1	170596	0.05949	
130	02:38.1	TCE	02:29.4	0.523	1	2618		Area too low
166	03:38.9	PCE	03:41.4	0.996	1	21404	0.00429	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_025.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 2:42:58 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.8	0.68	1	249930	0.08715	
130	02:38.1	TCE	02:40.4	0.851	1	15222	0.00394	
166	03:38.9	PCE	03:41.5	0.996	1	43881	0.00879	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_026.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 2:53:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:05.3	0.603	1	224821	0.07839	
130	02:38.1	TCE	02:41.4	0.885	1	21230	0.0055	
166	03:38.9	PCE	03:41.4	0.99	1	46230	0.00926	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_027.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 3:02:06 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.6	0.775	1	185046	0.06453	
130	02:38.1	TCE	02:41.5	0.901	1	48380	0.01254	
166	03:38.9	PCE	03:40.8	0.994	1	39624	0.00794	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_028.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 3:12:25 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.3	0.683	1	176851	0.06167	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:41.4	0.994	1	21503	0.00431	

Data File: E:\AOU1\0058H\HAPSITE\DATA\SIM_100PPB_VA_20170305_20170306_030.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/6/2017 4:34:42 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170305.mth
Target Library: QB 05MAR2017
Last Calibrated: 3/6/2017 10:01:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.5	0.929	1	8074261	2.815	
130	02:38.1	TCE	02:40.6	0.906	1	15918445	4.125	
166	03:38.9	PCE	03:40.6	0.994	1	20694804	4.146	

Unknown Identification Report
Date: 06/07/17 Time: 16:20:00
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_014.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 8:42:06 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.2	0.941	1	1157796	0.4554	
130	02:38.1	TCE	02:36.6	0.909	1	1410915	0.4903	
166	03:38.9	PCE	03:35.1	0.993	1	1676347	0.4833	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_015.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 9:16:17 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.6	0.692	1	176332	0.06936	
130	02:38.1	TCE	02:37.7	0.901	1	20383	0.00708	
166	03:38.9	PCE	03:36.7	0.997	1	146237	0.04216	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_016.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 9:28:37 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.6	0.649	1	166144	0.06535	
130	02:38.1	TCE	02:28.9	0.649	1	5134	0.00178	
166	03:38.9	PCE	03:36.6	0.994	1	147503	0.04253	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_017.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 9:39:06 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.4	0.524	1	146102	0.05747	
130	02:38.1	TCE	02:37.6	0.873	1	17859	0.00621	
166	03:38.9	PCE	03:35.8	0.997	1	143056	0.04124	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_018.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 9:47:56 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:00.9	0.56	1	112320	0.04418	
130	02:38.1	TCE	02:36.3	0.911	1	24610	0.00855	
166	03:38.9	PCE	03:35.9	0.995	1	164508	0.04743	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_019.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 10:54:41 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.2	0.599	1	111622	0.04391	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:36.5	0.999	1	110801	0.03194	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_020.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 11:10:32 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.712	1	106616	0.04194	
130	02:38.1	TCE	02:38.0	0.896	1	15100	0.00525	
166	03:38.9	PCE	03:37.3	0.994	1	1211238	0.3492	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_021.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 11:19:25 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.1	0.572	1	94184	0.03705	
130	02:38.1	TCE	02:37.6	0.879	1	11117	0.00386	
166	03:38.9	PCE	03:36.9	0.996	1	161186	0.04647	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_022.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 11:28:59 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.645	1	136510	0.0537	
130	02:38.1	TCE	02:38.4	0.91	1	18894	0.00657	
166	03:38.9	PCE	03:36.6	0.993	1	928852	0.2678	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_023.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 11:50:57 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.9	0.613	1	256350	0.1008	
130	02:38.1	TCE	02:47.0	0.795	1	10658	0.0037	
166	03:38.9	PCE	03:37.1	0.996	1	87607	0.02526	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_024.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 12:00:05 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.6	0.555	1	407357	0.1602	
130	02:38.1	TCE	02:37.1	0.911	1	5676	0.00197	
166	03:38.9	PCE	03:36.9	0.993	1	124688	0.03595	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_025.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 12:08:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.9	0.62	1	88228	0.0347	
130	02:38.1	TCE	02:37.5	0.912	1	23585	0.0082	
166	03:38.9	PCE	03:36.4	0.994	1	611705	0.1764	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_026.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 12:17:29 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.592	1	152929	0.06015	
130	02:38.1	TCE	02:38.0	0.911	1	30922	0.01075	
166	03:38.9	PCE	03:37.0	0.995	1	573017	0.1652	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_027.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 12:26:17 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.675	1	68713	0.02703	
130	02:38.1	TCE	02:37.9	0.91	1	45968	0.01597	
166	03:38.9	PCE	03:36.8	0.993	1	213287	0.06149	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_028.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 12:35:51 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.3	0.607	1	134603	0.05295	
130	02:38.1	TCE	02:37.6	0.906	1	18981	0.0066	
166	03:38.9	PCE	03:36.5	0.989	1	160253	0.0462	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_029.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 12:46:04 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.949	1	1399605	0.5505	
130	02:38.1	TCE	02:37.5	0.91	1	6712976	2.333	
166	03:38.9	PCE	03:38.9	0	1	2275172	0.6559	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_030.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 12:57:15 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.7	0.653	1	84461	0.03322	
130	02:38.1	TCE	02:37.8	0.912	1	32501	0.01129	
166	03:38.9	PCE	03:37.6	0.996	1	1640153	0.4729	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_031.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 1:05:54 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.598	1	112533	0.04426	
130	02:38.1	TCE	02:38.2	0.909	1	33137	0.01152	
166	03:38.9	PCE	03:37.4	0.997	1	276506	0.07972	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_032.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 1:15:46 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.1	0.595	1	75702	0.02978	
130	02:38.1	TCE	02:31.6	0.523	1	3883		Area too low
166	03:38.9	PCE	03:37.3	0.995	1	493374	0.1422	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_033.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 1:28:24 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.948	1	222679	0.08759	
130	02:38.1	TCE	02:37.5	0.909	1	1127043	0.3917	
166	03:38.9	PCE	03:37.3	0.994	1	1.13E+08	32.49	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_034.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 1:48:56 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.9	0.773	1	74770	0.02941	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.6	0.996	1	265600	0.07657	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_035.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 1:58:23 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.734	1	67121	0.0264	
130	02:38.1	TCE	02:38.0	0.767	1	15823	0.0055	
166	03:38.9	PCE	03:37.1	0.996	1	114235	0.03293	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_036.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 2:06:59 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.606	1	61080	0.02403	
130	02:38.1	TCE	02:37.1	0.899	1	10153	0.00353	
166	03:38.9	PCE	03:37.6	0.994	1	94361	0.0272	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_037.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 2:26:20 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.1	0.698	1	65268	0.02567	
130	02:38.1	TCE	02:39.1	0.9	1	26329	0.00915	
166	03:38.9	PCE	03:37.5	0.992	1	128403	0.03702	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_038.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 2:34:57 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.589	1	62010	0.02439	
130	02:38.1	TCE	02:37.9	0.909	1	18918	0.00657	
166	03:38.9	PCE	03:37.8	0.996	1	110615	0.03189	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_039.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 3:22:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.7	0.524	1	71014	0.02793	
130	02:38.1	TCE	02:38.8	0.867	1	18623	0.00647	
166	03:38.9	PCE	03:37.7	0.995	1	129321	0.03728	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_040.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 3:34:20 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.618	1	65764	0.02587	
130	02:38.1	TCE	02:39.5	0.811	1	16601	0.00577	
166	03:38.9	PCE	03:37.1	0.991	1	101136	0.02916	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_041.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 3:43:51 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity		area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.1	0.914		1	6551971	2.577	
130	02:38.1	TCE	02:38.2	0.896		1	13409635	4.66	
166	03:38.9	PCE	03:37.2	0.993		1	15805834	4.557	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170317\SIM_100PPB_VA_20170317_20170317_042.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/17/2017 3:53:14 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170317.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity		area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.2	0.857		1	74166	0.02917	
130	02:38.1	TCE	02:37.6	0.901		1	40570	0.0141	
166	03:38.9	PCE	03:37.4	0.997		1	114309	0.03296	

Unknown Identification Report
Date: 06/07/17 Time: 16:30:42
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_004.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 7:38:15 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:00.9	0.932	1	4942212	2.422	
130	02:38.1	TCE	02:37.2	0.906	1	9154627	2.699	
166	03:38.9	PCE	03:36.1	0.996	1	11430495	2.587	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_005.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 9:18:15 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.6	0.673	1	154339	0.07563	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.6	0.995	1	68388	0.01548	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_006.hps
GPS Info:
Latitude: N 40 Deg 44.87663 Min Longitude: W 111 Deg 51.47736 Min GMT: 03/07/17 04:15:48 PM

Acquisition Date and Time: 3/7/2017 9:26:21 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.5	0.569	1	169470	0.08304	
130	02:38.1	TCE	02:39.3	0.871	1	17369	0.00512	
166	03:38.9	PCE	03:38.3	0.996	1	92920	0.02103	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_007.hps
GPS Info:
Latitude: N 40 Deg 44.88464 Min Longitude: W 111 Deg 51.47919 Min GMT: 03/07/17 04:23:52 PM

Acquisition Date and Time: 3/7/2017 9:34:25 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.0	0.665	1	169330	0.08297	
130	02:38.1	TCE	02:41.7	0.523	1	5323	0.00157	
166	03:38.9	PCE	03:37.9	0.992	1	102804	0.02326	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_008.hps
GPS Info:
Latitude: N 40 Deg 44.81369 Min Longitude: W 111 Deg 51.46866 Min GMT: 03/07/17 04:32:54 PM

Acquisition Date and Time: 3/7/2017 9:43:27 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:01.9	0.632	1	81375	0.03988	
130	02:38.1	TCE	02:38.0	0.905	1	9022	0.00266	
166	03:38.9	PCE	03:37.6	0.995	1	104892	0.02374	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_009.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 9:51:51 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.0	0.573	1	67598	0.03312	
130	02:38.1	TCE	02:48.6	0.708	1	8031	0.00237	
166	03:38.9	PCE	03:38.0	0.996	1	106633	0.02413	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_010.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 10:00:25 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.2	0.627	1	99231	0.04863	
130	02:38.1	TCE	02:38.4	0.911	1	25792	0.0076	
166	03:38.9	PCE	03:38.2	0.998	1	185585	0.042	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_011.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 11:32:19 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.9	0.581	1	190853	0.09352	
130	02:38.1	TCE	02:38.4	0.858	1	8752	0.00258	
166	03:38.9	PCE	03:38.3	0.997	1	208071	0.04708	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_012.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 11:40:49 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.2	0.652	1	154474	0.0757	
130	02:38.1	TCE	02:42.1	0.884	1	11075	0.00327	
166	03:38.9	PCE	03:37.6	0.997	1	196803	0.04453	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_013.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 11:49:17 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.598	1	189414	0.09282	
130	02:38.1	TCE	02:47.1	0.887	1	4917		Area too low
166	03:38.9	PCE	03:38.1	0.997	1	89821	0.02033	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_014.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 11:58:30 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.4	0.558	1	127663	0.06256	
130	02:38.1	TCE	02:38.5	0.901	1	14794	0.00436	
166	03:38.9	PCE	03:38.2	0.995	1	153490	0.03473	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_015.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:07:24 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.1	0.614	1	112809	0.05528	
130	02:38.1	TCE	02:37.9	0.91	1	29399	0.00867	
166	03:38.9	PCE	03:37.9	0.994	1	214089	0.04845	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_016.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:16:11 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.6	0.619	1	201784	0.09888	
130	02:38.1	TCE	02:38.8	0.898	1	19176	0.00565	
166	03:38.9	PCE	03:38.6	0.995	1	77560	0.01755	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_017.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:24:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.2	0.701	1	129343	0.06338	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.5	0.995	1	114204	0.02584	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_018.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:33:31 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.8	0.564	1	89361	0.04379	
130	02:38.1	TCE	02:39.0	0.867	1	16516	0.00487	
166	03:38.9	PCE	03:38.5	0.995	1	172959	0.03914	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_019.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:43:55 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.6	0.707	1	162122	0.07944	
130	02:38.1	TCE	02:43.9	0.796	1	8988	0.00265	
166	03:38.9	PCE	03:37.9	0.993	1	83429	0.01888	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_020.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:52:43 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.9	0.669	1	181978	0.08917	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.0	0.991	1	133962	0.03031	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_021.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:01:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.599	1	116833	0.05725	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.9	0.994	1	89469	0.02025	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_022.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:10:25 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.2	0.618	1	145888	0.07149	
130	02:38.1	TCE	02:37.3	0.911	1	8078	0.00238	
166	03:38.9	PCE	03:38.1	0.997	1	154990	0.03507	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_023.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:21:18 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.8	0.709	1	111734	0.05475	
130	02:38.1	TCE	02:38.2	0.835	1	5823	0.00172	
166	03:38.9	PCE	03:38.2	0.996	1	74672	0.0169	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_024.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:31:03 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.5	0.595	1	94435	0.04627	
130	02:38.1	TCE	02:37.5	0.523	1	6736	0.00199	
166	03:38.9	PCE	N/A	0	0	0		Not found with current search parameters

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_025.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:39:10 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.4	0.65	1	110316	0.05406	
130	02:38.1	TCE	02:38.7	0.523	1	7960	0.00235	
166	03:38.9	PCE	03:38.0	0.994	1	189389	0.04286	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_026.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:48:54 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.5	0.572	1	129524	0.06347	
130	02:38.1	TCE	02:38.9	0.523	1	8870	0.00262	
166	03:38.9	PCE	03:38.9	0.998	1	44617	0.0101	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_027.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:57:22 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:01.9	0.743	1	107420	0.05264	
130	02:38.1	TCE	02:30.0	0.869	1	7433	0.00219	
166	03:38.9	PCE	03:37.8	0.998	1	39429	0.00892	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_028.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:07:02 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.3	0.703	1	100267	0.04913	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.4	0.996	1	43216	0.00978	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_029.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:20:30 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.822	1	101098	0.04954	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.9	0.994	1	50080	0.01133	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_030.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:34:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.725	1	97086	0.04757	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.2	0.994	1	57799	0.01308	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_031.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:44:39 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.0	0.606	1	93622	0.04588	
130	02:38.1	TCE	02:37.7	0.87	1	16275	0.0048	
166	03:38.9	PCE	03:38.9	0.995	1	125585	0.02842	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_032.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:53:34 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.6	0.688	1	90497	0.04435	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.6	0.999	1	37385	0.00846	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_033.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 3:02:05 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.3	0.668	1	106011	0.05195	
130	02:38.1	TCE	02:39.4	0.881	1	6189	0.00182	
166	03:38.9	PCE	03:38.7	0.997	1	39788	0.009	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_034.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 3:12:35 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.2	0.623	1	102855	0.0504	
130	02:38.1	TCE	02:29.6	0.802	1	7903	0.00233	
166	03:38.9	PCE	03:39.1	0.999	1	35531	0.00804	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_035.hps
GPS Info:
Latitude: N 40 Deg 44.90318 Min Longitude: W 111 Deg 51.48834 Min GMT: 03/07/17 10:10:29 PM

Acquisition Date and Time: 3/7/2017 3:21:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.0	0.71	1	77471	0.03796	
130	02:38.1	TCE	02:38.5	0.903	1	5320	0.00157	
166	03:38.9	PCE	03:38.5	0.998	1	32856	0.00743	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_036.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 3:30:54 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.563	1	95776	0.04693	
130	02:38.1	TCE	02:30.9	0.793	1	5351	0.00158	
166	03:38.9	PCE	03:38.8	0.994	1	52192	0.01181	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_037.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 4:37:20 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.4	0.658	1	205260	0.1006	
130	02:38.1	TCE	02:33.1	0.908	1	5789	0.00171	
166	03:38.9	PCE	03:39.7	0.994	1	305032	0.06903	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_038.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 4:46:25 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.4	0.565	1	160281	0.07854	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.8	0.993	1	3115851	0.7051	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_039.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 4:55:03 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.4	0.729	1	149352	0.07319	
130	02:38.1	TCE	02:39.0	0.795	1	9396	0.00277	
166	03:38.9	PCE	03:38.7	0.995	1	101265	0.02292	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_040.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 5:57:32 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.3	0.932	1	8212170	4.024	
130	02:38.1	TCE	02:40.5	0.906	1	15270869	4.503	
166	03:38.9	PCE	03:40.7	0.996	1	19540406	4.422	

Unknown Identification Report
Date: 06/07/17 Time: 16:30:42
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_004.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 7:38:15 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:00.9	0.932	1	4942212	2.422	
130	02:38.1	TCE	02:37.2	0.906	1	9154627	2.699	
166	03:38.9	PCE	03:36.1	0.996	1	11430495	2.587	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_005.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 9:18:15 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.6	0.673	1	154339	0.07563	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.6	0.995	1	68388	0.01548	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_006.hps
GPS Info:
Latitude: N 40 Deg 44.87663 Min Longitude: W 111 Deg 51.47736 Min GMT: 03/07/17 04:15:48 PM

Acquisition Date and Time: 3/7/2017 9:26:21 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.5	0.569	1	169470	0.08304	
130	02:38.1	TCE	02:39.3	0.871	1	17369	0.00512	
166	03:38.9	PCE	03:38.3	0.996	1	92920	0.02103	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_007.hps
GPS Info:
Latitude: N 40 Deg 44.88464 Min Longitude: W 111 Deg 51.47919 Min GMT: 03/07/17 04:23:52 PM

Acquisition Date and Time: 3/7/2017 9:34:25 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.0	0.665	1	169330	0.08297	
130	02:38.1	TCE	02:41.7	0.523	1	5323	0.00157	
166	03:38.9	PCE	03:37.9	0.992	1	102804	0.02326	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_008.hps
GPS Info:
Latitude: N 40 Deg 44.81369 Min Longitude: W 111 Deg 51.46866 Min GMT: 03/07/17 04:32:54 PM

Acquisition Date and Time: 3/7/2017 9:43:27 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:01.9	0.632	1	81375	0.03988	
130	02:38.1	TCE	02:38.0	0.905	1	9022	0.00266	
166	03:38.9	PCE	03:37.6	0.995	1	104892	0.02374	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_009.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 9:51:51 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.0	0.573	1	67598	0.03312	
130	02:38.1	TCE	02:48.6	0.708	1	8031	0.00237	
166	03:38.9	PCE	03:38.0	0.996	1	106633	0.02413	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_010.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 10:00:25 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.2	0.627	1	99231	0.04863	
130	02:38.1	TCE	02:38.4	0.911	1	25792	0.0076	
166	03:38.9	PCE	03:38.2	0.998	1	185585	0.042	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_011.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 11:32:19 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.9	0.581	1	190853	0.09352	
130	02:38.1	TCE	02:38.4	0.858	1	8752	0.00258	
166	03:38.9	PCE	03:38.3	0.997	1	208071	0.04708	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_012.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 11:40:49 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.2	0.652	1	154474	0.0757	
130	02:38.1	TCE	02:42.1	0.884	1	11075	0.00327	
166	03:38.9	PCE	03:37.6	0.997	1	196803	0.04453	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_013.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 11:49:17 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.598	1	189414	0.09282	
130	02:38.1	TCE	02:47.1	0.887	1	4917		Area too low
166	03:38.9	PCE	03:38.1	0.997	1	89821	0.02033	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_014.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 11:58:30 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.4	0.558	1	127663	0.06256	
130	02:38.1	TCE	02:38.5	0.901	1	14794	0.00436	
166	03:38.9	PCE	03:38.2	0.995	1	153490	0.03473	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_015.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:07:24 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.1	0.614	1	112809	0.05528	
130	02:38.1	TCE	02:37.9	0.91	1	29399	0.00867	
166	03:38.9	PCE	03:37.9	0.994	1	214089	0.04845	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_016.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:16:11 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.6	0.619	1	201784	0.09888	
130	02:38.1	TCE	02:38.8	0.898	1	19176	0.00565	
166	03:38.9	PCE	03:38.6	0.995	1	77560	0.01755	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_017.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:24:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.2	0.701	1	129343	0.06338	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.5	0.995	1	114204	0.02584	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_018.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:33:31 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.8	0.564	1	89361	0.04379	
130	02:38.1	TCE	02:39.0	0.867	1	16516	0.00487	
166	03:38.9	PCE	03:38.5	0.995	1	172959	0.03914	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_019.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:43:55 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.6	0.707	1	162122	0.07944	
130	02:38.1	TCE	02:43.9	0.796	1	8988	0.00265	
166	03:38.9	PCE	03:37.9	0.993	1	83429	0.01888	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_020.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 12:52:43 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.9	0.669	1	181978	0.08917	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.0	0.991	1	133962	0.03031	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_021.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:01:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.599	1	116833	0.05725	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.9	0.994	1	89469	0.02025	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_022.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:10:25 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.2	0.618	1	145888	0.07149	
130	02:38.1	TCE	02:37.3	0.911	1	8078	0.00238	
166	03:38.9	PCE	03:38.1	0.997	1	154990	0.03507	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_023.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:21:18 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.8	0.709	1	111734	0.05475	
130	02:38.1	TCE	02:38.2	0.835	1	5823	0.00172	
166	03:38.9	PCE	03:38.2	0.996	1	74672	0.0169	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_024.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:31:03 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.5	0.595	1	94435	0.04627	
130	02:38.1	TCE	02:37.5	0.523	1	6736	0.00199	
166	03:38.9	PCE	N/A	0	0	0		Not found with current search parameters

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_025.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:39:10 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.4	0.65	1	110316	0.05406	
130	02:38.1	TCE	02:38.7	0.523	1	7960	0.00235	
166	03:38.9	PCE	03:38.0	0.994	1	189389	0.04286	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_026.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:48:54 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.5	0.572	1	129524	0.06347	
130	02:38.1	TCE	02:38.9	0.523	1	8870	0.00262	
166	03:38.9	PCE	03:38.9	0.998	1	44617	0.0101	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_027.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 1:57:22 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:01.9	0.743	1	107420	0.05264	
130	02:38.1	TCE	02:30.0	0.869	1	7433	0.00219	
166	03:38.9	PCE	03:37.8	0.998	1	39429	0.00892	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_028.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:07:02 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.3	0.703	1	100267	0.04913	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:39.4	0.996	1	43216	0.00978	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_029.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:20:30 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.822	1	101098	0.04954	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.9	0.994	1	50080	0.01133	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_030.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:34:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.725	1	97086	0.04757	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.2	0.994	1	57799	0.01308	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_031.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:44:39 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.0	0.606	1	93622	0.04588	
130	02:38.1	TCE	02:37.7	0.87	1	16275	0.0048	
166	03:38.9	PCE	03:38.9	0.995	1	125585	0.02842	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_032.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 2:53:34 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.6	0.688	1	90497	0.04435	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.6	0.999	1	37385	0.00846	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_033.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 3:02:05 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.3	0.668	1	106011	0.05195	
130	02:38.1	TCE	02:39.4	0.881	1	6189	0.00182	
166	03:38.9	PCE	03:38.7	0.997	1	39788	0.009	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_034.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 3:12:35 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.2	0.623	1	102855	0.0504	
130	02:38.1	TCE	02:29.6	0.802	1	7903	0.00233	
166	03:38.9	PCE	03:39.1	0.999	1	35531	0.00804	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_035.hps
GPS Info:
Latitude: N 40 Deg 44.90318 Min Longitude: W 111 Deg 51.48834 Min GMT: 03/07/17 10:10:29 PM

Acquisition Date and Time: 3/7/2017 3:21:01 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.0	0.71	1	77471	0.03796	
130	02:38.1	TCE	02:38.5	0.903	1	5320	0.00157	
166	03:38.9	PCE	03:38.5	0.998	1	32856	0.00743	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_036.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 3:30:54 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:02.7	0.563	1	95776	0.04693	
130	02:38.1	TCE	02:30.9	0.793	1	5351	0.00158	
166	03:38.9	PCE	03:38.8	0.994	1	52192	0.01181	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_037.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 4:37:20 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.4	0.658	1	205260	0.1006	
130	02:38.1	TCE	02:33.1	0.908	1	5789	0.00171	
166	03:38.9	PCE	03:39.7	0.994	1	305032	0.06903	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_038.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 4:46:25 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.4	0.565	1	160281	0.07854	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.8	0.993	1	3115851	0.7051	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_039.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 4:55:03 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:03.4	0.729	1	149352	0.07319	
130	02:38.1	TCE	02:39.0	0.795	1	9396	0.00277	
166	03:38.9	PCE	03:38.7	0.995	1	101265	0.02292	

Data File: E:\AOU1\0060H\HAPSITE\DATA\SIM_100PPB_VA_20170307_20170307_040.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/7/2017 5:57:32 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170307.mth
Target Library: QB 07MAR2017
Last Calibrated: 3/7/2017 7:28:32 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:00.6	cis-1,2 DCE	02:04.3	0.932	1	8212170	4.024	
130	02:38.1	TCE	02:40.5	0.906	1	15270869	4.503	
166	03:38.9	PCE	03:40.7	0.996	1	19540406	4.422	

Unknown Identification Report
Date: 06/07/17 Time: 16:39:33
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_008.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 8:40:40 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:00.6	0.939	1	11236651	4.42	
130	02:38.1	TCE	02:36.9	0.909	1	18630582	6.474	
166	03:38.9	PCE	03:35.6	0.994	1	21405848	6.171	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_009.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 8:58:55 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.2	0.734	1	142930	0.05622	
130	02:38.1	TCE	02:37.2	0.898	1	12862	0.00447	
166	03:38.9	PCE	03:35.3	0.998	1	49136	0.01417	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_010.hps
GPS Info:
Latitude: N 40 Deg 44.91394 Min Longitude: W 111 Deg 51.39450 Min GMT: 03/21/17 04:00:12 PM

Acquisition Date and Time: 3/21/2017 10:11:05 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.6	0.618	1	154333	0.06071	
130	02:38.1	TCE	02:37.9	0.911	1	20779	0.00722	
166	03:38.9	PCE	03:36.1	0.996	1	164624	0.04746	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_011.hps
GPS Info:
Latitude: N 40 Deg 44.82399 Min Longitude: W 111 Deg 51.42929 Min GMT: 03/21/17 04:08:53 PM

Acquisition Date and Time: 3/21/2017 10:19:49 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.69	1	154849	0.06091	
130	02:38.1	TCE	02:37.9	0.882	1	22158	0.0077	
166	03:38.9	PCE	03:35.9	0.992	1	1287207	0.3711	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_012.hps
GPS Info:
Latitude: N 40 Deg 44.90135 Min Longitude: W 111 Deg 51.40411 Min GMT: 03/21/17 04:17:41 PM

Acquisition Date and Time: 3/21/2017 10:28:34 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.6	0.524	1	114748	0.04514	
130	02:38.1	TCE	02:37.3	0.896	1	36347	0.01263	
166	03:38.9	PCE	03:37.0	0.995	1	1462492	0.4216	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_013.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 10:38:33 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.2	0.771	1	104853	0.04124	
130	02:38.1	TCE	02:37.7	0.911	1	39046	0.01357	
166	03:38.9	PCE	03:37.5	0.995	1	1585745	0.4572	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_014.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 10:49:09 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.6	0.593	1	92445	0.03636	
130	02:38.1	TCE	02:38.1	0.901	1	59968	0.02084	
166	03:38.9	PCE	03:37.3	0.994	1	1800782	0.5192	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_015.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 10:57:49 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.4	0.617	1	111928	0.04403	
130	02:38.1	TCE	02:37.7	0.907	1	65744	0.02285	
166	03:38.9	PCE	03:36.9	0.994	1	2218101	0.6395	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_016.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 11:20:07 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.858	1	41389	0.01628	
130	02:38.1	TCE	02:38.3	0.904	1	23829	0.00828	
166	03:38.9	PCE	03:39.0	0.994	1	1107910	0.3194	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_017.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 1:24:09 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.0	0.585	1	136498	0.05369	
130	02:38.1	TCE	02:40.1	0.91	1	46884	0.01629	
166	03:38.9	PCE	03:40.2	0.993	1	1254863	0.3618	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_018.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 1:33:32 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.3	0.578	1	92786	0.0365	
130	02:38.1	TCE	02:39.9	0.899	1	27817	0.00967	
166	03:38.9	PCE	03:39.4	0.992	1	1048817	0.3024	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_019.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 1:43:57 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.1	0.556	1	72527	0.02853	
130	02:38.1	TCE	02:39.2	0.905	1	21982	0.00764	
166	03:38.9	PCE	03:39.6	0.995	1	910432	0.2625	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_020.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 1:52:25 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.6	0.73	1	72221	0.02841	
130	02:38.1	TCE	02:39.5	0.908	1	17915	0.00623	
166	03:38.9	PCE	03:39.1	0.993	1	731426	0.2109	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_021.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 2:00:55 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.5	0.58	1	41945	0.0165	
130	02:38.1	TCE	02:38.0	0.912	1	30870	0.01073	
166	03:38.9	PCE	03:38.5	0.994	1	1015051	0.2926	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_022.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 2:09:26 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.9	0.565	1	57270	0.02253	
130	02:38.1	TCE	02:38.5	0.908	1	26324	0.00915	
166	03:38.9	PCE	03:38.7	0.993	1	1192181	0.3437	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_023.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 2:17:57 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.4	0.553	1	93329	0.03671	
130	02:38.1	TCE	02:39.4	0.907	1	12877	0.00447	
166	03:38.9	PCE	03:38.9	0.995	1	771336	0.2224	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_024.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 2:26:30 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.4	0.744	1	70782	0.02784	
130	02:38.1	TCE	02:39.4	0.91	1	13309	0.00462	
166	03:38.9	PCE	03:38.6	0.993	1	564052	0.1626	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_025.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 2:36:12 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.818	1	66883	0.02631	
130	02:38.1	TCE	02:39.2	0.906	1	30275	0.01052	
166	03:38.9	PCE	03:38.2	0.993	1	1138051	0.3281	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_026.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 2:45:02 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.4	0.604	1	74564	0.02933	
130	02:38.1	TCE	02:37.9	0.904	1	23521	0.00817	
166	03:38.9	PCE	03:38.0	0.993	1	1021611	0.2945	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_027.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 2:53:37 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.687	1	59342	0.02334	
130	02:38.1	TCE	02:38.3	0.912	1	7871	0.00274	
166	03:38.9	PCE	03:38.0	0.993	1	589610	0.17	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_028.hps
GPS Info:
Latitude: N 40 Deg 44.90524 Min Longitude: W 111 Deg 51.41098 Min GMT: 03/21/17 08:51:49 PM

Acquisition Date and Time: 3/21/2017 3:02:42 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.9	0.592	1	53442	0.02102	
130	02:38.1	TCE	02:38.6	0.881	1	7450	0.00259	
166	03:38.9	PCE	03:38.1	0.995	1	415346	0.1197	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_029.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 3:11:20 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.549	1	46183	0.01817	
130	02:38.1	TCE	02:37.5	0.909	1	36965	0.01285	
166	03:38.9	PCE	03:38.1	0.995	1	1539335	0.4438	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_030.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 3:19:57 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.822	1	36432	0.01433	
130	02:38.1	TCE	02:41.3	0.905	1	6632	0.0023	
166	03:38.9	PCE	03:37.8	0.994	1	509061	0.1468	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_031.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 3:28:34 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.808	1	41077	0.01616	
130	02:38.1	TCE	02:38.9	0.899	1	12104	0.00421	
166	03:38.9	PCE	03:37.9	0.994	1	799829	0.2306	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_032.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 3:38:11 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.878	1	57240	0.02252	
130	02:38.1	TCE	02:30.5	0.709	1	10050	0.00349	
166	03:38.9	PCE	03:37.5	0.994	1	450598	0.1299	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_033.hps
GPS Info:
Latitude: N 40 Deg 44.91348 Min Longitude: W 111 Deg 51.41190 Min GMT: 03/21/17 09:35:54 PM

Acquisition Date and Time: 3/21/2017 3:46:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.2	0.837	1	34864	0.01371	
130	02:38.1	TCE	02:42.6	0.736	1	9861	0.00343	
166	03:38.9	PCE	03:37.1	0.992	1	188550	0.05436	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_034.hps
GPS Info:
Latitude: N 40 Deg 44.91646 Min Longitude: W 111 Deg 51.41464 Min GMT: 03/21/17 09:45:25 PM

Acquisition Date and Time: 3/21/2017 3:56:18 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.0	0.755	1	44297	0.01742	
130	02:38.1	TCE	02:39.9	0.879	1	9403	0.00327	
166	03:38.9	PCE	03:38.0	0.995	1	328181	0.09462	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_035.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:05:00 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.882	1	54912	0.0216	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.6	0.995	1	925024	0.2667	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_036.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:13:58 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.1	0.665	1	55311	0.02176	
130	02:38.1	TCE	02:37.0	0.878	1	16158	0.00561	
166	03:38.9	PCE	03:37.6	0.994	1	628106	0.1811	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_037.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:32:51 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.9	0.665	1	28708	0.01129	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.0	0.997	1	251371	0.07247	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_038.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:43:04 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.1	0.914	1	15631	0.00615	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.5	1	1	56222	0.01621	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_039.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:51:41 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.2	0.697	1	34288	0.01349	
130	02:38.1	TCE	02:38.3	0.834	1	6056	0.0021	
166	03:38.9	PCE	03:37.8	0.995	1	340097	0.09805	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_040.hps
GPS Info:
Latitude: N 40 Deg 44.91234 Min Longitude: W 111 Deg 51.41235 Min GMT: 03/21/17 10:50:55 PM

Acquisition Date and Time: 3/21/2017 5:01:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.591	1	22742	0.00895	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.0	0.992	1	130003	0.03748	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_041.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 5:31:57 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.5	0.777	1	56658	0.02229	
130	02:38.1	TCE	02:37.7	0.908	1	37436	0.01301	
166	03:38.9	PCE	03:37.5	0.995	1	60499648	17.44	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_042.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 5:41:20 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.818	1	43909	0.01727	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.1	0.994	1	290401	0.08372	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170322_002.hps
GPS Info:
Latitude: N 40 Deg 37.37869 Min Longitude: W 111 Deg 49.21646 Min GMT: 03/22/17 01:53:24 PM

Acquisition Date and Time: 3/22/2017 8:04:16 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 17MAR2017
Last Calibrated: 3/17/2017 8:35:13 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.6	0.935	1	6726156	2.646	
130	02:38.1	TCE	02:40.5	0.91	1	13030846	4.528	
166	03:38.9	PCE	03:41.1	0.995	1	14431095	4.161	

Unknown Identification Report
Date: 07/12/17 Time: 10:03:30
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_030.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 3:19:57 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.822	1	36432	0.01801	
130	02:38.1	TCE	02:41.3	0.905	1	6632	0.00201	
166	03:38.9	PCE	03:37.8	0.994	1	509061	0.1353	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_029.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 3:11:20 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.3	0.549	1	46183	0.02283	
130	02:38.1	TCE	02:37.5	0.909	1	36965	0.01122	
166	03:38.9	PCE	03:38.1	0.995	1	1539335	0.4092	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_031.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 3:28:34 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.2	0.808	1	41077	0.02031	
130	02:38.1	TCE	02:38.9	0.899	1	12104	0.00368	
166	03:38.9	PCE	03:37.9	0.994	1	799829	0.2126	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_032.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 3:38:11 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.8	0.878	1	57240	0.0283	
130	02:38.1	TCE	02:30.5	0.709	1	10050	0.00305	
166	03:38.9	PCE	03:37.5	0.994	1	450598	0.1198	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_033.hps
GPS Info:
Latitude: N 40 Deg 44.91348 Min Longitude: W 111 Deg 51.41190 Min GMT: 03/21/17 09:35:54 PM

Acquisition Date and Time: 3/21/2017 3:46:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.2	0.837	1	34864	0.01724	
130	02:38.1	TCE	02:42.6	0.736	1	9861	0.00299	
166	03:38.9	PCE	03:37.1	0.992	1	188550	0.05012	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_034.hps
GPS Info:
Latitude: N 40 Deg 44.91646 Min Longitude: W 111 Deg 51.41464 Min GMT: 03/21/17 09:45:25 PM

Acquisition Date and Time: 3/21/2017 3:56:18 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.0	0.755	1	44297	0.0219	
130	02:38.1	TCE	02:39.9	0.879	1	9403	0.00286	
166	03:38.9	PCE	03:38.0	0.995	1	328181	0.08724	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_035.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:05:00 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.882	1	54912	0.02715	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.6	0.995	1	925024	0.2459	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_036.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:13:58 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.1	0.665	1	55311	0.02735	
130	02:38.1	TCE	02:37.0	0.878	1	16158	0.00491	
166	03:38.9	PCE	03:37.6	0.994	1	628106	0.167	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_037.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:32:51 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.9	0.665	1	28708	0.01419	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:38.0	0.997	1	251371	0.06682	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_038.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:43:04 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.1	0.914	1	15631	0.00773	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.5	1	1	56222	0.01494	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_039.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 4:51:41 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.2	0.697	1	34288	0.01695	
130	02:38.1	TCE	02:38.3	0.834	1	6056	0.00184	
166	03:38.9	PCE	03:37.8	0.995	1	340097	0.0904	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_040.hps
GPS Info:
Latitude: N 40 Deg 44.91234 Min Longitude: W 111 Deg 51.41235 Min GMT: 03/21/17 10:50:55 PM

Acquisition Date and Time: 3/21/2017 5:01:47 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.0	0.591	1	22742	0.01124	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.0	0.992	1	130003	0.03456	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_041.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 5:31:57 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:01.5	0.777	1	56658	0.02801	
130	02:38.1	TCE	02:37.7	0.908	1	37436	0.01137	
166	03:38.9	PCE	03:37.5	0.995	1	60499648	16.08	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170321_042.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 3/21/2017 5:41:20 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.4	0.818	1	43909	0.02171	
130	02:38.1	TCE	N/A	0	0	0		Not found with current search parameters
166	03:38.9	PCE	03:37.1	0.994	1	290401	0.07719	

Data File: D:\AOU1\VA_HAPSITE_BACKUP\DATA\SIM_100PPB_VA_20170321\SIM_100PPB_VA_20170321_20170322_002.hps
GPS Info:
Latitude: N 40 Deg 37.37869 Min Longitude: W 111 Deg 49.21646 Min GMT: 03/22/17 01:53:24 PM

Acquisition Date and Time: 3/22/2017 8:04:16 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170321.mth
Target Library: QB 21MAR2017
Last Calibrated: 3/21/2017 8:32:56 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:04.6	0.935	1	6726156	3.325	
130	02:38.1	TCE	02:40.5	0.91	1	13030846	3.956	
166	03:38.9	PCE	03:41.1	0.995	1	14431095	3.836	

Unknown Identification Report
Date: 07/12/17 Time: 09:58:22
Calibration Method:
/Haps/Method/Analyze/Concentrator/Hill Vapor Intrusion Cal 2 min SIM.mth
Tune File:
default.tun
Method Description:
SIM cVOC Method in order of elution
cis-DCE; TCE; PCE
General Quantification Range from 0.1
ppbv to 50 ppbv

Data File: D:\AOU1\LAPTOP_BACKUP\SIM_100PPB_VA_20170405_20170413_003.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 4/13/2017 4:37:35 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:02.1	0.946	1	6243632	2.42	
130	02:38.1	TCE	02:38.3	0.909	1	11649419	2.344	
166	03:38.9	PCE	03:37.3	0.994	1	11992859	2.133	

Data File: D:\AOU1\LAPTOP_BACKUP\SIM_100PPB_VA_20170405_20170413_002.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 4/13/2017 10:34:29 AM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200

Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:06.0	0.549	1	353881	0.1371	
130	02:38.1	TCE	02:42.1	0.847	1	85926	0.01729	
166	03:38.9	PCE	03:42.5	0.993	1	2077613	0.3695	

Data File: D:\AOU1\LAPTOP_BACKUP\SIM_100PPB_VA_20170405_20170412_001.hps
GPS Info:
Valid GPS Information Not Available

Acquisition Date and Time: 4/12/2017 5:25:48 PM
Acquisition Method: /Haps/Method/VA /SIM_100PPB_VA_20170405.mth
Target Library: QB 05APR2017
Last Calibrated: 4/10/2017 8:50:16 AM

Peak Search Parameters:
Search Window: 0:08.00
Window Expand Factor: 0.050
Peak Resolution: 5
Noise Level Multiplier: 2.000
Minimum Area: 5000
Minimum Width: 7
Maximum Width: 70
Minimum Fit: 0.200
Minimum Purity: 0.200

Q-Ion	Pred.RT	Analyte Na	Act.RT	fit	purity	area	ppb	Flag
61	02:02.6	cis-1,2 DCE	02:03.1	0.941	1	6117572	2.371	
130	02:38.1	TCE	02:39.3	0.909	1	10591841	2.131	
166	03:38.9	PCE	03:39.2	0.995	1	11332537	2.016	